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OF

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CLAUDIUS ASH & SONS, LIMITED,

5, 6, 7, 8 and 9, BROAD STREET, GOLDEN SQUARE,
LONDON.

1899.

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5, 6, 7 8 & 9, BROAD STREET, GOLDEN SQUARE, LONDON W.

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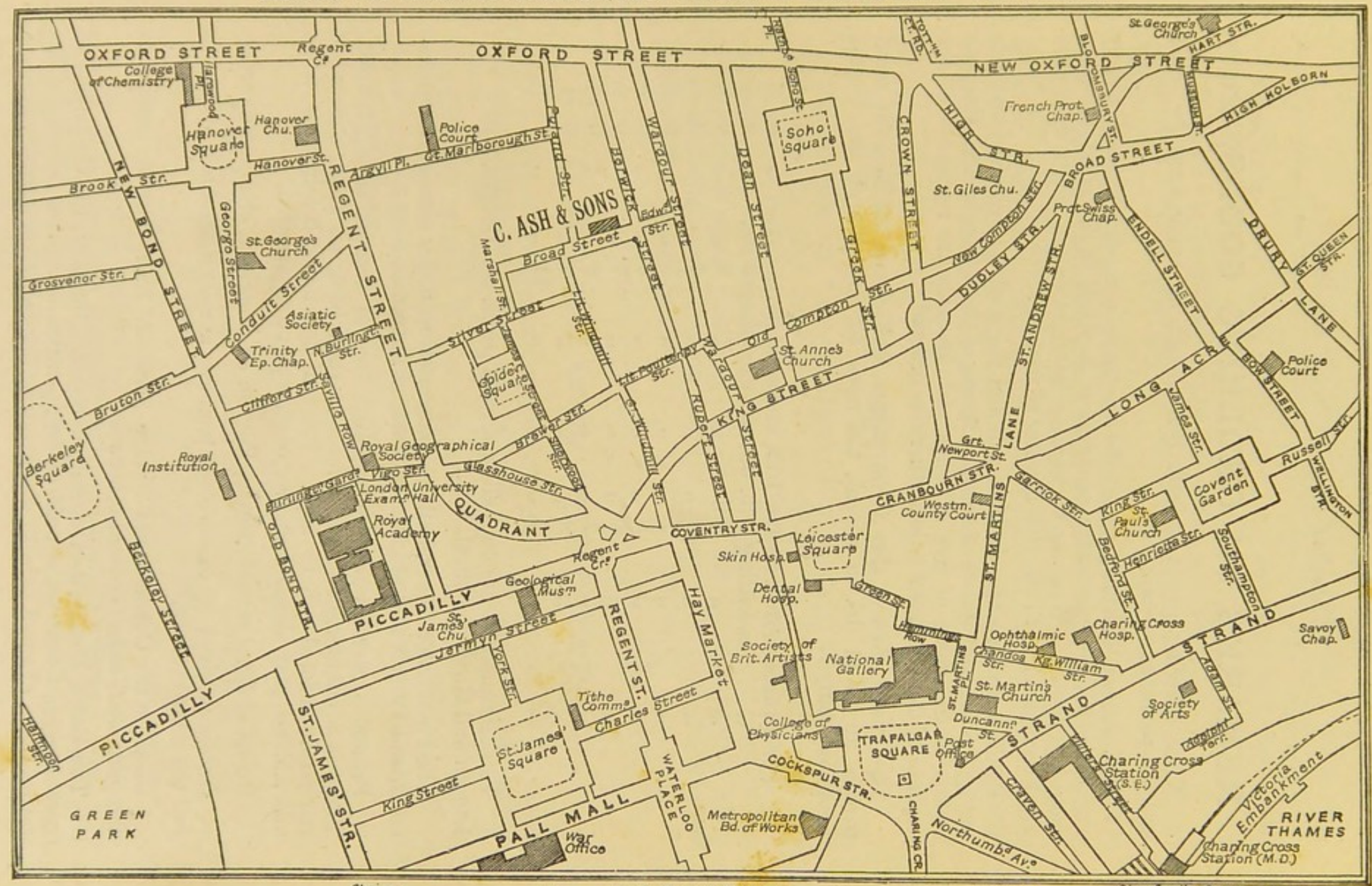

REMARKS ON ORDERING GOODS, etc.

When ordering goods a fresh line should be commenced for each article—*see notice on page* 10.

The address to which the goods are to be sent should be distinctly written, and if any particular conveyance or route be preferred, the same should be named. When no forwarding instructions are given, discretion will be exercised as to the best manner of sending.

Dentists residing at a distance will find the post a convenient and safe means for the conveyance of small packages of Gold, Teeth, &c. Precious metals of the value of five shillings and upwards are registered at the expense of the purchaser unless otherwise ordered.

The Parcel Post is also a convenient and cheap medium for small parcels up to 11 lbs. in weight, the rates to any part of the United Kingdom being :

													s.	d.
For a parcel not exceeding 1 lb. in weight													0	3
,,	exceeding 1 lb. but not exceeding 2 lbs.												0	4
,,	,,	2 lbs.	,,	,,	3	,,							0	5
,,	,,	3	,,	,,	,,	4	,,						0	6
,,	,,	4	,,	,,	,,	5	,,						0	7
,,	,,	5	,,	,,	,,	6	,,						0	8
,,	,,	6	,,	,,	,,	7	,,						0	9
,,	,,	7	,,	,,	,,	8	,,						0	10
,,	,,	8	,,	,,	,,	9	,,						0	11
,,	,,	9	,,	,,	,,	11	,,						1	0

The extreme measurement allowed for a parcel is : Length, 3 ft. 6 ins. ; Length and Girth combined, 6 ft.

The Postmaster-General allows compensation, under certain conditions, on Inland Parcels that are lost or damaged in transit.

Printed Order Books are supplied, free of charge, on application. There is a counterfoil to every form in each book, on which a record of the goods ordered can be kept. Printed Envelopes, bearing our name and address, may also be had, free of charge, on application.

Goods of other manufacturers, English or American, obtained to order.

Orders received up to 3 o'clock p.m. are usually despatched by post or rail the same evening.

Goods to the Colonies and foreign parts are insured at the expense of the purchaser, unless ordered otherwise.

The Parcel Post now in operation between England, the Colonies, and most Foreign Countries affords an inexpensive and quick means for the transmission of small parcels, which can be insured at reasonable rates.

Accounts are only opened on receipt of approved references.

All goods are despatched at the risk of the purchaser.

Bankers' Drafts, Cheques, &c., should be crossed "Union Bank of London."

Post-Office Orders and Postal Orders should be made payable at the Chief Office, St. Martin's le Grand, London, to CLAUDIUS ASH & SONS, LTD.

A discount of 5 per cent. is allowed off all accounts for Teeth, Dental Rubbers, Furniture, Instruments, Gas Apparatus, Tools, and Sundries, of not less than £5 in amount, for cash **on delivery of the goods.** Precious Metals are invoiced at **net cash** prices.

OLD METALS, &c.

We purchase old Gold, Platinum, Dental Alloy, Silver, Board and Floor Sweep, in either large or small quantities.

It may be remarked that several sendings of small quantities are not so profitable to the vendor as the same metals, &c., are if sent in one parcel, for this reason : each lot that is sent has to be separately tested to ascertain its intrinsic value, and the expense of several testing trials is necessarily greater than one.

C. ASH AND SONS' FREE REGISTERS

contain a list of "Partnerships and Practices for Disposal," of "Dentists requiring Assistants," and of "Dentists' Assistants seeking engagements."* No charge is made for Registering, and Copies of the Registers are supplied, free of cost, on application. Dentists' Assistants must produce a Certificate from their last or present Employer, as to Ability and Character, before their names can be entered on the last of the above Registers.

HOURS OF BUSINESS:

Monday to Friday, inclusive, from 9 a.m. to 6 p.m.

Saturday, 9 a.m. to 2 p.m.

* In order that the Registers may always be kept in as correct a condition as possible, we shall be obliged if each Dentist who engages an Assistant will inform us at once of the fact, and give us the Assistant's name, so that it may be removed from our list ; also, if each Assistant will let us know immediately when he has secured an engagement, and with whom, for the same purpose.

LONDON :
PRINTED BY WILLIAM CLOWES AND SONS, LIMITED,
STAMFORD STREET AND CHARING CROSS.

GENERAL INDEX

TO THE FOLLOWING LISTS:

A—Mineral Teeth and Porcelain Work.
B—Filling Materials and Precious Metals.
C—Dental Furniture: Cabinets, Chairs, etc.
D—Forceps and Instrument Cases.
E—Dental Engines and Appliances.
F—Electrical Apparatus.
G—Hand Instruments.
H—Coffer-dam Appliances, Mouth Mirrors, Syringes, etc.
J—Impression Trays and Materials.
K—Anæsthetic Apparatus.
L—Dental Rubbers, Vulcanizers, Lathes, etc.
M—Furnaces, Blowpipes, Burners, Tools, Tooth Brushes, Dentifrices, Books and Sundries.

To facilitate reference each Article is indexed under the Letter of the List and the page on which it will be found, thus, e.g.:

Ash's Teeth Shades . . . . . A 6
Imperial Amalgam. . . . . B 8
Ellis's Hydraulic Chair . . . . . C 10

All prices are subject to alteration without notice.

CLAUDIUS ASH & SONS, Limited,

5, 6, 7, 8 and 9, Broad Street, Golden Square, London, W.

IMPORTANT.

It will save much of our time, and greatly assist us in the prompt execution of orders, if the following points be observed when ordering goods:—

1. Never say "like the last," or "as had before," etc., but clearly state on every occasion the name of each article required. For example:—

2. Say for which Engine extra Handpieces are wanted;

3. For which Handpiece extra Attachments are wanted;

4. For which Handpiece or Attachment Burs and other instruments are wanted. (If in doubt an old Bur should be sent showing style of Tang);

5. And so on in all classes of goods.

6. Always mention the name of the Catalogue or List from which goods are ordered, and, if possible, give date of same and the number of the page referred to.

CLAUDIUS ASH & SONS, Limited.

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LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

MINERAL TEETH

AND

PORCELAIN WORK.

Section I. TEETH.
„ II. GROUND AND MOULDED INLAYS.
„ III. SHADING ENAMELS.
„ IV. PORCELAIN WORK.
„ V. FURNACES.

CLAUDIUS ASH & SONS, LTD.

CENTRAL DEPÔT:
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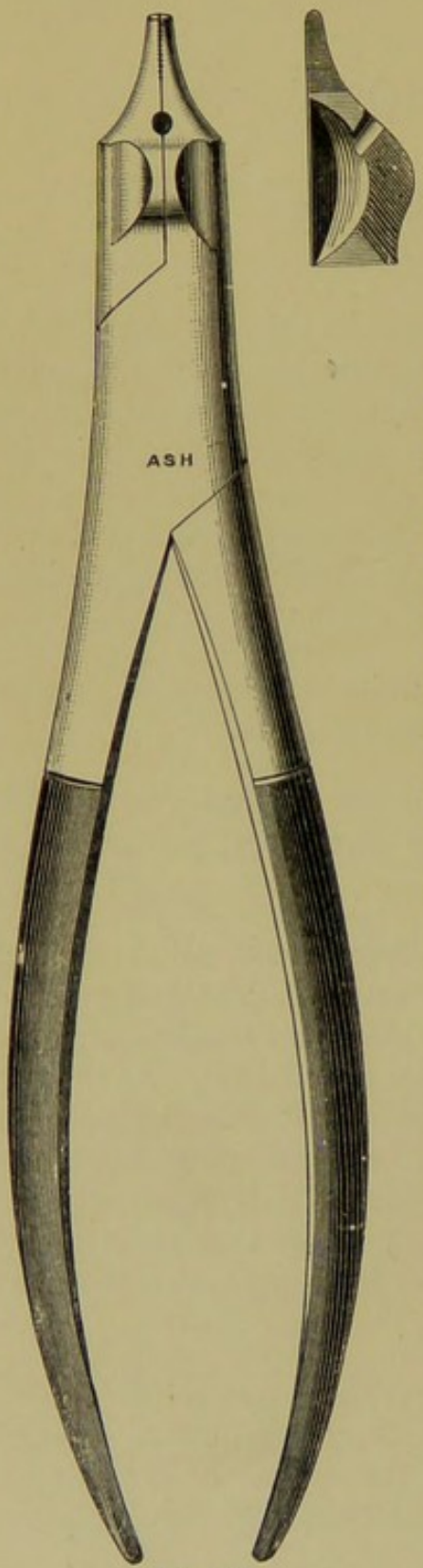
ASH'S MINERAL TEETH—*continued.*



FULL-SIZE.

Price, Nickel-plated, 5*s*.

A *B* *B* *C* *D*

LONG PINS.—All our flat and vulcanite teeth are made with long tough platinum pins (the flat being suitable for either plate or vulcanite work), which can be bent and roughened, with the pliers here shown, to keep them firmly fixed in the vulcanite. To obtain the best results the pins should be bent as nearly as possible at right angles—see Fig. *A*—and in such a direction that they will grasp the vulcanite in the thickest part. In the several illustrations given above, Fig. *B* shows the most usual bend.

These teeth are preferred to those that have pins with projecting heads which are not intended to be bent, because the bent pins hold the teeth in the vulcanite much more securely than the headed pins, and will bear a greater outward strain.

TEETH CATALOGUE.

Illustrated Catalogue of the various kinds, patterns, sizes, and lengths of the mineral teeth which we manufacture can be had, post free, on receipt of professional card.

ASH'S MINERAL TEETH—*continued.*

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We desire to inform the Profession that our Trade Mark as here shown

is impressed on the back of all the wax on which we fix the Mineral Teeth of our Manufacture, and that the absence of this Trade Mark is evidence that any teeth which may be offered for sale as ours are not genuine.

We find it necessary to make this announcement in order to protect ourselves and the Profession against the many inferior imitations of our Mineral Teeth which are now in the Market.

SUGGESTIONS FOR ORDERING TEETH.

Orders for teeth should contain the fullest possible information to ensure their prompt and accurate execution. A written order is always preferred. It is necessary to state clearly :—

Kind . . .	whether	flat, vulcanite, diatoric, tube, or gum.
*Size . . .	,,	large, medium, or small.
*Length . .	,,	long, medium, or short.
*Enamel . .	,,	long or short.
Number . .	,,	in sets of 2, 4, 6, 14 or 28.
*Surface . .	,,	smooth, corrugated, or natural pattern.

Colour—When patterns cannot be sent, the colours and shades required should be quoted from the set of shades.

---

* It will not be necessary to mention the *size*, *length*, *enamel*, and *surface* when ordering from our Teeth Catalogue ; all that then need be done is to quote the number of the illustration and the page on which it is shown.

TO GRIND AND POLISH

ASH'S MINERAL TEETH.*

Although Ash's mineral teeth have now been before the profession for close upon sixty years, and many references are made in dental literature to the fact that they are of the same non-porous texture throughout, and can therefore be ground and polished to any extent that may be desired to suit special cases, it is yet remarkable that no writer has attempted to give definite instructions for grinding and polishing them.

By way of introduction to making such an attempt, I may say in the first place that the density of Ash's mineral teeth permits of their being ground to a very fine edge without the risk of chipping, and, if necessary, the ground surface can afterwards be highly polished. A further advantage is the absence of the particles of porcelain which in some teeth are found encroaching upon the pins, to remove which, when backing teeth, involves annoyance and loss of time.

To Grind the Teeth.—For this purpose I use carborundum or corundum wheels running in a trough of water when doing the work in the lathe, and carborundum or corundum wheels and points when doing it with the dental engine.

The use of carborundum pretty well does away with the need for a steel tool in countersinking, but where a lathe or dental engine is not at hand, the teeth may be countersunk by means of a graver and camphorated turpentine, into which the graver is dipped from time to time.

To Polish the Teeth.—This is a process which I seldom find it necessary to carry to any great length. An Arkansas stone run in the dental engine† and kept wet gives a very fine surface. No. 1 glass paper used dry will add a further gloss. Where a yet finer surface is desired, I use a buff carrying putty powder, and finally finish with whiting.

The following articles for the double purpose of **grinding** and **polishing** will meet all requirements :—

* By Mr. R. P. Lennox, of Cambridge. See QUARTERLY CIRCULAR, June, 1896.
† Every well-equipped workshop should be provided with a dental engine.—*R. P. L.*

TO GRIND AND POLISH ASH'S MINERAL TEETH

(*CONTINUED*).

Equipment for use with the Dental Lathe.

(1) A carborundum or corundum wheel for grinding the tooth to shape.

(2) An Arkansas wheel or an Ash's polishing wheel for removing the marks left by the carborundum or corundum, and for smoothing the ground surface.

(3) A brush or buff wheel, some superfine pumice or putty powder, and some whiting for polishing. *Note.*—Water to be used at every stage.

Equipment for the Dental Engine.

(1) Carborundum or corundum wheels and points.

(2) An Arkansas or Water of Ayr stone.

(3) A brush or buff polisher, some superfine pumice, etc., as under No. 3 above.

Equipment for hand use.

(1) A half-round carborundum or corundum file.

(2) A hone of Arkansas or Water of Ayr stone.

(3) A hand buff, some superfine pumice, etc., as under No. 3 of dental lathe equipment.

ASH'S POLISHING STONE.

For imparting a smooth and polished surface to Mineral Teeth after they have been ground.

In all our experience we have never found a stone to equal it for this purpose. It is tough, though soft ; does not chip, like most other stones do, and will stand long and hard wear if it be kept well wetted with water during use.

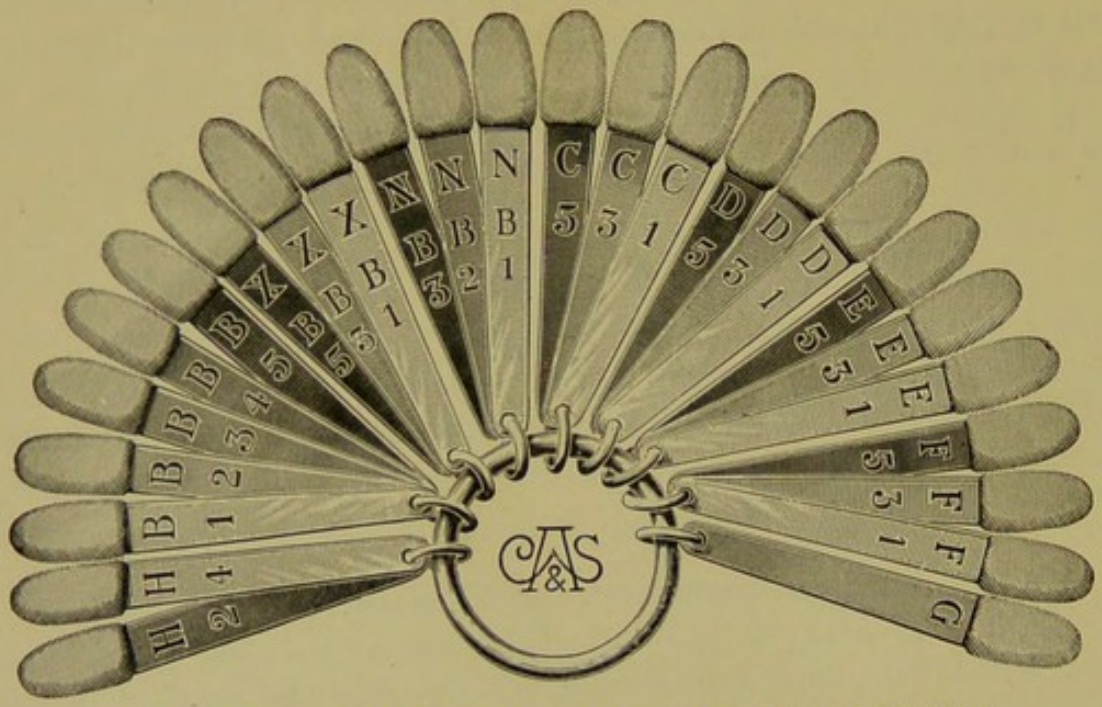
It fits the Lathe Chucks of our manufacture.

	s.	*d.*
Price	1	0

C. ASH & SONS'

SET OF TEETH SHADES.

(Registered. Reg. No. 269,728.)



SUPPLIED FREE OF CHARGE ON APPLICATION.

Each Tooth in the Set of Shades here illustrated is made with a single pin, and is riveted to a strip of aluminium bearing the colour and shade by which the tooth is known—the letter or letters indicating the colour and the number the shade.

The single pin serves as a pivot, and permits of the Tooth being turned completely round, so that when the Upper Teeth are to be matched the cutting edge can be set downwards, as shown in the engraving, and, inversely, when the Lowers are to be matched the cutting edge can be set upwards. This arrangement is of great advantage, inasmuch as it enables the operator to place any Tooth in the Set of Shades against the Teeth in the mouth in such a way that the effect is seen at a glance, and when he has found the Tooth which matches, it is only necessary for him to write for B/3, D/4, etc., in order to obtain APPROXIMATELY the colour and shade which he requires.

ASH'S MINERAL TEETH—*continued.*

A discount of 5 per cent. for prompt cash is allowed when teeth are purchased to the amount of £5 and upwards.

Owing to the continued fluctuation in the value of Platinum we have not given the Prices of Teeth on this page, but Current Rates can be had on Application.

FLAT TEETH.

All our Flat Teeth are made with long Platinum Pins, and can be used either for Plate or Vulcanite work.

Incisors and Canines	In sets of 6, Upper or Lower.
Dentures	„ 14, „ „
Complete Dentures	„ 28, Upper and Lower.
Incisors	„ 4, Upper or Lower.
Incisors and Canines	In pairs „ „
Bicuspids and Molars	In sets of 4, „ „
„ „	„ 8, „ „

TEETH FOR VULCANITE.

In Sets and Pairs like the Flat Teeth.

DIATORIC (PINLESS) TEETH.

In **Sets** like the Flat Teeth, but not in Pairs.

FLAT TEETH WITH GUMS.

In Sets and Pairs like the Flat Teeth.

TEETH WITH GUMS FOR VULCANITE.

In Sets and Pairs like the Flat Teeth; also in sectional pieces of 2, 3, and 4 Teeth.

ASH'S MINERAL TEETH—*continued.*

A discount of 5 per cent. for prompt cash is allowed when teeth are purchased to the amount of £5 and upwards.

Owing to the continued fluctuation in the value of Platinum we have not given the prices of the Teeth on this page, but current rates can be had on application.

TEETH FOR WOOD PIVOTS.

In Sets of 4 and 6, Incisors and Canines, uppers only.

TUBE TEETH.

Incisors and Canines	In sets of 6,	Upper or Lower.
Dentures	,, 14,	,, ,,
Complete Dentures	,, 28,	Upper and Lower.
Incisors and Canines	In pairs,	Upper or Lower.
Bicuspids and Molars	In sets of 4,	,, ,,
,, ,, ...	,, 8,	,, ,,

MINERAL SPECIMENS.

		s.	*d.*
Dentures, Upper or Lower	each	20	0
Complete Dentures, Upper and Lower to match . . .	,,	40	0

A very extensive assortment of **Odd Teeth** of all kinds is kept in stock, and every facility is afforded for selecting them to suit special cases.

Broken sets of Teeth are made up for Dentists at the ordinary selling prices.

Wax in sheets for sticking Teeth on, per lb., 5*s*.

AMERICAN TEETH.

We have always on hand a large and varied stock of S. S. White's and Justi's Pin Teeth and Gum Teeth—*current prices sent on application.*

ASH'S MINERAL TUBE CROWNS,

AND

PIN SUGGESTED BY MR. NASH, OF INVERNESS.

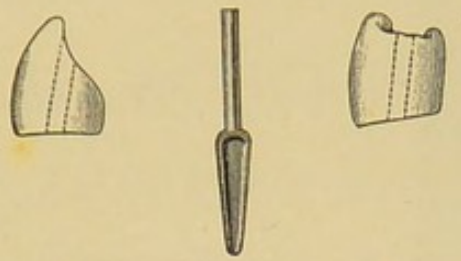


Fig. 6.

The Mineral Tube Crowns are made in Fronts, Laterals, Canines, Bicuspids, and Molars, as illustrated on page B opposite, in a variety of sizes and shades. The round part of the Pin snugly fits the tubes in the Crowns.

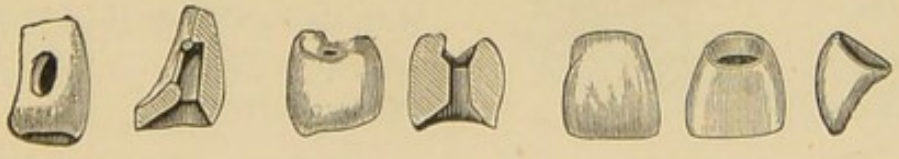
Before a Crown is mounted, it should first be countersunk sufficiently to receive the shoulder of the fluted part of the Pin, and then "let down" on to the root by grinding. The Pin, after being bent as desired, is secured to the Crown either with Sulphur Cement or Soft Solder. The fluted part of the Pin goes into the root, and is secured in position with Phosphate Cement.

The most convenient instrument for bending the Pin is Mr. Balkwill's Socket Handle (Fig. 6), shown on the right hand side of this page.

Prices :

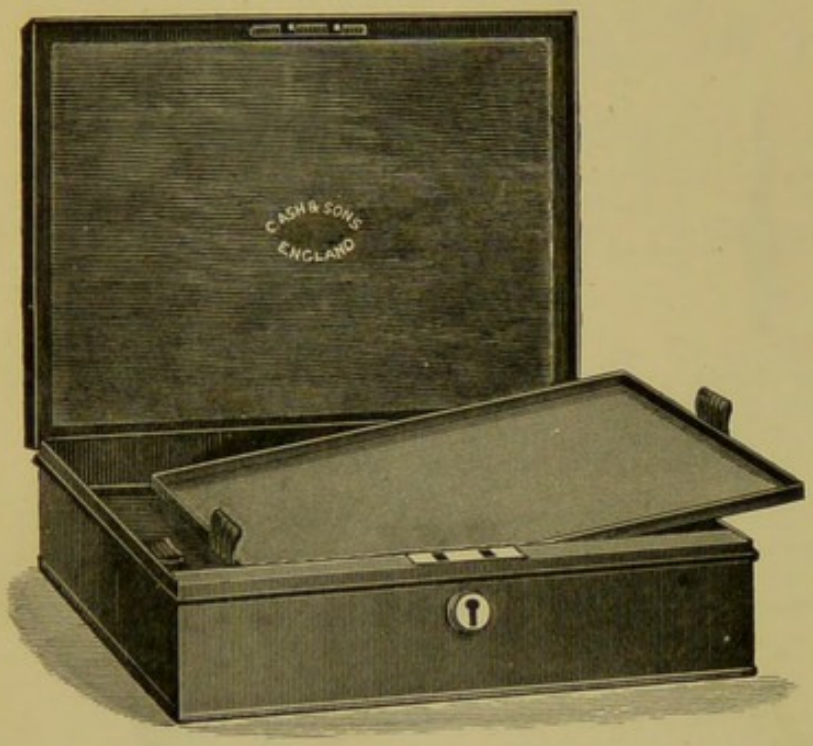
		s.	*d.*
Mineral Tube Crowns, all kinds . . .	each	1	0
Pins in Dental Alloy	,,	0	9
,, in Platinum	,,	2	9
Socket Handle (Mr. Balkwill's), for holding the Pin while bending it to the required angle . . . . . (Fig. 6)	each	1	6

PORCELAIN CROWNS FOR PIVOTING.



		s.	*d.*
Crowns (Dr. Bonwill's), various shades and sizes, forms as illustrated . .	each	1	0
Pins in Dental Alloy for ditto	,,	0	6
Logan's Crowns, each with one pin—Centrals, Laterals, Canines, and Bicuspids	,,	2	6
Logan's Crowns with two pins—Molars	,,	2	9
Extra Pins for Logan's Crowns made of Platinum	,,	1	11

CASES FOR HOLDING MINERAL TEETH.



JAPANNED,
WITH LOCK AND KEY.

	£	*s.*	*d.*
To hold 5000 .	1	8	0
,, ,, 3000 .	1	5	0
,, ,, 2000 .	1	1	0

LEATHER,
WITH HOOKS AND LOOPS.

	s.	*d.*
To hold 1000 . .	15	0
,, ,, 600 . .	9	0
,, ,, 300 . .	6	9

TEETH CABINET.

(ASH'S ENGLISH MANUFACTURE.)

This Cabinet will hold between 6000 and 7000 Teeth. It is provided with lock and key on the side, as shown in the illustration, by means of which all the drawers are locked or unlocked at once.

Outside Dimensions:—Height, 17 inches Width, 12⅝ inches; Depth, 10⅝ inches.

With eleven drawers 10½ × 9⅜ × ¾ inches; and one deep drawer 10½ × 9⅜ × 2¾ inches, suitable for sundries.

	£	*s.*	*d.*
In Deal, varnished	1	2	6
In Mahogany, polished	1	10	0

Cases or Boxes in Card, Wood, Leather, Britannia Metal, or Japanned Tin made to order or special directions.

Section II.—GROUND AND MOULDED INLAYS.

MR. DALL'S

GROUND MINERAL INLAYS,

INLAY BURS AND GAUGE.

(REGISTERED. REG. Nos. 297,136 and 303,110.)

INLAY WORK MADE EASY.
INLAYS GROUND, SHAPED AND TRUED READY FOR INSERTING INTO CAVITIES.
BURS ADAPTED FOR MAKING CAVITIES THE RIGHT SIZES FOR THE ROUND INLAYS.

INLAY WORK.

Rapid and beautiful work can be done with the **GROUND INLAYS**, designed by Mr. Dall, of Glasgow, whose twelve years' experience of Inlay Work enables him to say that he can thoroughly recommend it to the Profession.

To enumerate some of its advantages, it may be stated that:—

1. An Inlay can be inserted in from ten to fifteen minutes.
2. Inlays are durable.
3. Inlays are artistic.
4. Inlays are pleasing to patients.
5. Inlay Work is remunerative.
6. Inlays can be inserted on the labial surfaces of upper and lower incisors.
7. Inlays can be inserted on the buccal surfaces of upper and lower bicuspids.

INLAY WORK—*continued.*

8. Inlays can be inserted on the cervico-labial surfaces of upper and lower incisors, and on the cervico-buccal surfaces of upper and lower bicuspids.
9. Inlays can be inserted on the coronal surfaces of upper and lower bicuspids and molars.
10. Inlays can be inserted on the disto-labial and mesio-labial surfaces of upper and lower incisors, and on the mesio-buccal surfaces of upper and lower bicuspids.
11. Inlays can be inserted in the small cavities of honeycombed teeth.

The Illustrations on pages 17–20 refer entirely to the twenty-five sizes of Mr. Dall's Round Inlays, represented by the Gauge shown on page 14.

INLAYS.

These are made slightly tapering from back to front, in twenty-five sizes, as illustrated on Inlay Gauge on page 14. The side views to the left of the Gauge represent deep and shallow inlays, size A L, and the front view shows how the inner surface is serrated for securing firm attachment to the phosphate cement, which is used for fixing the inlays in position.

The inlays are prepared in a variety of shades. In ordering them please indicate the shade required by quoting **from the cutting edges of the teeth** on our Set of Shades.

INLAY BURS.

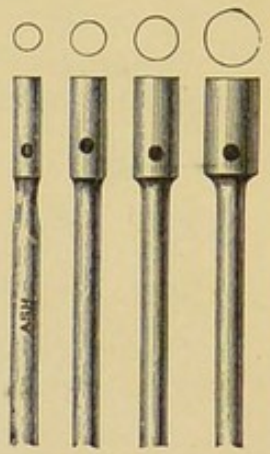
These, like the Round Inlays, are also made in twenty-five sizes, corresponding to the sizes marked on the Inlay Gauge, page 14.

As will be seen from the drawing to the left of the Gauge, the Burs taper slightly from back to front. In this respect they agree with the inlays, the idea being that a cavity prepared with a given size Bur will take an inlay of the same size. Thus, for example, a cavity prepared with size G Bur will take size G Inlay.

DIAMOND DISCS.

Two kinds of Diamond Discs are employed—one charged all over, and the other charged only on the sides. With the one charged all over the Knob on the Inlays can be nicked preparatory to breaking it off. By making a slight nick with the Disc on two sides of the Knob, after the Inlay has been fixed in position with phosphate cement, it can be easily snapped off with the tweezers, and the little rough spot left on the face of the Inlay can then be quickly ground smooth with the side of the Disc, with one of Ash's polishing stones for engine, or with a carborundum point.

The sides of both kinds of Diamond Discs are intended for trimming down Inlays either before or after they are inserted in cavities.



1. 2. 3. 4.

INLAY CARRIERS.

These are made in four sizes as here shown, and are intended for holding Moulded Inlay Rods while they are ground and trued.

		s.	*d.*
Price, any size	each	1	0

SPECIAL BURS—*see page* 14.

Fig. 1.—Grooving Bur, for making slight groove round base of wall after a cavity has been prepared for receiving an Inlay.

Fig. 2.—Bur for Interstitial Cavities such as the one shown in Fig. 5 on page 19.

Fig. 3.—Tapering-cone Inlay Bur for compound cavities; also very useful for preparing cavities in pitted teeth—see illustration Fig. 3, page 18—especially when it is found necessary to drill right through the tooth.

Cavities for the Oval, Crescent, Half-Round, and Half-Pear Inlays, the sizes of which are shown on page 21, are shaped with ordinary Cavity Burs, with the Special Burs illustrated on page 14, and with Diamond Burs such as are figured in our Engine List.

Sole Manufacturers:

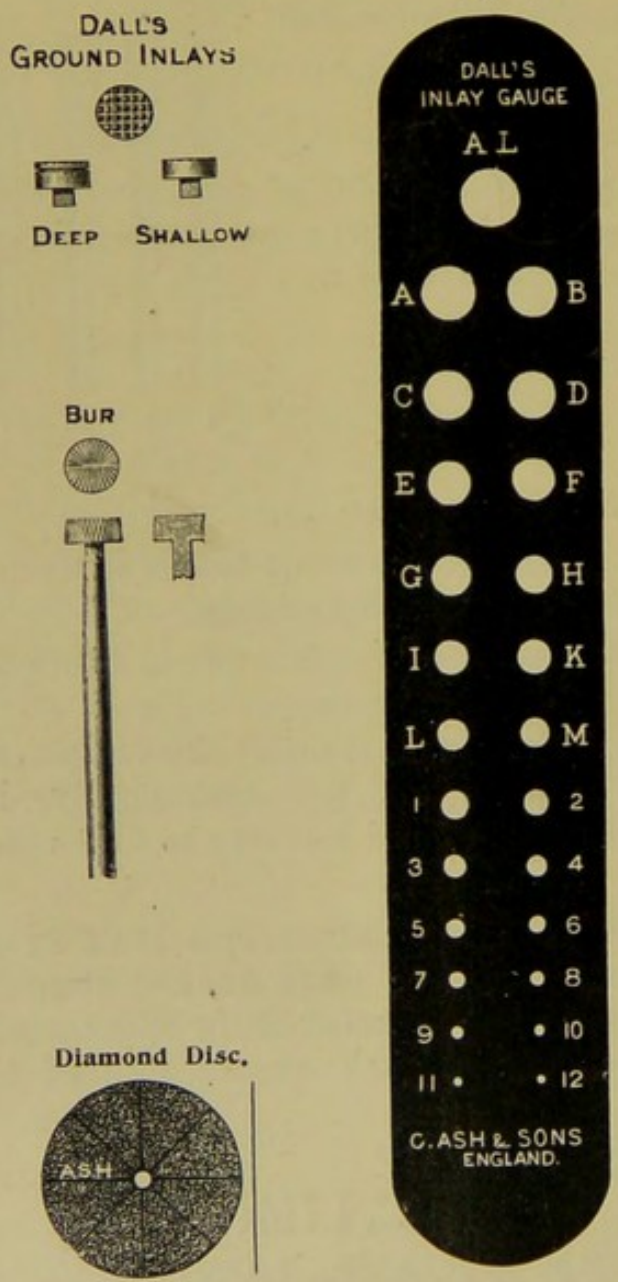
CLAUDIUS ASH & SONS, LIMITED,
BROAD STREET, GOLDEN SQUARE, LONDON, W.

MR. DALL'S

GROUND INLAY OUTFIT

(Registered. Reg. Nos. 297,136 and 303,110.)

Fig 1.



MR. DALL'S GROUND INLAY OUTFIT

(CONTINUED).

PRICES:

		s.	d.
Dall's Ground Inlays, sizes A L to 12, as shown on Gauge Fig. 1, deep or shallow, any shade	each	0	9
" " " " " "	per 50	35	0
" " " " " "	" 100	65	0
Dall's Gold-Bordered Ground Inlays, any size, SUPPLIED TO ORDER.			
Dall's Inlay Burs for any Handpiece or Attachment			
sizes A L to F	each	2	0
" " " " G to No. 12	"	1	6
" " " " "	per set of 25	37	6
" " " charged with diamond, M L K I H	each	2	0

NOTE.—In ordering Inlay Burs be careful to state for which Handpiece or Attachment they are wanted. This request also applies to the Inlay Burs, Figs. 1, 2, 3, *mentioned below.*

Dall's Inlay Gauge of Round Sizes	each	12	6
Ash's Grooved Diamond Discs, charged on both sides and on edge, $\frac{1}{2}$-in. and $\frac{3}{4}$-in. diameter	"	3	9
Ditto ditto $\frac{7}{8}$-in. "	"	4	6
Ash's Grooved Diamond Discs, charged on both sides, but not on edge, $\frac{1}{2}$-in. and $\frac{3}{4}$-in. diameter	"	3	9
Ditto ditto $\frac{7}{8}$-in. "	"	4	6
*Grooving Bur, large and small . . . . . (Fig. 1)	"	2	3
*Bur for Interstitial Cavities, large and small . (" 2)	"	2	3
*Tapering-Cone Inlay Bur, large and small. . (" 3)	"	2	3

* *The large size of each is shown in the Illustrations on the opposite page, but larger sizes can be had to order.*

INLAY OUTFITS AND ROUND INLAYS.

Partial Set Case.

	£	s.	d.
Full Set Case, complete	9	6	0

This case contains 100 Assorted Round Inlays, 46 Burs for Straight Handpiece and Right-Angle Attachment, 4 Carriers, 1 Gauge, 2 Diamond Discs, 1 Mandrel, and Leather Case with ebony racks for Burs, and Boxes with glass lids for Inlays.

Partial Set Case, as illustrated	6	3	6

This case contains 100 Assorted Round Inlays, 14 Burs for Straight Handpiece, 1 Carrier, 1 Gauge, 2 Diamond Discs, 1 Mandrel, and Leather Case with ebony rack for Burs, and Boxes with glass lids for Inlays.

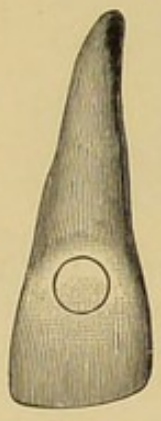
Sample Outfit, in neat cardboard case	2	10	0

Consisting of 50 Assorted Round Inlays, 6 useful sizes of Burs for Straight Handpiece, 1 Special Bur, 1 Diamond Disc, and 1 Mandrel.

MR. DALL'S
METHOD OF INLAY WORK.

TREATMENT OF SIMPLE CAVITY WITH INSERTION OF PLAIN INLAY.

FIG. 1.



INSTRUCTIONS.

First.—Clean the surface of the tooth by using, in the engine, a fine carborundum point or paper disc, so that the decayed or soft parts can be seen to their full extent.

Second.—Enlarge the cavity with sharp rose-headed burs and one or two inlay burs, make a slight groove with grooving bur at base of wall, select inlay same size as bur, fix with phosphate cement, dry with hot air, and when dry grind the surface of the inlay with carborundum points, which still further tends to harden the cement; finish with water of Ayr stone, buff and pumice.

TREATMENT OF TOOTH FOR SUPERFICIAL DECAY OR DISINTEGRATION OF ENAMEL, FOR INSERTION OF PLAIN INLAY.

No. 1A (*No Illustration*).

Same instructions as for Simple Cavity—see Fig. 1 above—with one exception, viz., use diamond burs until beyond the enamel and enlarge slightly with same before using the rose-headed burs.

MR. DALL'S METHOD—*continued.*

TREATMENT OF CAVITIES IN PITTED TEETH FOR INSERTION OF SMALL PLAIN INLAYS.

FIG. 2.

Same instructions as for Simple Cavity—see Fig. 1, page 17—with one or two exceptions, viz., rose-headed burs need not be used, the inlay burs can be employed from start to finish, moreover, a groove at base of cavity is not necessary.

TREATMENT OF SMALL CAVITY NEAR CUTTING EDGE FOR INSERTION OF PLAIN INLAY.

FIG. 3.

Same instructions as for Pitted Teeth—see Fig. 2, above.

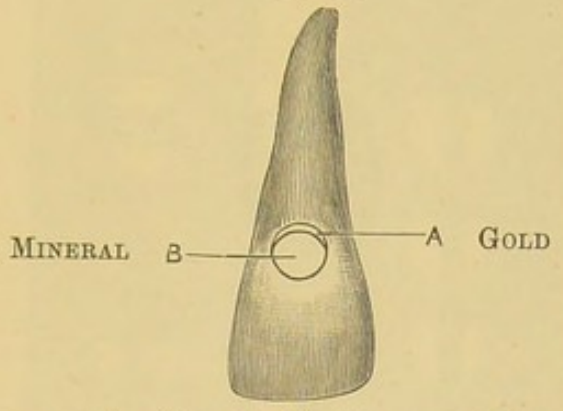
The Tapering-cone Bur, mentioned on page 13, will be found very useful for Cavities of this class, especially when it is necessary to drill right through the tooth, in which case a tapered inlay is inserted corresponding to the size of the bur used.

The operator must be very careful, while enlarging cavity, not to exercise pressure on the bur towards the cutting edge, as thereby it would be weakened.

MR. DALL'S METHOD—*continued.*

TREATMENT OF SIMPLE CAVITY AT CERVICO-LABIAL OR CERVICO-BUCCAL SURFACE, WITH INSERTION OF SEMI-APPARENT GOLD-BORDERED INLAY.

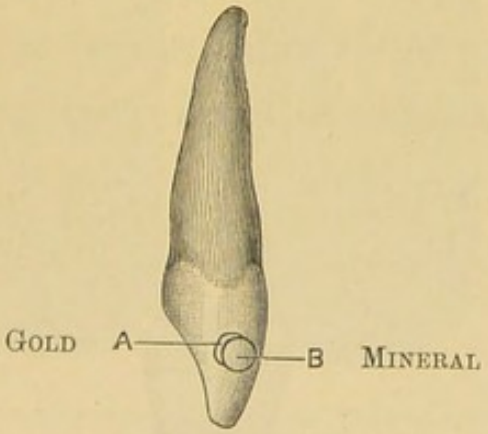
FIG. 4.



Same instructions as for Simple Cavity—see Fig. 1, page 17—but Gold Line to be burnished after it has been polished with Buff and Pumice.

TREATMENT OF IRREGULAR CAVITY ON THE DISTO-LABIAL OR MESIO-LABIAL SURFACE, FOR INSERTION OF PLAIN INLAY WHERE ONE TOOTH IS CONTIGUOUS TO ANOTHER.

FIG. 5.



INSTRUCTIONS.

First.—Clean surface around decayed part by using in the engine a paper disc and remove decay with rose-headed burs.

Second.—Next use a very shallow inlay bur, or preferably an interstitial inlay bur, then fill the irregular part of cavity with gold foil, cylinders or solila-gold, encroaching on the part where the inlay is to be fixed.

Third.—Again use the inlay bur, select and fix inlay; finish as in the case of Simple Inlay, but use emery paper discs more freely.

MR. DALL'S METHOD—*continued.*

TREATMENT OF CAVITY IN UPPER OR LOWER BICUSPID OR MOLAR, FOR INSERTION OF PLAIN INLAY.

FIG. 6.

Same instructions as for Simple Cavity—see Fig. 1, page 17.

TREATMENT OF GOLD-BORDERED INLAYS FOR UPPER AND LOWER MOLARS AND BICUSPIDS.

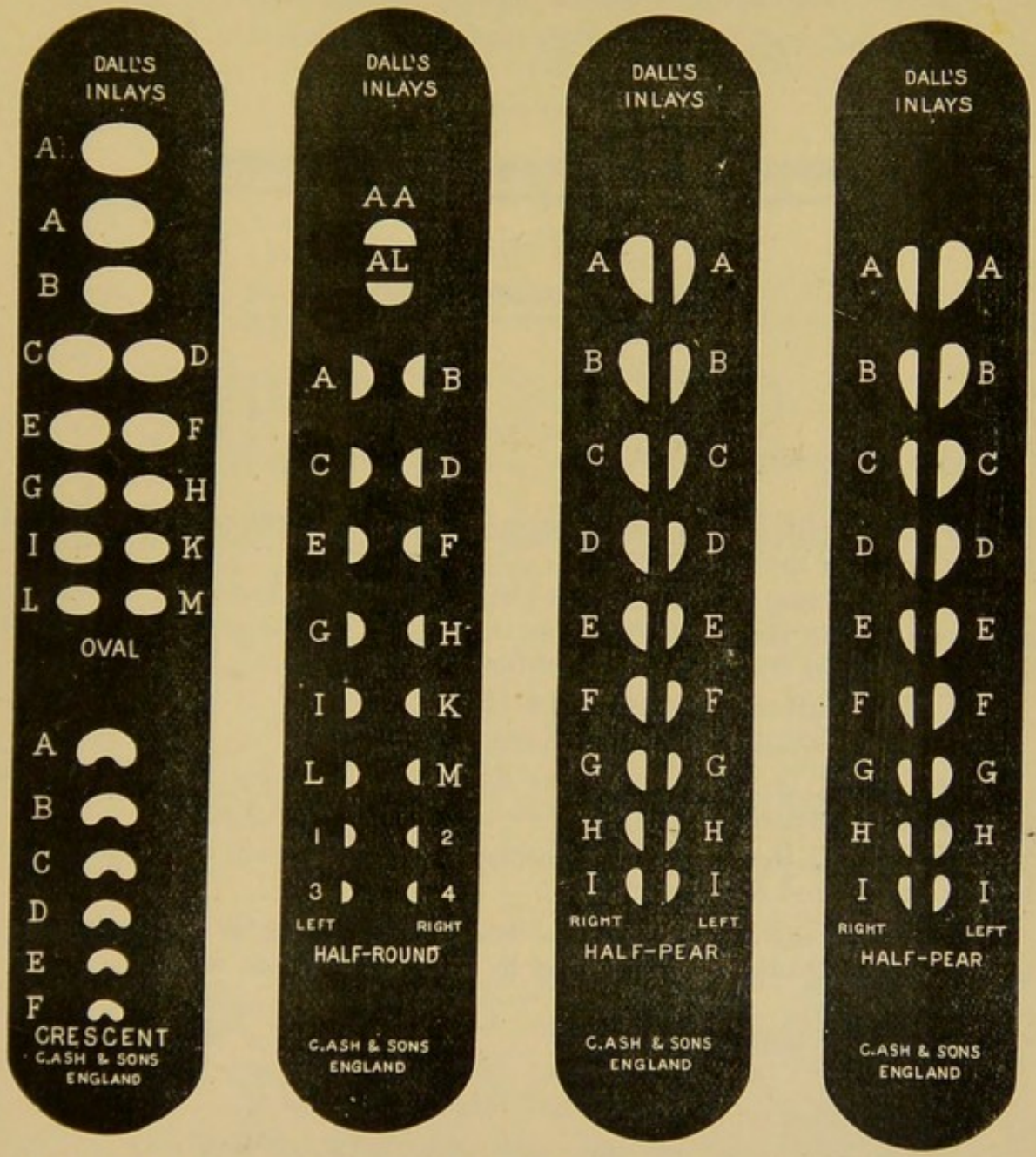
FIG. 7.

Same instructions as for Plain Inlays—see Fig. 1, page 17—only Gold must be burnished after it has been finished with Buff and Pumice.

Mr. DALL'S GROUND MINERAL INLAYS

(Registered. Reg. Nos. 297,136 and 303,110.)

Fig. 2. Fig. 4. Fig. 5. Fig. 6.



The ground and trued inlays represented on these gauges are made in the following shapes and sizes:—

Oval, see Fig. 2, in sizes AL—M.
Crescent, see Fig. 2, in sizes A—F.
Half-round, see Fig. 4, in right and left sizes AA—No. 4.
Half-pear, see Figs. 5 and 6, in right and left sizes, A—I.

PRICES:

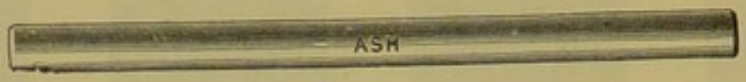
		£	*s.*	*d.*
Any shape or size	each	0	1	0
,, ,, or assorted	per 50	2	5	0
,, ,, ,, ...	per 100	4	0	0

MINERAL INLAY RODS

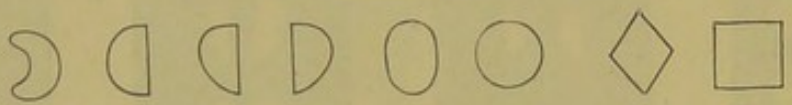
(C. ASH & SONS').

Ground and trued to shape ready for cutting into Inlays.

STRAIGHT.



TAPERING.



A. B. C. D. E. F. G. H.

The **Straight** Round Rod, suggested by Mr. Markham, of Newcastle, is only made in the form shown.

The **Tapering** Rod is made in forms A to H, as illustrated, the outlines representing the thick end of each. Fig. F is known as Mr. Markham's, and Mr. Dall, of Glasgow, has introduced forms A, B, C, D, E, G, H.

Mr. Dall thus describes them:

Fig. A, Grooved, for labial cervical cavities.

Figs. B, C, D, Half-round and Right and Left for labial-distal and labial-mesial cavities.

Figs. E, F, G, H, Oval, Round, Diamond-shaped, and Square, for labial, buccal, and crown cavities.

In ordering the above Rods, the colours of the teeth, at the cutting edge, on our Set of Shades may be quoted to indicate the shade required.

		s.	*d.*
Price, any form or shade	each	1	6

MINERAL INLAY RODS

(C. ASH & SONS').

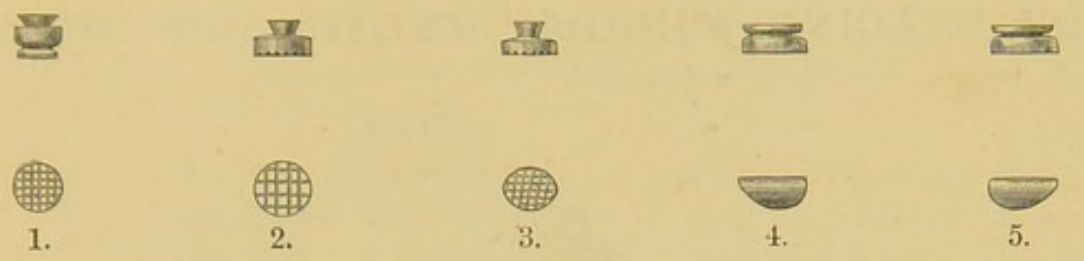
Left as they are moulded, for the dentist to grind and true to shape. Supplied in the forms shown above.

		s.	*d.*
Price, any form or shade	each	0	6
Gum-Coloured Tapering Rods	,,	0	6
Extra Large Tapering Rods	,,	1	3

MINERAL INLAYS.

(Introduced by Mr. DALL, of Glasgow.)

Left as they are moulded, for the dentist to grind and true to shape



1. 2. 3. 4. 5.

Made in five different forms as here shown. A side view of each is given in the upper row of illustrations; the lower row shows the inner surface and the shape of each form.

Fig. 1 is for deep cavities in Molars and Bicuspids.
„ 2 is for shallow cavities on labial and buccal surfaces.
„ 3 is for oval cavities on labial and buccal surfaces.
„ 4 and 5, right and left, are for labial-distal and labial-mesial cavities

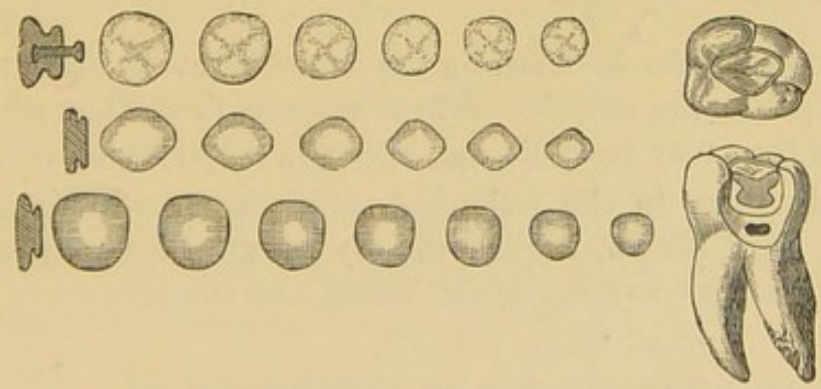
The inverted-cone Knobs are put on Figs. 1, 2, 3 to admit of their being firmly held while they are trimmed down to size, or either tried or fixed in the cavity. The Knob is ground off after the inlay is cemented in position.

		s.	*d.*
Price	each 4*d.*; per pkt. of 25 assorted	7	6
„	per 100	30	0

PORCELAIN CAVITY STOPPERS,

FOR FILLING LARGE CAVITIES.

Left as they are moulded, for the dentist to grind and true to shape.



These are used in conjunction with Plastic Fillings, and will be found very useful in restoring teeth which are much decayed. They are made with smooth and serrated surfaces, and can be had with or without Platinum Pins. In a variety of shapes, different sizes as illustrated.

Price 4*d.* each, or 30*s.* per 100.

ASH'S

PORCELAIN ENAMELS

FOR SHADING MINERAL TEETH AND INLAYS.

These Enamels can be fused on any make of teeth, and are warranted not to wear off in the mouth. When properly fired, they will stand any test to which they may be subjected, either in soldering or vulcanizing.

We supply them in the following seven colours: White, Grey, Blue, Dark Green, Dark Brown, Light (Italian) Brown Black, put up in bottles and packed in a neat cardboard box, which also contains :—

1 Bottle Mixing Liquid;
1 Palette Knife for mixing the colours;
1 Porcelain Palette on which the colours are mixed;
2 Camel-hair Pencils;
1 Bottle of Turpentine for cleaning the brushes;
1 Nickel Tray for firing teeth in.

ASH'S PORCELAIN ENAMELS—*continued.*

To Mix the Colours.—Mix the colours on the porcelain palette with the palette knife, add sufficient mixing liquid to render plastic, and work the mixture with the knife until it is thoroughly smooth and thin.

The colours **White, Grey, Black** should be thickly applied to the teeth ; but **Green, Blue,** and the **Browns** must be thinly applied in order to obtain the best results.

To Test a Shade.—Before applying the mixture to the teeth which are to be shaded, test it on a useless tooth or a piece of porcelain to see whether it is the right tint. When the right tint is obtained, carefully lay it on the teeth to be shaded with a camel-hair brush, let them dry naturally, and then fire in any suitable blast furnace or in any electric furnace until they are well glazed.

The depth of shade desired is obtained by varying the thickness of the Enamel when laying it on the teeth.

Gum Teeth.—A good imitation of the natural gums can be produced by using our Low-Fusing Gum Enamel No. 55 B.

Defects in the Teeth.—By drilling or grinding the surfaces of artificial teeth with a diamond disc or a diamond drill, such as is used for making cavities in artificial teeth for the reception of gold fillings—not a diamond bur, for this will not do the work—and afterwards applying enamel and firing, pits and grooves in the enamel of natural teeth can be effectually imitated.

For Tinting Mineral Inlays and Crowns.—Should the colour of an Inlay or Crown not be a satisfactory match, it can be tinted to the desired shade with one or other of the Enamels.

General Remark.—In the hands of the artistic worker there is hardly any limit to the possibilities and usefulness of these Porcelain Enamels.

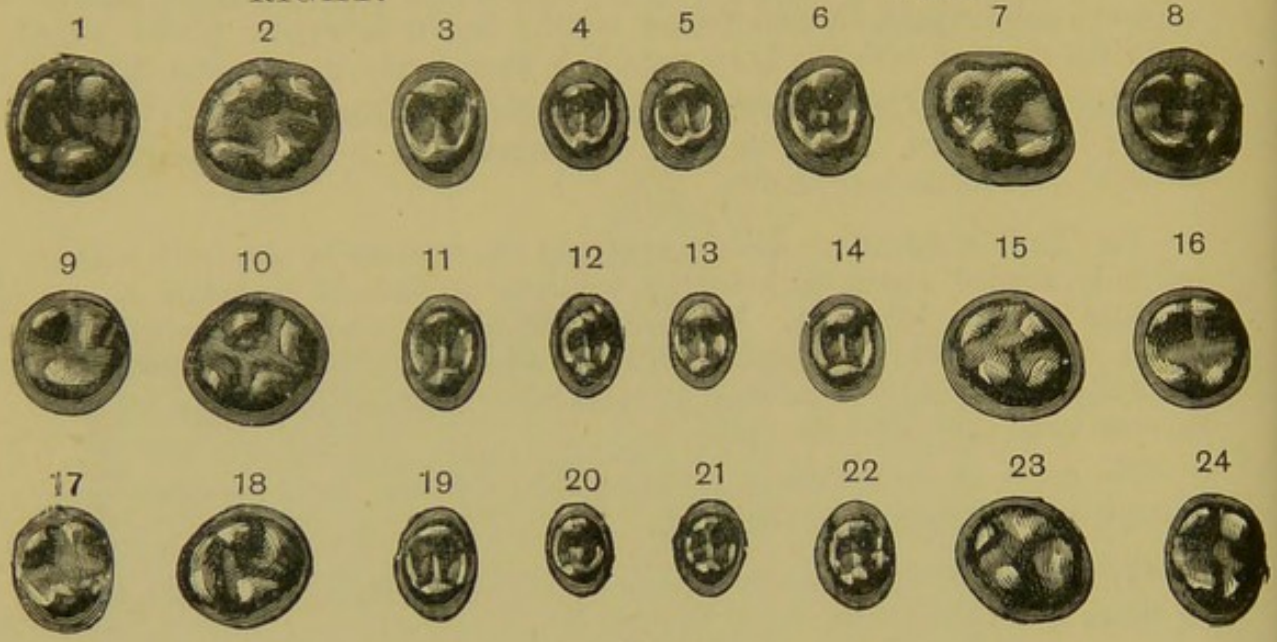
Prices :

	s.	d.
Box containing seven bottles Porcelain Enamels, one bottle Mixing Liquid, one bottle Turpentine, Porcelain Palette, Palette Knife, two Camel-hair Pencils, and Nickel Tray. .	15	0
Yellow, a most Useful Colour—introduced since the engraving was made . . . . . per ¼ oz. bottle	2	6
Gum Enamel, for veneering the cervical border of Inlays and Crowns, No. 55 B . . . . . per ¼ oz. bottle	2	6

JÜTERBOCK'S SEAMLESS GOLD CROWNS.

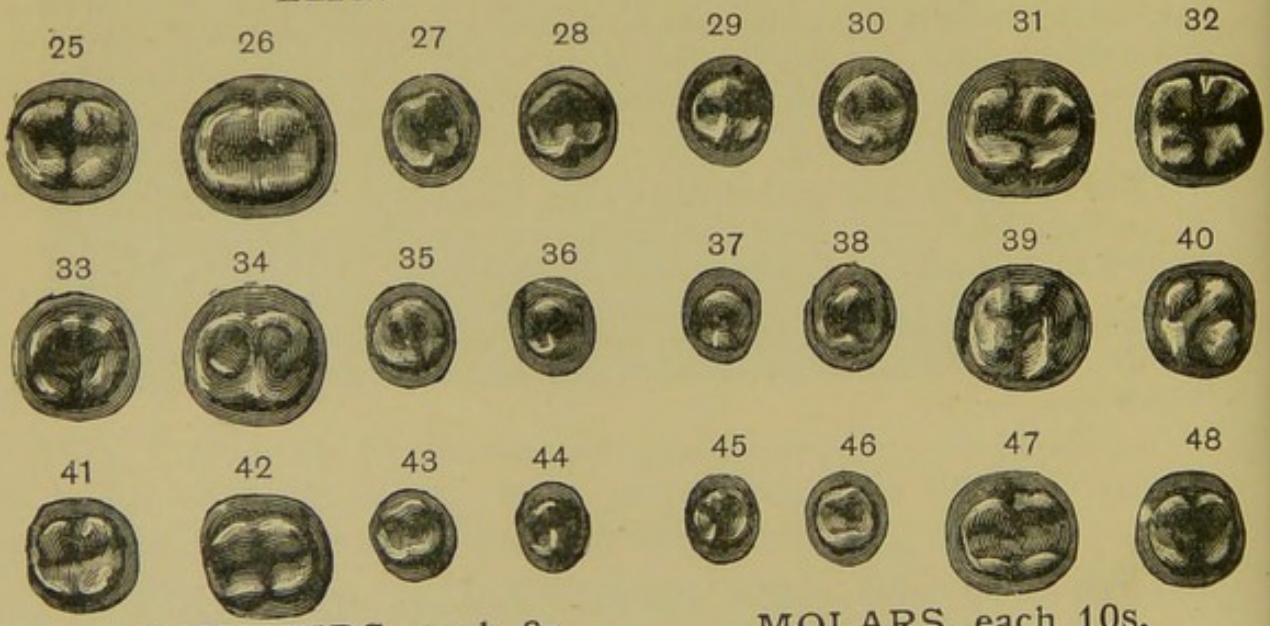
UPPER.

RIGHT. LEFT.



LOWER.

LEFT. RIGHT.



BICUSPIDS, each 8s. **MOLARS, each 10s.**

The outer edge in the above Illustrations represents the exact size of the *base* of the Crowns.

These Crowns are made of absolutely fine Gold with a small addition of pure Platinum, which gives them great hardness and strength, and prevents the possibility of any oxidation.

They are struck in one piece from the sheet metal, no solder whatever being used in their manufacture; they are made in a variety of sizes to meet every ordinary requirement, but should any special Crown be required, it can be supplied within two days, from any cast, at an extra cost of 2*s*.

In ordering it is only necessary to give the number of Crown required.

Double Crowns for movable Bridgework made to order.

Section IV.—PORCELAIN WORK.

PORCELAIN WORK.

GENERAL REMARKS.

Gas Furnaces.—To work efficiently under all conditions either the Crown and Bridge or the Full-Set Furnace with coal gas, a half-inch gas-supply pipe with clear bore tap is required.

Bellows.—Fletcher's size 5 Bellows should be used, and the rubber disc should be kept well inflated to ensure a strong steady blast. By starting with a gentle blast the work can be quickly and very successfully heated through in the Furnace before firing is fully commenced.

Cleanliness.—The utmost cleanliness is necessary to ensure success. Any wax or dirt on the back of the teeth must be thoroughly removed before the Mineral Body is applied.

Firing.—Great care must be taken to heat the work gradually in order to prevent flaking of the Mineral Body before the full power of the blast is applied, **and after the firing is done the work should be allowed to cool slowly**—the best plan is to leave it in the Muffle for a short time—so as to properly temper the Mineral Body and thus render it thoroughly fit for wear in the mouth. When a glaze appears on the surface it is sufficiently fired.

Roughness after firing.—If the Mineral Body be rough after firing, the roughness is due to its having been imperfectly fused. To remedy this it should be fired again until a nice glaze appears on the surface.

If it be porous, the porosity is due to its having been over-fired. When this is the case, as much of the porosity as possible should be ground out, new Body added, and again fired.

MINERAL BODIES AND GUM ENAMELS.

Full details of these will be found on pages 40–42. It should be noted that the Low-Fusing are prepared for Inlays and Crowns, and the High-Fusing for Bridges, Sections, and Full Sets.

PORCELAIN WORK—*continued.*

INLAYS AND CROWNS.

Time required for fusing.—Inlays and Crowns made from the Low-Fusing Mineral Bodies can be fired in from one to one and a half minutes.

The Low-Fusing Gum Enamel can be fired in a little under one minute.

Particular care must be taken not to fire the Enamel as much as the Bodies.

Neglect to observe this point will endanger the colour of the Enamel.

To make an Inlay.—See pages 32–36.

To make a Crown.—First secure the post to a flat tooth by bending the pins of the tooth over it, then mix some of the Mineral Body to the consistency of thick cream with the mixing liquid supplied for the purpose, apply a little of it about the post and fire it ; this will secure the post to the tooth, and constitutes the first stage of the process.

When the tooth is cool remove it from the Muffle, grind away the pins to prevent the expansion of the metal in the next firing, which would take place were they left in position, and build up with the Mineral Body until the desired shape is obtained. To avoid undue shrinkage of the Mineral Body, the moisture in it should be allowed to evaporate before the Crown is fired.

A post with a cap, similar to the one here shown, is secured to the tooth in the same way as the post without cap described above.

A post added to a collar, which has been fitted to the root by the operator, is also secured to the tooth in the same manner.

Collars and Caps.—To prevent the possibility of a collar or cap shifting during the firing process, it is advisable to solder it to the post with the smallest possible portion of fine gold.

How to Place the Work in the Tray.—In arranging a Crown for firing, the post should be passed through the hole at the back of the tray supplied for the purpose. Gum Sections and Bridges are supported on the tray with investing material.

PORCELAIN WORK—*continued.*

GUM SECTIONS AND BRIDGES.

Gum Sections and Bridges are made from the High-fusing Mineral Bodies and Gum Enamels. Before firing they should be dried naturally.

The remarks on firing, given in the fifth and following paragraphs under Continuous-Gum Work, on page 37, should be strictly followed.

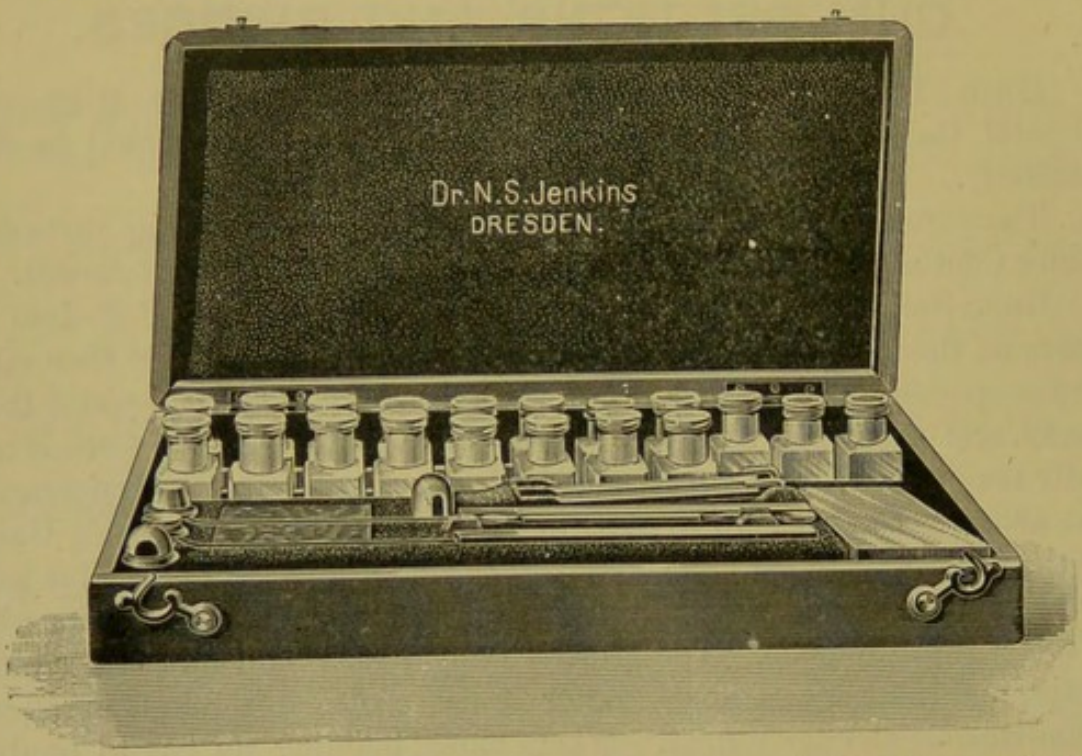
Gum Sections are made by burnishing soft platinum foil into the space on the model where the teeth are missing. The teeth are then set up and supported on the platinum foil with investing material applied to the backs, and any excess that may squeeze through between the teeth is carefully removed. Another method, which is recommended in preference to the above, is to strike up a piece of No. 1 Platinum Plate (Ash's Gauge) in the usual way, to back the teeth and to solder them to it with fine gold; or the pins of the teeth may be attached to a piece of platinum wire which is soldered to the plate. The Mineral Body is then built up to the required shape, and the work is fired. After it has cooled down it is faced with Gum Enamel and again fired. Where much building up has to be done, it is necessary to do it little by little, and to fire the piece each time a fresh lot of Mineral Body is added. *See Notes on Firing Continuous-Gum Sets, pp.* 37–39.

Gum Sections with Vulcanite Attachments.—In reference to Gum Sections to which vulcanite is to be added: It is necessary, after flasking and packing, to proceed with the vulcanizing at once; if the plaster in the flask is allowed to stand for some hours and harden, the subsequent softening of the plaster through expansion is liable to cause small cracks in the enamel. Moist heat must be used for warming the rubber previous to closing the flask. The simplest plan of obtaining it is to put the flask in warm water and keep it there until the water boils. It can then be safely closed in the press and put in the vulcanizer. After the vulcanizing process the vulcanizer should be allowed to cool very gradually without blowing off the steam. *See further remarks under Third Method, on page* 39.

Bridges are made in the same way as Gum Sections, with this addition: the teeth are soldered to a platinum bar, which should not be thicker than Ash's A size wire, and also to any cap or pin that may be used before the Mineral Body is applied.

DR. JENKINS'

PORCELAIN ENAMEL.



With this material absolutely perfect inlays can be made ; perfect in colour ; perfect in form ; unchangeable and indestructible. Fused in a gold foil impression.

Each outfit consists of 18 bottles of Dr. Jenkins' Porcelain Enamel, containing 15 grammes each, one heater, one platinum melting cup for inlays and one for pivot teeth, bellows, blowpipe, ivory fans with specimens of the colours, unpolished agate palette, bottle for alcohol with drop tube, box with powdered asbestos and celluloid boxes for preserving impressions. The porcelain enamel and the instruments are packed in a handsome solid oak case, lined with leather.

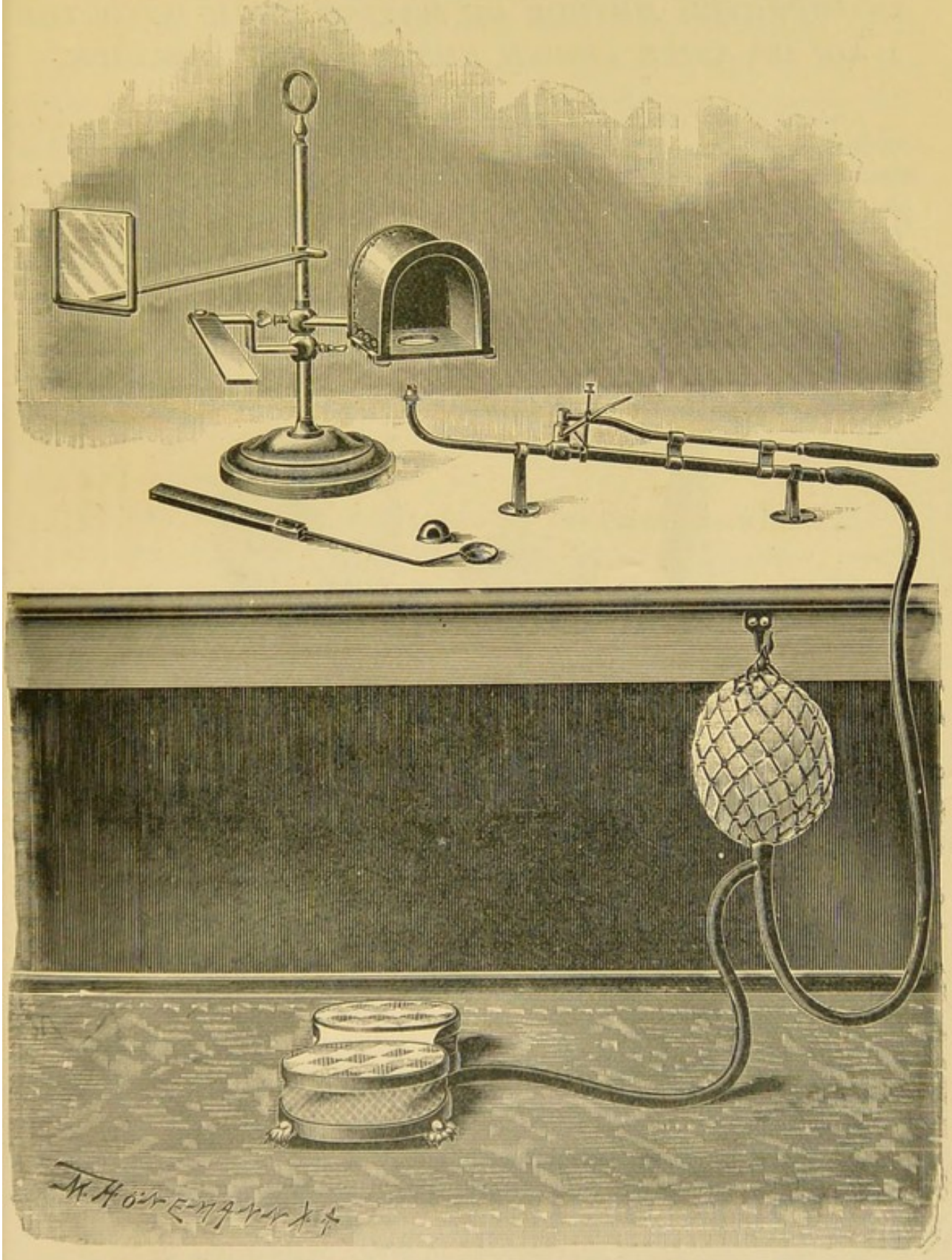
	£	s.	d.
Price complete	**20**	**0**	**0**
„ less Heater, Bellows and Blowpipe .	**15**	**0**	**0**

Dr. Jenkins' process has been adopted by the Dental Departments of the Universities of Berlin, Breslau, Vienna, Strasburg, Prague, &c. It is used and commended by such men as Drs. Miller, Sylvester, and Abbot, of Berlin ; Sachs, of Breslau ; Thomas, of Vienna ; Spaulding and Crane, of Paris ; Field and Davenport, of London, etc.. etc., etc. It commands better fees than gold work, and the outfit pays for itself in a few days even in a moderate practice.

Send for Pamphlet describing the process.

DR. JENKINS'

PORCELAIN ENAMEL APPARATUS.



Supplied by CLAUDIUS ASH & SONS, Ltd.

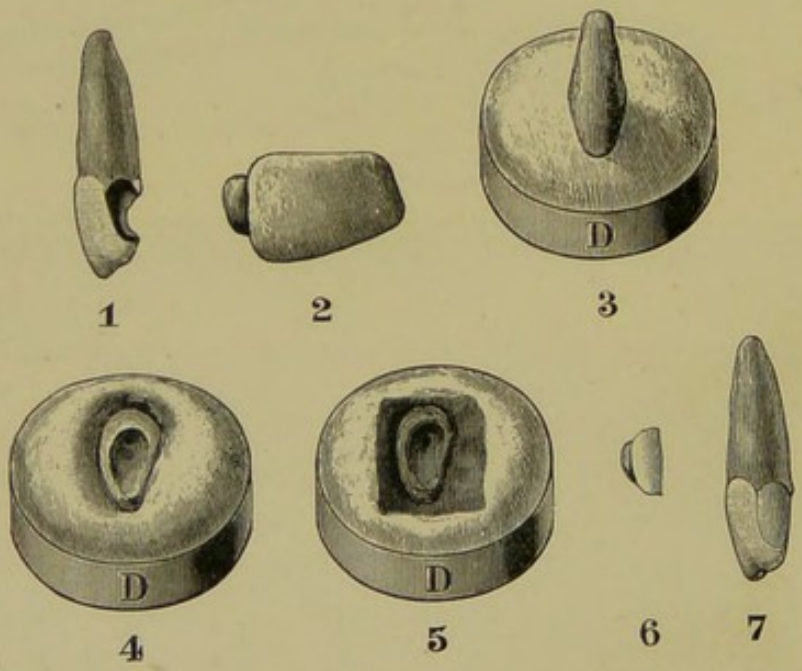
IRREGULAR-SHAPED MINERAL INLAYS

AN IMPROVED METHOD OF MAKING THEM WITH THE AID OF ASH'S CROWN RUBBER-BLOCK SWAGER.

Although the method of burnishing gold or platinised-gold foil into cavities, under amadou or cotton-wool, is very ingenious, it is nevertheless attended with such great difficulties that the need of a simple and certain plan of securing an unalterable matrix has long been felt, to make inlay work easy and successful in every-day practice.

The broad claim made for this improved method is that it is applicable in every case where an impression of the cavity can be taken, and that an absolute fit is the invariable result.

The illustrations here given show the various stages of the work from the cavity to the finished inlay.



Description:

1.—Tooth with irregular-shaped cavity.

2.—Wax impression of cavity.

3.—Impression embedded in plaster of Paris on bed-plate ***D*** of swager.

4.—Mould of cavity after the wax has been boiled out.

5.—Platinum or platinised-gold foil swaged into mould.

6.—Inlay after firing, with foil stripped off, ready for inserting in the cavity.

7.—Inlay placed, *but not cemented*, in cavity to show fit.

WORKING DIRECTIONS.

Prepare the cavity without undercuts ; soften a small piece of wax, and, before taking an impression of the cavity with it, dip the end in French chalk to ensure easy withdrawal ; smear the cupped part of the bed-plate ***D*** with oil, or cover it with a disc of tissue paper ; pour a little plaster of Paris upon it, and while the plaster is soft embed impression Fig. 2 in it. (*The object of smearing the cupped part of the bed-plate with oil or covering it with a disc of tissue paper is to ensure easy removal of the plaster after the foil is swaged into the mould.*)

When the plaster has set, remove the wax impression by boiling out.

Then take a piece of platinum or platinized-gold foil, of about the right size, roughly shape it to the cavity by pressing in with amadou, and complete by the application of gentle pressure in the Swager shown on page 36. The mould thus lined with foil gives a perfect matrix in which the inlay can be made and fired.*

The great advantages of this improved method are the following :—

(*a*) The platinum or platinized-gold foil is evenly and perfectly swaged into and around the edges of the mould by means of the rubber block in the Crown Swager ; an unalterable matrix is thus secured. (*If the mould of the cavity be a deep one, the very thin foil that is used may be torn inside by the pressure, but this is of no consequence provided the foil is intact around the edges.*)

(*b*) Foil swaged in this way does not alter in shape during the firing of the inlay, because it is free from the springiness which results from the unequal pressure that is applied to foil burnished into a cavity by hand under amadou or cotton-wool.

(*c*) It entirely does away with the danger of slightly altering the shape of the matrix, such as always attends the withdrawal of a matrix that is burnished into the cavity.

(*d*) Inlays can be prepared away from the mouth without that frequent reference to patients which has hitherto been unavoidable.

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* An inlay can be made in an unlined plaster mould, provided the plaster be free from impurities and thoroughly dried before the mineral body is packed into the mould. We prefer, however, to line the mould with foil, as the foil insulates the plaster from the mineral body, renders the inlay denser, and gives it a nicer finish than an inlay made in an unlined mould.—C. A. & S.

To make an Inlay.—Mix low-fusing body, of the shade required, to the consistency of thick cream, with a palette knife or suitable spatula; apply it to the foil-lined mould with a spatula or camel-hair brush until the mould is about half-full; thoroughly remove any moisture with a piece of amadou; keep on adding body and removing the moisture until the mould is filled and nicely contoured. Then fire to the biscuiting stage. When cool, add more body to make good the loss caused by the slight shrinkage, and fire again to a nice glaze. The shrinkage can be reduced to a minimum by packing in the centre of the body a tiny piece or pieces of broken mineral tooth of corresponding shade to the natural tooth.

(*An inlay can usually be made in two firings.*)

Should the colour of the inlay not match the tooth satisfactorily, it can be tinted to the desired shade with one or other of our porcelain enamels.

To insert an Inlay.—Previous to insertion, make fine serrations on the back or sides of the inlay with a diamond disc to give a secure hold to the cement; roughen the inside of the cavity with a cross-cut bur or suitable instrument; mix C.A.S. Cement or Dirigo Cement very thin and line the cavity with it. Then carry the inlay to the cavity with the inlay conveyer, which is supplied with the outfit, press home, and, when the cement has set, do the necessary trimming and polishing.

Special Instruments, &c., for Inlay Work.

1 Diamond Bur, bud shape, for smoothing margins of cavities previous to taking impressions.

1 Ash's Diamond Disc, ¾-inch diameter, charged on both sides and on edge, for serrating inlays before cementing in cavities.

1 Ash's Diamond Disc, ¾-inch diameter, charged on both sides but not on edge, for contouring inlays, &c.

2 Huey's Mandrels for carrying the above diamond discs.

1 Ash's Polishing Stone, mounted, for smoothing the edges of inlays after they are cemented in position.

1 Inlay Conveyer for carrying inlays to cavities. Extra supply of adhesive wax for re-charging cup of conveyer.

25 Polishing Buffs for finishing inlays.

1 Screw Mandrel for carrying polishing buffs.

6 Wood Discs for polishing inlays.

1 Split Porte-Polisher for carrying wood discs.

1 Tin Investing Material, useful for the following purposes:—

(*a*) Covering the nickel tray to form a bed for the plaster mould in the first firing.

(*b*) Supporting the foil matrix, if it be removed from the plaster mould for the purpose of shortening the time of the second firing.

(*c*) Holding the inlay should it require tinting with Porcelain Enamel to match the tooth. (For this class of work the investing material serves to protect the sharp edges of the inlay and to prevent them becoming rounded by the heat.)

It should be used as supplied, in the form of dry powder, in every case.

ASH'S LOW-FUSING MINERAL OUTFIT
FOR INLAYS AND CROWNS.

Consisting of the Special Instruments, &c., enumerated on the previous page. Also of:

6 Half-ounce bottles Low-fusing Mineral Body—shades B/1, B/2, B/3, C/3, D/1 and E/4. The fusing point of this material is about 2,400° Fahrenheit; it does not discolour in the mouth and yields a nice smooth surface.

1 Half-ounce bottle Low-fusing Gum Enamel.

1 Bottle Mixing Liquid.
1 Palette Knife.
1 dwt. Platinum Foil.
1 Glass Slab.
1 Set of Seven Shades.
1 Ash's Inlay Swager.
2 Camel-hair Brushes.
1 Spatula.
1 Nickel Tray.
1 Sheet Amadou.
Directions for Use.

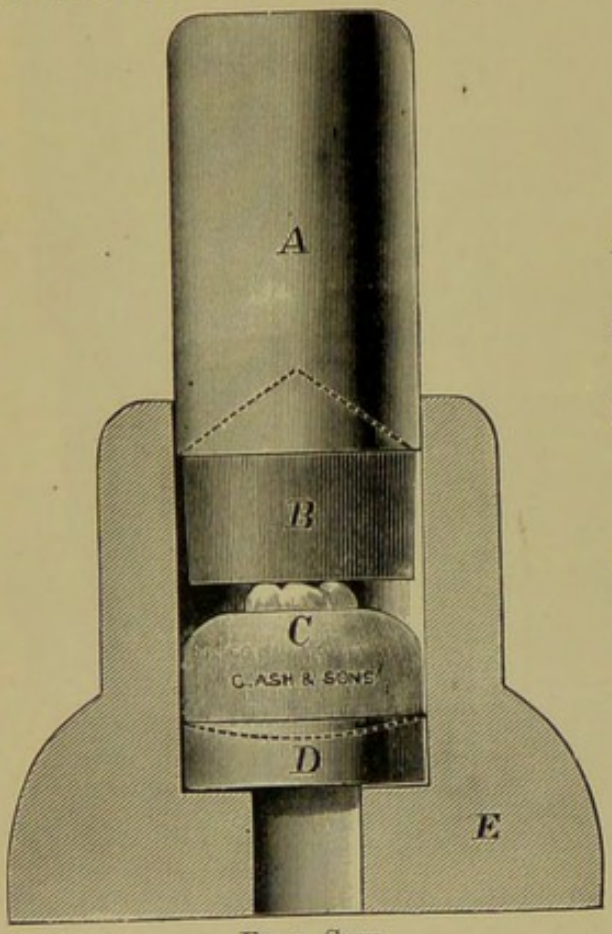
	£	s.	d.
In Oiled Walnut Case, Complete	3	10	0
Separately:			
Low-fusing Mineral Body, any of the above shades, per ½ oz. bot.	0	3	0
Low-fusing Gum Enamel . . . „ „	0	5	0
Platinum Foil, 1,000th of an inch thick . per dwt.	0	4	3

Inlays and Crowns can be fired in either of Mitchell's Electric Furnaces, and in any of our Gas Furnaces for Porcelain Work.

ASH'S CROWN RUBBER-BLOCK SWAGER.

(Registered. Reg. No. 334,144.)

There is no limit to the number of dies which can be made for use in this little Swager; any natural or artificial bicuspid or molar can be employed, and very easily and quickly mounted in Composition ready for the Gold Crown to be swaged upon it.



Full Size.

DESCRIPTION.

A.—Plunger.

B.—India-Rubber Block.

C.—Composition with Tooth embedded in it.

D.—Bed Plate.

E.—Section of Base with hole in the floor for dislodging Bed Plate ***D***, etc.

DIRECTIONS FOR USE.

Put a small piece of Swaging Composition into boiling water, and when it is softened mould it into shape on the Bed Plate, which should be previously warmed over a Bunsen or spirit flame, set an artificial tooth or the crown of a natural tooth in the composition, the size and shape of the required Gold Crown, and cool under the water tap. Then lay the piece of gold, which is to serve for the crown, upon the tooth, tack it in position with Model Cement, place it with ***C*** and ***D*** in the Swager, insert the Rubber Block ***B*** and Plunger ***A***, and swage it in a press or vice.

By taking an impression of the antagonising teeth in ordinary impression composition, and making a reverse of same in swaging composition or fusible metal, the gold crown can be swaged upon the reverse and correct articulation thus obtained.

		s.	*d.*
Price of Crown Swager, with two Rubber Blocks . . .		7	6
Additional Bed Plates ***D***	each	0	4
Extra-Hard Swaging Composition, in ½-lb. boxes .	per lb.	5	0

CONTINUOUS-GUM WORK.

A FEW METHODS OF MAKING FULL SETS WITH OUR HIGH-FUSING MINERAL BODIES AND GUM ENAMELS.

First Method.—After as perfect an impression of the mouth has been taken as it is possible to obtain, and the model and dies have been cast, a plate of No. 4 hard platinum (Ash's gauge) is swaged or struck up with a flanged edge all round, which serves as a support to the Mineral Body and makes it smooth and comfortable to the tissues of the mouth with which it comes in contact. This flanged edge is produced in the following manner: Before the zinc die is cast, a wall of wax is built up all round the outside of the model, up to where it is intended to bring the plate, and trimmed down with an inward slope towards the model, in the form of a flat shelf, so that when the zinc die and lead counter are cast the counter will have a convex ridge, the zinc a corresponding concavity, and consequently the edge of the plate will be turned over or flanged during the process of swaging or striking-up.

The same result can be obtained by soldering with fine gold* a piece of thin platinum wire on the extreme edge of the plate, but it is very much more difficult to do this than to form the flanged edge in the way described.

After the plate has been swaged or struck up, the teeth are backed with platinum and soldered to the plate with fine gold,* or attached by means of a length of platinum wire, which is better, as the wire lends strength to the Mineral Body.

It is then ready for the application of the Mineral Body, which is mixed as thickly as it can be worked, packed in between the teeth with a camel-hair pencil, built up on the labial side and contoured to the desired shape and thickness of the intended gum. It should be borne in mind that any shape or contour aimed at is made at this first stage with the Body; the Gum Enamel is only a colouring agent, and should always be laid on thinly when it is applied. The palate should now be covered with the Body, and the whole of the work allowed to dry naturally. When thoroughly dry the case is ready for firing.

In order to obtain the greatest possible amount of strength in continuous-gum work, the *Body and Enamel should not be thoroughly fused or vitrified more than once.*

The best method of doing the work throughout is as follows:—

The first application of the Body mentioned above, on an upper or lower case, is only fired sufficiently to *solidify* the material. This permits of any defects in the building-up or contour being readily seen and rectified.

---

* Very little fine gold should be used—the less the better—in soldering platinum.

Exception has been taken to the use of fine gold for soldering platinum in continuous-gum work, on the ground that, as Gum Body and Enamel require greater heat to fuse than is required for melting fine gold, the joints are liable to open and the teeth to be displaced during the firing process, but a very important fact is overlooked by those who hold this opinion, viz., that in the union of the two metals the gold is platinized, which gives it a very much higher fusing point than fine gold *per se*, and thus renders it perfectly suitable for the purpose.

After the second layer of Body has been applied the case is again put in the furnace, and the firing is carried to the *biscuiting* stage.

The first layer of Gum Enamel is then thinly applied and fired sufficiently to slightly glaze it, after which any desired alteration in colour is made by the addition of a little more Enamel if the shade be too pale, or by grinding off a little if too dark ; the case is again placed in the furnace and *finally fired until it is thoroughly fused.*

The first three firings need careful watching to avoid vitrifying the materials. In the final firing the heat should be raised until a test portion of the Body fuses and balls up, which should be laid on a small nickel tray against the front of the case, and when the glaze is seen to appear on the surface of the case it is sufficiently fused.

The floor of the muffle should be covered with a thin layer of investing material in the form of dry powder.

A FEW EXPERIMENTS WILL ENABLE THE WORKER TO DETECT THE APPEARANCE OF THE GLAZE AND RENDER IT EASY FOR HIM TO DETERMINE WHEN THE FIRING IS COMPLETED WITHOUT THE USE OF A TEST PORTION.

These remarks upon firing equally apply to the second and third methods of making full sets, which are given below.

Second Method.—The special feature about this method is the use of diatoric instead of plate teeth. After the platinum plate has been swaged or struck up as described above, the diatoric teeth are waxed to the plate in the same way as for a vulcanite case ; three sections in plaster of Paris are built round the model and waxed case, one in front of the six incisors, one facing the bicuspids and molars on the right side, and the third facing the same teeth on the left side—each up to within an eighth of an inch of the cutting edges and crowns of the teeth. Of these sections the front one should be made first, and when it has set it should be soaped. The two side sections can then be made from one mix of plaster. If holes be cut, one on the front and one on each side of the plaster model, before the sections are made, corresponding knobs will be formed on the inside of each section, which holes and knobs will serve to keep the sections in position.

The case is then soaped, and a fourth section is built up on the top of the front and side sections and over the crowns and cutting edges of the teeth, which unites all and keeps them together.

The wax is now scalded out ; the platinum base is pickled in nitric acid, to ensure the thorough removal of any particles of lead which may have adhered to it from the dies ; the plaster sections are removed and lined with tissue paper (cigarette paper is the best for the purpose), the creases in which can be smoothed out with a camel-hair pencil dipped in vaseline. The tissue paper prevents the Gum Body sticking to the plaster sections during packing. The Body is now mixed fairly thick and packed in with a fine spatula and camel-hair pencils until an exact representation of the wax is reproduced. The Body is then applied to the palatal side of the platinum base, and the case is allowed to stand until it is thoroughly dry. This plan of drying naturally yields better results than drying and heating-up in the furnace, preparatory to firing. When thoroughly dry the plaster sections are removed and the case is taken off the model and

fired, after every particle of Body which may be found on the faces, crowns, or cutting edges of the teeth has been carefully removed.

It is possible after a little practice to make full sets with diatoric teeth, especially lower sets, without using plaster sections. This of course greatly simplifies the work, and admits of its being quickly done.

The following is a brief description of the manner in which such sets are made :—After the plate is swaged or struck up, a layer of Gum Body is spread over the alveolar ridge, put in the furnace, slightly heated, removed, and, while warm, fresh Body is added, and the teeth are placed in position one at a time. The warm Body absorbs the moisture from the fresh Body, causes each tooth to remain *in situ*, and thus permits of all being quickly set up. After this is done the case is put in the articulating frame, and when the bite has been obtained, any moisture in the Body is driven out by slightly heating in the furnace. When cool, the palatal surface of the plate is covered with Body, which should be scored in parallel lines with a spatula to prevent blistering ; the case is allowed to dry naturally and when quite dry sunk in investing material on a nickel tray ready for firing.

If care be taken in firing, as described above, no alteration, but such as can be easily rectified, will be found to have taken place in the position of the teeth.

Third Method.—There are perhaps more difficulties in attaching a vulcanite base to a full set continuous-gum facing than in doing any other kind of dental mechanical work, but with care and experience such dentures can be satisfactorily made in this way : A frame plate is swaged or struck up to fit over the alveolar ridge and covering about half an inch of the palatine surface, to which small tags of platinum are soldered with fine gold, or loops may be made in the plate, with Peck's or Gartrell's loop punch, to afford a hold for the vulcanite. The teeth are then attached to the plate, just as on a full continuous-gum denture, a flat band or wire is fastened across the posterior end of the palate to the heels of the plate, to counteract warping, which would otherwise take place, in a case of this kind, under the extreme heat to which it is subjected. The Body and Enamel are then applied and fired, as already described under the first method.

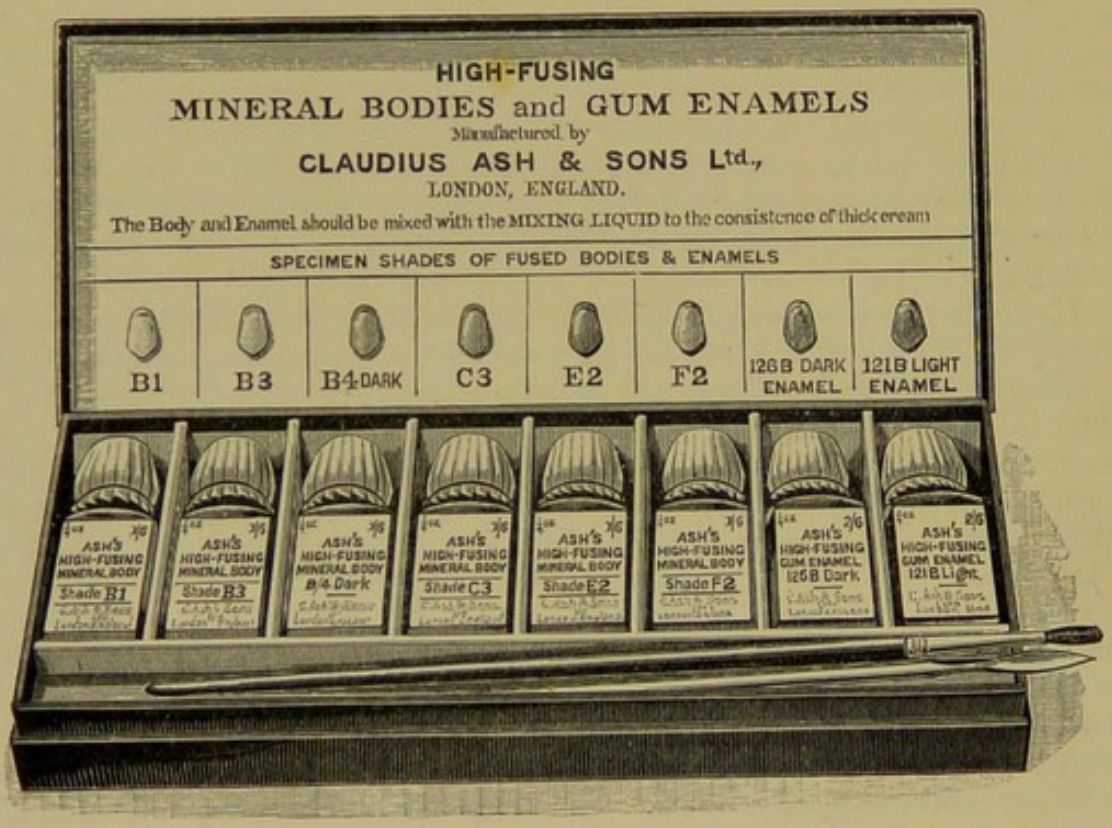
In vulcanizing the following precautions are necessary : The flask should be as small as can be used, the object being to employ the least possible amount of plaster of Paris ; the various stages of flasking should be carried out without any long intervals between them, for if the plaster be allowed to harden and become dry, the subsequent softening in the vulcanizer causes undue expansion, and small cracks are made in the continuous-gum facing. On no account should the case be vulcanized on the model, but sunk in plaster in the flask. When the model is just hard enough to receive the rubber, it should be packed and placed in boiling water before the flask is closed ; *dry heat should never be used in lieu of boiling water*. Another fruitful cause of cracks in the continuous-gum facing is the contraction of the rubber while cooling, and for this reason it is always deemed advisable to make the rubber base as thin as possible, and to let the case remain in the vulcanizer until it is quite cold. When it is taken out of the flask it is placed in hot water for a few moments, and the plaster is removed from it with an old tooth brush.

ASH'S HIGH-FUSING

MINERAL BODIES AND GUM ENAMELS.

NON-CRACKING.

EXCEEDINGLY STRONG AND DENSE.



Can be Ground and Polished like our Mineral Teeth.

PERFECTLY SUITABLE FOR BRIDGES AND FOR CONTINUOUS-GUM SETS.

Adapted for use with any Teeth.

CAN BE FIRED WITHOUT DIFFICULTY AND WITHOUT ENDANGERING THE COLOUR OF THE TEETH.

We have the fullest confidence in recommending them to the Profession.

ASH'S HIGH-FUSING

MINERAL BODIES AND GUM ENAMELS

—continued.

The Gum Enamel is prepared in two shades: 159B Light and 162B Dark, both of which are much admired by those who have used or seen them.

(*These Enamels have superseded the two noted in the illustration.*)

The Mineral Body is prepared in the following six shades: the light part of our B/1, B/3, C/3, E/2, F/2, and the dark part of our B/4.

By mixing together varying proportions of the Gum Enamels a considerable number of different shades can be obtained.

The Bottles in the box contain a quarter of an ounce each.

PRICES:

		s.	*d.*
Box containing six bottles of Mineral Body, two bottles of Gum Enamel, Nickel-plated Spatula and Camel-hair Pencil, complete		16	0
Separately:			
Mineral Body, any shade named above	per ¼-oz. bottle	1	6
Gum Enamel, either shade	,, ¼-oz. ,,	2	6
Spatula, Nickel-plated	each	1	9
Mixing Liquid, in two-ounce bottles	per bottle	0	6
Quantity Rates:			
Mineral Body, any shade named above	per oz.	5	0
In 5-oz. lots, one shade or assorted shades	per lot	22	6
Gum Enamel, either shade named above	per oz.	8	0
In 5-oz. lots, either shade or assorted in both	per lot	36	0

NOTE.—We are prepared to supply to order by the ounce any special shade of our High-Fusing Mineral Body at 5*s.* per ounce or Gum Enamel at 8*s.* per ounce, on condition that a pattern tooth or gum section is sent to us showing the exact shade required.

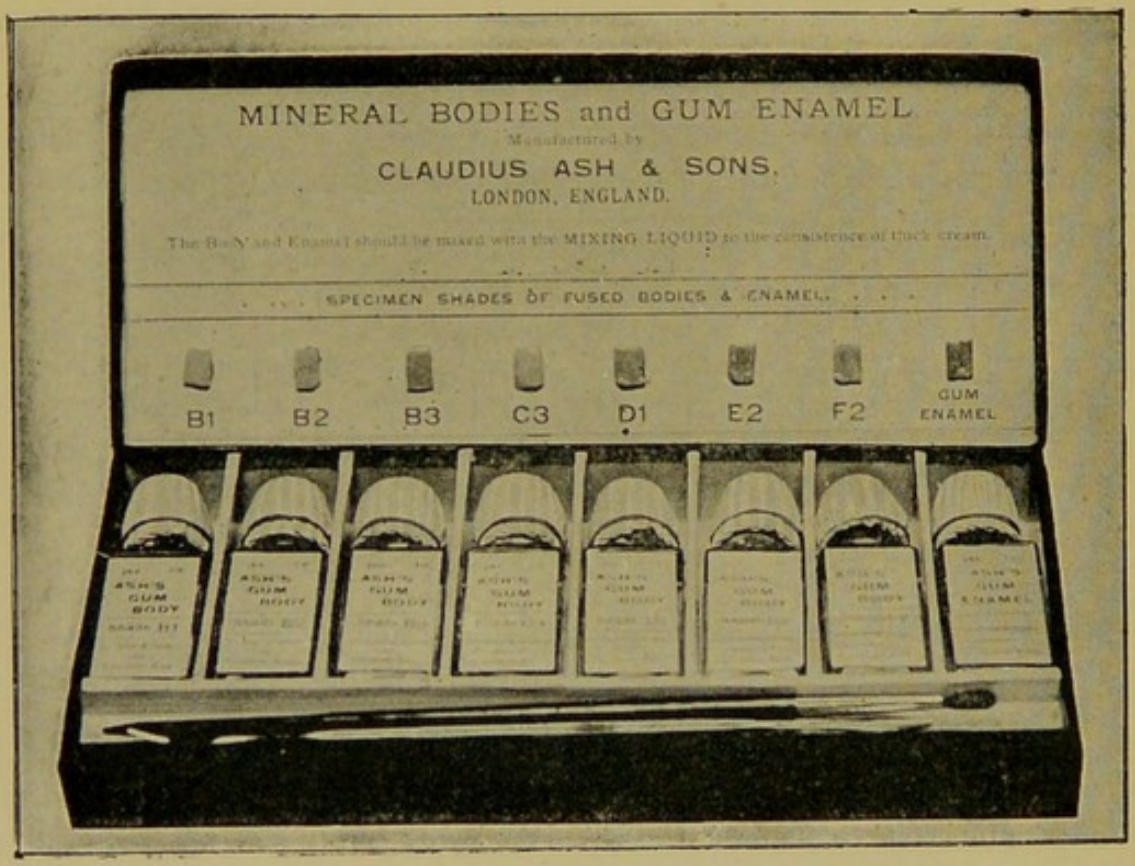
ASH'S LOW-FUSING
MINERAL BODIES AND GUM ENAMEL.

FOR MAKING INLAYS AND CROWNS.

Not recommended for Bridges and Continuous-Gum Work.

CAN BE GROUND AND POLISHED LIKE OUR MINERAL TEETH.

SUITABLE FOR USE WITH ANY TEETH. CAN BE FIRED IN ANY FURNACE ADAPTED FOR CROWN AND BRIDGE WORK.



The **Gum Enamel** is prepared in One Shade, No. 55B, and the **Mineral Bodies** in the following Seven Shades :—The light part of our B/1, B/2, B/3, C/3, D/1, E/2, and F/2. The Bodies can be fired in one minute, and the Gum Enamel in three-quarters of a minute in an efficient Furnace.

Supplied in Bottles containing a quarter of an ounce each.

PRICES:

		s.	d.
Box containing seven bottles of Mineral Body, one bottle Gum Enamel, Nickel-plated Spatula and Camel-hair Pencil, complete		15	0
Separately	Mineral Body, any shade mentioned above . . . per bottle	1	6
	Gum Enamel, No. 55B . . . . . „	2	6
	Spatula, Nickel-plated . . . . . each	1	9
Mixing Liquid, in two-ounce bottles . . . . . per bottle		0	6

ASH'S FURNACES

FOR USE WITH COAL-GAS, ALSO WITH AIR-GAS;

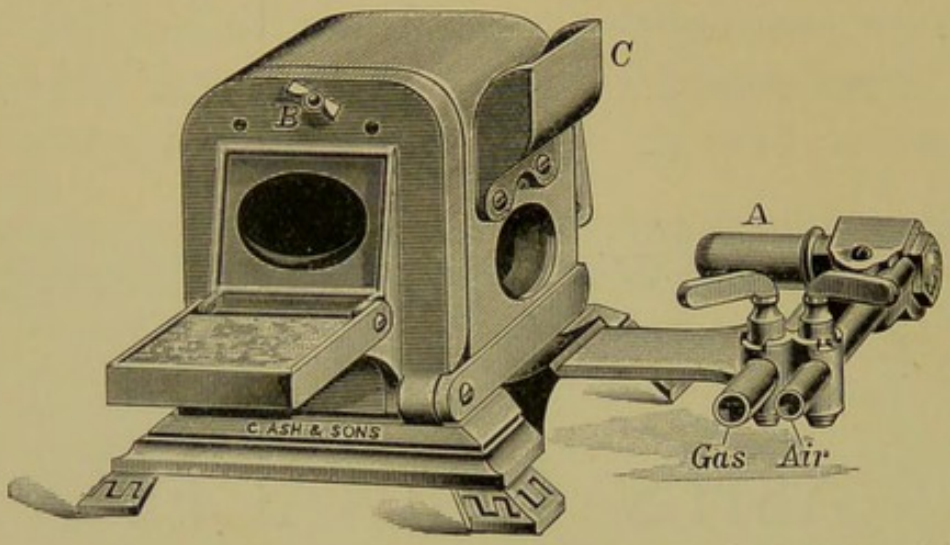
AND

MITCHELL'S ELECTRIC FURNACES.

ASH'S No. 2 GAS FURNACE

FOR INLAYS, CROWNS AND BRIDGES.

(Manufactured for us by Fletcher, Russell & Co.) Registered. Reg. No. 326,329.



Size all over, outside measurements—12 in. long, including blast burner; 6½ in. wide 5¾ in. high. Size of the oval Nickel Muffle, 4⅛ in. long; 1⅜ in. high.

This is the most powerful small Gas Furnace that has ever been designed for Inlay, Crown and Bridge Work. Every kind of Gum Body and Enamel can be perfectly fused in it with the greatest ease.

To work it efficiently, under all conditions, a half-inch gas supply with clear bore tap is necessary, and Fletcher's size 5 Bellows should be used, the rubber disc of which should be kept well inflated to ensure a strong, steady blast. Very little exertion is required to do the blowing.

Prices :

		£	s.	d.
Ash's No. 2 Furnace, complete, with Nickel Tray, one extra oval Nickel Muffle, one tin Investing Material, and Repairing Outfit consisting of Silicate of Soda and Fireclay		3	15	0
Extra Nickel Muffles	each	0	7	6

ASH'S No. 2 FURNACE.

ARRANGED FOR USE WITH AIR-GAS.

(*See next page. For Working Directions, etc., see page* 49.)

Prices :

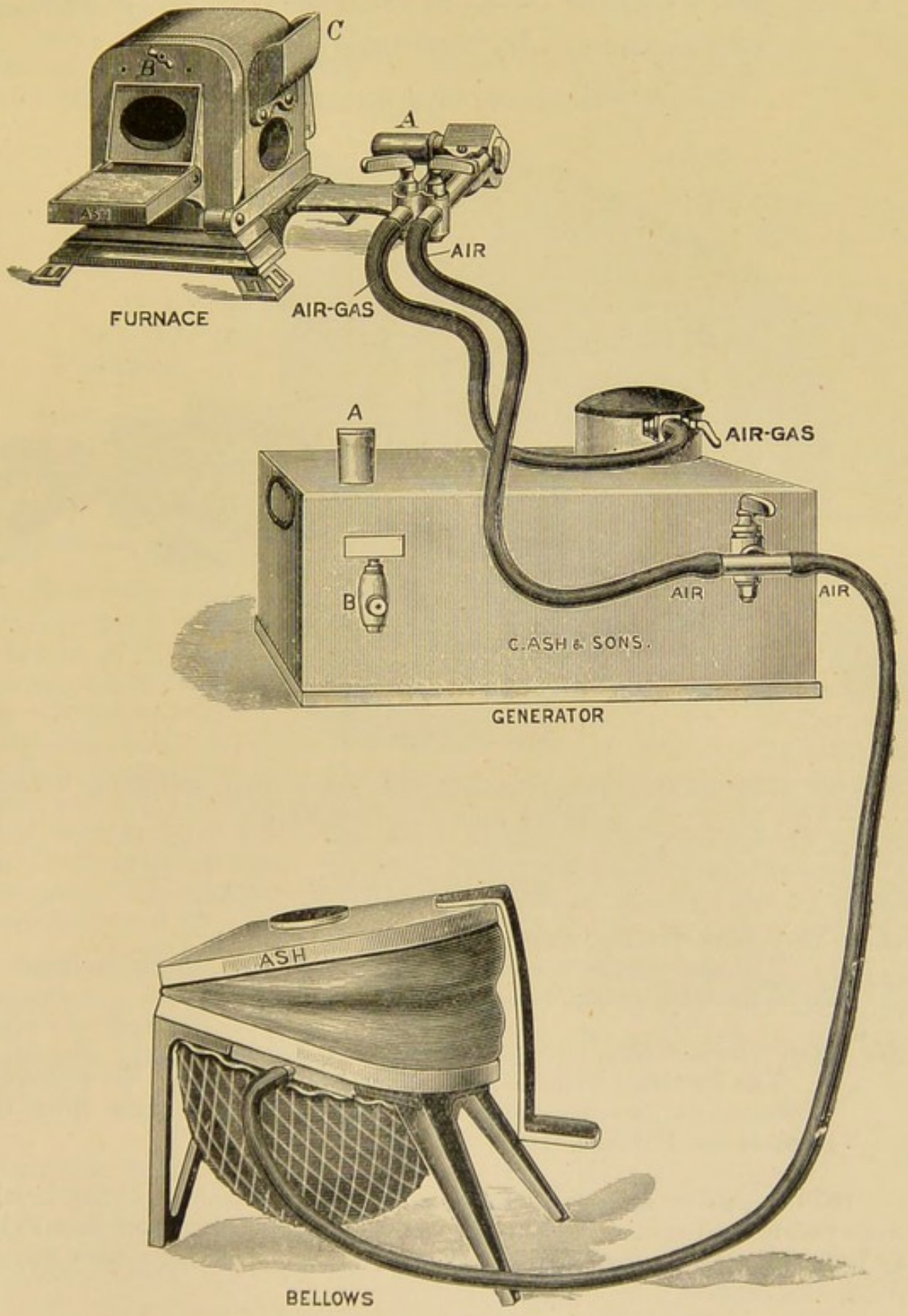
		£	s.	d.
Furnace, with accessories as above		3	15	0
Extra Nickel Muffles	each	0	7	6
Generator		1	15	0
Bellows, Fletcher's size 5, Fig. 9B		1	16	6

India-rubber Tubing is charged extra, according to length required.

ASH'S No. 2 FURNACE—*continued.*

ARRANGED FOR USE WITH AIR-GAS,

WITH FLETCHER'S GENERATOR AND BELLOWS.

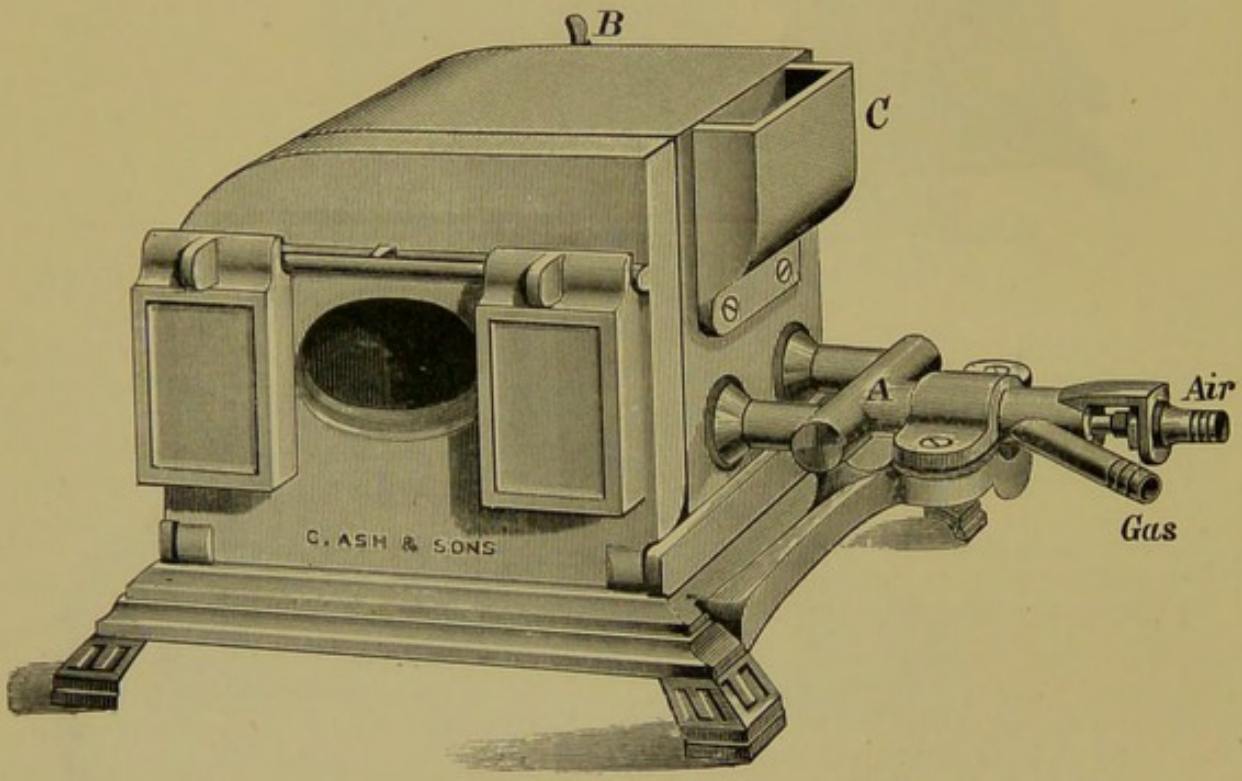


ASH'S
CONTINUOUS-GUM FURNACE

FOR BRIDGES AND FULL SETS. FOR USE WITH GAS.

(Manufactured for us by FLETCHER, RUSSELL & CO.)

REGISTERED. REG. No. 319,667.



Size all over, outside measurements—15 inches long, including burner; $7\frac{1}{4}$ inches wide; $7\frac{1}{2}$ inches high.

DESCRIPTION:

A. Twin Blast-Burner, showing AIR and GAS inlets.
The gas supply is controlled by a single tap, which is fitted to the GAS inlet nozzle, but not shown in the illustration.

B. Bolt which secures front of Furnace in position.
The Furnace is furnished with a Nickel Muffle. To remove a muffle or to fit a new one, unscrew this bolt and draw down the front of the Furnace.

NOTE.—So far as we can ascertain, the use of nickel for dental furnace work was first brought to the notice of the Profession in July, 1886, in a Paper by Willem Knyper on Poulson's Malkasten—*see page* 47, *Geo. Poulson's Bericht, No.* 2, *Juli*, 1886.

CONTINUOUS-GUM FURNACE—*continued.*

In our circular of directions for using Dunn's Stains which is mentioned on page 73 of the QUARTERLY CIRCULAR for September, 1886, we stated that in firing "the work should be placed in a platinum or nickel muffle."

Since those days Mr. J. H. Gartrell, of Penzance, has further developed the use of nickel, first in 1893, and again in 1897, by adopting it for making cast and sheet nickel muffles for his Continuous-Gum Furnaces.

C. Flue where the gas is lighted when it is turned on.

The special feature about the oval nickel muffle is that it is open at both ends; this we find intensifies the heat by allowing free ingress of oxygen in the air.

The doors slide easily along the ridges on which they are hung, and thus allow of the work being seen during the whole process of firing.

During the past few years we have made numberless experiments with a view of producing a simple yet perfect Continuous-Gum Furnace, and we are glad to state that we have at last succeeded. The more we use the Furnace here illustrated, the more pleased we are with it, for in results it has enabled us to exceed our most sanguine expectations.

The Twin Blast-Burner is so arranged that in working the Furnace there is not a cold spot about the muffle; it is as evenly heated at the ends as in the middle, and at the top as on the floor. Moreover, there is no waste heat; it circulates all round the muffle, and is fully utilised before the spent products of combustion escape from the flue ***C.*** Another great advantage about the Furnace is that it is easy to light, and requires very little exertion of the foot upon Fletcher's size 5 bellows with a ½-inch clear bore gas supply to keep up a full, steady, and powerful blast. Starting all cold, each firing of a full denture of Continuous-Gum Work can be done in about seven minutes. There i hardly any limit to the power of the Furnace; any existing Gum Body and Enamel can be fused in it with ease and certainty.

Some Continuous-Gum workers recommend drying and heating-up the work before firing, but our experiments prove that this is unnecessary, and that the best plan of preparing the work for the furnace is to let it dry naturally before firing.

PRICES:

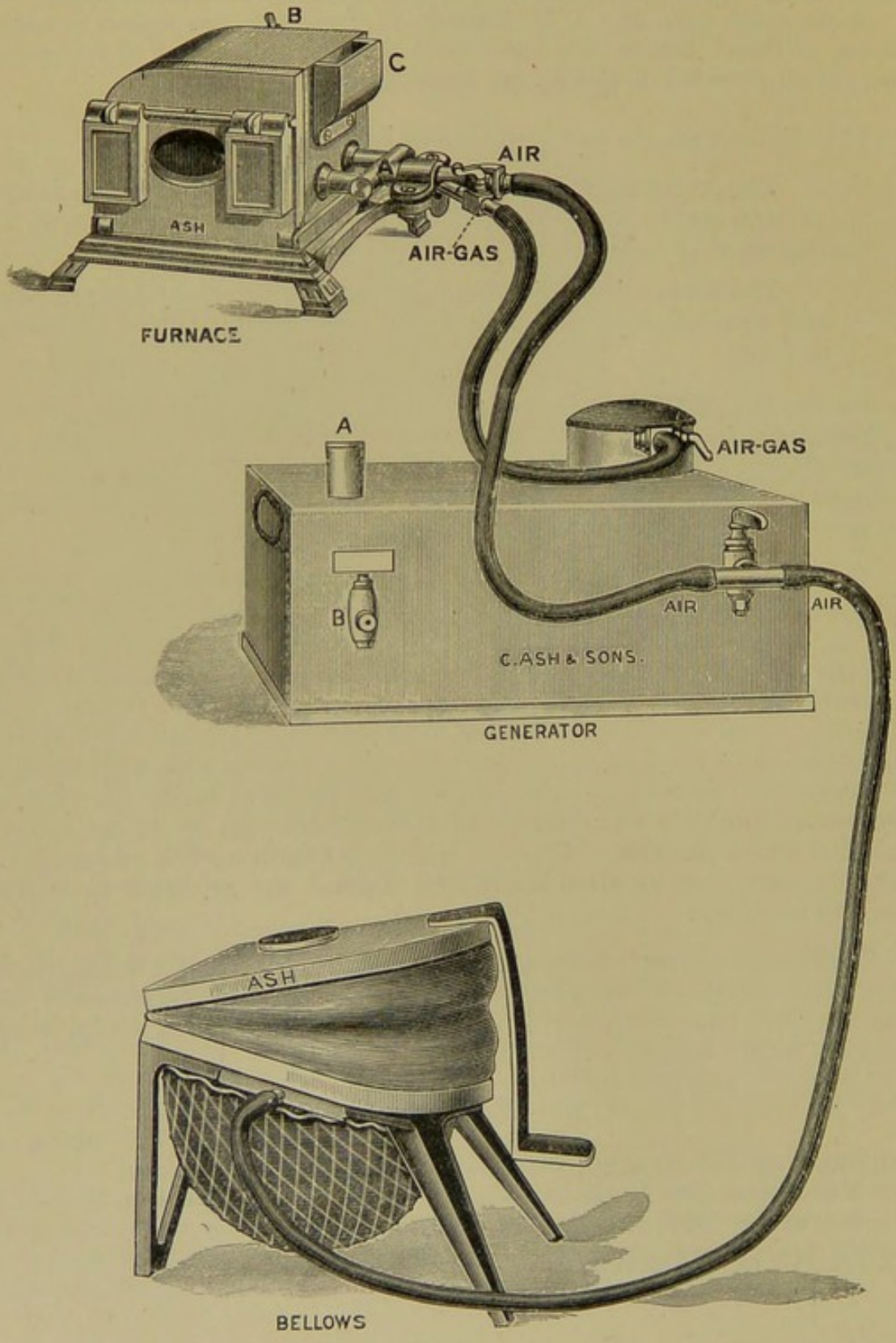
	£	*s.*	*d.*
Furnace as illustrated, with Nickel Tray, one extra Nickel Muffle, one Tin Investing Material, and Repairing Outfit consisting of Silicate of Soda and Fireclay	5	0	0
Extra Nickel Muffles . . . . . each	0	12	6

ASH'S

CONTINUOUS-GUM FURNACE

FOR USE WITH AIR-GAS.

WITH FLETCHER'S GENERATOR AND BELLOWS.



ASH'S CONTINUOUS-GUM FURNACE—

continued.

The Furnace on the opposite page, and also the No. 2 Furnace on page 44, are shown connected with Fletcher's Generator and Bellows for working by means of Air-Gas made from the vapour of Benzoline.*

As a fuel the vapour of Benzoline is fully equal in power and efficiency to a large coal-gas supply ; it yields a flame of absolute purity, and is thus well fitted for firing the most delicate colours, such as Mineral Bodies, Gum Enamels, &c.

The Generator illustrated represents a size which has been specially designed by Messrs. Fletcher, Russell & Co., for working Dental Furnaces. **It is so constructed as to be perfectly safe in use.** Moreover, it is well made, strong, small, compact, portable, and in every way suited for its purpose. Those dentists who reside in districts where coal-gas is not obtainable, and those who visit different places or stations, will find Benzoline invaluable, not only for firing Inlays, Crowns, Bridges, Gum Sections, and Full Sets, but also for melting gold, silver, etc., in Crucible Furnaces.

DIRECTIONS FOR USE.

To charge the Generator, remove the cork in the top hole ***A***, pour in Benzoline until it overflows at the tap ***B***, replace the cork firmly, cover it with a layer of wet plaster of Paris, to prevent evaporation of the Benzoline, and close the tap. (This charge will work a Furnace at full power for about eight or ten hours.)

The quantity of Benzoline required is adjusted by the air and air-gas taps on the Generator when the Furnace is working, and a small yellow flame should be visible at the flue ***C*** as when coal-gas is used.

The India-rubber tubing should be smooth inside.

The following is a simple method of testing Benzoline:—When a few drops are poured on a plate or the hand it will, if pure, evaporate quickly and completely without leaving any greasy stain. That of good quality will produce more vapour than is required for the Furnace at its maximum power.

PRICES:

	£	s.	d.
Continuous-Gum Furnace, with Nickel Tray, one extra Nickel Muffle, one Tin Investing Material and Repairing Outfit, consisting of Silicate of Soda and Fireclay	5	0	0
Extra Nickel Muffles . . . . . each	0	12	6
Fletcher's Generator	1	15	0
„ Bellows, Fig. 9B, size 5	1	16	6

India-rubber Tubing is charged extra according to length of each size required.

---

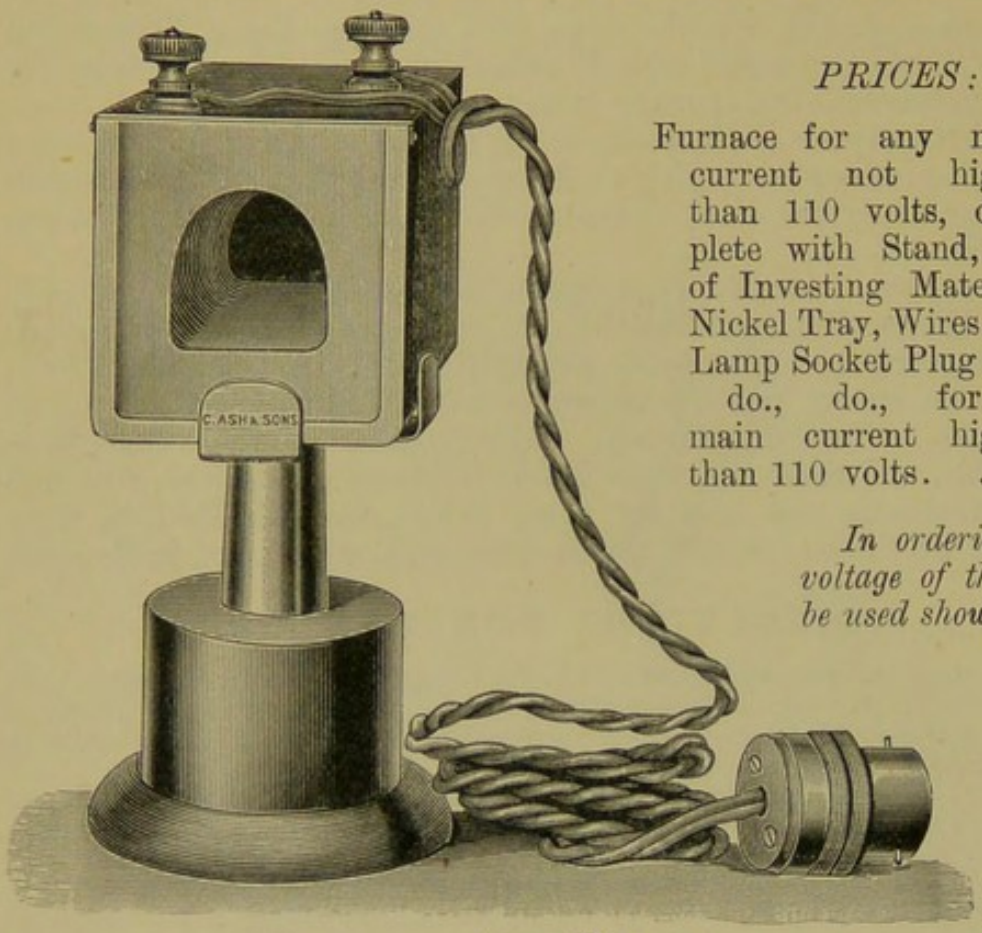
* BENZOLINE is also known as BENZINE, BENZIN, BENZINUM.

Benzoline, a petroleum product, is a thin, colourless liquid of 0·69 to 0·74 sp. gr., inflammable, volatile.—*Mitchell.*

Gould describes it as a purified distillate from American petroleum, having a specific gravity of 0·77 to 0·79, boiling at 80° to 90° C. (176° to 194° F.), colourless, of ethereal odour, and a slightly peppermint-like taste. . . . It should be distinguished from Benzol, which is called Benzene by English chemists.

MITCHELL'S ELECTRIC FURNACE

FOR FIRING MINERAL INLAYS AND CROWNS.



ABOUT HALF-SIZE.

PRICES:

	s.	*d.*
Furnace for any main current not higher than 110 volts, complete with Stand, tin of Investing Material, Nickel Tray, Wires and Lamp Socket Plug .	40	0
do., do., for any main current higher than 110 volts. . .	50	0

In ordering, the exact voltage of the current to be used should be stated.

FURNACE.—The Furnace consists of a metal-cased body, 2½ inches long, 2 inches wide, and 2 inches deep, mounted on a neat japanned base with nickel-plated frame.

MUFFLE.—The Muffle is roomy enough to accommodate two or three Crowns at a time, without being overcrowded, its inside measurements being: 2¼ inches long, ⅞ inch wide, and ⅞ inch deep.

FITTINGS.—The small amount of current required for working the Furnace can be obtained from **any existing lamp socket**, by simply fitting the plug, shown in the illustration, into the socket and attaching the free ends of the supply wires to the two terminals on the Furnace; there is consequently no need for a purchaser to go to the trouble and expense of having special fittings and wiring installed for working the Furnace.

POWER.—Some idea of the power of the Furnace may be gained when it is stated that, after being warmed up, it will fuse our **low-fusing** Mineral Bodies and Enamels in a few minutes.

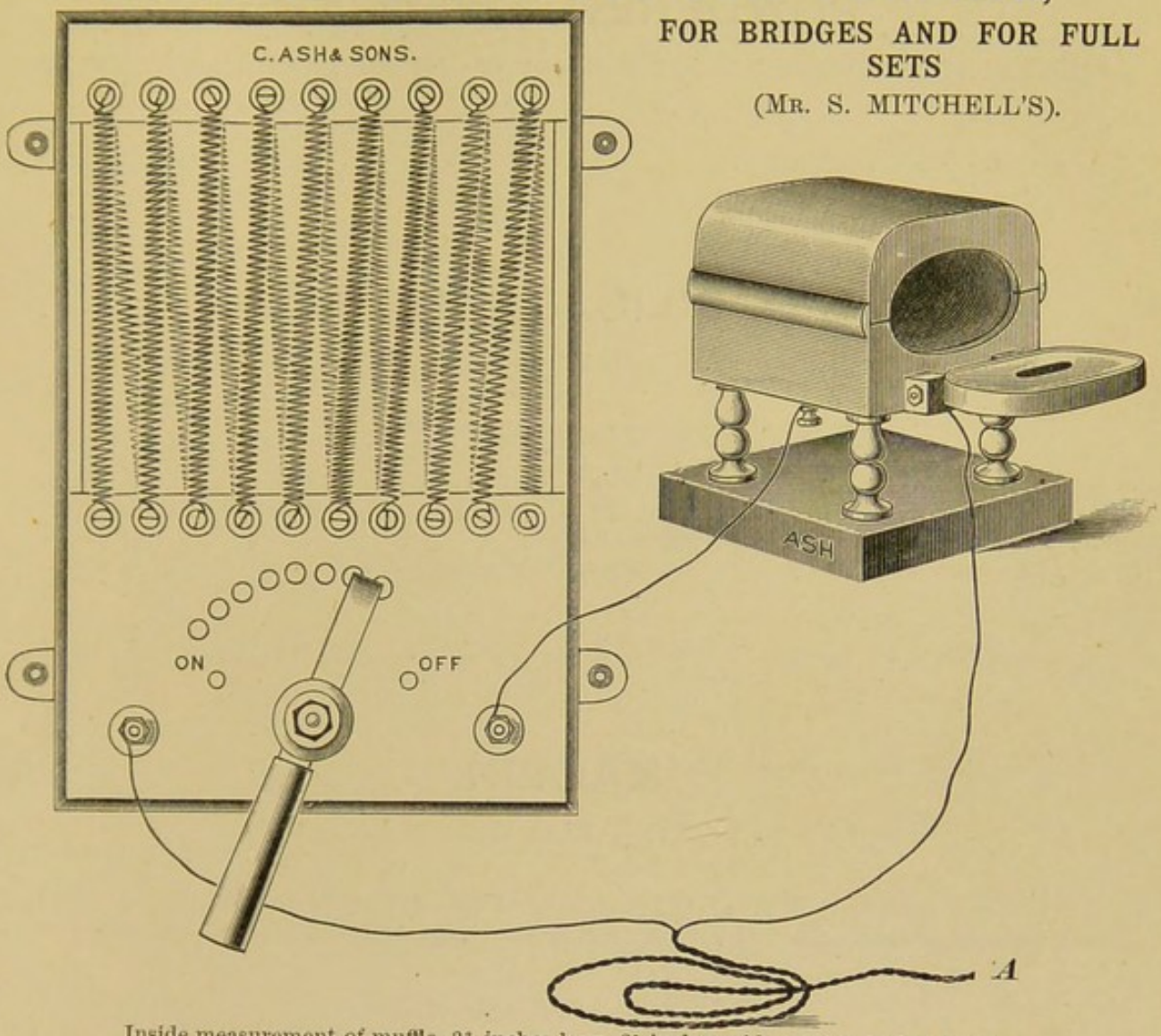
ADVANTAGES.—The Furnace is absolutely noiseless in action, and can, therefore, be used in the Operating Room if desired, without causing either annoyance or inconvenience. It is so easily managed that anyone can attend to it. There is no danger in using it, the current being under such complete control that it can be switched on or off in a moment.

Any main current—continuous or alternating—is suitable for working the Furnace; in ordering please state the voltage for which it is required.

ELECTRIC CONTINUOUS-GUM FURNACE,

FOR BRIDGES AND FOR FULL SETS

(Mr. S. MITCHELL'S).



Inside measurement of muffle, 3¼ inches long, 3⅛ inches wide, and 1¼ inches deep.
A.—Wires leading to source of supply.

Each coating of our High-Fusing Mineral Body or Gum Enamel which is used for an upper or lower denture can be fused in this Furnace in about fifteen minutes. The Furnace is provided with an air-jacket which materially conserves the heat produced, and there is a small slot in the hinged lid through which every part of the work in the muffle can be seen. Uniform heat is produced all over the muffle; the possibility of fusing one part of the work before another is thus avoided. Further, the heat can always be got up at a fixed uniform rate; the time required for any particular class of work can therefore be very accurately gauged. The resistance supplied with the furnace permits of the heat being varied as desired, for drying the work, or for warming up metal plates ready for soldering, etc. After using the furnace, the Switch Lever should be placed on the last contact for a few minutes before it is finally switched off. This will allow the furnace to cool down gradually. If the current is suddenly switched off from full power, the sudden contraction through cooling too quickly may cause breakage of the platinum wires or other parts.

	£	*s.*	*d.*
Price of Furnace complete with Resistance and Wires	8	0	0

The Furnace is suitable for any main supply current—continuous or alternating; in ordering please state voltage for which it is required. The above price is charged for the Furnace wound for any current between 100 and 220 volts; we stock it for 100 volts and for 110 volts.

Dr. KLEIN'S SOLUTIONS

(*Continued from page 2 of Cover*).

No. 2. SOLUTION for ACUTE DISEASE of the PULP.

Dip a little ball of cotton-wool in the solution and insert in the decayed tooth; a second ball may be applied above the first; and then cover the whole with a varnish of sandarac or mastic. This treatment must be repeated every 24 hours.

The cavity is ready for stopping as soon as the preparation is absorbed by the pulp. When this is effected the tooth may be considered restored to a healthy condition. The Plastic Dentine can now be applied to cover the pulp, and the tooth immediately stopped.

R/Tinct. Iodi. (1 and 12)	15 min.
Tinct. Aconit.	15 min.
Chloroform (anæsthetic)	30 min.—*M. L. Saussine.*

The tinctures are best mixed together first, to ensure a perfect mixture with the chloroform.

		s.	*d.*
Price	per bottle	1	0

No. 3. ANTISEPTIC TREATMENT for DEAD TEETH.

Three to five applications are generally sufficient to completely disinfect the roots of the tooth, and the applications must be made every twenty-four hours. Before each fresh application the cavity should be cleansed with a piece of cotton steeped in Peroxide of Hydrogen, 10 vols., and applied with an old pair of fine tweezers, or a very fine probe, until the mossy decayed surface has entirely disappeared.

Lastly, every canal must be dried with hot air, and the Plastic Dentine filled in to a level; the rest of the cavity can then be successfully stopped with cement, amalgam, or gold stopping.

R/Sp. Vini Rect.	30 min.
Hydrogen peroxid. 10 vols.	45 min.
Formol 40 per cent.	30 gr.—*Dr. Klein.*

		s.	*d.*
Price	per bottle	1	0

VARNISH FOR CAVITIES.

R/Pulv. Gum Copal	15 gr.
Chloroform	75 min.—*Dr. Klein.*

To obtain a certain and infallible result, all that is necessary is to follow out carefully the treatment indicated in the pamphlet on Plastic Dentine. The Dentine being of a greasy character, must be covered with the varnish of the above formula. The varnish is highly volatile, and adheres perfectly both to the cement and the Plastic Dentine; without the varnish the stopping might not be perfectly effected, so that its great usefulness must not be overlooked.

		s.	*d.*
Price	per bottle	1	3

LONDON: PRINTED BY WM. CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS

FILLING MATERIALS

AND

PRECIOUS METALS.

CLAUDIUS ASH & SONS, LTD.

CENTRAL DEPÔT:

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

ADDRESS FOR TELEGRAMS:—FRENES, LONDON.
TELEPHONE NUMBER:—GERRARD 5258.

BRANCHES:

LIVERPOOL	78, MOUNT PLEASANT.
MANCHESTER	118*a*, OXFORD STREET.
PARIS	22, RUE DU QUATRE-SEPTEMBRE.
BERLIN	68, JÄGER-STRASSE.
HAMBURG	62 AND 63, GÄNSEMARKT.
FRANKFURT A/ MAIN	7, BÖRSENPLATZ.
VIENNA	2, SPIEGELGASSE, ECKE GRABEN.
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
STOCKHOLM	9, MALMSKILDNAS GATAN.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

GOLD FOILS, PELLETS,

AND

CYLINDERS.

Special attention is called to our Foils, Pellets, and Cylinders, in the firm belief that they are all that can be desired for Gold Filling. They are unsurpassed for purity and softness, and, by our present method of preparing them, we can guarantee uniformity of thickness and quality. We feel so sure that a trial will not only give satisfaction, but will also prove them worthy of continued use, that we have the fullest confidence in recommending them.

CLAUDIUS ASH & SONS, Limited.

C. A. S. ALLOY.

(C. ASH AND SONS'.)

C. A. S. ALLOY, if used according to directions and inserted in a carefully prepared cavity, yields a permanent filling.

C. A. S. ALLOY is an accurate preparation from a formula based upon the researches of Dr. Black, or, in other words, it is a high-grade alloy.

C. A. S. ALLOY is annealed by slow heat after it is cut, and thus brought to its minimum point of shrinkage. Scientific tests show the following results as measured by the micrometer :—

Contraction 0
Expansion . . . . . $\frac{1}{10000}$ of an inch.

This very slight expansion is an advantage in a plastic filling material, and has been specially worked for.

C. A. S. ALLOY possesses good edge strength and keeps its colour well.

It sets more rapidly than the very plastic alloys, hence we advise that the cavity be fully prepared and the required instruments be conveniently placed, so that the operator will have nothing to do but pack the cavity after the alloy is mixed.

We also suggest the use of a matrix in contour or approximal fillings.

Directions for use enclosed in each packet.

Supplied in bottles as under :—

	s.	*d.*
Half-ounce	6	3
One ounce	12	6
Five ounces	52	0

IMPERIAL GOLD FOIL

is manufactured from a specially prepared Precipitate of Pure Gold, and is perfectly Non-Cohesive. Being very soft it lends itself to the closest packing. It can be rendered Cohesive by annealing over a spirit flame before use.

		s.	*d.*
Nos. 4, 5, 6, 8.	per ⅛ oz.	16	6
„ 4, 5, 6, 8.	per oz.	128	0

Higher numbers supplied to order.

SOFT NON-COHESIVE GOLD FOIL.

Our Soft Non-Cohesive Gold Foil has found great favour with those operators who prefer to work with a Non-Cohesive Foil, its purity being unsurpassed. As it can be made Cohesive by annealing over a spirit flame immediately before using, the operator is in possession of a Foil which is either Non-Cohesive or Cohesive as required.

		s.	*d.*
Nos. 3, 4, 5, 6, 8	per $\frac{1}{8}$ oz.	16	3
„ 3, 4, 5, 6, 8	per oz.	125	0

Higher numbers supplied to order.

COHESIVE GOLD FOIL.

This Foil has proved its excellent qualities in the hands of the leading gold workers of the last fifty years, and is in use at all the Dental Schools; therefore, in naming it, we are only bringing to the notice of those who may not have tried it, a gold which is perfect as a Cohesive Foil, and which cannot fail to give satisfaction.

		s.	*d.*
Nos. 3, 4, 5, 6, 8	per ⅛ oz.	16	3
„ 3, 4, 5, 6, 8	per oz.	125	0

Made also to Order in Nos. 20, 40, 60 *and* 120.

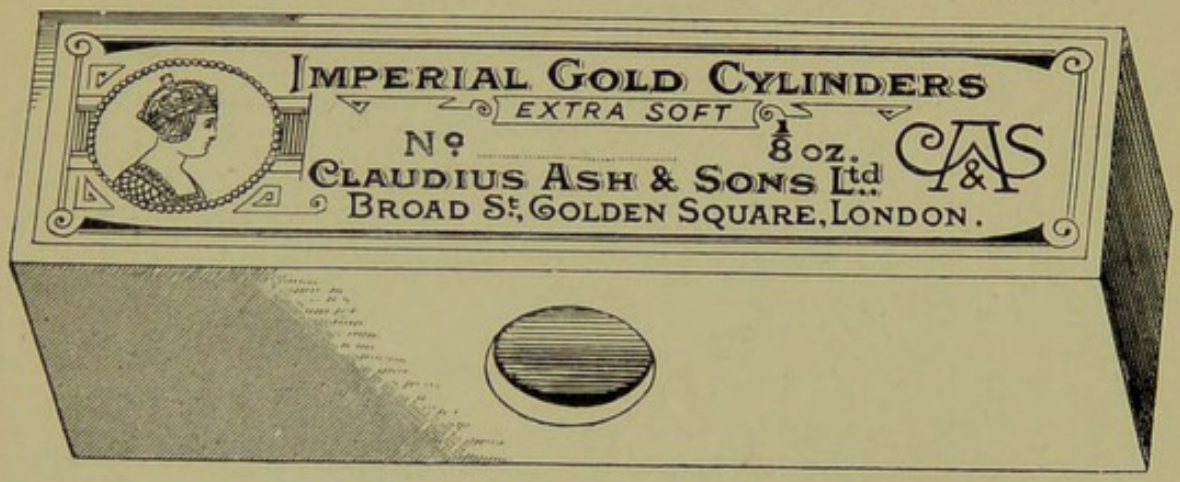
ASH'S GOLD CYLINDERS.

IMPERIAL—Extra Soft.

Made from the same Gold as the Foil on the previous page.

In Sizes

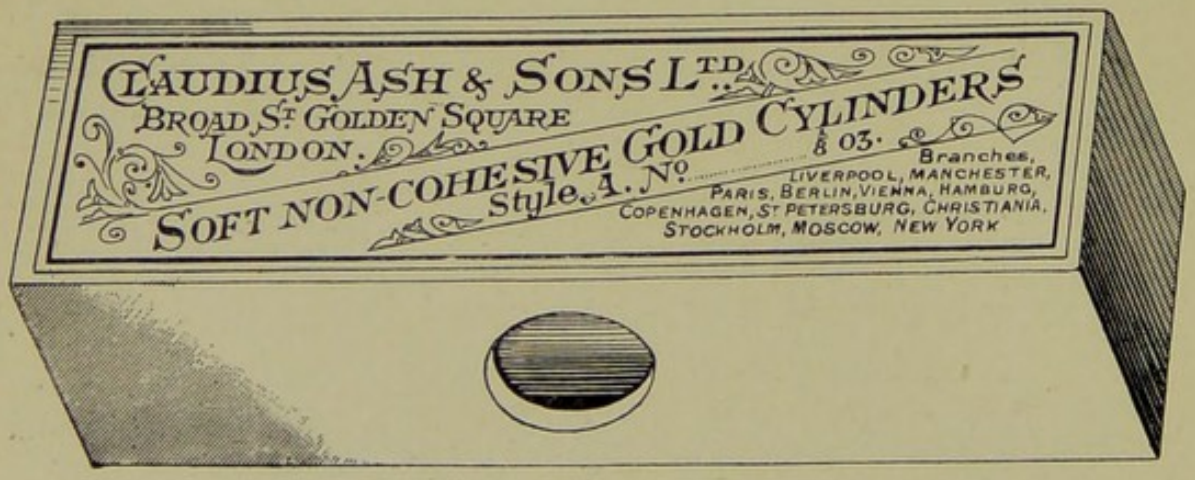
	1	2	3	4	*s.*	*d.*
Price per oz. .	.	.	.	.	128	0
„ „ $\frac{1}{8}$ oz.	.	.	.	.	16	6



STYLE A.—Loosely Rolled.

In Sizes

	1	2	3	4	*s.*	*d.*
Price per oz. .	.	.	.	.	128	0
„ „ $\frac{1}{8}$ oz.	.	.	.	.	16	6



STYLE B.—Closely Rolled.

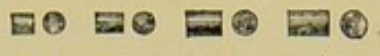
In Sizes

1 2 3 4

Supplied only in Quantities of not less than Half an Ounce.

ASH'S GOLD CYLINDERS.

STYLE C.—Extra Dense.

In Sizes 

1. 2. 3. 4.

	s.	*d.*
Price per oz.	128	0
,, ,, $\frac{1}{8}$ oz.	16	6

NOTE.—All our Cylinders can be made cohesive by annealing before using.

POINTED CYLINDERS (for Root Filling).

In Sizes

1. 2. 3.

	s	*d.*
Price per oz.	128	0
,, ,, $\frac{1}{8}$ oz.	16	6

ASH'S GOLD PELLETS (Cohesive and Non-Cohesive).

Square.
In Sizes

1. 2. 3. 4.

	s.	*d.*
Price per oz.	128	0
,, ,, $\frac{1}{8}$ oz.	16	6

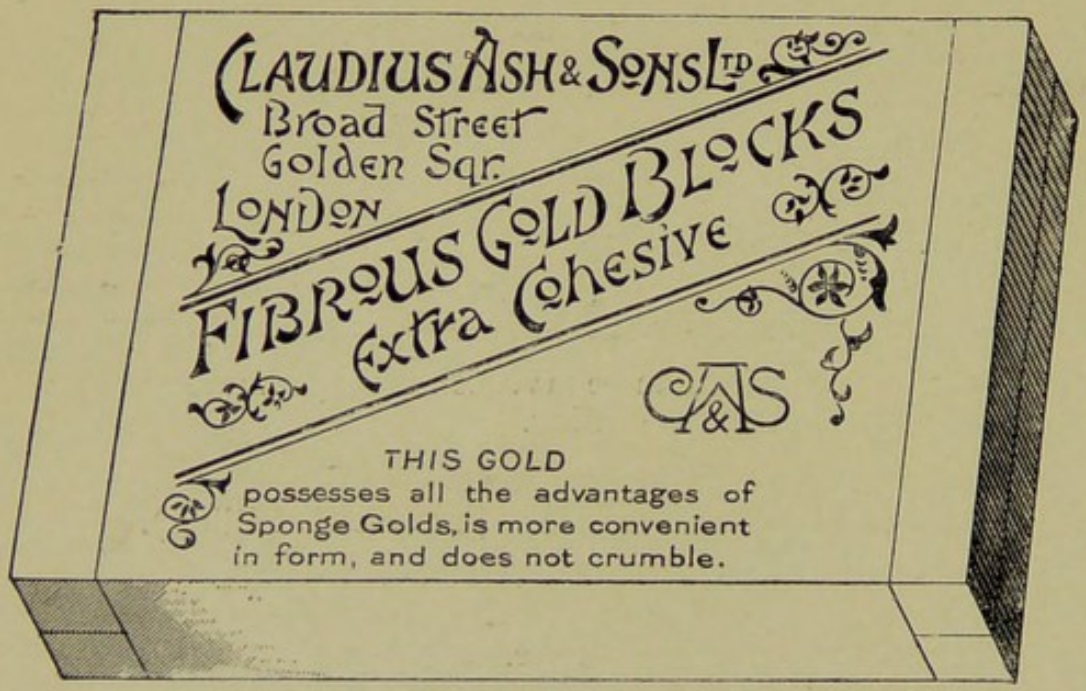
Pyramidal.
In Sizes close rolled.

1. 2. 3.

	s.	*d.*
Price per oz.	128	0
,, ,, $\frac{1}{8}$ oz.	16	6

FIBROUS GOLD BLOCKS.

Prepared by a special process which gives the gold a fibrous quality whereby thorough and rapid condensation is ensured. The form in which this gold is put up will be found most convenient. Its qualities are purity and perfect cohesiveness, and it has all the advantages of a sponge gold with freedom from crumbling.



Sold in Boxes of Assorted Sizes :—

	s.	*d.*
Per $\frac{1}{8}$ oz.	18	6
Per oz..	142	0

The following Reports have been received from prominent members of the profession :

"Your Fibrous Gold Blocks are excellent in every way, being easy to manipulate and very cohesive. In my opinion it will be difficult to improve upon them."

"Resultant filling very dense, and the cohesion perfect."

"Yields a good edge."

"The softest working gold I have ever tried."

GOLD SOLDER.

Claudius Ash & Sons Ltd

Central Depôt.
5, 6, 7, 8 & 9,
BROAD STREET,
GOLDEN SQUARE
LONDON
ENGLAND.

Branches,
MANCHESTER
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PARIS.
BERLIN.
HAMBURG.
VIENNA.
COPENHAGEN.
CHRISTIANIA.
STOCKHOLM.
ST PETERSBURG.
MOSCOW.

No. OO GOLD SOLDER.

FOR CROWN, BAR AND BRIDGE WORK.

	s.	*d.*
Price per oz.	68	0

This Solder is prepared from a highly approved formula, and gives universal satisfaction. Its colour enables it to be used with the highest grade golds.

SOLD IN ENVELOPES AS ABOVE.

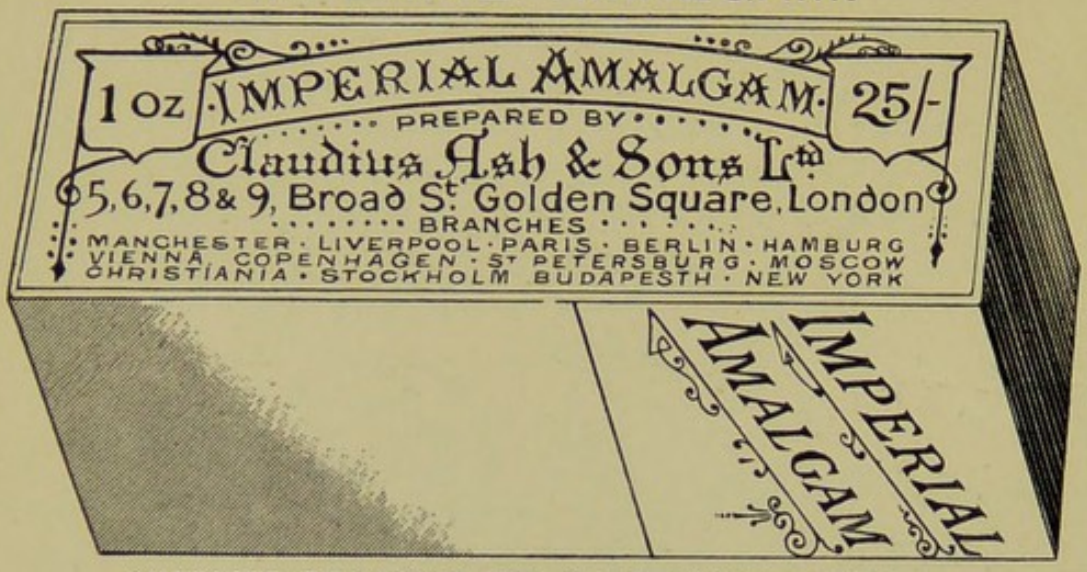
SOLDERS FOR PLATE WORK.

			s.	*d.*
No. 1.	Best Quality	per oz.	63	0
No. 2.	Medium	„	57	0
No. 3.	Most Fusible	„	50	0

These Solders are much esteemed for their liquidity when in a state of fusion, and for the perfect union which they effect. Being prepared with the greatest care from old and well-proved formulæ, we can guarantee their purity and especially recommend their colour.

	s.	*d.*
Fine Gold, flatted thin, for soldering Platinum, per oz.	92	0

IMPERIAL AMALGAM.



SUPPLIED IN OUNCE AND HALF OUNCE BOTTLES.

	s.	*d.*
Price per oz.	25	0
„ „ ½ oz.	12	6

1oz. 22/- Best Quality.

Filings for Metallic Paste

FOR STOPPING TEETH.

C. ASH & SONS, LTD.

5, 6, 7, 8 & 9, Broad Street, Golden Square, LONDON, ENGLAND.

BRANCHES

LIVERPOOL, MANCHESTER, PARIS, BERLIN, HAMBURG, VIENNA,
COPENHAGEN, STOCKHOLM, CHRISTIANIA,
St PETERSBURG, MOSCOW, BUDA PESTH & NEW YORK.

ASH'S AMALGAM.

(*Filings for Metallic Paste.*)

BEST QUALITY.

	s.	*d.*
Supplied in ¼ oz., ½ oz., and 1 oz. Envelopes. . per oz.	22	0
„ „ ½ oz., and 1 oz. Bottles . . . . „	22	0

IMPERIAL AMALGAM.

(C. ASH & SONS'.)

This Alloy (see previous page) is a *thoroughly reliable filling material*, and contains considerably more gold than any of the so-called Gold Alloys or Gold Amalgams at present in use.

When mixed with a small quantity of mercury it forms a plastic amalgam which works smoothly, sets very hard, possesses great edge-strength and density, is extremely wear-resisting, does not bulge or shrink, and retains its colour remarkably well in the mouth.

After numerous experimental and comparative tests, we have every confidence that it will give general satisfaction in daily practice.

Sample of any of our Amalgams sent post free on application.

ASH'S AMALGAM.

(BEST QUALITY.)

This Amalgam—Filings for Metallic Paste, see previous page—has been very extensively used for over fifty years by dentists in all parts of the world, during which time numerous testimonials have been received concerning its excellence and durability. **It contains more gold than any other Amalgam in use,** except our Imperial, and possesses all the properties of a first-class filling material.

In a letter dated July, 1889, Mr. G. Robinson, of Oamaru, Otago, N.Z., *says* :—"It may perhaps interest you to know that Mr. Coxon, of Birkenhead, England, filled one of *my own central incisors* with your best Amalgam twenty-nine years ago, and that the said incisor remains intact to this day, which fact is a practical test and proof of its excellence."

Directions for Use.

Take a sufficient quantity of the **filings** for the cavity to be filled, then add a very small portion of Mercury, combine them **without heat,** by means of a Wedgwood **Pestle and Mortar,** when the whole will speedily become plastic, and when washed with Alcohol is ready for use. Any excess of Mercury can be removed by twisting the Paste in a piece of Chamois skin.

NOTE.

A discount of 10 per cent. is allowed off any of our Amalgams when 5 ounces are taken at one time.

C. ASH AND SONS' AMALGAM.

EXTRA FINE CUT.

(BEST QUALITY.)

For use in combination with cement, prepared to meet the wishes of those operators who desire a specially fine-grained Amalgam for combination fillings.

The following directions for making a metallic-cement are given by Dr. Ottolengui on page 62 of his **Methods of Filling Teeth** :— "The fine phosphate powder is mixed with the fine filings of an alloy, and afterwards used in connection with the liquid, exactly as plain oxyphosphate fillings are made. The presence of the metal interferes with the mixing only a little, and the usual putty-like consistency may be attained. A filling of this kind is to be placed and allowed to set two or three days. It may then be polished by using a smooth stone in the engine."

Extra Fine-Cut Best Quality Amalgam is

		s.	*d.*
Supplied in ½-oz. and 1-oz. Envelopes	per oz.	22	0
,, ,, ,, Bottles	,,	22	0

C. ASH AND SONS' AMALGAM.

(SECOND QUALITY.)

This Metallic Stopping has been in use for over forty years, and the sale increases every year, so that it has become an established stopping. It is composed of unobjectionable metals, and requires but a small quantity of Mercury to make it into a paste; it soon sets in the tooth, and will take a high polish, and does not change colour or decompose in the mouth. **It is unequalled by any Amalgam which is sold at a similar price.**

		s.	*d.*
In ½-oz. and 1-oz. Envelopes	per oz.	9	6
,, ,, Bottles	,,	9	6

Directions for use accompany each packet.

A discount of 10 per cent. is allowed off 5 ounces.

NOTE.

It is absolutely necessary that pure Mercury be used for Amalgam Stoppings. The Mercury commonly sold as pure is known to contain Lead, Antimony, &c., which impurities cannot be separated by mere distillation, and if used with the Filings alters the compound and causes it to become discoloured in the mouth.

MERCURY.

		s.	d.
Ash's distilled and chemically purified	per lb.	7	6
,, ,, ,, ..	per ½ lb.	4	0
,, ,, ,, 3 ozs. in glass bottle		1	8
,, ,, ,, 1 ,, ,,		0	8
,, ,, 1 oz. in wooden drop bottle		1	0
Ash's electrically purified	per oz.	1	6
,, ,, ,, ...	2 oz.	2	9
,, ,, ,, ...	3 oz.	4	0
,, ,, ...	per lb.	18	6
,, ,, ,, ...	per ½ lb.	9	6
Davis's ,, ,, ...	1 oz.	2	0
,, ,, ,, ...	2 oz.	3	10
Fletcher's chemically ,, ...	per bot.	1	0
,, **electrically** ,, ...	,,	2	0

ASH'S GLOBE COPPER AMALGAM.

(From the formula of Prof. W. D. MILLER and Dr. JUNG.)

Alloyed with 2½ per cent. of Tin Recommended for colour, setting properties, and hardness.

	s.	d.
Price, per box of 34 grammes	3	0

This Amalgam of Copper and Tin is the outcome of many experiments on the part of the above-named eminent Professor and his colleague.

At the time of its introduction, Professor Miller, in an exhaustive paper describing the experiments (*Cor. Blatt.* Apr. '94), said that the addition of tin in these proportions, viz., 2½ to 3 %, was clearly proved to have the effect of lessening the chemical dissolution of the copper in the fluids of the mouth. Further, that it favourably affected the colour of the fillings, which remained grey in contrast to the black of the copper amalgams without tin. Extensive experiments for detection of shrinkage were carried out, and we have evidence from Germany, where it has been largely used since 1893, to show that in actual practice the conclusions drawn from the experiments as to its value as a filling material have been confirmed.

AMALGAM STOPPINGS.

(VARIOUS.)

In packets of	¼-oz.	½-oz.	1-oz.
	s. *d.*	*s.* *d.*	*s.* *d.*
Arrington's New Amalgam	..	4 3	8 6
Caulk's Par-excellence Alloy..	..	5 3	10 6
,, White Alloy	..	7 3	14 6
Damman's Amalgam..	..	12 0	24 0
Davis's Gold Amalgam	..	12 6	25 0
,, ,, Chips .. .. per $\frac{1}{16}$ oz. 8*s.*	..	63 0	126 0
,, ,, No. 2 Amalgam	..	6 6	13 0
Eckfeldt and Dubois' Standard Dental Alloy	..	12 0	24 0
Flagg's Contour	..	..	15 0
,, Submarine	..	..	10 6
Fletcher's Perfected Standard Amalgam	..	10 0	20 0
,, Platinum and Gold Alloy	..	10 0	20 0
Flint-edge Gold Alloy	..	12 6	25 0
Gregory's White Metallic Filling	..	10 0	20 0
Lawrence's Amalgam	..	6 0	12 0
Nickold's Amalgam	..	6 3	12 6
Palladium, Præcipitated—*to order only*	35 0	70 0	140 0
S. S. White's Globe Amalgam	..	5 3	10 6
,, Alba Alloy	..	5 3	10 6
Townsend's Amalgam	..	4 0	8 0
Welch's Gold and Platinum Alloy	..	6 0	12 0
,, Amalgam	..	4 0	8 0

COPPER AMALGAMS.

	s. *d.*
Kirkbride's—see page 32.	
Lord's No. 1 Pyramid .. .. per oz.	2 6
,, ,, 2 ,, ... ,,	3 6
Rogers'. Introduced by Mr. Claude Rogers:	
In 1-oz. bottles, with directions for use .. .. ,,	4 6
,, ,, ,, ,, ... per 5 ozs.	20 0
Sullivan's. In ½-oz. packets, with directions for use .. .. per packet	2 6
,, ,, ,, ,, ... per oz.	4 6
,, ,, ,, ,, ... per 5 ozs.	20 0
Weagant's. In 1-oz. packets.. .. .. per oz.	7 6
,, ,, ,, ... per 6 ozs.	37 6

Other Amalgams obtained to Order.

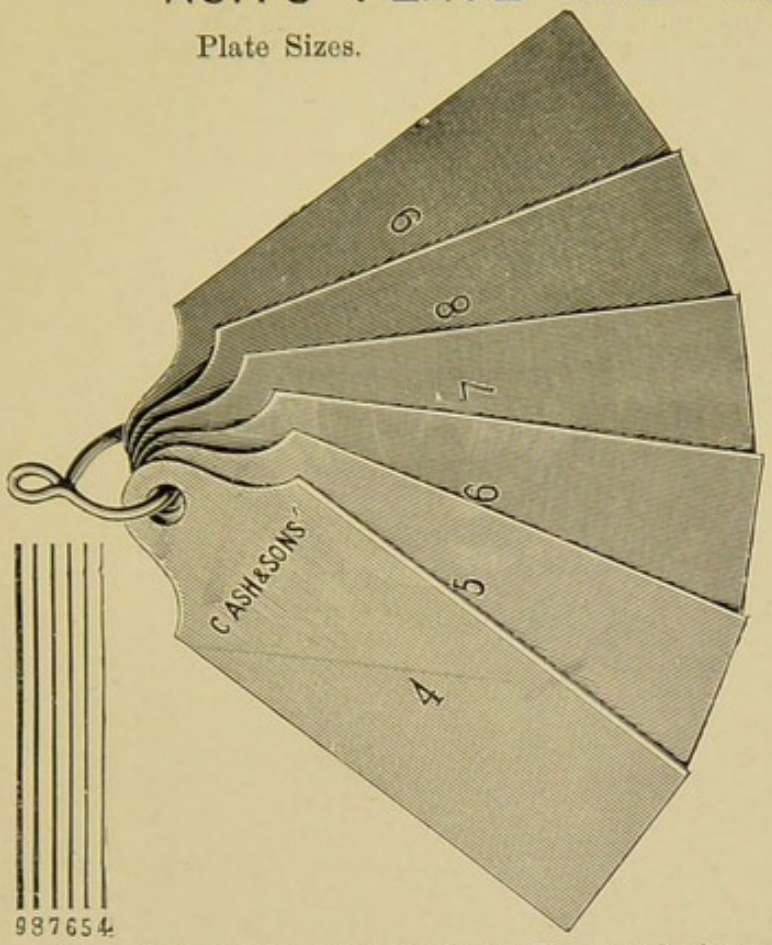
NOTE.—A reduction of 10 per cent. is made when 5 ounces of one or more kinds of Amalgam are purchased.

This Note does **not apply** to Palladium.

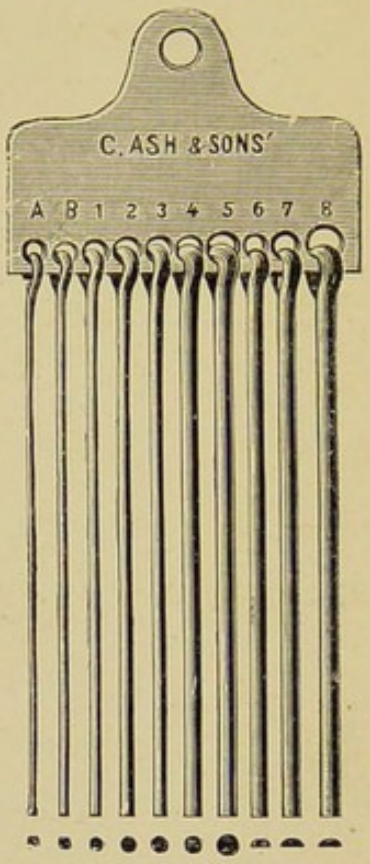
For Plastic and other filling Materials see pages 23–28.

ASH'S PLATE AND WIRE SIZES.

Plate Sizes.



Wire Sizes.



Brass Patterns to order from, as illustrated above, supplied free of charge on application.

GOLD PLATE AND WIRE.

			s.	d.
20 carat	Plate, in large pieces	per oz.	78	0
20 „	„ cut to pattern	„	80	0
18 „	„ in large pieces	„	70	0
18 „	„ cut to pattern	„	72	0
18 „	Wire	„	72	0
*17 „	Plate, alloyed with Platinum, for bands	„	72	0
*17 „	Wire „ „ for clasps	„	72	0
16 „	Plate, in large pieces	„	64	0
16 „	„ cut to pattern	„	66	0
16 „	„ for bands or clasps	„	66	0
16 „	Wire, hard	„	66	0
16 „	„ in straight 6-in. lengths, for Tube Teeth, Blocks, Pins, &c.	„	66	0
16 „	„ half round, for clasps	„	66	0
16 „	„ soft, for riveting	„	66	0
16 „	„ „ for tying	„	66	0
16 „	Perforated, for strengthening Vulcanite pieces	„	70	0

Special Sizes of Plate and Wire supplied to order.

* Especially recommended for strength and elasticity.

GOLD PLATE.

FOR CROWN, BAR, AND BRIDGE WORK.

This is supplied in three qualities of fineness, viz. :—

Pure Gold, 22-carat, and 20-carat.

Prices :

		s.	d.
Pure Gold	per oz.	92	0
22-Carat Gold	„	88	0
20 „	„	80	0

Our stock consists of four gauges of metal as under :—

Size 3 corresponding to size 32 American Gauge.
„ 4 „ „ 30 „ „
„ 5 „ „ 28 „ „
„ 6 „ „ 26 „ „

NOTE.—We are prepared to flat Gold Plate to any size for Crown, Bar and Bridge Work.

DENTAL ALLOY.

	First Quality.	Second Quality.
Plate cut to pattern		
„ in sheet		
Wire in coil, over 1 oz.		
„ in lengths		
Plate, or Wire in coil, over 5 ozs.		
„ „ „ 10 „		
„ „ „ 20 „		
„ Perforated, for strengthening Vulcanite pieces		

Prices fluctuate, but our charges for both Platinum and Dental Alloy are always kept as low as possible consistent with quality.

PLATINUM.

(HARD AND SOFT.)

Platinum Plate, in sheet, and wire in coil
„ Plate, cut to pattern
„ Wire in 6-inch lengths, for Tube Teeth, &c.
„ Gauze
„ Perforated, for strengthening Vulcanite pieces
„ Foil (thick and thin), for Crown Work, &c.
„ Foil (extra thin), for Inlay Work
„ Iridium Wire, for Pivoting

Prices fluctuate. See note against Dental Alloy.

SILVER.

		s.	d.
Sterling Silver Plate	per oz.	5	0
„ „ Wire	„	5	0
Fine Silver	„	4	6
Silver Solder	„	5	0

ASH'S GOLD SPRINGS.

16-Carat, sizes 7 (weakest), 8, 9, 10, 11, 12, 13, 14 (strongest).

		s.	*d.*
Price	per oz.	76	0
„ under an Ounce	„	80	0

13-Carat, sizes $6\frac{1}{2}$ (weakest), $7\frac{1}{2}$, $8\frac{1}{2}$, $9\frac{1}{2}$, and $10\frac{1}{2}$ (strongest).

Price	per oz.	65	0
„ under an Ounce	„	70	0

Great care is bestowed upon the Manufacture of the above Springs, in order to obtain perfect elasticity and uniformity of strength. They have been extensively used by the Profession for the last sixty years.

SPRINGS FOR TRYING IN, &c.

		s.	*d.*
Silver	per pair	1	8
Silver Gilt	„	2	8
(A discount of 10 per cent. is allowed off 12 pairs of the above.)			
Steel Gilt	per 6 pairs	2	6

ASH'S GOLD AND OTHER SWIVELS AND WASHERS.

		s.	*d.*
Gold Swivels, 16-Carat	per set	9	0
„ 13-Carat	„	7	0
„ with Dental-Alloy Stems	„	5	6
Dental-Alloy Swivels—Long Stems	„	3	6
„ „ „	per 6 sets *net*	18	0
Silver Swivels	per set	2	0

5 per cent. discount is allowed off 12 sets of the 16 and 13 carat gold swivels; **10 per cent.** off 12 sets of all the other kinds.

Gold Washers, 16-Carat	per set	1	0
Dental-Alloy Washers	„	0	4

OLD METALS.

Full intrinsic value allowed for Old Gold, Silver, Platinum, &c., either in large or small quantities.

NOTE.

It is particularly requested that all **parcels of old Metals** be advised by letter, and clearly marked with the name of sender.

ASH'S TIN CYLINDERS.

		s.	d.
In sizes 1, 2, 3, 4	per ¼ oz. pkt.	5	0
Sample boxes containing all sizes	„	5	0

TIN FOILS.

		s.	d.
C. Ash & Sons', Nos. 4, 6, 8	per book	1	9
S. S. White's No. 6	„	1	9
„ Extra tough, Nos. 4, 6, 8, 10, 14, 18, 20	„	1	9
„ Globe „ 4, 6, 8, 10, 14, 18, 20	„	2	0

AMERICAN GOLD FOILS, CYLINDERS, ETC.

		s.	d.	per oz. s.	per oz. d.
Abbey's Gold Foil	per ⅛ oz.	17	6	136	0
S. S. White's Quarter Century	„	16	6	128	0
„ Globe	„	16	6	128	0
„ 1000 Fine	„	16	6	128	0
Kearsing's	„	16	6	128	0
Williams'	„	17	6	132	0
Rowan's	per $\frac{1}{10}$ oz.	13	6	125	0
Williams' Electric	per ⅛ oz.	17	6	132	0
„ Platinum and Gold	„	17	6	132	0
„ „ „ Folds	„	17	6	132	0
Pack's Cylinders, sizes ½ to 4	„	16	6	128	0
S. S. White's 1000 Fine Cylinders	„	16	6	128	0
Williams' Cylinders, sizes ½, ¾, 1, 1½, 2, 3, 3·6	„	17	6	132	0
Rowan's Decimal Gold Ropes and Rolls ..	per $\frac{1}{10}$ oz.	13	6	125	0
„ Extra Pliable Gold Ropes and Rolls	„	15	0	146	0
Pack's Gold Pellets	per ⅛ oz.	16	6	128	0
Kearsing's Plastic Surface Blocks	„	16	6	128	0
Watt's Crystal Sponge Gold, No. 1, 2, 3, 4 ..	„	17	6	135	0
Steurer's Sponge Gold, in packets	$\frac{1}{16}$ oz.	10	6	—	

Other Gold Foils, Cylinders, Pellets, etc., obtained to order.

Solders of American Manufacture kept in Stock.

WOLRAB'S GOLD FOIL AND CYLINDERS.

		s.	d.
Foil, sizes 4, 5, 6, 7½, 8, 10	per oz.	125	0
,, ,, ,, ...	per ⅛ oz.	16	3
Cylinders, sizes 0, 1, 2, 3, 4, 5	per oz.	128	0
,, ,, ,, ...	per ⅛ oz.	16	6
Sample boxes containing all sizes of cylinders ..	,,	16	6

HERBST'S GOLD CYLINDERS.

		s.	d.
In sizes 0 to 5	per oz.	128	0
,, ,, and Assorted	per ⅛ oz.	16	6
De Trey's "Solila" Mat Gold	per ⅛ oz.	21	0
,, ,, ,, ...	per oz.	164	0
Supplied in Nos. 1, 2, 3, 4.			
Nedden's Sponge Gold	per packet	17	0
Nickold's Improved Soft Gold Foil	per oz.	125	0
,, ,, ,, ...	per ⅛ oz.	16	3
Supplied in Nos. 4, 5, 6.			
Nickold's Soft Gold Pellets, Triangular and Square	per oz.	128	0
,, ,, ,, ,, ,,	per ⅛ oz.	16	6

QUANTITY RATES.

GOLD FOILS, PELLETS, AND CYLINDERS.

(All kinds mentioned on pages 1–5.)

A reduction is made on purchases of 3 ounces of one or more kinds of Gold Foils, Pellets, and Cylinders.

	Per oz. s.	d.		Per oz. s.	d.	
From	125	0	to	120	0	for 3 ounces.
,,	128	0	,,	125	0	,,
,,	132	0	,,	128	0	,,
,,	136	0	,,	132	0	,,

GOLD CYLINDER CASE.

In leather, with spring snap. There are four divisions inside the case for holding cylinders of different sizes, which are thus kept distinct and handy for use, saving the time spent in selecting cylinders from different packets; moreover, the case preserves them from dust and other impurities.

	s.	d.
Size 4¾ inches by 3⅞; depth 1 inch .. .. each	3	6

JÜTERBOCK'S

GOLD STRENGTHENERS

FOR

VULCANITE DENTURES.

(PATENTED IN ENGLAND, FRANCE, AND THE UNITED STATES.)

These Strengtheners are made of 16-carat gold, and it is claimed that they add very greatly to the strength of vulcanite dentures.

They are exceedingly strong, without being too rigid; and as the metal is placed edgewise in the vulcanite, it takes the strain in the best direction.

They give a very nice finish to dentures, and can be polished without danger of polishing through the metal; moreover, as they are grooved on the external surfaces, the vulcanite adheres closely to the metal.

During the process of polishing the vulcanite the surface of the Strengthener becomes visible in it; this is useful to the dentist as a guide in making the vulcanite of perfectly uniform thickness throughout.

By using the Strengtheners dentures can be made very thin; they are also much improved in appearance and rendered very serviceable.

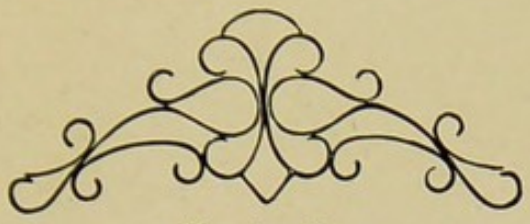
An extremely solid denture can be obtained by soldering a Strengthener to the pins of the teeth and to gold bands by means of small pieces of gold wire; this style of work renders the denture absolutely rigid.

The Lower Strengtheners are supplied with Dental Alloy Bars as shown in Figs. 6 and 7, but Gold Bars can be had instead, *to order*, at an extra cost of 1*s.* each.

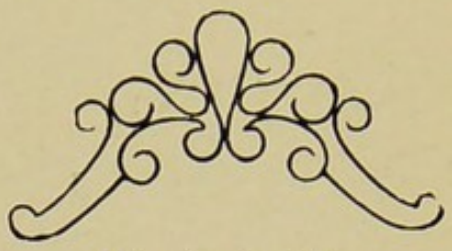
The price of Gold Bars for Upper Strengtheners is 1*s.* 6*d.* each, and of Dental Alloy, 1*s.* each.

If a Strengthener is fitted on a wax model, it must be annealed and boiled out in acid before being fixed in the rubber.

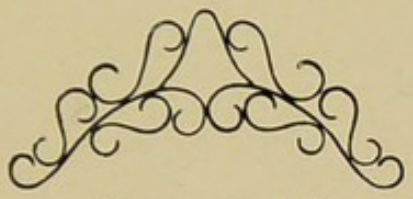
JÜTERBOCK'S GOLD STRENGTHENERS—*continued.*



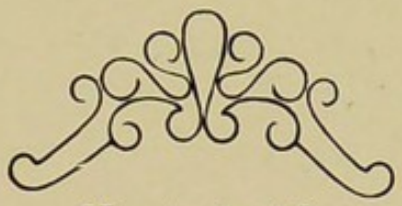
No. 1—6*s.*



No. 2—5*s.* 9*d.*

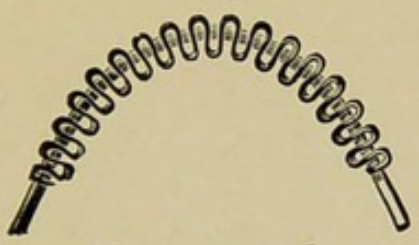


No. 3—5*s.* 6*d.*

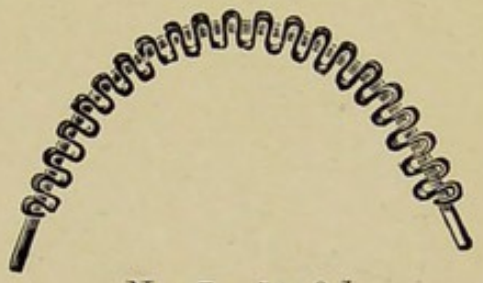


No. 4—5*s.* 3*d.*

No. 5—4*s.* 6*d.*

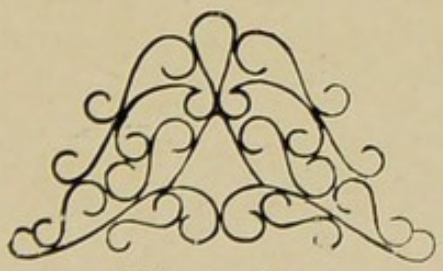


No. 6—5*s.* 3*d.*
WITH DENTAL ALLOY BAR.



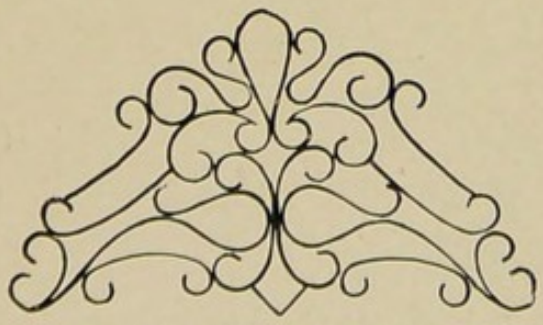
No. 7—5*s.* 9*d.*
WITH DENTAL ALLOY BAR.

Extra size Lowers, No. 8—6*s.* 6*d.*; No. 8A—7*s.* 6*d.*



No. 9—10*s*

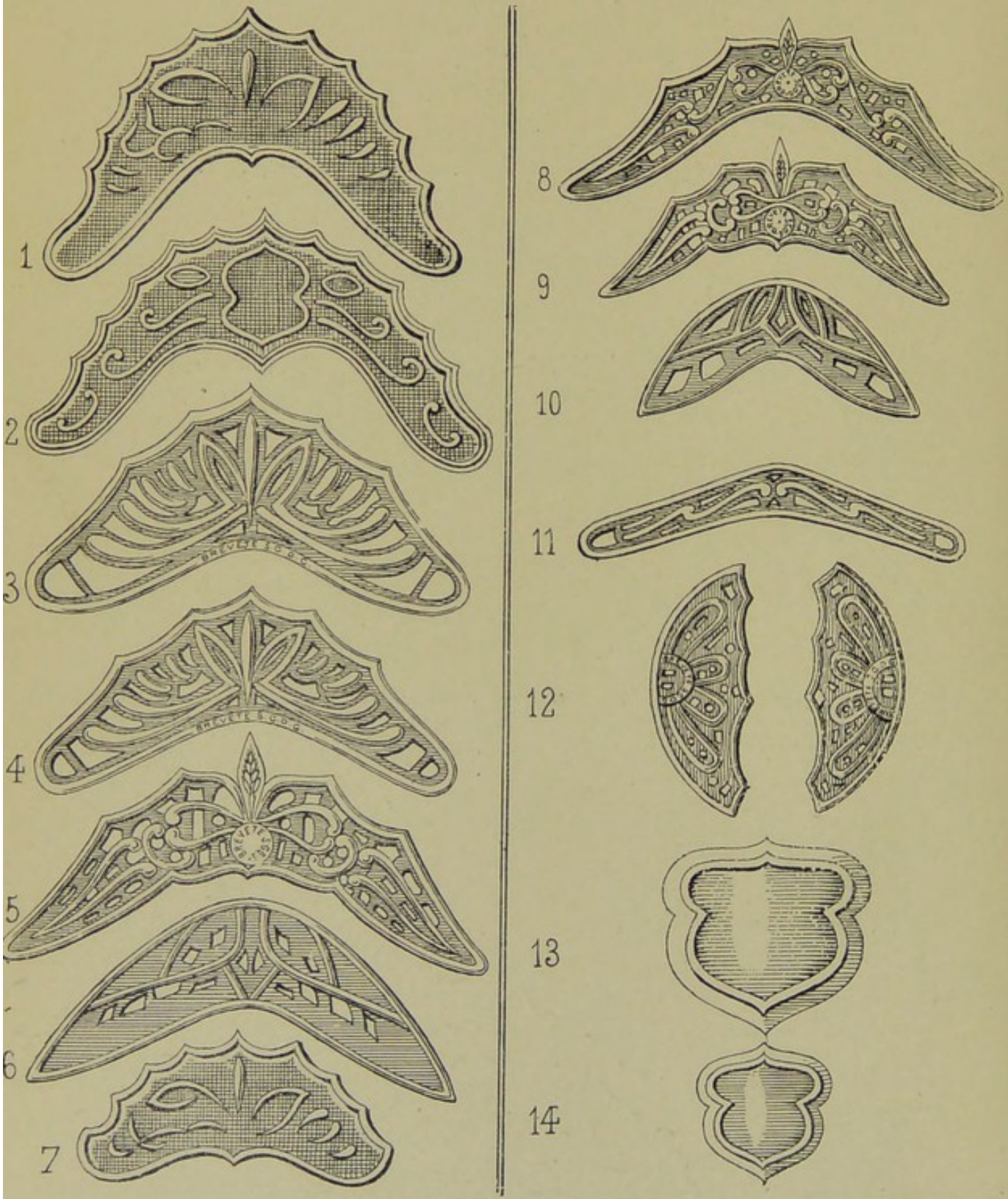
No. 10—10*s.* 6*d.*



No. 11—11*s.* 9*d.*

JÜTERBOCK'S GOLD STRENGTHENERS—*continued*

FRENCH PATTERNS.



Made in 18-Carat Gold and Dental Alloy.

JÜTERBOCK'S GOLD STRENGTHENERS—*continued.*

FRENCH PATTERNS.

Prices :

	In Gold.		In Dental Alloy.	
Plates :	*s.*	*d.*	*s.*	*d.*
No. 1. Solid .. .. each	14	5	5	8
„ 1. Perforated .. .. .. „	12	10	5	8
„ 2. Solid .. .. „	12	10	5	8
„ 2. Perforated .. .. .. „	11	3	5	8
„ 3. „ .. .. .. „	10	5	4	0
„ 4. „ .. .. .. „	9	3	4	0
„ 5. „ .. .. .. „	8	10	4	0
„ 6. „ .. .. .. „	8	0	4	0
„ 7. Solid .. .. „	7	3	3	8
„ 7. Perforated .. .. .. „	6	5	3	8
„ 8. „ .. .. .. „	6	5	2	10
„ 9. „ .. .. .. „	5	8	2	10
„ 10. „ .. .. .. „	5	3	2	10
„ 11. „ .. .. .. „	5	3	2	10
„ 12. „ .. .. .. „	4	5	2	0
Suction or Air Chambers :				
No. 13. Solid .. .. .. each	7	3	2	10
„ 14. „ .. .. .. „	5	6	2	6
16-Carat Gold Plate :				
Perforated, for strengthening Vulcanite pieces ..	per oz.		70	0
Platinum Plate :				
Perforated, for strengthening Vulcanite pieces ..	*price fluctuates.*			
Dental Alloy Plate :				
Perforated, for strengthening Vulcanite pieces ..	*price fluctuates.*			

JACOB'S
PERMANENT GUTTA-PERCHA STOPPING

(From the formula of H. L. JACOB, M.R.C.S.)

Jacob's Permanent Stopping is the purest, toughest, most tenacious and most wear-resisting preparation of Gutta-Percha that has ever been made. Its great durability and general excellence have been recognised by the Profession for upwards of forty years, and owing to its low specific gravity, one ounce of it is equal in bulk to several ounces of any other preparation of Gutta-Percha that is employed as a material for filling teeth.

Supplied in Tablets and in cylindrical Pellets, each packet sufficing for more than one hundred average fillings, in the following shades :—

No. 1.—Whitish.

No. 2 —Brownish, for teeth that are somewhat discoloured.

Directions for use enclosed in each Packet.

PRICES :

		s.	d.
Tablets, weighing 2 dwts., in boxes, either shade	per box	4	0
Pellets, in bottles, containing 2 dwts. ,, ...	per bottle	4	0

GUTTA-PERCHA STOPPINGS.

		s.	d.
Ash's. In Pellets—see page 32.			
Caulk's. In Tablets, Pellets and Cylinders ; also in Points for root-filling. In ½-oz. boxes	per oz.	8	0
Excelsior Gutta-Percha in Sticks. In ½-oz. boxes	,,	8	0
,, ,, in Cakes. ,, ...	,	8	0
Flagg's Hand-made Gutta-Percha, High-grade	per pkt.	4	6
,, ,, ,, Medium-grade and Low-grade	,,	4	6
Gilbert's Temporary ,, ...	per box	2	0
Hill's Gutta-Percha in Tablets. In ½-oz. boxes	per oz.	16	0
Pedley's. In Pellets—see page 32.			
Premium ,, in Sticks. In ½-oz. boxes	,,	8	0
,, ,, in Cakes	,,	8	0
Waite's Temporary Gutta-Percha	,,	2	6
S. S. White's Gutta-Percha Pellets, in ½-oz. boxes	,,	8	0

GUTTA-PERCHA NERVE CANAL POINTS

These Points are made of "Premium" Gutta-Percha. They are symmetrically tapered and uniform.

Put up in boxes containing 150 Points.

		s.	d.
Price	per box	1	0

Other Gutta-Percha Stoppings supplied to order.

C. A. & S. CEMENT (Oxyphosphate of Zinc).

(C. ASH & SONS'.)

NOTED FOR THE FOLLOWING QUALITIES:

EASY WORKING; EXTRAORDINARY HARDNESS; GREAT POWER OF RESISTANCE TO THE ACIDS OF THE MOUTH; FREEDOM FROM SHRINKAGE AND EXPANSION; COMPLETE ADHESION TO THE WALLS OF THE CAVITY.

***Prepared in Six Shades:* White, Pale Yellow, Yellow, Pearl Grey, Grey, and Brown.**

SAMPLE PACKET ON APPLICATION.

		s.	d.
Box containing one bottle Liquid and 30 grammes Powder . . .	per box	5	0
Separately { Powder	per bottle	3	0
Separately { Liquid	,,	2	0
Box containing large bottle Liquid and 50 grammes Powder . . .	per box	8	0
Separately { Powder	per bottle	5	0
Separately { Liquid	,,	3	0
Box containing two bottles Liquid and four 10-gramme bottles Powder—White, Pale Yellow, Pearl Grey, Grey	per box	8	0
Separately { Powder	per bottle	2	0
Separately { Liquid	,,	1	0

DIRECTIONS FOR USE ENCLOSED IN EACH BOX.

NOTE.—The Liquid never becomes turbid, no matter whether the bottle is left open or corked; it is, however, advisable to keep it corked when not in use.

ASH'S PHOSPHATE CEMENT.

(OXYPHOSPHATE OF ZINC.)

This cement is unsurpassed by any filling of its class, and has grown largely and steadily in favour since its introduction. We can recommend it with the fullest confidence as a preparation that can be relied on in all cases in which the employment of an Oxyphosphate is suitable. It is devoid of irritating chemical action, is not affected by contact with saliva, and can be contoured and modelled when quite submerged. Prepared in the following five shades :—

A—Pale Yellow. B—Pale Grey. C—Light Yellowish Grey.
D—Dark Yellowish Grey. E—Greenish Grey.

Prices :

			s.	*d.*
Powder and liquid in box, large size	per packet		6	0
Separately { Powder only	per bottle		3	0
Separately { Liquid „	„		3	0
Packet containing 4 Powders, small size, and one Liquid, large size	per packet		8	0
Separately { Powder only	per bottle		1	0
Separately { Liquid „	„		4	0

Directions for use accompany each packet.

ASH'S CONCRETE CEMENT.

(OXYPHOSPHATE OF ZINC.)

Recommended for density, hardness, and insolubility ; it is non-irritant, and does not set too quickly to admit of thorough manipulation. The liquid is fluid and does not crystallize.

Prepared in the following five shades :—

A—White. B—Bluish. C—Light Yellow.
D—Light Grey. E—Dark Grey.

Directions for Use.

Put as much fluid on the slab as is required for the filling, add sufficient powder to make a stiff paste, thoroughly mix with a strong spatula, and well knead the resulting mass between the thumb and finger before inserting it in the cavity.

To obtain the best results the rubber-dam should be used to protect the cavity from moisture, and when the filling is inserted, it should be coated with varnish or paraffin.

When not in use the bottles should be kept tightly closed.

Prices :

			s.	*d.*
Powder and Liquid, any shade, in screw-capped bottles	per pkt.		8	0
Separately { Powder only, any shade	per bottle		5	0
Separately { Liquid „	„		3	0
Large packets containing four bottles Powder and one Liquid	per pkt.		10	0

THE

DIRIGO ENAMEL CEMENT

A NON-CONDUCTING AND ANTISEPTIC OXYPHOSPHATE.

Recommended for its wearing properties, its fitness for setting Crowns and Bridges, also as an Antiseptic and Non-Conducting Cement for use in deep cavities and in sensitive teeth, and as a lining for amalgam fillings.

Supplied *Quick-Setting* and *Slow-Setting* in the following shades:—

A.—White. **C.**—Light Grey.
B.—Light Yellow. **D.**—Dark Grey.

PRICES:

			s.	d.
Powder and Liquid, any shade, with bottle of Antiseptic Germicide, a supply of Asbestos Paper, and directions for use		per pkt.	10	0
„ „ minus Germicide and Asbestos Paper		„	8	6
Separately	Powder, any shade	per bot.	5	6
	Liquid	„	3	0
Packets containing four small bottles Powder and one large bottle Liquid		per pkt.	10	6
Separately	Powder, any shade	per bot.	1	9
	Liquid	„	4	0

ASH'S EXCELSIOR CEMENT.

(OXYPHOSPHATE OF ZINC.)

This Oxyphosphate Cement possesses qualities which are wanting in most preparations of the same class, and for this reason it has been very extensively used for some years past, with great satisfaction. The best proof that can be adduced of its worth is the large and steadily growing demand that there is for it, notwithstanding the numerous Cements that have been introduced since EXCELSIOR was first brought out. As a Cement filling, it is unsurpassed, and there are few equal to it.

It is non-irritating, and adheres so firmly to the walls of the cavity that it makes a perfectly water-tight plug.

The powder is fine and soft, and the Liquid does not crystallize. The colour of the powder is a whitish yellow.

Working directions enclosed in each packet.

When not in use, both Powder and Liquid should be kept well corked.

		s.	*d.*
Packet, containing 35–40 grammes of Powder, one bottle of Liquid, and two tubes of Colouring Matter	per packet	6	0
Separately Powder	per bottle	4	0
Separately Liquid	,,	2	0
Colouring Matter, of any shade, supplied to order	per tube	0	6

ASH'S ROCK CEMENT.

(OXYCHLORIDE OF ZINC.)

This well-known Stopping is very easily worked, and when mixed to the consistency of putty becomes hard in two minutes, and in six or eight can be polished with an agate burnisher. If not required to set so quickly it should be mixed a little thinner. The powder being very fine will take a high polish.

Prepared in five shades as under :—

A—White. B—Pale Yellow. C—Dark Yellow.
D—Pale Blue. E—Dark Grey.

		s.	*d.*
Powder and Liquid in box, large size	per packet	6	0
Separately Powder only	per bottle	3	0
Separately Liquid ,, ...	,,	3	0
Packet containing 3 Powders, small size, and one Liquid, large size ..	per packet	8	0

		s.	*d.*
Mastic Cement, thick, for temporary stoppings	per bottle	0	6
,, ,, thin, for fixing teeth, etc.	,,	0	9
Sandarac Varnish, for coating osteo-stoppings	,,	0	10
Filmogen, for varnishing osteo-stoppings, for lining cavities, and for root filling	per 1-oz. bottle	1	6
	,, 2-oz. ,,	2	9
Filmogen, with 10 per cent. Iodoform, for root filling, etc. ..	,, 1-oz. ,,	1	9

MARFIL CEMENT.

A PYRO-PHOSPHATE FILLING.

Prepared in Ten Shades as under:—
No. 1, Milk White; No. 2, Light Yellow; No. 2*a*, Bluish Yellow; No. 3, Dark Yellow; No. 4, Brownish Yellow; No. 5, Pearl Grey; No. 5*a*, Greenish Grey; No. 6, Grey; No. 7, Bluish White; No. 8, Gold Yellow.

Prices:

			s.	*d.*
Large packets, any shade	per packet		10	0
Separately { Powder only	per bottle		7	0
Separately { Liquid „	„		3	0
Small packets, any shade	per packet		8	0
Separately { Powder only	per bottle		5	6
Separately { Liquid „	„		2	6

POULSON'S PHOSPHAT-PLOMBE.

(OXYPHOSPHATE OF ZINC.)

The Liquid of this Cement does not crystallize. Prepared in the following shades No. 1, Light Yellow; No. 2, Light Grey; No. 3, Dirty Yellow; No. 4, Greyish Yellow No. 5, Greenish Grey.

Prices:

			s.	*d.*
One-Shade packets, any colour	per packet		5	0
Separately { Powder only	per bottle		2	6
Separately { Liquid „	„		2	6
Four-Shade packets, colours 1, 3, 4, 5	per packet		7	6
Separately { Powder only	per bottle		1	0
Separately { Liquid „	„		3	6

LYNTON CEMENT.

(PAPPENHEIM'S.)

Put up in a crystallized and in a liquid form. A revival of Rostaing's Dentinogene.

The Powder is made in the following colours:—

1 White	4 Yellow	7 Blue White	10 Grey
2 Yellow White	5 Gold Yellow	8 Light Grey	11 Greenish Grey
3 Light Yellow	6 Brown	9 Pearl Grey	12 Blue Grey

Box containing 1 powder and 1 liquid:		*s.*	*d.*
Small packet, any shade	price	4	0
Large „ „	„	10	0
Four-shade packet, assorted colours	„	30	0
Eight-shade „ „ „	„	60	0
Twelve-shade „ „ „	„	90	0

FLETCHER'S ARTIFICIAL DENTINE

(OXYSULPHATE OF ZINC)

Is unequalled for the following purposes:

Capping exposed pulps.
Supporting pericementitic teeth while perforating or removing hard fillings from them.
Fixing loosened teeth while filling them with gold.
Pressing the gum away from cervical margins.
Enclosing applications of all kinds in pulp and tooth treatment.
Fixing metallic caps over teeth in regulations.

FLETCHER'S ARTIFICIAL DENTINE

can be medicated to suit the needs of the case under treatment by incorporating a little appropriate antiseptic with the powder and liquid when mixing them together.

PRICES:			s.	d.
Fletcher's Artificial Dentine	per packet		4	0
Separately Powder	per bottle		3	6
Separately Liquid in corked bottle	„		0	6

Directions for use enclosed in each packet.

FORMAGEN.

A Pulp Capping Cement upon which a permanent filling can be built.

The fluid and powder are saturated with Formaldehyde, which, as the cement becomes hard, is set free and acts in the nascent state painlessly on the pulp.

		s.	d.
Price	per packet	6	0
„	large size, double portion	10	0

BALDOCK'S

ANTISEPTIC CELLULOIDAL ROOT-FILLING.

This is an insoluble, unchangeable, and impermeable material for filling root-canals, &c. May be applied on Asbestos, previously sterilised by heat, Gun-Cotton, Cotton Wool, or prepared Cones. Preferred to, and better than, Chlora-Percha. Valuable as a medium for the local application of Iodine, Iodoform, Salicylic Acid, &c.

Supplied in glass-stoppered jars, with directions for use.

		s.	d.
Price	per jar	4	0

BALDOCK'S

ANTISEPTIC TOOTH DRESSING.

A nerve pain obtunder and germicide. This dressing has been successfully and extensively used for over twelve years. Its extraordinary penetrating properties, and the fact that all its component parts are in perfect solution, render its application both easy and certain. The offensive smell caused by diseased and suppurating pulps is ***instantly*** arrested. Invaluable in the conservative treatment of the pulp.

Supplied in glass-stoppered bottles, with directions for use.

		s.	d.
Price	per bottle	4	0

CEMENT STOPPINGS.

(VARIOUS.)

			s.	d.
Caulk's Diamond Cement, as under:				
Four Colours and Liquid—Grey, Yellow, Medium, and Light	..	per packet	6	3
Two Colours and Liquid—Grey and Yellow	.. .. ..	,,	5	3
One Colour and Liquid—Grey, Yellow, Medium, or Light	..	,,	3	3
Gum Colour and Liquid	.. ..	,,	3	3
Powder only, any colour, if supplied separately	.. .. ..	per bottle	1	8
Liquid only, if supplied separately	.. ..	,,	1	8
Dentos Cement	.. ..	per packet	6	3
Fletcher's Dentine for nerve capping	.. ..	,,	4	0
,, ,, Separately { Powder only	.. .. ..	per bottle	3	6
,, ,, Separately { Liquid ,,	.. .. ..	,,	0	6
Fletcher's Porcelain	.. ..	per packet	6	0
,, ,, Separately { Powder only	.. .. ..	per bottle	4	0
,, ,, Separately { ,,	.. .. ..	2-oz. packet	10	0
,, ,, Separately { Paste only	.. .. ..	per bottle	2	0
Fletcher's White Enamel	.. ..	per packet	6	0
,, ,, ,, Separately { Powder only	.. ..	per bottle	3	6
,, ,, ,, Separately { Liquid in corked bottle	..	,,	1	0
Fletcher's Colouring matter, Pink, Drab, or Blue	.. .. ..	per tube	0	6
,, Copal Ether Varnish	.. ..	per bottle	1	0
Fossiline	.. ..	per packet	6	6
,, Separately { Powder only	.. ..	per bottle	3	0
,, Separately { Liquid ,,	.. ..	,,	3	6
Harvard Cement in 12 shades	.. ..	per packet	10	0
Poulson's Neue Mineral Plombe, in 12 shades:				
In packets containing 30 grammes Powder and necessary Fluid		per packet	7	6
Separately { Powder only, any shade	.. .. ..	per bottle	3	9
Separately { Liquid ,, ,,	.. ..	,,	3	9
In packets containing four shades Powder and one Fluid	..	per packet	10	0
Six Shades in Mahogany Box, with Glass Slab and Spatula	..	per box	45	0
Poulson's Phosphat-Plombe—*see page* 27.				
Poulson's Granit-Plombe in six shades:				
In packets containing Powder and Liquid	.. .. ..	per packet	8	0
Separately { Powder only	.. ..	per bottle	5	0
Separately { Liquid ,,	.. ..	,,	3	0
Robertson's Ossilite	.. ..	per packet	6	6
,, ,, Separately { Powder only	.. .. ..	per bottle	3	3
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Weston's Insoluble Cement, in ½ oz. packets	.. .. ..	per packet	4	3
,, ,, ,, 4 shades in box	.. .. ..	,,	6	3
,, ,, ,, Liquid separately	.. .. ..	per bottle	2	3
,, Non-irritant Cement for nerve-capping	.. .. ..	per packet	3	0
,, Xenolite Cement	.. ..	,,	4	3

Other Cement Stoppings supplied to order.

LISTS OF INSTRUMENTS

For Gold and Plastic Filling, Pluggers, Burnishers, etc., Instruments for Hand and Engine Mallets and Points, Scalers, Enamel Cutters, Excavators, Plug Trimmers, Spatulas, Tweezers, etc., Sent post free on application.

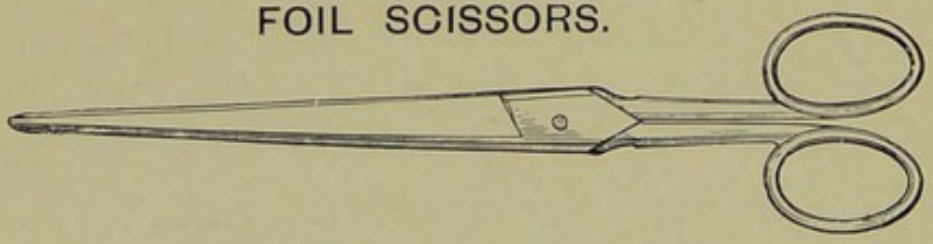
FOIL MANIPULATORS.

10½ inches long.

For folding and pressing Foils ready for Stoppings.

	s.	*d.*
With long Steel blade, Nickel-plated, and checkered Ebony handle .. . . each	3	0

FOIL SCISSORS.



With long blades for dividing the leaf at one cut.

	s.	*d.*
In Steel, highly polished .. .. each	4	6
„ Nickel-plated .. .. „	6	0

GOLD FOIL CASE.

In Leather, with spring snap. The inside of the Case consists of a pocket, large enough to take a book of foil, and a chamois leather pad for holding the pieces which are in use.

	s.	*d.*
Size. outside measurement, $5\frac{1}{8} \times 5\frac{1}{8} \times 1\frac{1}{8}$ inches, each	3	6

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KIRKBRIDE'S CLEANSED COPPER AMALGAM.

Copper Amalgam is the only amalgam by which we can make an absolutely watertight filling, and if cleansed from iron and other impurities, it makes a grand filling for back teeth.

Kirkbride's Amalgam is made by a special depositing process, and is therefore pure, as it passes through a series of grades of washings, so that none is required before inserting in cavity. It is therefore absolutely free from acid. Each relay is tested before sending out.

An L.D.S. Eng., to whom reference is kindly allowed, thus speaks of it in a letter to Mr. KIRKBRIDE: "Your Copper Amalgam gives me every satisfaction. I have used several makes, but I much prefer yours because of its purity. I find that it is possible to get a watertight filling with it; this I put down to your careful washing-out of iron, etc. Having seen you manufacture it, I am assured of its absolute purity, and am therefore recommending it to my dental friends."

		s.	*d.*
Price	per oz.	4	0
,, ...	per 5 oz.	17	6

PEDLEY'S GUTTA-PERCHA PELLETS.

PERMANENT—WHITE IN COLOUR.

To Soften.—Wave over the flame of a spirit lamp for a few moments, being careful not to burn the material. It can be packed either with warm or cold instruments.

		s.	*d.*
Price	per oz.	3	0

TEMPORARY—PINK IN COLOUR.

Especially useful in the treatment of sensitive teeth and for covering dressings of all kinds.

Softened in the same way as the Permanent (see above).

		s.	*d.*
Price	per oz.	2	0

ASH'S GUTTA-PERCHA PELLETS.

PREPARED IN TWO COLOURS—LIGHT PINK AND WHITE.

DIRECTIONS FOR USE.—To soften a Pellet, wave over the flame of a spirit lamp for a few moments, being careful not to burn the material. It can be packed either with warm or cold instruments.

		s.	*d.*
Price, either kind	per bottle	2	0

IMPORTANT NOTICE.

We frequently receive parcels and cases that do not bear the name of the sender, and which are not advised by letter. Sometimes there is not a scrap of evidence to show from what part of the world they come, and we are, consequently, at a loss to know how to deal with them. It will greatly facilitate business and save much delay, if each one who consigns anything to us will not only write about it, but also affix his name to the parcel or case.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

DENTAL FURNITURE:

Cabinets, Chairs, Spittoons, etc., etc.

CLAUDIUS ASH & SONS, LTD.

CENTRAL DEPÔT:

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

ADDRESS FOR TELEGRAMS: FRENES, LONDON.
TELEPHONE NUMBER: GERRARD 5258.

BRANCHES:

LIVERPOOL	78, MOUNT PLEASANT.
MANCHESTER	118*a*, OXFORD STREET.
PARIS	22, RUE DU QUATRE-SEPTEMBRE.
BERLIN	68, JÄGER-STRASSE.
HAMBURG	62 AND 63, GÄNSEMARKT.
FRANKFURT A/ MAIN	7, BÖRSENPLATZ.
VIENNA	2, SPIEGELGASSE, ECKE GRABEN.
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
STOCKHOLM	9, MALMSKILDNAS GATAN.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

ASH'S

FIBROUS GOLD BLOCKS

Prepared by a special process, which gives the gold a fibrous quality, whereby thorough and rapid condensation is ensured. The form in which it is put up will be found most convenient. Its qualities are purity and perfect cohesiveness; and it has all the advantages of a sponge gold, with freedom from crumbling.

The following reports have been received from prominent members of the profession:—

"Your Fibrous Gold Blocks are excellent in every way, being easy to manipulate and very cohesive."

"In my opinion it will be difficult to improve upon them."

"Resultant filling very dense and the cohesion perfect."

"Yields a good edge."

"The softest working gold I have ever tried."

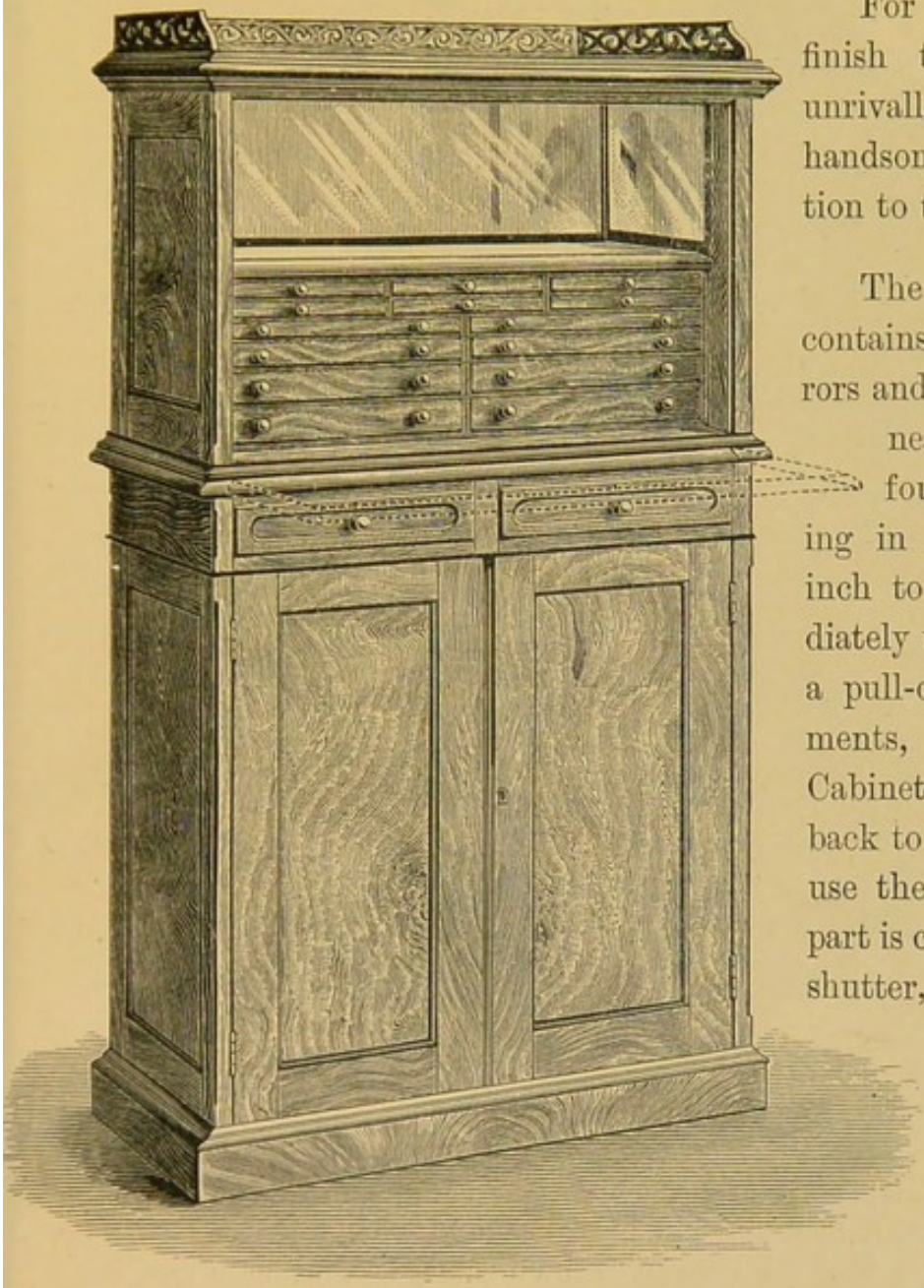
Sold in Boxes of Assorted Sizes:—	s.	d.
Per $\frac{1}{8}$ oz.	18	6
Per oz.	142	0

CLAUDIUS ASH & SONS, Ltd.,

5 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE, LONDON, W.

Fig. 1.—IMPROVED CABINET

(Ash's English Manufacture).



For workmanship and finish this Cabinet stands unrivalled, and forms a very handsome and valuable addition to the Operating Room.

The top compartment contains back and side mirrors and a marble shelf, beneath which are placed fourteen drawers varying in depth from half an inch to 1½ inches. Immediately under the drawers is a pull-out shelf for instruments, the width of the Cabinet and 9½ inches from back to front. When not in use the whole of the upper part is covered by a revolving shutter, which is fitted with lock and key. All the drawers are nicely lined with maroon cloth.

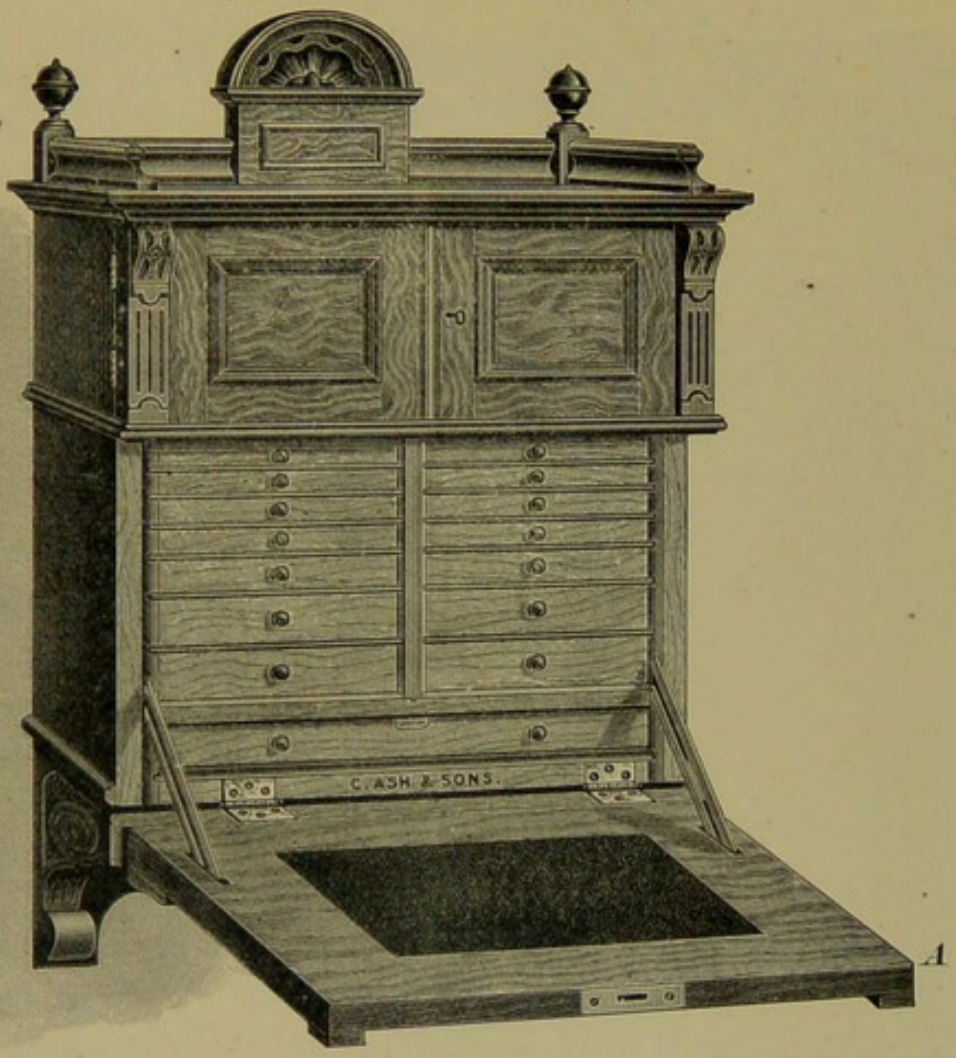
Outside Dimensions:
58 inches high; 28 inches wide; 15 inches deep.

The lower portion of the Cabinet is occupied by two drawers 2½ inches deep; and a cupboard, with two adjustable shelves, which measures inside 26 inches high, 24 wide, 13 deep. The Cabinet is mounted on casters, and each of the drawers and the cupboard are provided with lock and key.

	£	s.	d.
In well-seasoned Walnut and Ebony, highly polished	**16**	**16**	**0**
Ditto, *to order*, with Looking-Glass Panels in cupboard doors	**17**	**17**	**0**

Fig. 2.—WALL CABINET

(Ash's English Manufacture).



Height of Cabinet without the bracket supports shown in the illustration, or the ornamentation shown on the top, 23½ inches; width, 24 inches; depth, 11 inches.

The Cupboard, in the upper part, which is covered by the doors in the illustration, is fitted with lock and key and provided with one shelf. It is roomy enough to hold a good supply of medicaments and sundries, the inside measurements being as follows: width, 21½ inches; height, 7½ inches; depth, 8½ inches.

Beneath the Cupboard there are sixteen drawers for instruments, etc., 9⅛ by 6⅞ inches, varying in depth from ¾ to 1⅝ inches; and one drawer, suitable for Forceps, etc., the full width of the Cabinet, which measures 19⅝ by 6⅞ inches, and 1⅝ inches deep.

The hinged Flap ***A*** is fitted with lock and key, and covers all the drawers when it is closed. As shown let down in the illustration, it forms a most convenient operating-room table. It is 23 inches wide by 14 inches from back to front, 15¼ by 8 inches of which space is covered with maroon cloth.

	£	s.	d.
Made of Oak inside, well-seasoned wood veneered with Walnut outside	6	10	0

Fig. 10A.—DENTAL CABINET

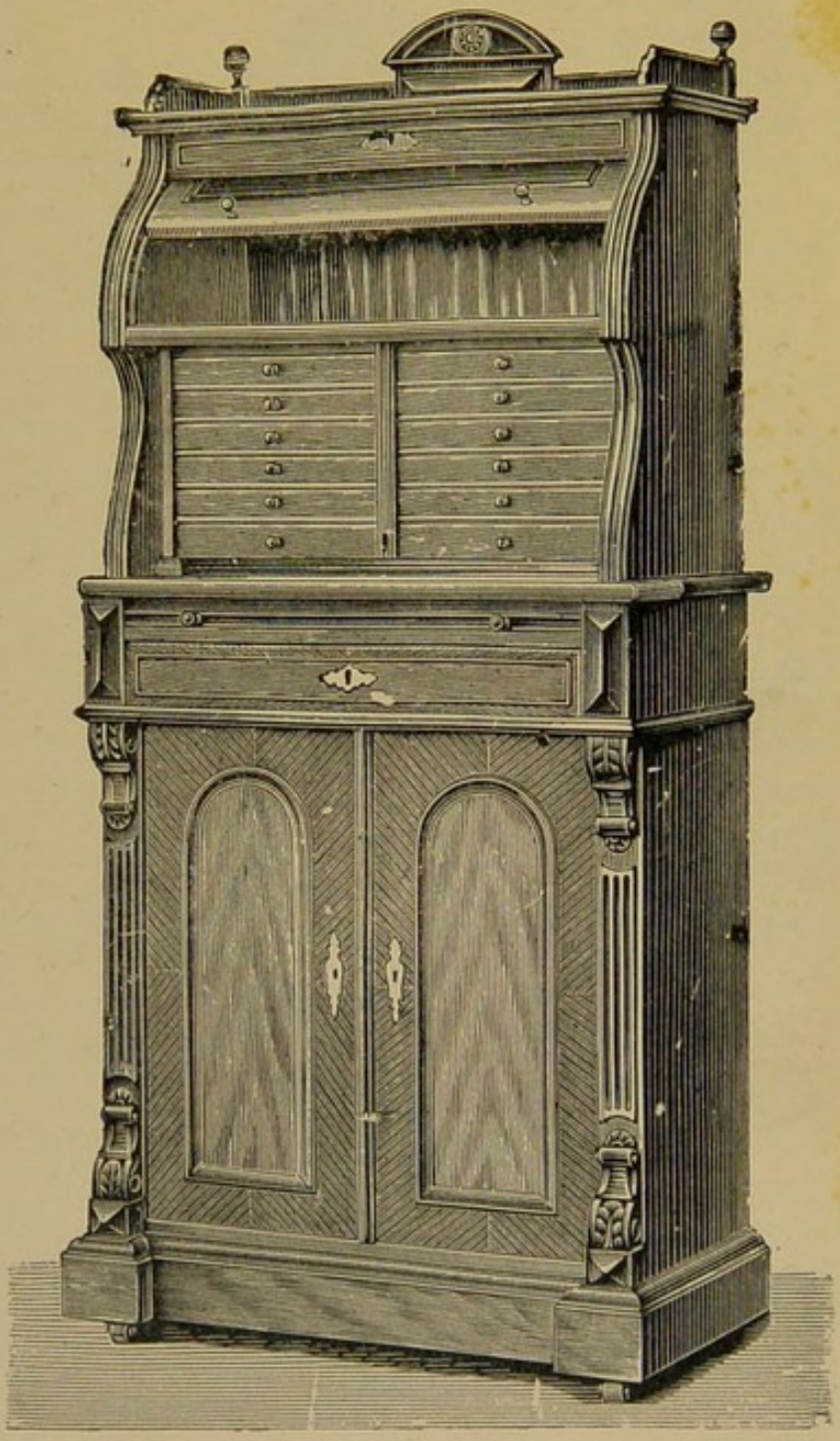
(Ash's English Manufacture).

This Cabinet possesses several novel features, and is recommended as good, cheap, and serviceable.

The recess in the upper portion, which is provided with a revolving shutter, has a mirror across the back, and a marble slab on the floor, 26 inches long by 12½ inches wide. Beneath this slab there are ten small drawers and one large, varying in depth from 1⅜ inches to 1¾ inches.

All the drawers are furnished with spring stops, so that they can be readily taken out of the Cabinet when they require cleaning.

In the lower part of the Cabinet there is a marble slab, a pull-out shelf for instruments, and a drawer, 24¼ inches long, 12½ inches wide, and 2¾ inches deep, fitted with lock and key. The cupboard under this drawer has one shelf, and is also fitted with lock and key.

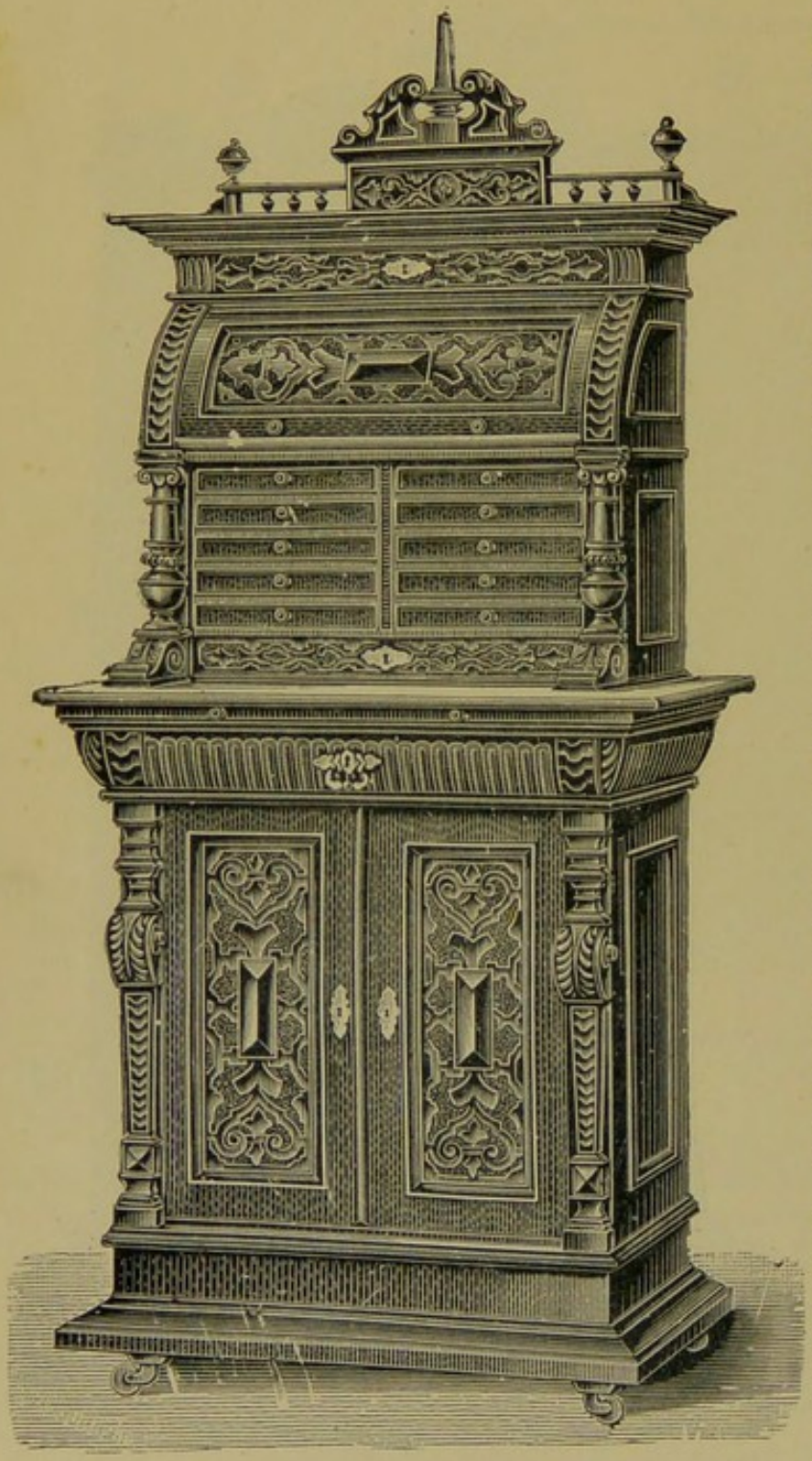


Outside Dimensions :
70 inches high ; 32 inches wide ; 17 inches deep.

	£	s.	d.
Cabinet in well-seasoned wood, veneered with Walnut, with Dark Marble Slabs	11	5	0

Cabinets made to order, at reasonable prices, to Dentists' own designs.

Fig. 12.—DENTAL CABINET.



Outside Dimensions:

82 inches high; 36¼ inches wide; 21¼ inches deep.

This Cabinet is in German Renaissance style, and is extremely elegant in appearance. It is of first-class workmanship, tastefully decorated with handsome carvings, and highly finished.

Parts of the walnut carvings are bright polished, and show to advantage on the larger dull-polished groundwork.

In addition to its usefulness it forms a handsome ornament to the operating room.

The interior is the same as that of Fig. 10A Cabinet, shown on the preceding page.

The revolving shutter is controlled by the lock shown above it. There are eleven drawers in the upper part, varying in depth from 1¼ to 2 inches, and one lock and key which secures or unlocks them all at once.

There is a marble slab on the top of the lower part, underneath which are a pull-out shelf for instruments, 24¼ by 11¾ inches, covered with cloth; a large drawer 23¼ by 15⅛ by 2½ inches, with lock and key; and a cupboard 24½ inches high by 27½ wide by 14 deep.

	£	s.	d.
Price, with Dark Marble Slabs	19	0	0

Fig. 15a.—DENTAL CABINET

(Ash's English Manufacture).

Outside Dimensions :
69 inches high ; 29 inches wide ; 17 inches deep.

This is a compact and yet roomy Cabinet. It is so arranged that it will hold a complete outfit of dental instruments. The carcase is of well-seasoned wood veneered with walnut.

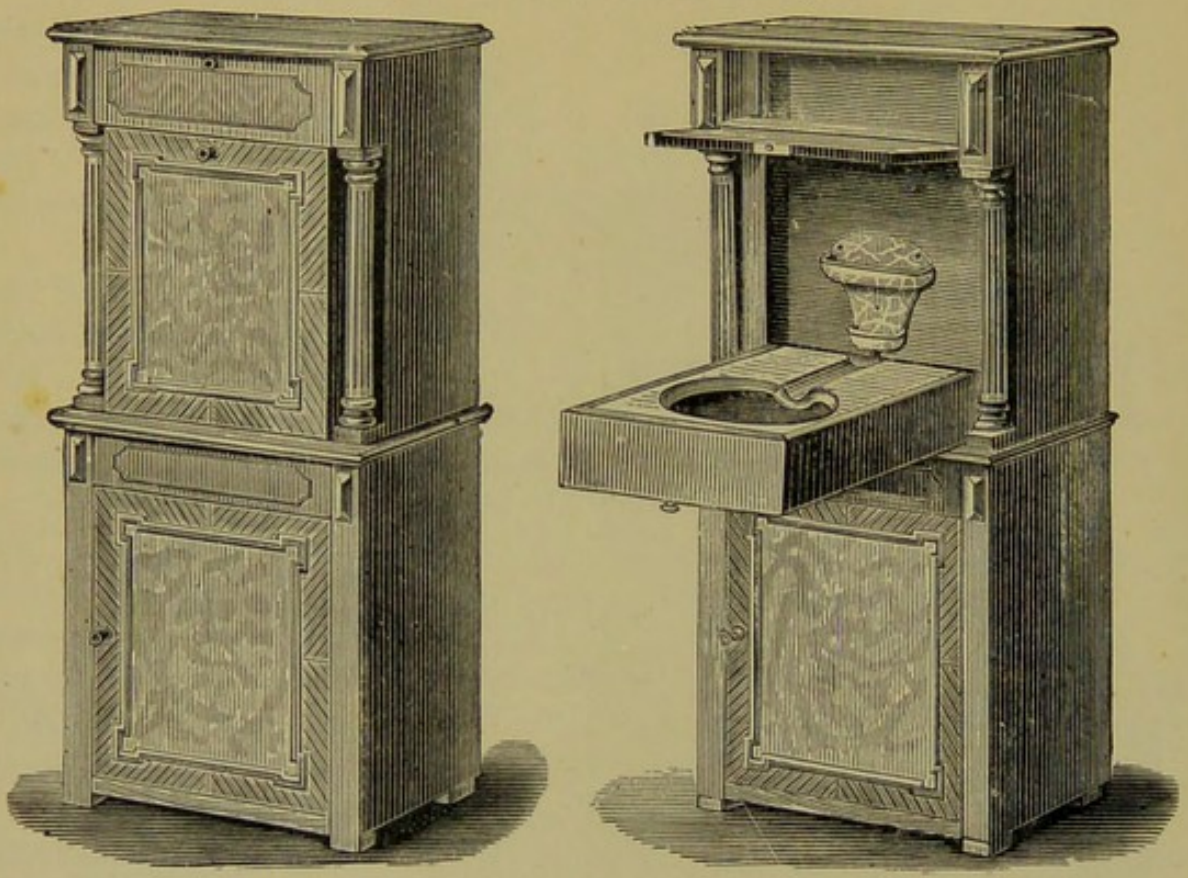
The ornamental top of the Cabinet is provided with small cupboard with lock and key. Beneath this is a revolving shutter, which covers a recess, $5\frac{1}{2}$ inches high by $20\frac{1}{2}$ wide by $5\frac{3}{4}$ deep, with a mirror at the back, and a black marble slab on the bottom for holding medicaments and sundries. There are fourteen small and one large drawers below the marble slab, varying in depth from $\frac{1}{2}$ an inch to $1\frac{3}{4}$, with lock and key which secures or unlocks them all at once. The large drawer is deep enough for Forceps or for the reception of a board containing engine burs, discs, &c.

The lower part of the Cabinet consists of a black marble slab, a pull-out shelf for instruments, 22 by $10\frac{1}{4}$ inches, covered with maroon cloth ; two large drawers, $20\frac{1}{4}$ by $13\frac{1}{4}$ by $2\frac{1}{2}$ inches, with lock and key ; and a cupboard, 20 inches high by 25 wide by 11 deep, with one shelf and lock and key.

	£	s.	d.
Price	**14**	**14**	**0**
The same with Removable Tray for Forceps in bottom drawer	15	0	0

Fig. 1.—TOILET CABINET

(Ash's English Manufacture).



Closed. Open.

Height, 55 inches; Width, 22; Depth, 14½.

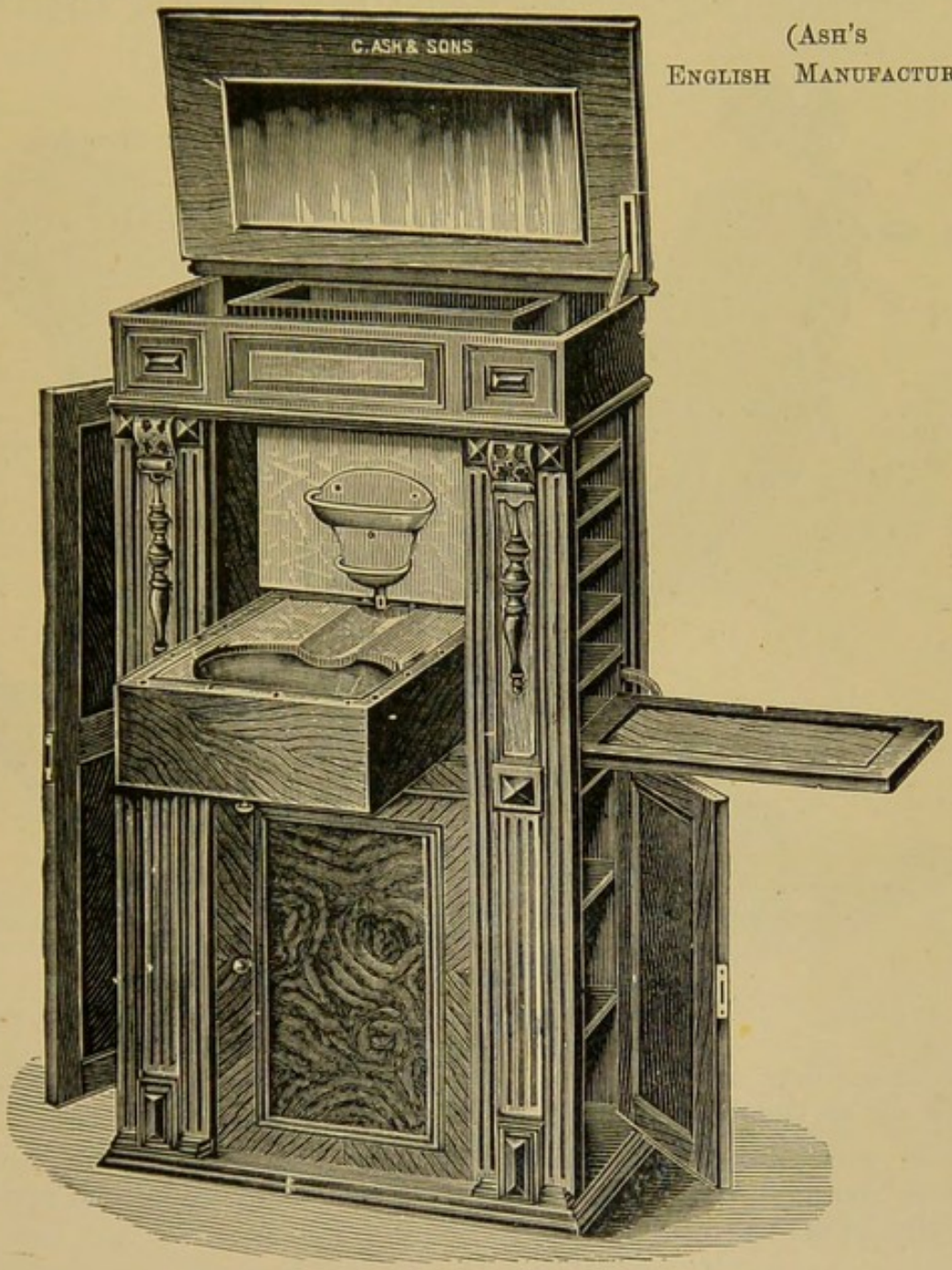
The upper portion contains a Reservoir holding four gallons of water, a Shelf, with closing door, for toilet requisites; and Porcelain Basin, Soap Dish, etc., as shown in the open illustration. The Reservoir is placed in the back of the Cabinet, and when the door containing the basin is pulled down, the inside end presses on a valve and releases sufficient water for ordinary use. After it is done with the door is lifted up, and the act of closing it discharges the water into a Receiver, placed in the lower portion, which will hold four and a-half gallons.

The Cabinet is substantially made, and will prove a convenient and ornamental addition to the Operating Room.

	£	s.	d.
Price complete	**9**	**0**	**0**

Fig. 5.—TOILET CABINET WITH SIDE CUPBOARD

(Ash's English Manufacture).



Length of Shelf at side, 16¾ inches.
Height of Cabinet, 54 inches; width, 29½ inches; depth, 16 inches.

The construction of this Cabinet is exactly the same as that on the previous page except that the dimensions are different. There is a cupboard in which the towel can be hung on the left-hand side, and two cupboards with shelves for holding various articles on the right-hand side.

Impression Composition, Trays, &c., can be kept in the spaces on the top, which are covered by the lid shown open in the engraving. As will be seen, there is a mirror on the inside of this lid.

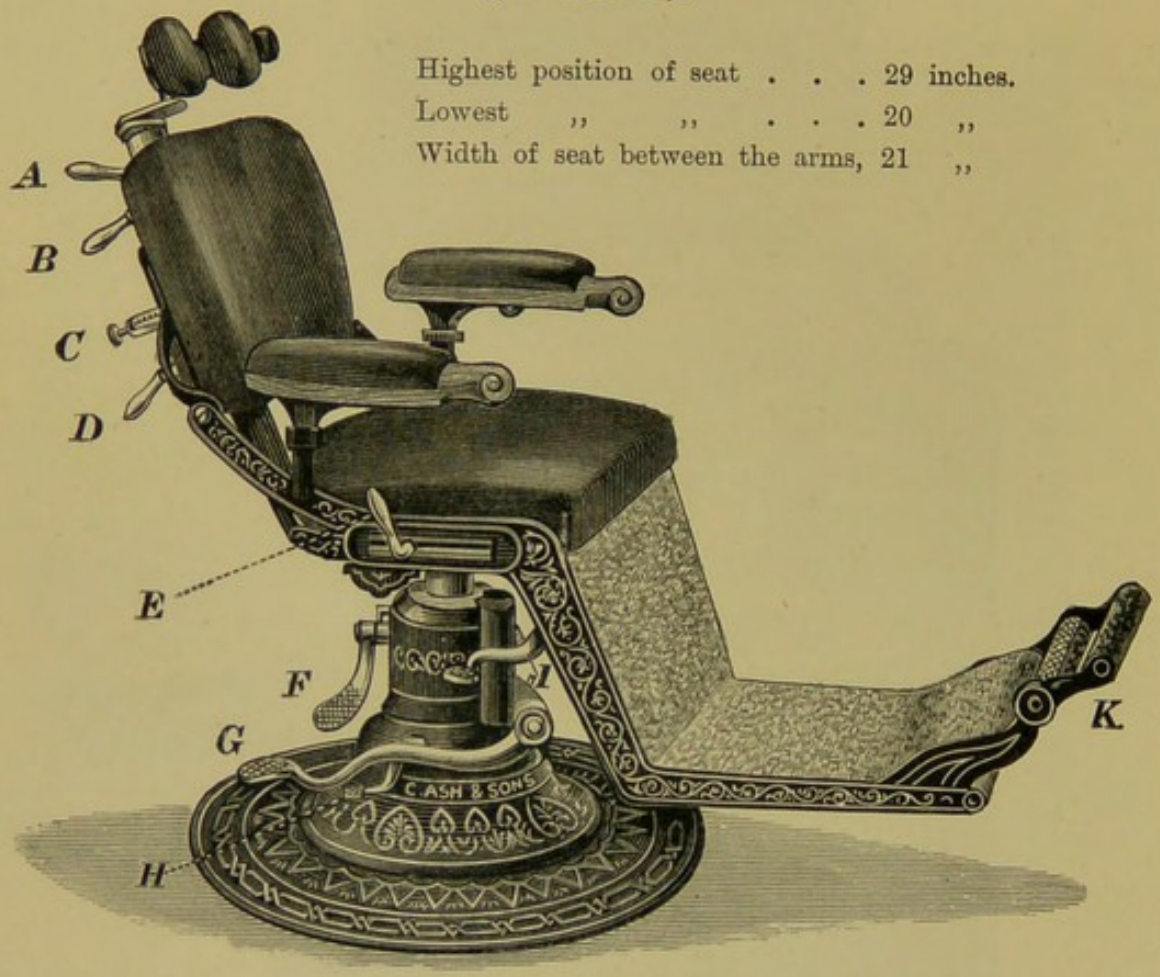
The Cabinet is not only very useful, but also forms an elegant piece of furniture. It is substantially made and nicely finished.

	£	s.	d.
Price complete, veneered with walnut	**12**	**5**	**0**

ASH'S FIG. 39 HYDRAULIC PUMP CHAIR

(PATENTED).

Highest position of seat . . . 29 inches.
Lowest ,, ,, . . . 20 ,,
Width of seat between the arms, 21 ,,



UPRIGHT POSITION.

This Chair is not raised by a ratchet, but by a hydraulic pump, with oil as the fluid.

It possesses so many movements, and works so smoothly when raised and lowered, that we feel confident its merits will be appreciated by the Dental Profession.

DESCRIPTION:

A.—Lever for adjusting the movements of the Head-Rest.

B.—Handle which controls the upward and downward movement of the bar on which the Head-Rest is fixed.

C.—Ratchet by means of which the lower part of the Back can be fixed in five different positions to adjust it to the patient's back.

D.—Handle for regulating the upward and downward movement of the Back.

E.—Handle for fixing the Back at any point between the vertical and horizontal position.

F.—Rotary and Clamping Lever.

G.—Raising or Pedal Lever

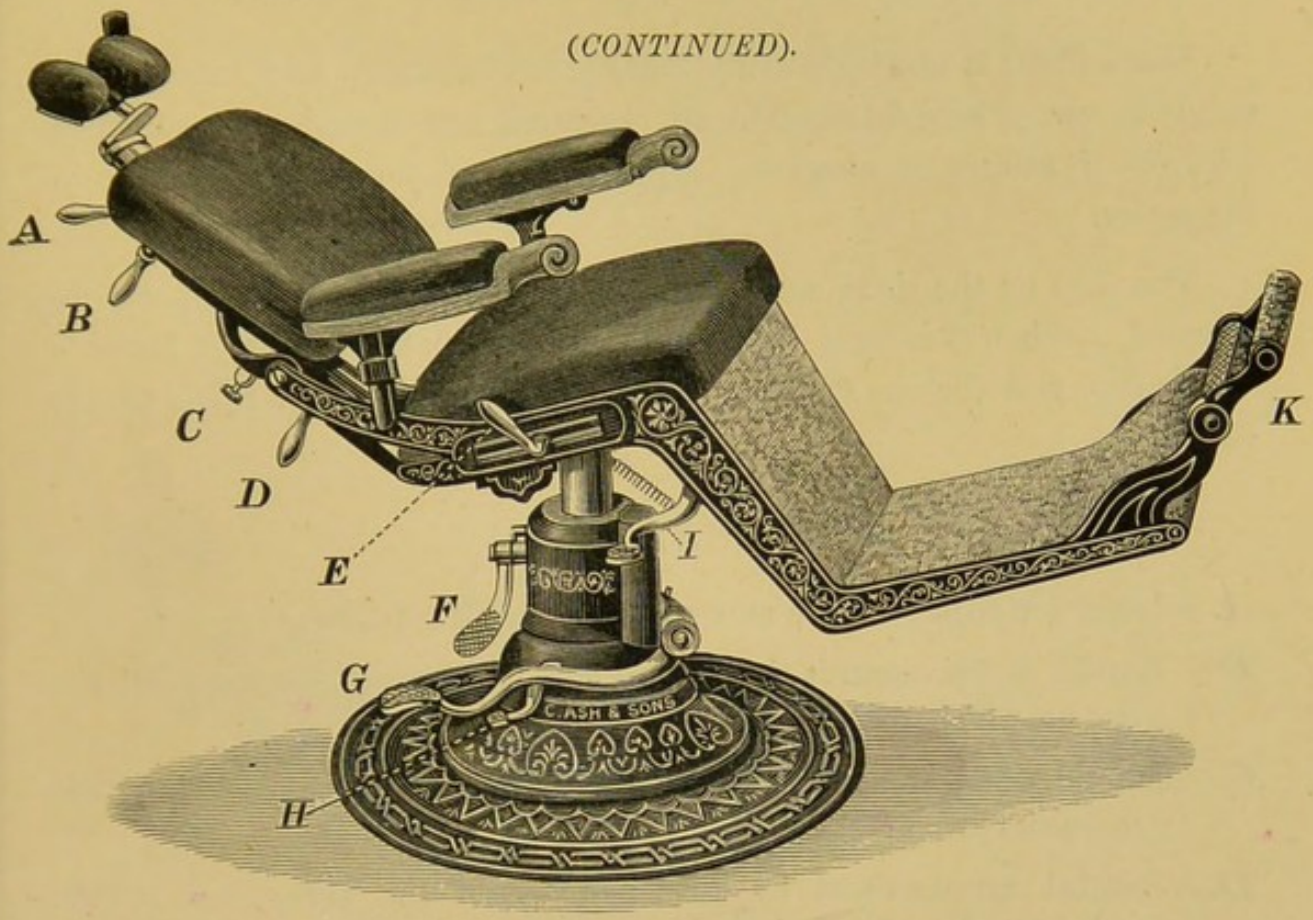
H.—Lowering Lever.

I.—Tilting Lever.

K.—Adjustable part of Foot-Rest

ASH'S FIG. 39 HYDRAULIC PUMP CHAIR

(CONTINUED).



TILTED POSITION.

PRICES:

	£	*s.*	*d.*
Chair in Plain Maroon or Green Plush—			
with ordinary Head-Rest	21	0	0
with Wilkerson's Head-Rest, as illustrated	22	0	0
with No. 1 Extending Head-Rest . . .	22	5	0
with No. 2 „ „ . . .	24	0	0
* If covered with Figured instead of Plain Plush . extra	0	15	0
„ „ Morocco Leather instead of Plain Plush „	0	15	0
Packing Case	1	0	0

Full amount allowed for Packing Case if returned carriage paid in good condition.

*** We keep Seven Varieties of Figured Plush in stock, also a nice variety of Saddle-Bags and Morocco Leathers, patterns of which may be had for selection on application.**

ELLIS'S HYDRAULIC PUMP CHAIR.

Ellis's Chair is unsurpassed for quality, workmanship and finish; it is steady in use, extremely rigid in all positions, and is made in a sufficient number of ranges to meet the requirements of the great majority of Operators.

The Arm on the right side of each Chair is so made that it can be reversed. When it is fixed in position with the bow inwards it forms a convenient rest for the Operator, and gives 5 inches closer reach to the patient.

DESCRIPTION:

A.—Lever for adjusting the movements of the Head-Rest.

B.—Handle which controls the upward and downward movement of the bar on which the Head-Rest is fixed.

C.—Handle which controls the upward or downward movement of the upholstered part of the Back.

D.—Ratchet arrangement by means of which the lower end of the upholstered part of the Chair Back can be drawn close to the frame, or pushed forward to support the back of the patient in any one of the six different positions in which it can be fixed.

E.—Raising or Pedal Lever. This is hinged so that it can be folded back out of the way of the operator when not in use.

F.—Revolving Lever.

The Tilting Lever is shown against the frame of the seat to the right of the Revolving Lever.

G.—Lever for lowering Foot-Rest of Nos. 2 and 4. The Foot-Rest of these Chairs when fully extended is 32 inches from the seat to bar ***I.*** It can be shortened to 13½ inches by being drawn backwards towards the seat, and admits of being fixed in five different positions. To raise it, take hold of bar ***I*** and lift upwards; to lower it, use the lever ***G***.

H.—Lowering Lever.

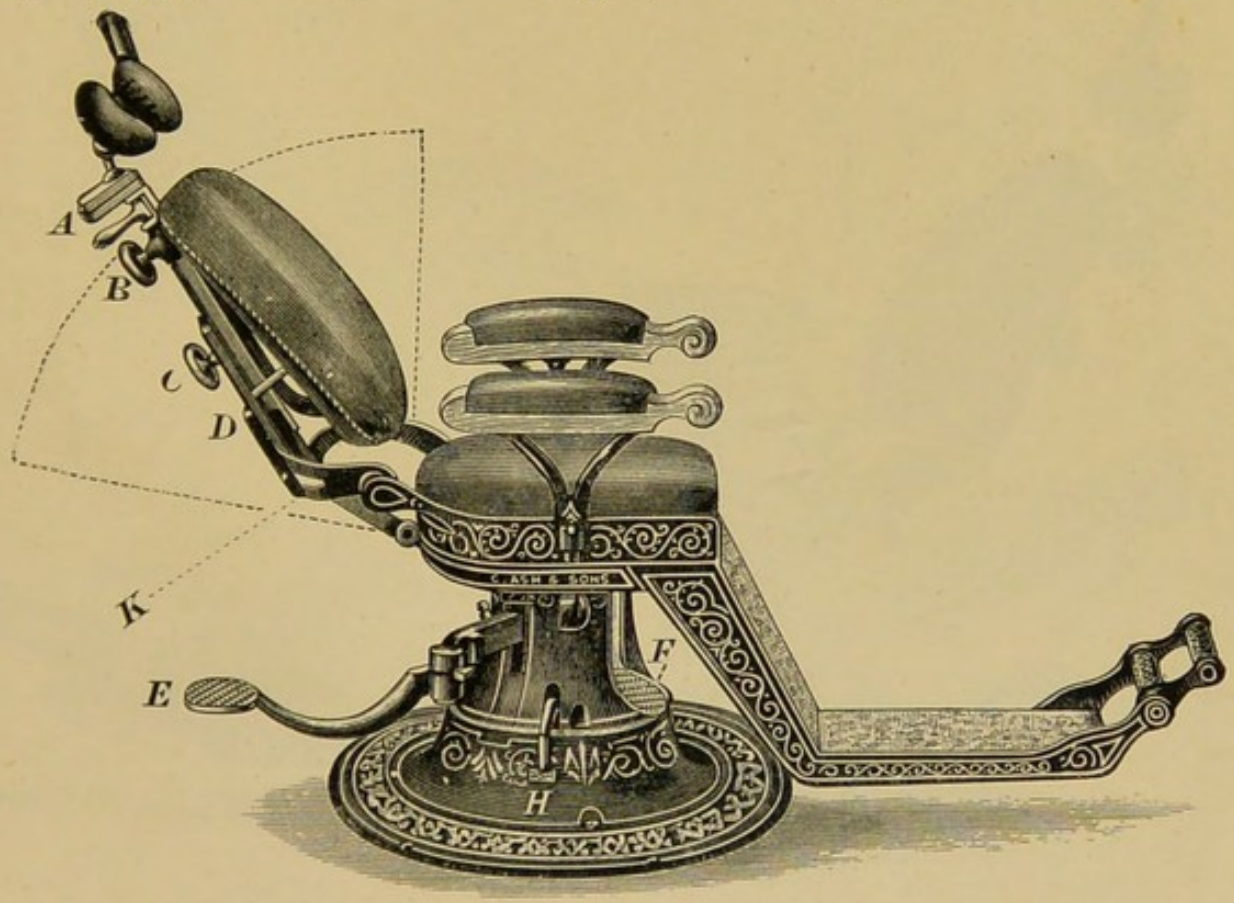
K.—The Lever ***K***—not shown in the illustration—secures the Chair Back in any position within its range.

ELLIS'S CHAIR,

With Simple Foot-Rest and Round Base.

(ASH'S ENGLISH MANUFACTURE.)

	Lowest position of Seat.	Highest position of Seat.	Width of Seat between the Arms.
No. 1 Medium Range	18½ inches	28 inches	21 inches
„ **5 High** „	21 „	33 „	21 „
„ **7 Low** „	16½ „	24½ „	21 „



PRICES, ANY RANGE:

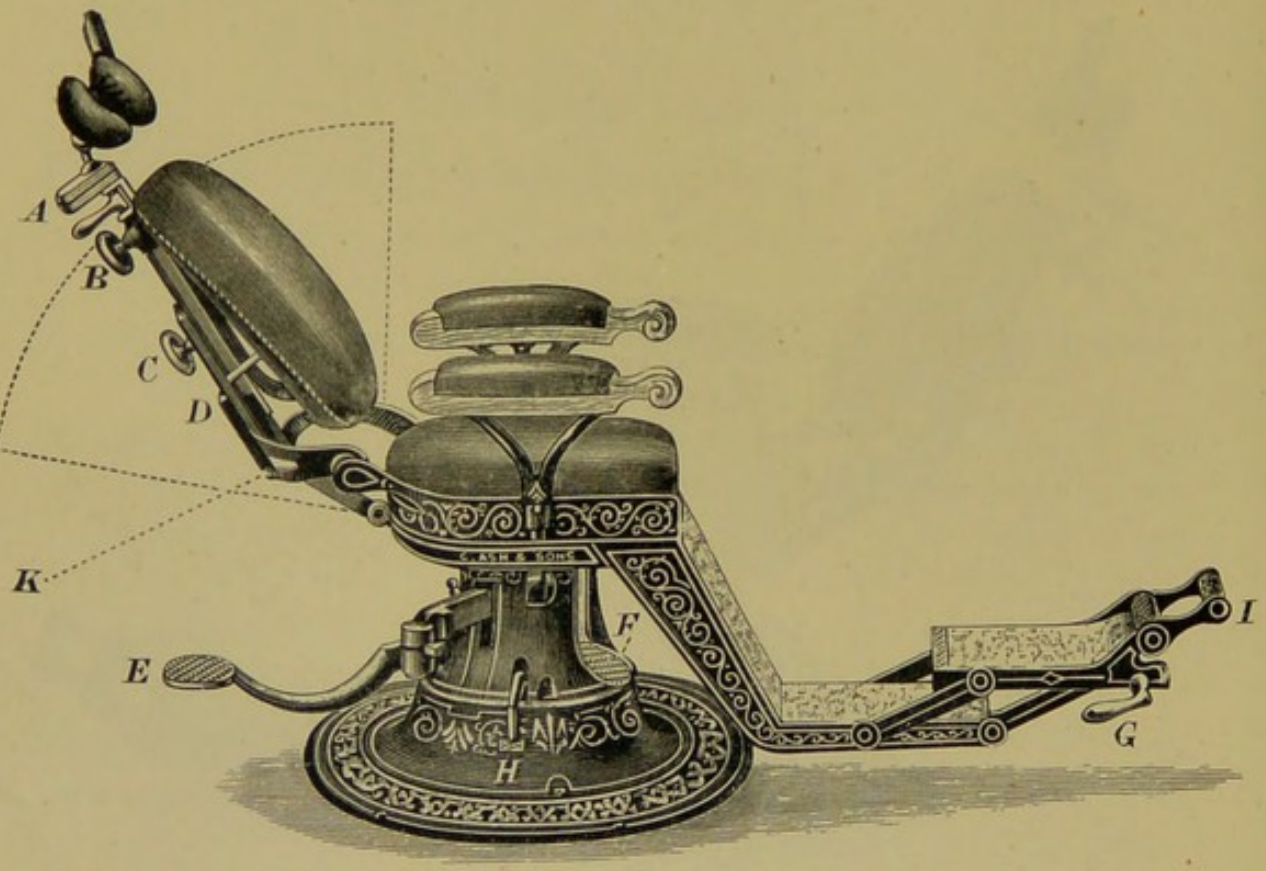
	£	s.	d.
In Green or Maroon Plush with ordinary Head-Rest . .	22	10	0
The same with Wilkerson's Head-Rest, as illustrated .	23	10	0
The same with Denham's No. 1 Extending Head-Rest .	23	15	0
„ „ No. 2 „ „ .	25	5	0
„ „ No. 3 „ „ .	25	5	0
If covered with **Figured** instead of Plain Plush . . extra	0	15	0
„ „ **Morocco Leather** instead of Plain Plush „	0	15	0

ELLIS'S CHAIR,

With Extending Foot-Rest and Round Base.

(ASH'S ENGLISH MANUFACTURE.)

	Lowest position of Seat.	Highest position of Seat.	Width of Seat between the Arms.
No. 2 Medium Range	18½ inches	28 inches	21 inches
,, **6 High** ,,	21 ,,	33 ,,	21 ,,
,, **8 Low** ,,	16½ ,,	24½ ,,	21 ,,



PRICES, ANY RANGE:

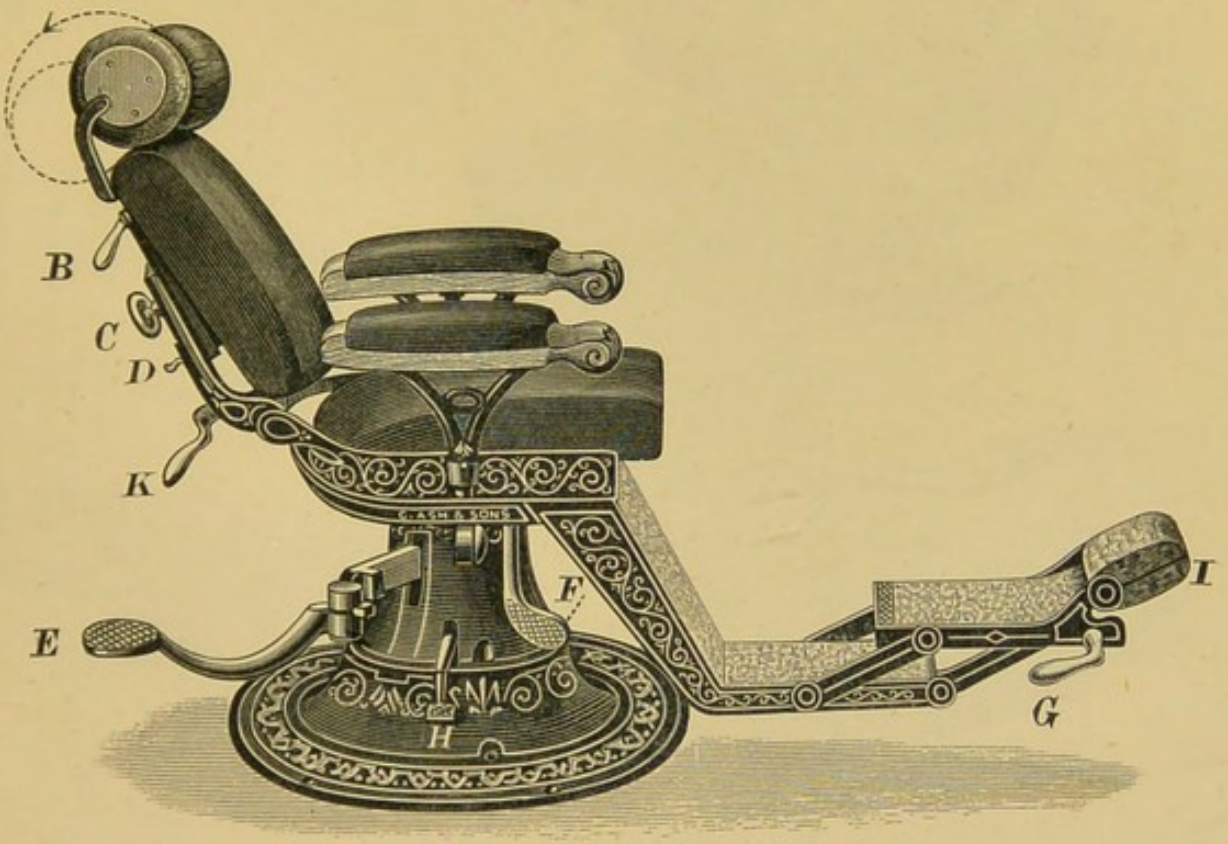
	£	s.	d.
In Green or Maroon Plush with extending Foot-Rest and ordinary Head-Rest	25	0	0
The same with Wilkerson's Head-Rest, as illustrated .	26	0	0
The same with Denham's No. 1 Extending Head-Rest .	26	5	0
,, ,, No. 2 ,, ,, .	27	15	0
,, ,, No. 3 ,, ,, .	27	15	0
If covered with **Figured** instead of Plain Plush . . extra	0	15	0
,, ,, **Morocco Leather** instead of Plain Plush ,,	0	15	0

No. 10 ELLIS'S CHAIR,

With Adjustable Head-Rest, Extending Foot-Rest and Round Base.

(ASH'S ENGLISH MANUFACTURE.)

Made in the same Ranges as the Chair on the previous page. In ordering state which Range is required.

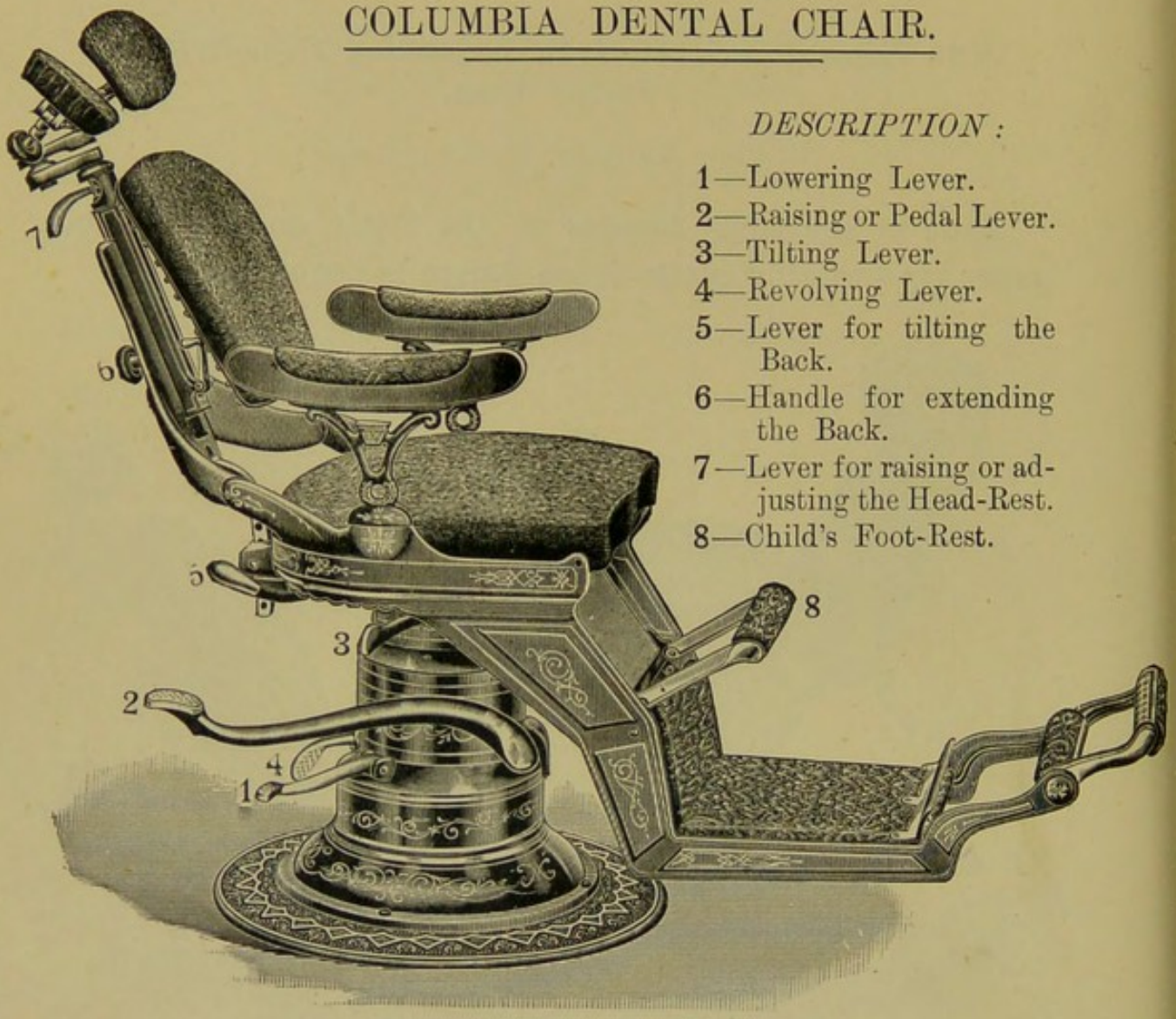


PRICES, ANY RANGE:

	£	*s.*	*d.*
Chair with Simple Foot-Rest, like Chair shown on page 11—			
In Green or Maroon Plush	21	10	0
If covered with **Figured** instead of Plain Plush . . .	22	5	0
„ „ **Morocco Leather** instead of Plain Plush	22	5	0
Chair with Extending Foot-Rest, as illustrated above—			
In Green or Maroon Plush	24	0	0
If covered with **Figured** instead of Plain Plush . . .	24	15	0
„ „ **Morocco Leather** instead of Plain Plush	24	15	0

THE FAVOURITE

COLUMBIA DENTAL CHAIR.



DESCRIPTION:

1—Lowering Lever.
2—Raising or Pedal Lever.
3—Tilting Lever.
4—Revolving Lever.
5—Lever for tilting the Back.
6—Handle for extending the Back.
7—Lever for raising or adjusting the Head-Rest.
8—Child's Foot-Rest.

Full range of Chair, 17 inches.
Lowest position of Seat, 22 inches; highest position, 39 inches.
Width of Seat between the Arms, 20 inches.

DESCRIPTION—continued:

It is not necessary to give an extensive description of this Chair, which has been introduced by the manufacturers to meet the demand for a cheaper Chair than their well-known New Columbia, from which it differs but slightly either in appearance or in the variety of its movements.

Unlike the New Columbia, which has a fixed Foot-Rest, this Chair has an Extending Foot-Rest, and thus possesses greater room for the patient's legs. The Body only of the New Columbia revolves from the seat frame, but this Chair revolves at the base and consequently carries with it the raising, lowering and revolving levers, which are always within easy reach of the Operator's foot and in the most convenient position for use.

THE FAVOURITE COLUMBIA DENTAL CHAIR

(CONTINUED).

ADVANTAGES.

The Chair has a round base, which permits of the Operator standing in any desired position about its Body.

The raising and lowering Mechanism is extremely simple, and being strictly hydraulic in principle, with the use of oil, there is no danger of the parts breaking or of the Chair readily getting out of order.

The Chair Body is perfectly steady in all positions, the highest as well as the lowest, and remains firmly fixed where placed.

The Child's Foot-Rest, No. 8, when not in use is unnoticeable; it can be folded back against the frame under the front of the seat.

The Arms can be detached when desired. They can also be reversed, and the convex part placed next to the Patient. This is a useful feature, for reversal of one arm will enable the Operator to stand closer to the Patient, and reversal of the opposite arm will keep the Patient closer to the Operator.

The left arm of the Chair is arranged to carry a Spittoon Holder and Spittoon, should a complete Attachment not be wanted.

The Upholstered Back is hinged at its upper edge to the vertical sliding frame. By means of a Ratchet Arrangement its lower end may be adjusted forward in six different positions with hand or knee, when required, to support the small of the Patient's back. By means of the various adjustments which the Back possesses, the Seat may be shortened for the smallest Child or lengthened to suit the tallest Adult.

The Back Frame is pivoted to the Chair Body, so that, if desired, it can be adjusted for a small child. It can also be let down and locked at any angle with Lever No. 5. Tilting the chair gives it a very desirable anæsthetic position. The vertical adjustment of the back is controlled by the Handle No. 6, locking it at any position while raising or lowering.

The Head-Rest is raised, lowered, adjusted, and controlled by the one Lever, No. 7. The manufacturers claim that it has the longest range, and is the easiest and most quickly adjusted Head-Rest made.

PRICES:

	£	*s.*	*d.*
Favourite Columbia Dental Chair, in Maroon Plush, with Simple Head-Rest	24	0	0
Ditto ditto ditto with Ritter Extending Head-Rest	26	0	0
No. 1 Columbia Chair Attachment, consisting of Swinging Crane, Upright Rod, Spittoon Bracket with Spittoon, Tumbler Holder and Tumbler, and Arm for Bracket Table . . .	5	0	0
No. 2 Columbia Chair Attachment, consisting of ditto . . .	3	12	0

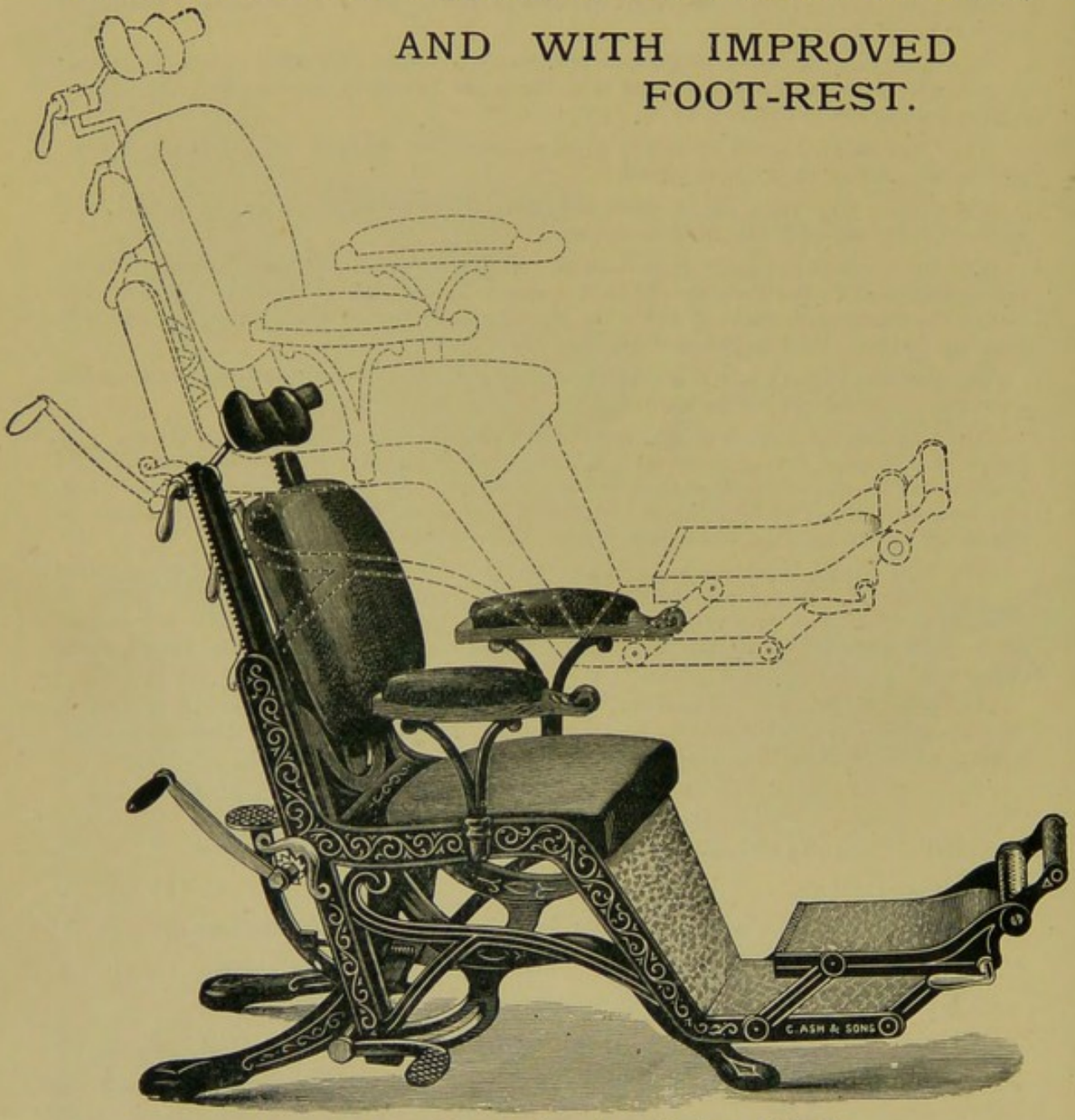
The above less 10 per cent. for Cash.

Bracket Tables (Ash's make), in Walnut, covered with green or maroon cloth, are charged extra as under:

Simple Table with Spirit Lamp and Shield	1	4	0
Allan's Table ,, ,, ...	2	8	0
Holmes' Table ,, ,, ...	5	10	0

MORRISON'S DENTAL CHAIR

(ASH'S ENGLISH MANUFACTURE),
WITH
TILTING LEVER, suggested by Mr. CLAUDE ROGERS,
AND WITH IMPROVED
FOOT-REST.



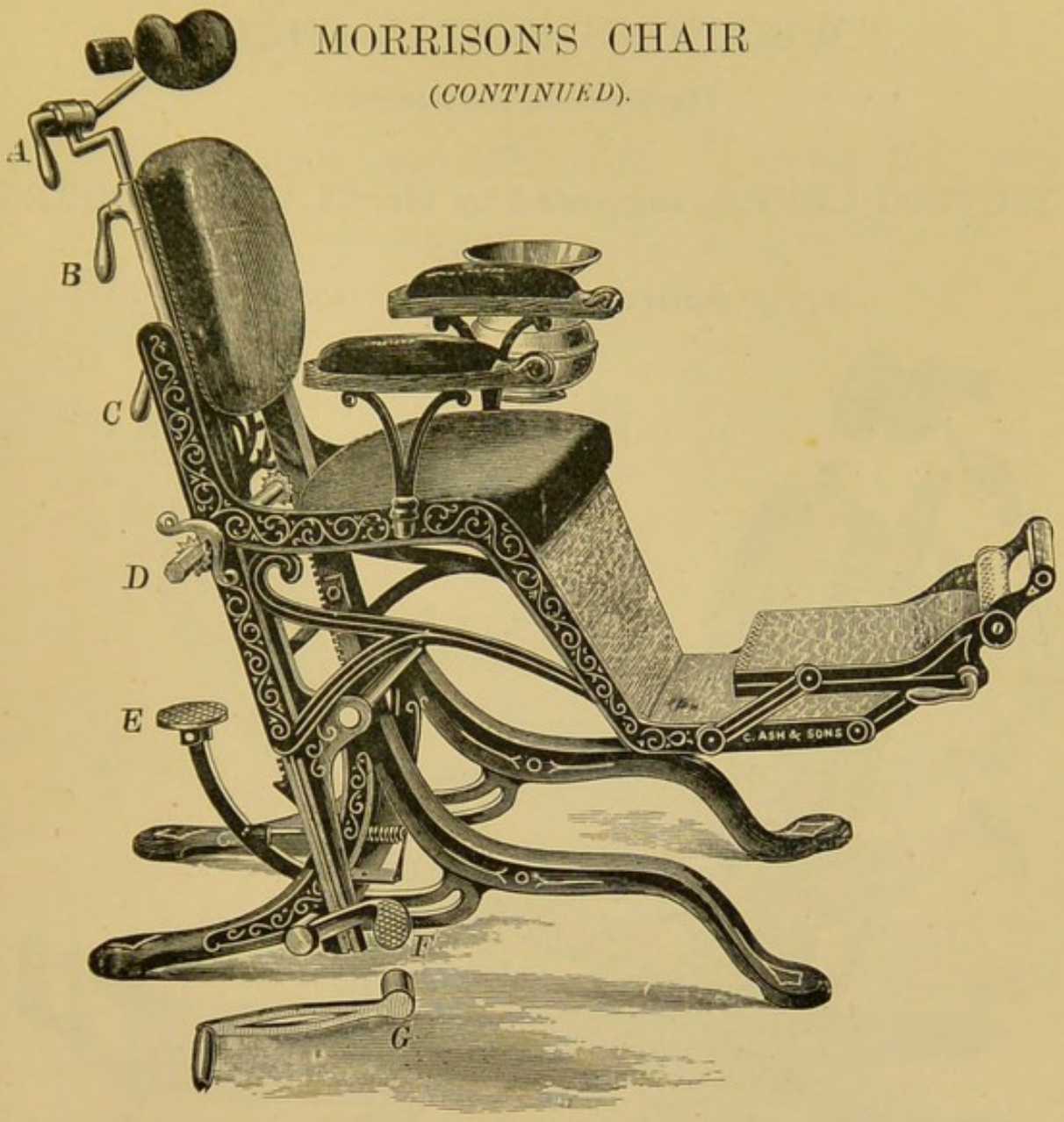
Highest position (shown above in outline) . 41 inches
Lowest position (shown in shaded drawing) 17½ ,,
Width of seat between the arms . . . . 19 ,,

The Illustration on the next page shows the Chair at a Medium height.

The Chair is thoroughly well made and highly finished throughout —the body being upholstered with best quality plush, the foot-board nicely carpeted, all the bright metal parts nickel-plated, and the iron framework japanned black, relieved with ornamentation.

MORRISON'S CHAIR

(CONTINUED).



MEDIUM HEIGHT.

PRICES:	£	*s.*	*d.*
Chair in Green or Maroon Plush	20	0	0
.. „ „ with Spittoon Holder, Nickel-plated Spittoon, and Glass Funnel, as illustrated .	21	0	0
.. with Spittoon and Tumbler Holder complete, as shown on page 29.	22	7	0
.. with Chair Attachment, as shown with Allan's Table on page 27.	26	15	0
.. any style with Wilkerson's form of Head-Rest extra	1	0	0
.. covered with Morocco Leather	0	15	0
„ „ **Figured** Plush	0	15	0
Packing Case	1	0	0

Full amount allowed for Packing Case if returned carriage paid and in good condition.

MORRISON'S DENTAL CHAIR

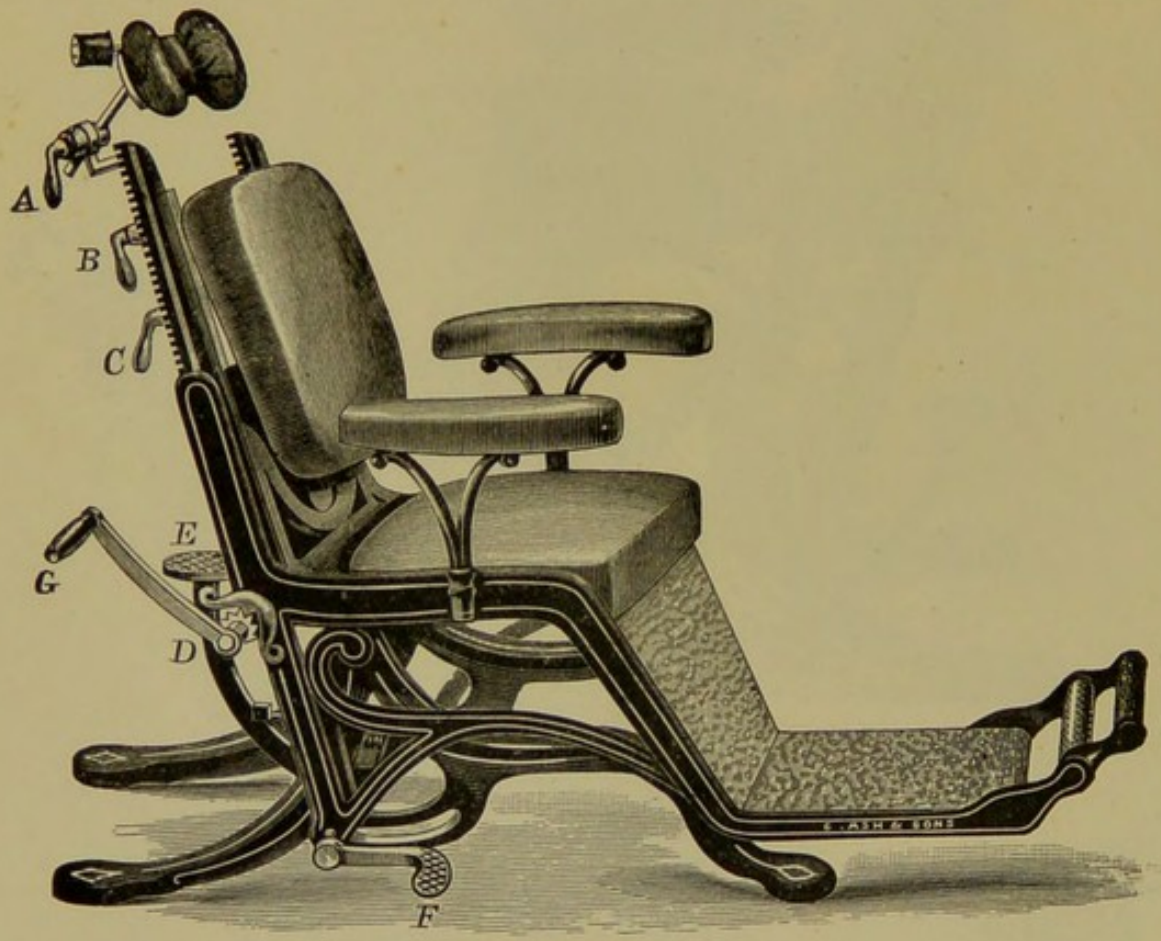
(ASH'S ENGLISH MANUFACTURE),

WITH

TILTING LEVER, suggested by Mr. CLAUDE ROGERS,

AND

WITH FOOT-REST AS ILLUSTRATED.



LOWEST POSITION.

This Chair has all the movements of the Morrison shown on the two previous pages with this exception: the Foot-Rest can only be fixed in two positions.

It is upholstered in best quality plush and carpet, all the bright parts are nickel-plated, and the framework is japanned black, relieved with plain line ornamentation.

	£	s.	d.
Price, in Maroon or Green Plush . . .	16	0	0

MORRISON'S HOSPITAL CHAIR.

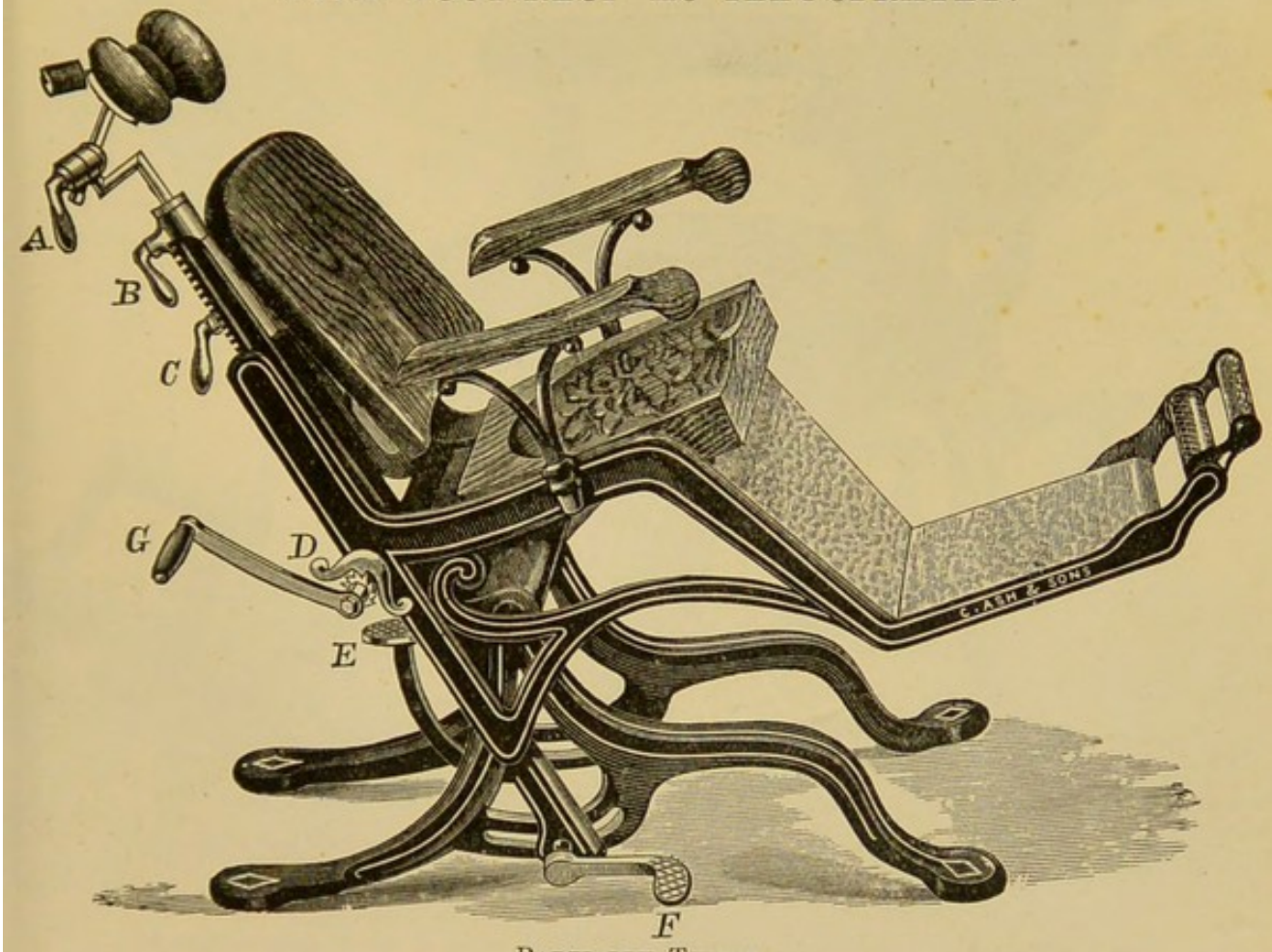
(ASH'S ENGLISH MANUFACTURE),

WITH

TILTING LEVER, suggested by Mr. CLAUDE ROGERS,

AND

WITH FOOT-REST AS ILLUSTRATED.



PARTIALLY TILTED.

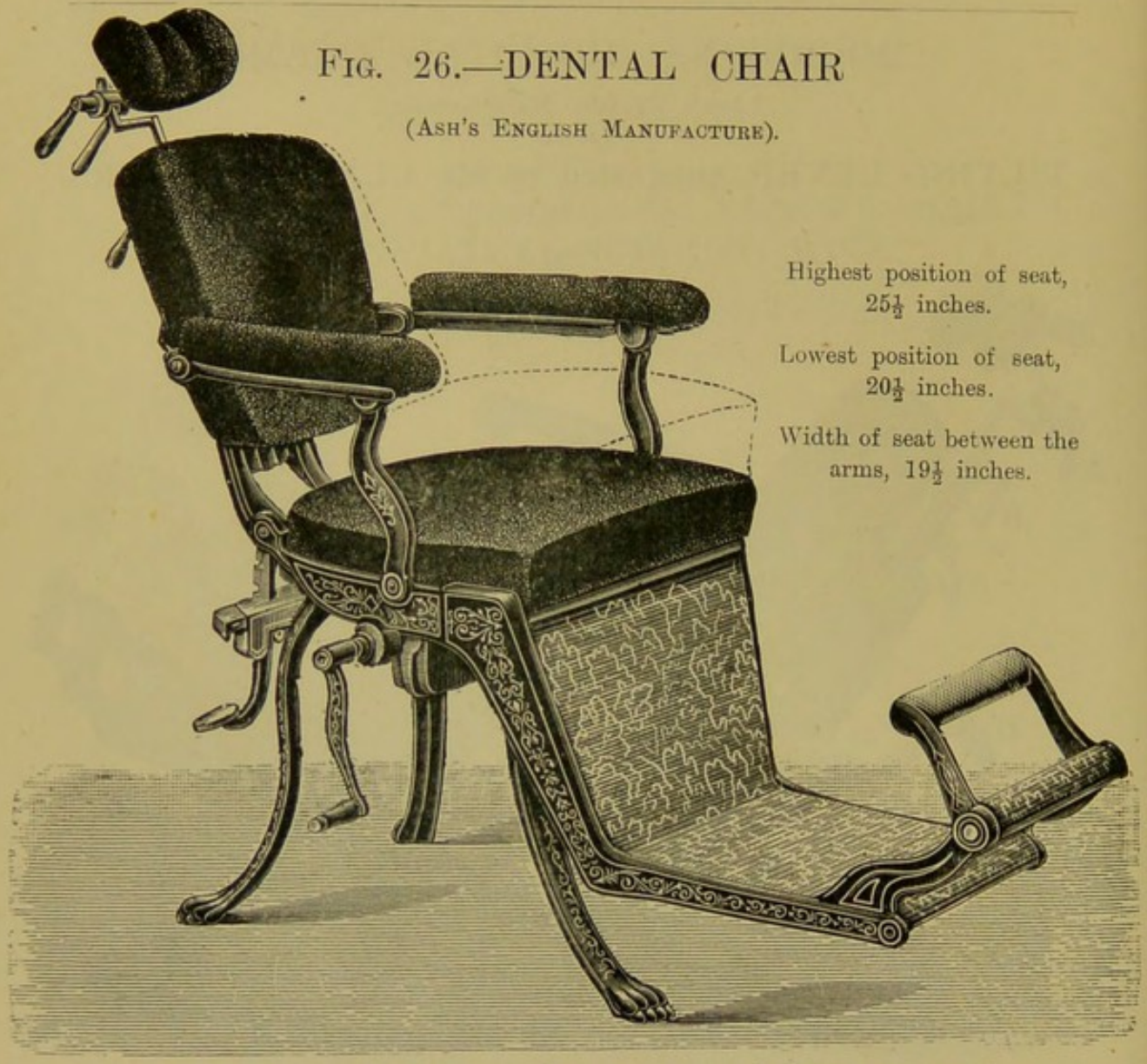
The new Operating Room of the Liverpool Dental Hospital is furnished with chairs of our make, like the one here shown. We can most confidently recommend it as suited for every class of work in a Dental Hospital and School. It is exceedingly strong, and so substantially made that it will not readily get out of order.

PRICES:

	£	*s.*	*d.*
Chair with Carpeted Foot-board, Seat of carved wood, Arms and Back of polished wood, Head-Rest and Arm-Support covered with leather, and the Frame-work japanned black, relieved with plain line ornamentation.	12	5	0
Simple Attachment, with Table of polished Walnut, Spittoon Holder, and "Squat" Earthenware Spittoon	1	14	0
Complete	£13	19	0

Fig. 26.—DENTAL CHAIR

(Ash's English Manufacture).



Highest position of seat, 25½ inches.

Lowest position of seat, 20½ inches.

Width of seat between the arms, 19½ inches.

This Chair is also made with Short Legs, which give it these measurements — Highest position, 21½ inches; lowest position, 16½ inches.

PRICES:

	£	*s.*	*d.*
Chair, as illustrated, in Green or Maroon Plush	11	0	0
,, **with Short Legs,** in Green or Maroon Plush	11	0	0
Either of the above with Spittoon Holder for arm of chair, Nickelled Spittoon and Glass Funnel . . . . . extra	1	0	0
Either style of Chair with Arm-Support on Head-Rest	0	10	0
Packing Case . . . . . ,,	1	0	0

Full amount allowed for Packing Case if returned carriage paid and in good condition.

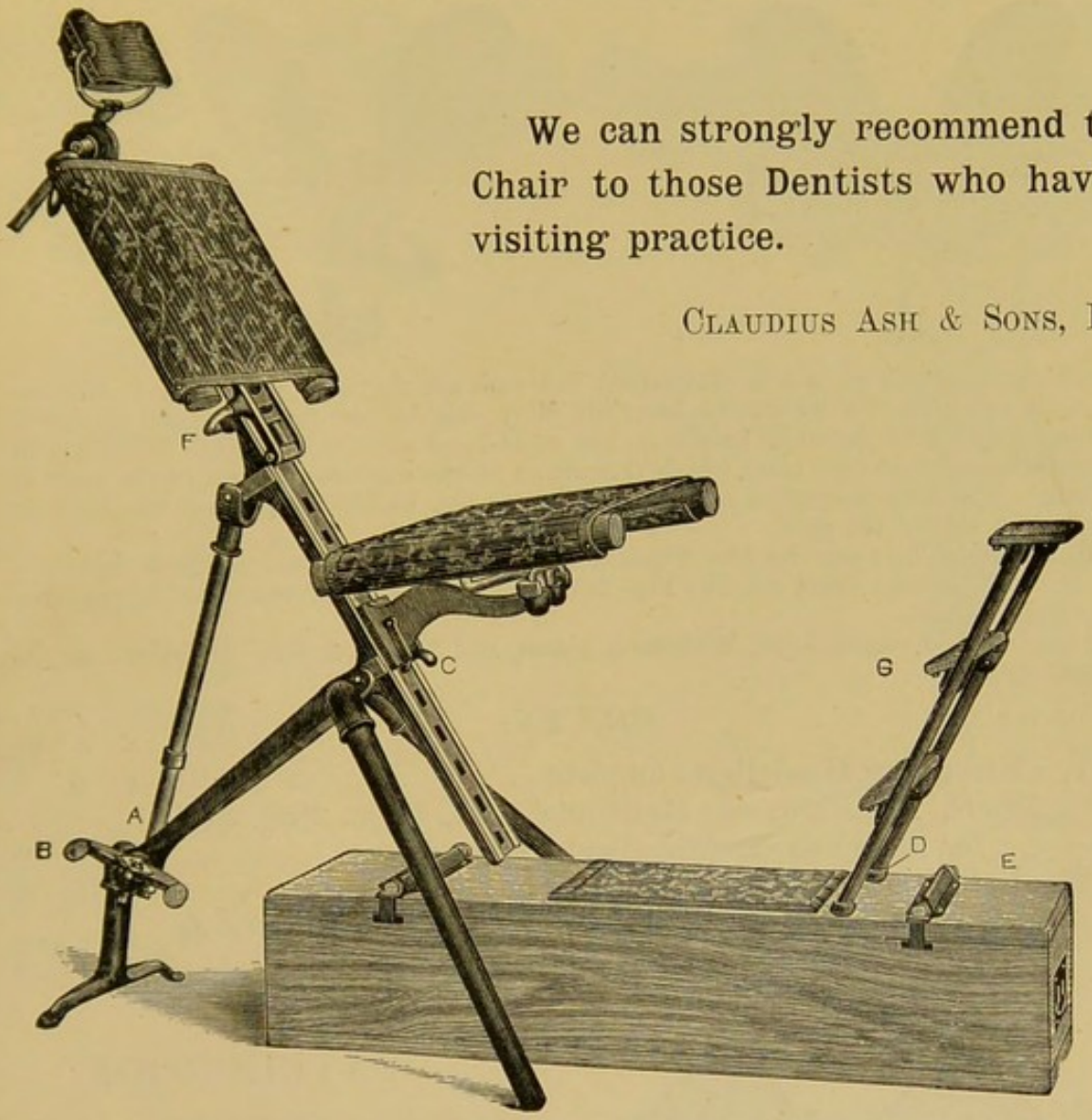
HOSPITAL CHAIR.—Fig. 26a.

The Chair shown above is also supplied with Carved Wooden Seat, Wooden Arms and Back, and Head-Rest covered with Leather. In this form it makes a very serviceable Hospital Chair, both for use in stopping and in extracting teeth.

	£	*s.*	*d.*
Price to Hospitals and Dispensaries . .	8	10	0

THE S. S. WHITE PORTABLE DENTAL CHAIR.

Patented in the United States, England, and Germany. April 30, 1895.



We can strongly recommend this Chair to those Dentists who have a visiting practice.

CLAUDIUS ASH & SONS, Ltd.

The Manufacturers say:—The seat of this Chair has a range of 18 inches from the lowest to the highest position, and the back has a corresponding range. The head-rest has all the usual movements, and the back may be inclined quite sufficiently for convenient operating. As shown in the illustration, the box is a part of the footstool; the addition of part *G* makes a footstool of quite range enough for convenience. The Packing Box, made of hard wood and very strongly put together, is 39 inches long, 13 inches wide, 7½ inches deep, and, with the Chair packed for transportation, weighs 88½ pounds.

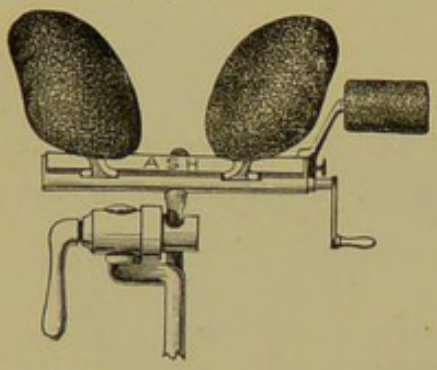
Full Directions for unpacking and setting up the Chair will be found in the top of each box.

	£	*s.*	*d.*
Price, including Crate	7	10	0
Spittoon and Tumbler Holder, with Spittoon and Glass Funnel, Tumbler Holder and Tumbler . . . . . complete	2	17	6

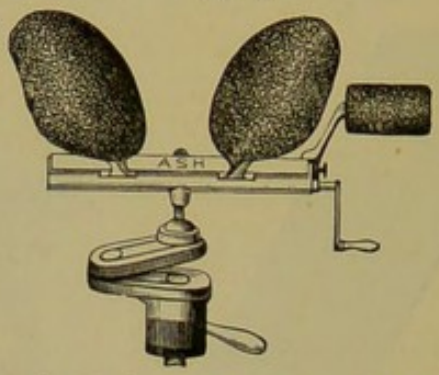
DENHAM'S EXTENDING HEAD-REST.

(PATENTED.)

No. 1.



No. 2.



In both illustrations of this Head-Rest the pads are shown at a convenient distance from each other on the horizontal bar, but they can be set further apart or nearer together by means of the small handle on the right-hand side of the bar. When not in use this handle is laid on a plate which is screwed to the upholstered part of the back of the chair. The Arm-Support is so arranged that it can be fixed on either the right or the left-hand side of the pads.

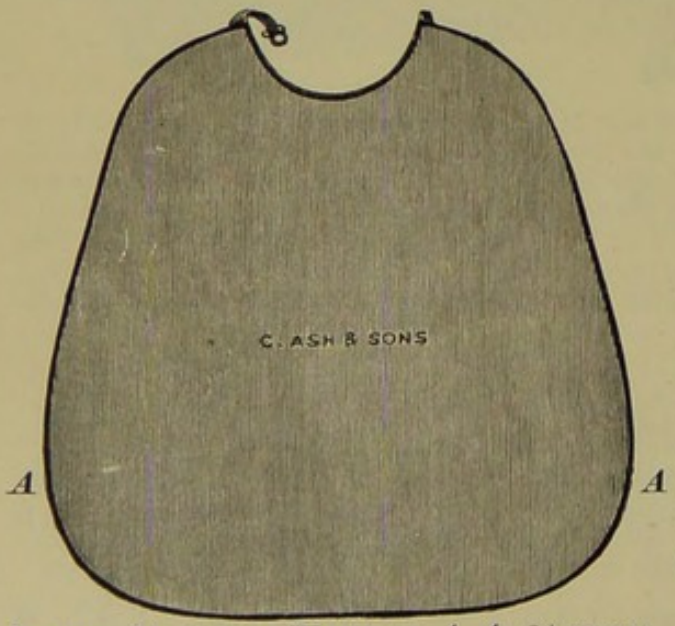
The difference between the two forms is below the horizontal bar, and is as under :—

No. 1 is mounted on a short rod like Fig. 26A on page 25, and has the same long rod and locking device.

No. 2 has ball and socket joint, Wilkerson plates, and long rod, like Head-Rest on the next page.

PRICES:

		£	*s.*	*d.*
No. 1.	Extending Head-Rest complete	4	0	0
	Pads, Arm-Support, Horizontal Bar, Short Rod, &c., for fitting to existing Head-Rests	2	15	0
No. 2.	Extending Head-Rest complete	5	10	0
	The same down to Ball for fitting to existing Head-Rests	3	10	0



LENGTH, 34 INCHES ; WIDTH AT *A A*, 34 INCHES.

WATERPROOF APRON.

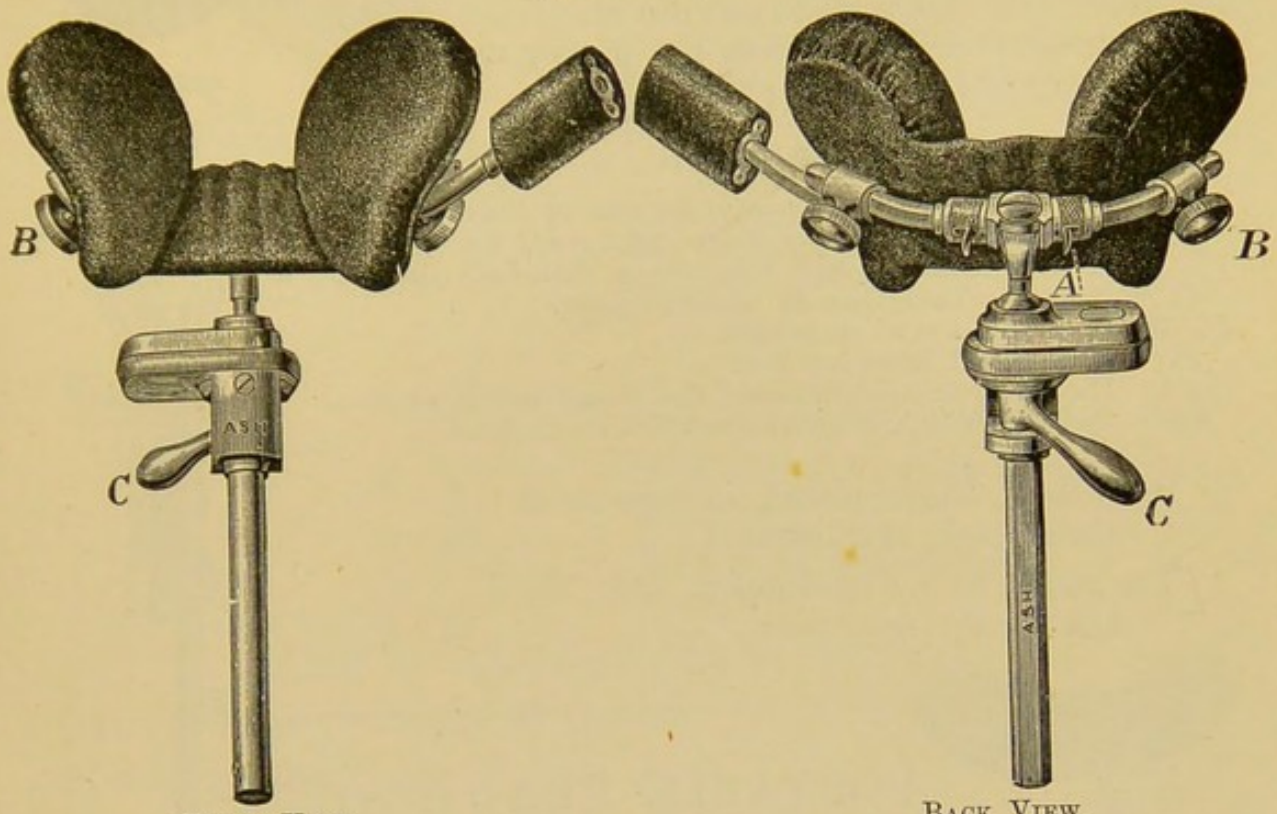
FOR USE IN THE OPERATING ROOM.

The Apron here illustrated will be found most valuable for protecting the patient's dress during dental operations, for which purpose it has been specially designed. It is durable, light, neat in appearance, and can be as readily washed as a serviette.

	s.	*d.*
Price	3	3

DENHAM'S EXTENDING HEAD-REST—No. 3.

(PATENTED.)



FRONT VIEW. BACK VIEW.

The Front View shows the Head-Rest fully extended, complete with Arm-Support, and the Back View clearly shows its several parts. The range of the Head-Rest is so extensive that it can be adjusted and fixed in any required position. We can thoroughly recommend it as comfortable and convenient for both patient and operator.

DESCRIPTION:

A.—Milled Collar on each Arm for releasing the pawl from the ratchet when it is desired to open out either Arm or both. The Milled Collars must be drawn outwards to do this. To raise or close the Arms it is not necessary to touch the Milled Collars; the upward movement is free and unimpeded.

B.—Adjusting Thumb Screw on each Arm for securing the Pads in any position within their range.

C.—Lever for controlling the universal joint. This joint permits of the Head-Rest being placed upright, reclined, drawn forward, pushed backward, or tilted to either side, the lever securely locking it at any given point.

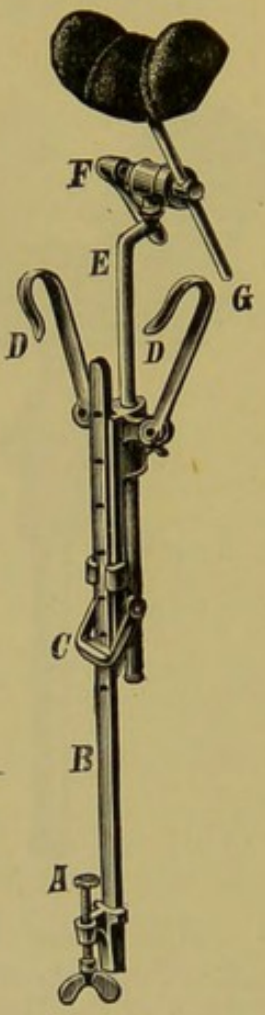
PRICES:

	£	*s.*	*d.*
No. 3 Head-Rest, complete with Arm-Support	5	10	0
No. 3 Head-Rest, as far down as the Ball, near *A* in the Back View, for fitting to existing Head-Rests . .	3	10	0

In ordering a Denham's Head-Rest please state for which Chair it is required.

ASH'S PORTABLE HEAD-REST.

Fig. 29.

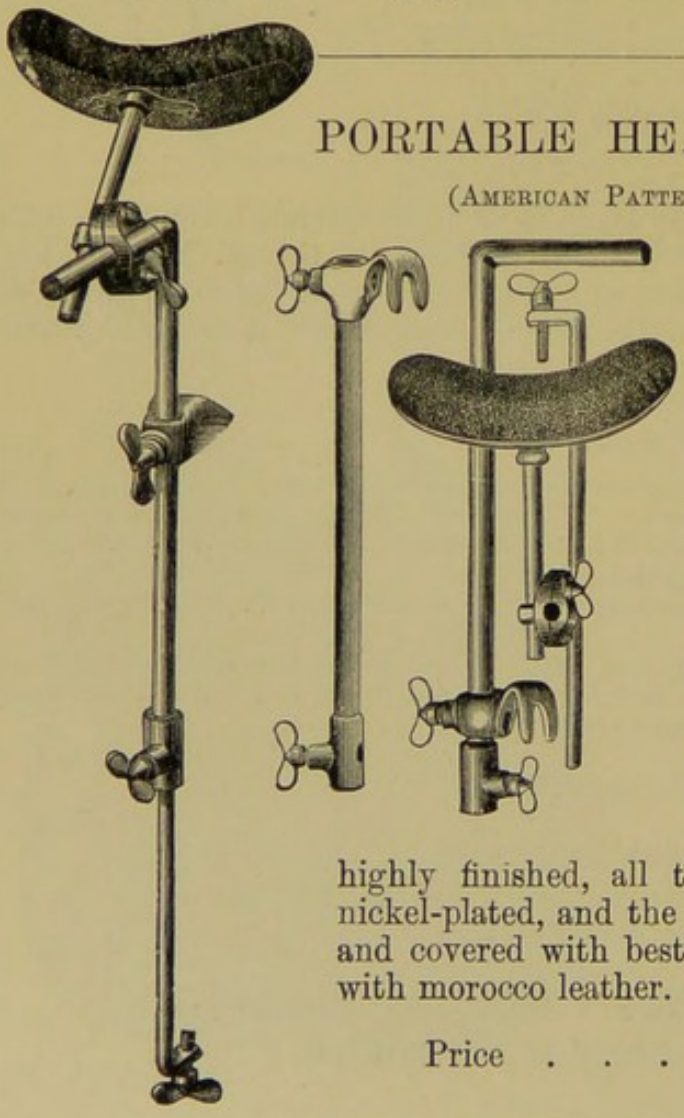


This Head-Rest has more movements than any portable Head-Rest that is made, and can readily be attached to an ordinary chair. It does not occupy much space when taken apart, and only weighs $7\frac{3}{4}$ lbs.

DESCRIPTION:

A. Thumb Screw, which goes under seat of chair.
B. Adjustable Bar, on which are eight studs for obtaining the needful length from top of chair-back to seat.
C. Catch for fixing Bar ***B*** where required.
D. D. Hooks for top of chair-back.
E. Raising and Lowering Rod.
F. Handle for fixing upholstered Pad in any desired position.
G. Rod on which the upholstered Pad is mounted.

	s.	*d.*
Head-Rest, Nickel-plated, in maroon or green plush, as illustrated . . .	55	0
The same, with Arm-Support, like Fig. 26A on the next page	65	0



PORTABLE HEAD-REST.

(American Pattern.)

The American pattern Head-Rest here shown, which only weighs $5\frac{1}{2}$ lbs., possesses so many useful movements that it will be found to meet all the requirements of those Dentists who have a visiting practice. It can be attached to an ordinary chair. When taken apart and folded up, as illustrated, it is very portable and does not take up much room.

It is strongly made and highly finished, all the metal parts being heavily nickel-plated, and the upholstered part nicely padded and covered with best quality plush, or, if preferred, with morocco leather.

	s.	*d.*
Price	48	0

ASH'S HEAD-REST WITH ARM-SUPPORT.

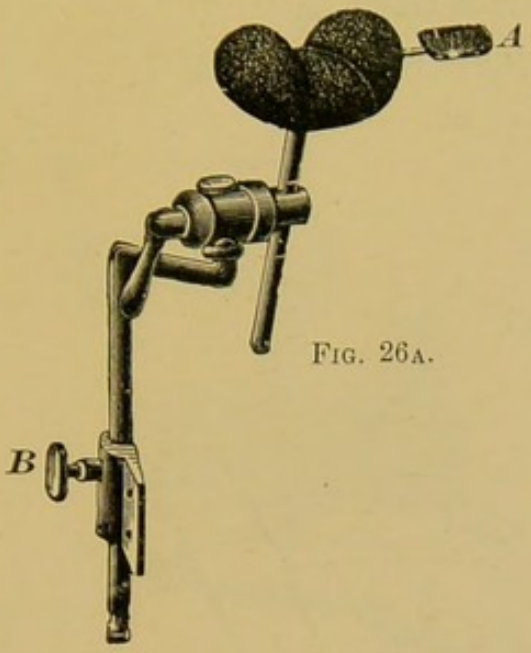


FIG. 26A.

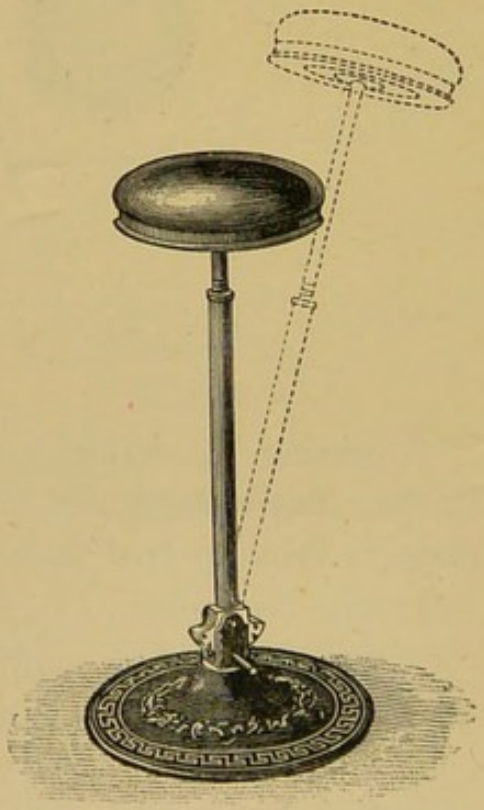
This Head-Rest can be screwed on to the back of any **Wooden Dental Chair.**

Its movements, which are controlled by a single handle and the screw on the socket ***B***, are so numerous that we can recommend it as a first-class Head-Rest. The Arm-Support ***A*** can be fixed on either side of it as may be desired.

The upholstered part is nicely padded and covered with the finest Plush, and all the metal parts, except the socket ***B***, are substantially nickel-plated.

	£	*s.*	*d.*
Head-Rest, in Green or Maroon Plush, with Arm-Support, as illustrated	2	15	0
Ditto, without Arm-Support .	2	5	0

ASH'S ADJUSTABLE STOOL.



This Stool has a range of 11 inches, the lowest position being 23, and the highest position 34 inches. As the total weight is only 17 lbs., it can easily be lifted with one hand and placed in any desired position. It is elegant in appearance, the Seat being upholstered in green or maroon plush or leather, the Pillar nickel-plated, and the Base japanned black, relieved with ornamentation.

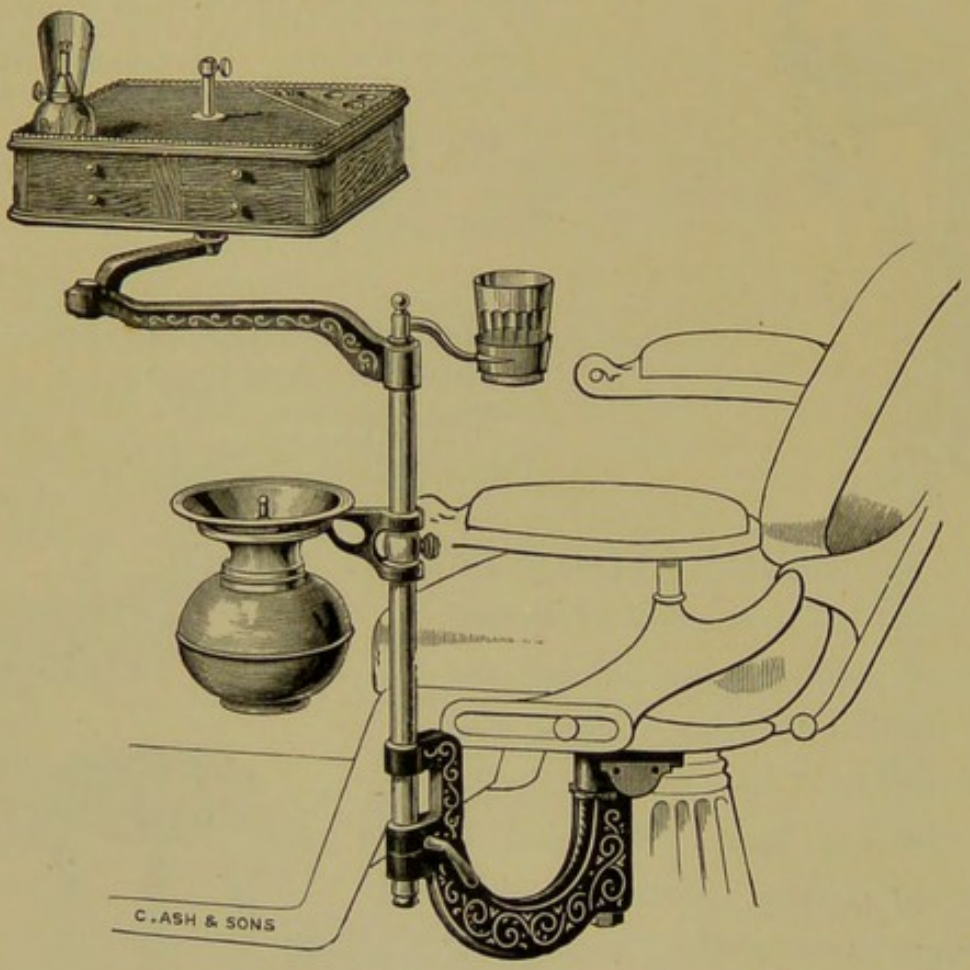
The Seat is raised and lowered by means of a screw, while the backward and forward movement is controlled by a nickel-plated foot-lever at the Base, which can be worked while sitting on the Stool either with the right or the left foot.

	£	*s.*	*d.*
Price, in Green or Maroon Plush, or Leather . . .	2	10	0
,, with Caned Top	2	10	0

CHAIR ATTACHMENT,

FOR ALL THE CHAIRS, EXCEPT MORRISON'S,

SHOWN ON PAGES 8 TO 20.



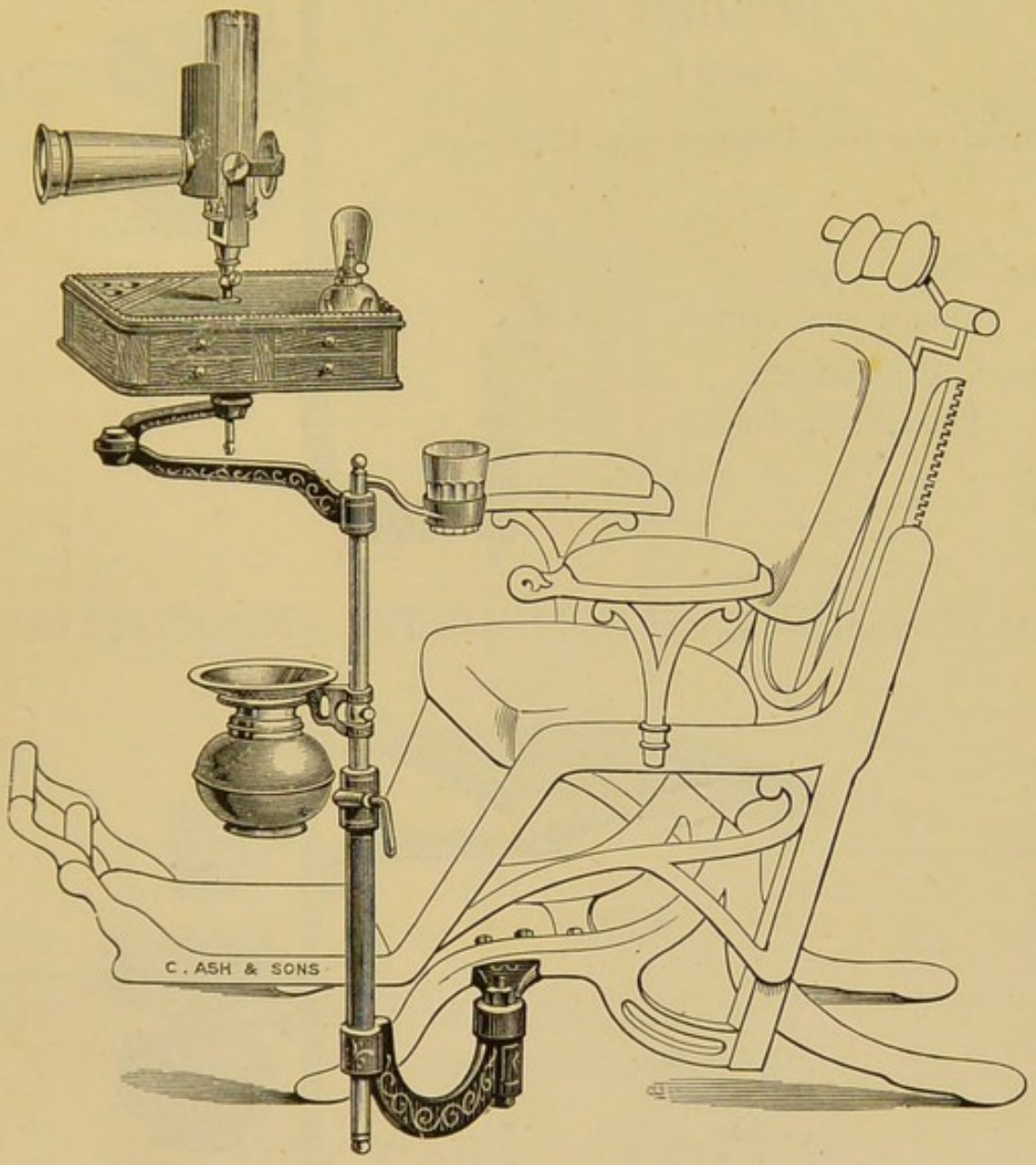
Consisting of Swinging Crane, Adjustable Upright Rod, Spittoon Holder, Tumbler Holder, jointed Table Arm, and Socket for going through Table to hold Reflector.

	£	s.	d.
Chair Attachment, with Glass Tumbler, and Nickel-plated Spittoon with Glass Funnel, but without Table	3	17	0
Simple Table, with Spirit Lamp . . . . . extra	1	4	0
Allan's „ *as illustrated* . . . . . „	2	8	0
Holmes' „ with Spirit Lamp . . . . . „	5	10	0
„ „ (American) „ . . . . . „	5	16	8

For Illustrations of Tables see pages 54 and 55.

CHAIR ATTACHMENT,

FOR THE MORRISON CHAIR OF OUR MANUFACTURE.



Consisting of Swinging Crane, Adjustable Upright Rod, Spittoon Holder, Tumbler Holder, jointed Table Arm and Socket for going through Table to hold Reflector.

	£	s.	d.
Chair Attachment, with Glass Tumbler, and Nickel-plated Spittoon with Glass Funnel, but without Table	4	7	0
Simple Table, with Spirit Lamp . . . . . extra	1	4	0
Allan's „ „ „ . . . . . „	2	8	0
Holmes' „ „ „ . . . . . „	5	10	0
„ „ (American) „ . . . . . „	5	16	8
Telschow's Reflector for Gas . . . . . „	1	10	0
„ „ Oil, with Stand . . . „	1	10	0

SPITTOON AND TUMBLER HOLDER.

(Fig. 6.)

For all our Iron Chairs except Morrison's.

	s.	*d.*
Price, without Spittoon, Funnel and Tumbler	30	0
Price, with Spittoon, Funnel and Tumbler	45	0

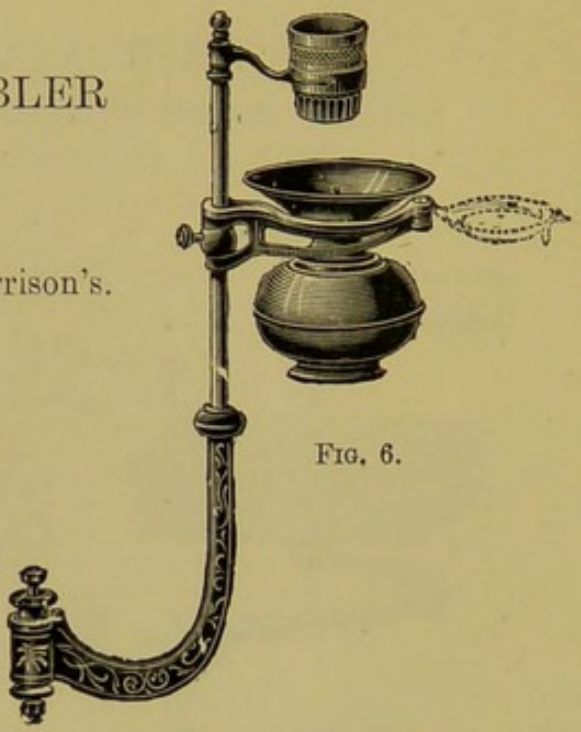
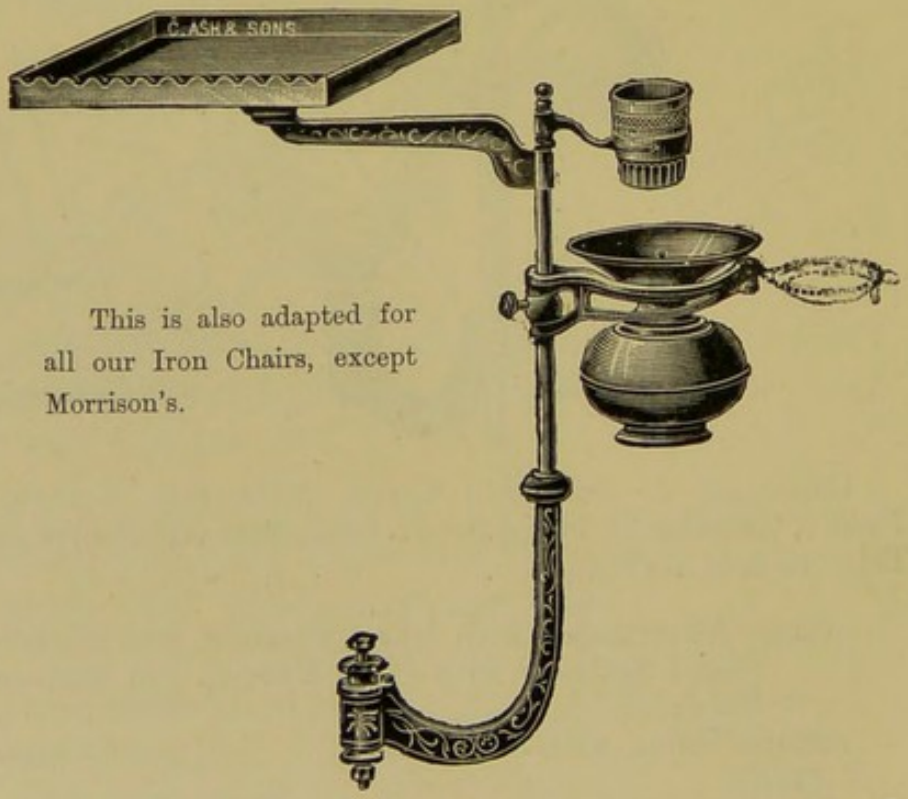


Fig. 6.

HOLDER FOR TABLE, TUMBLER, AND SPITTOON.

Fig. 6a.



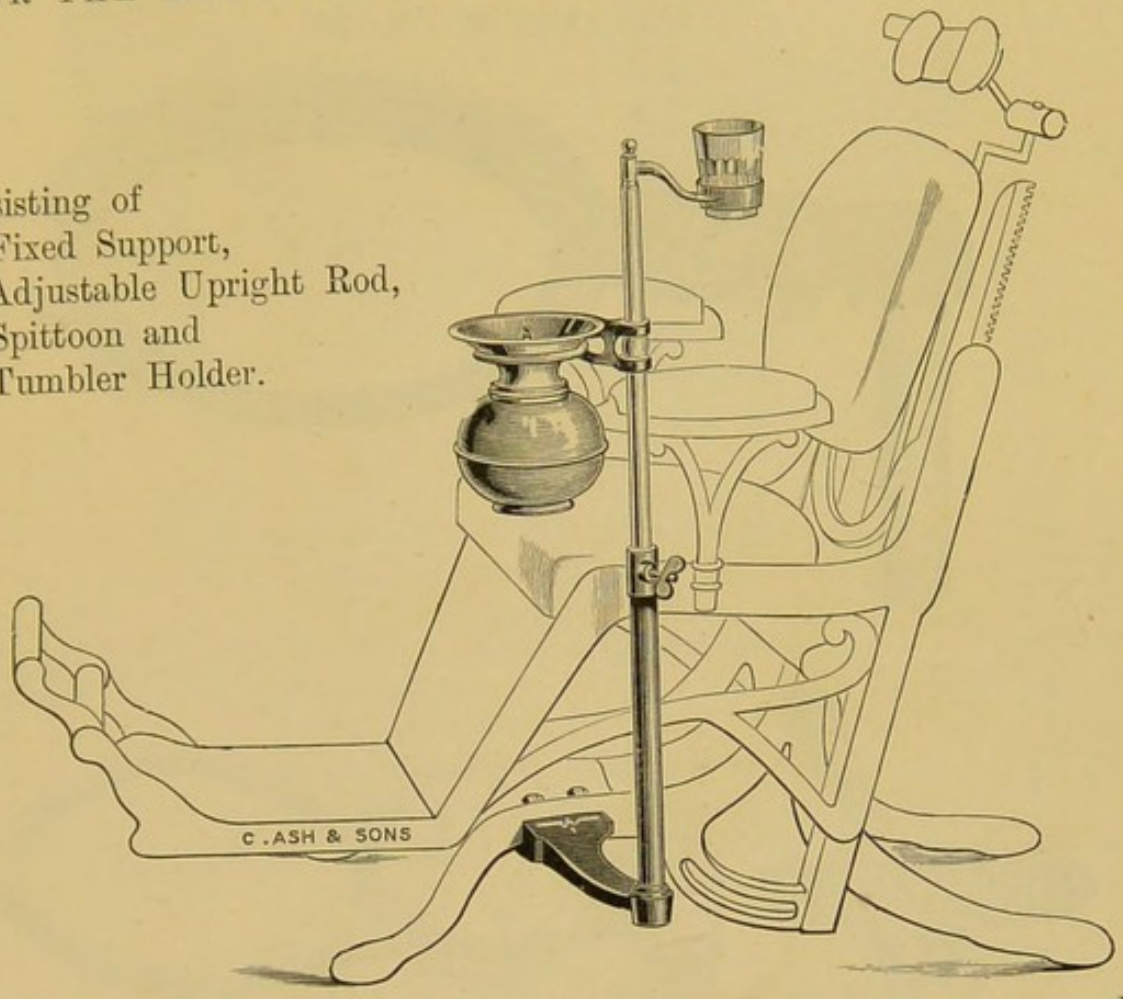
This is also adapted for all our Iron Chairs, except Morrison's.

			s.	*d.*
Price, complete as illustrated,		with polished Walnut Table for hospital use	57	0
Ditto	ditto	with simple Japanese Table	66	6
Ditto	ditto	without Table, Tumbler, and Spittoon	36	0

SPITTOON AND TUMBLER HOLDER,

FOR THE MORRISON CHAIR OF OUR MANUFACTURE.

Consisting of
Fixed Support,
Adjustable Upright Rod,
Spittoon and
Tumbler Holder.



	s.	*d.*
Price, without Spittoon, Funnel, and Tumbler	32	0
„ with „ „ „	47	0
The same, with Table Arm and polished Walnut Table, as shown on previous page	58	6

Special Notice.

Dental Operating Chairs re-upholstered and re-covered in various styles of plain and figured plush or morocco leather; bright parts re-nickelled equal to new; japanned parts re-japanned and tastefully decorated, at moderate prices.

CLAUDIUS ASH & SONS, Limited,

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

SPITTOON HOLDERS AND SOCKETS,

FOR ARMS OF CHAIRS.

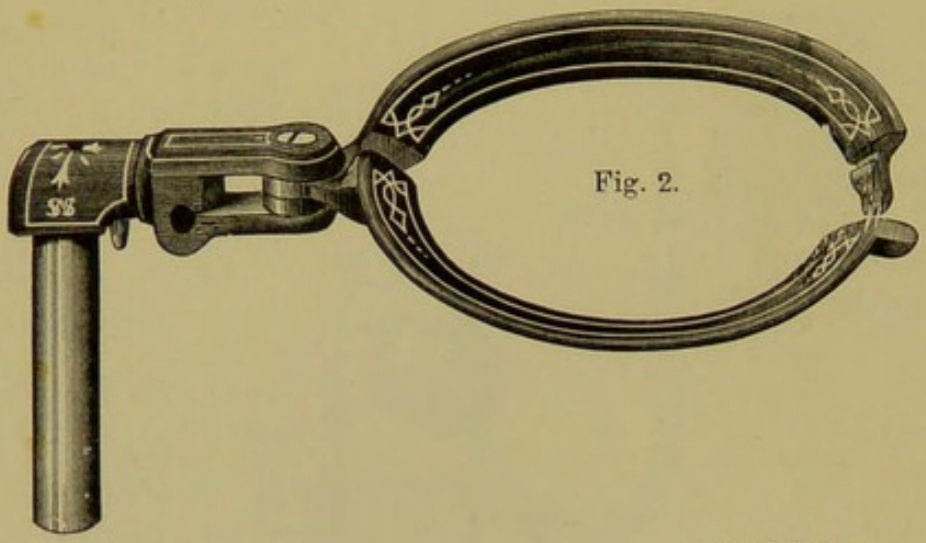


Fig. 2.

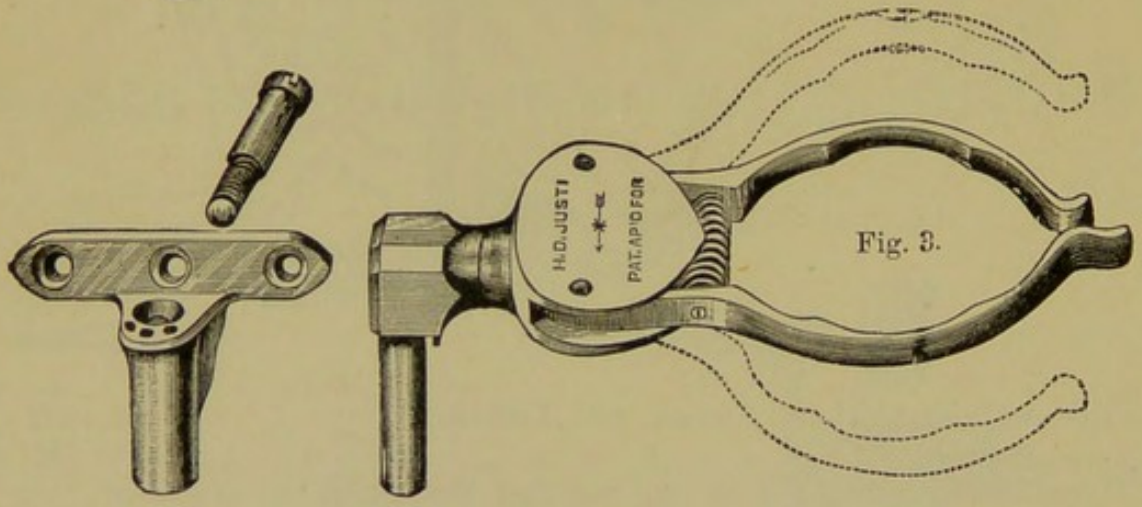


Fig. 3.

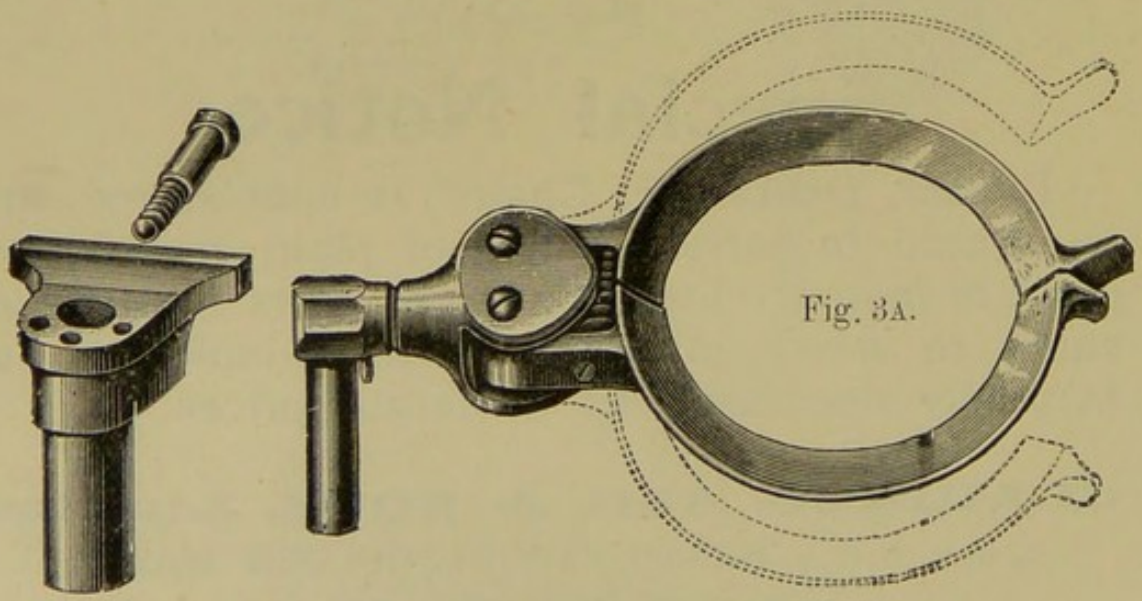


Fig. 3A.

SPITTOON HOLDERS AND SOCKETS—*CONTINUED.*

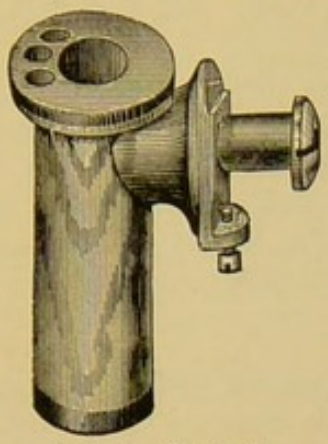


FIG. 1—SOCKET.

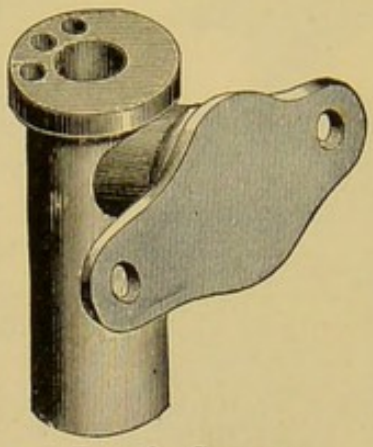


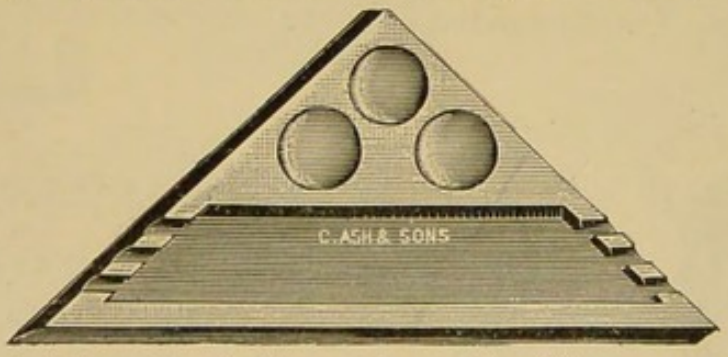
FIG. 2—SOCKET.

PRICES.

		s.	*d.*
Fig. 2.—Spittoon Holder, Japanned, with Swivel Joint		10	0
Fig. 1—Socket for ditto for Iron Chairs	extra	2	0
„ 2— „ „ „ Wooden Chairs. . . .	„	2	0
Fig. 3.—Spittoon Holder, Nickel-plated, with Swivel Joint . . .		10	0
Socket for ditto for Iron Chairs	extra	2	0
„ „ „ Wooden Chairs	„	2	0
Fig. 3A.—Ash's Spittoon Holder, N. P., with Swivel Joint . . .		10	6
(The Ring is 4 inches diameter, clear inside measurement.)			
Socket for Ash's Spittoon Holder for Iron Chairs . .	extra	4	6
„ „ „ „ Wooden Chairs . .	„	4	6

PORCELAIN PALETTE.

(DESIGNED BY MR. H. C. CARTER, OF LONDON.)

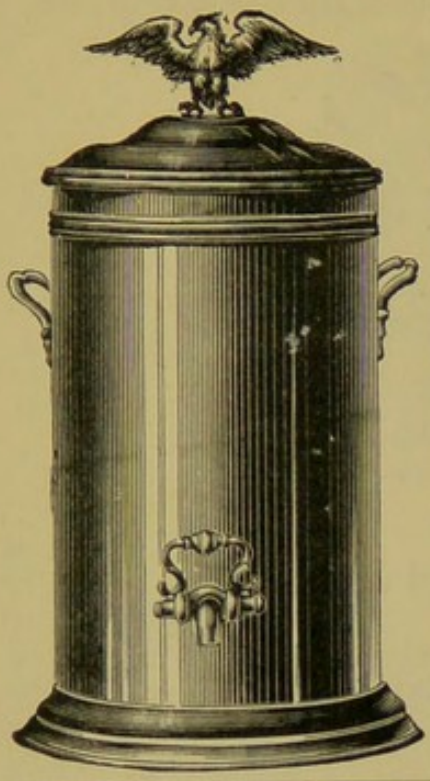


This Palette is triangular in Form, shaped to fit any corner of the four bracket tables illustrated on pages 54 and 55, and made with three shallow wells for holding medicaments that stain, and a tray for the instruments that are employed in their application.

By its use the cloth on the top of the table is saved from injury, and each time after the Palette has been used it can be removed and thoroughly cleansed by washing.

	s.	*d.*
Price	1	0

Fig. 1.



HOT-WATER APPARATUS.

Made of brass tinned inside, nickel-plated outside, and provided with two strong handles, by means of which it can easily be lifted. It is substantially made and elegant in appearance. There is a lining of non-conducting material between the water-holder and the outer casing.

If filled with boiling water it will keep hot for about twelve hours. For the first two hours the water is hot enough to soften impression composition, and at the end of twelve hours it has a temperature of 120° Fahrenheit.

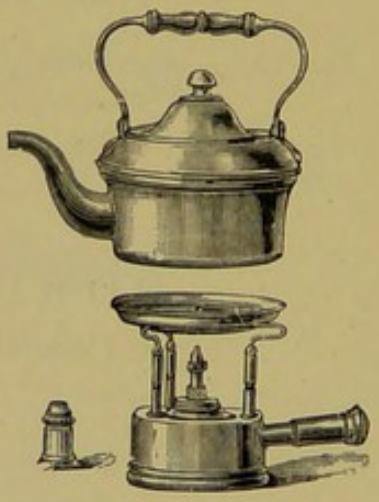
		£	s.	d.
Price, as illustrated	(Fig. 1)	2	10	0

HOT-WATER APPARATUS.

Consisting of Brass Kettle, Tinned Inside, and Spirit Lamp with Stand.

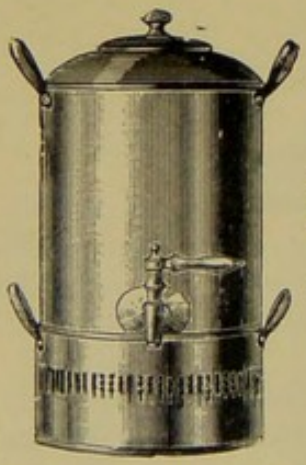
A very convenient apparatus for readily obtaining hot water in the operating room.

Fig. 2.



		s.	d.
Price, as illustrated . . .	(Fig. 2)	14	6
„ „ nickel-plated	(„ 2)	22	6

Fig. 3.



HOT-WATER APPARATUS.

Adapted for use with gas or spirit. When ordering please state whether it is required with gas burner or spirit lamp.

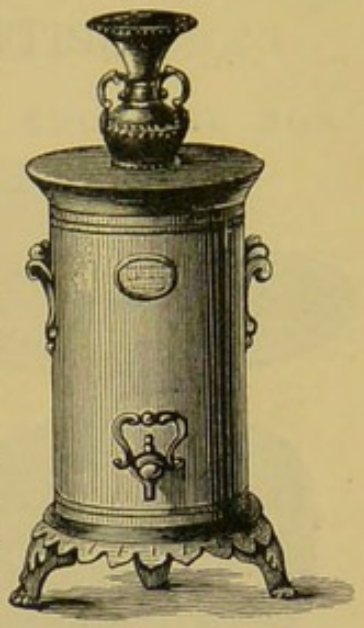
It will hold six quarts of water, and can be had in any of the following colours:

Chocolate and Gold.
Oxford Blue and Gold.
Black and Gold.

		s.	d.
Price complete with Gas Burner	(Fig. 3)	25	6
„ „ Spirit Lamp	(„ 3)	25	6
The same in Copper, Nickel-plated, either style . . .	(„ 3)	63	0

HOT-WATER APPARATUS.

Fig. 30.



Height, 21 inches;
Outside diameter of Base, 14 inches.

This apparatus will hold six quarts of water, and assuming that it is put into it at boiling point, will keep it hot for many hours. We find that after five hours the water indicates a temperature of

130 degrees Fahrenheit,

and at the end of twenty-three hours it is still warm.

Some slight variation will no doubt be found in different climates and in cold weather, but the above facts prove that the apparatus is well adapted for general use in the Operating Room.

It is made of block tin, tastefully japanned in imitation of black marble, with ebonised wooden plinth and cover and electro-plated ornamental tap, the water being protected from external cold by means of a thick lining of felt placed between the water-holder and the outer case and cover of the apparatus. The base is not made with feet as shown in the illustration, but is quite solid, and there are no handles or label on the apparatus.

	s.	*d.*
Price, without the Spittoon . .	55	0

DENTAL PHANTOM.

(Designed by Mr. OSWALD FERGUS, of Glasgow.)

Fig. 1.

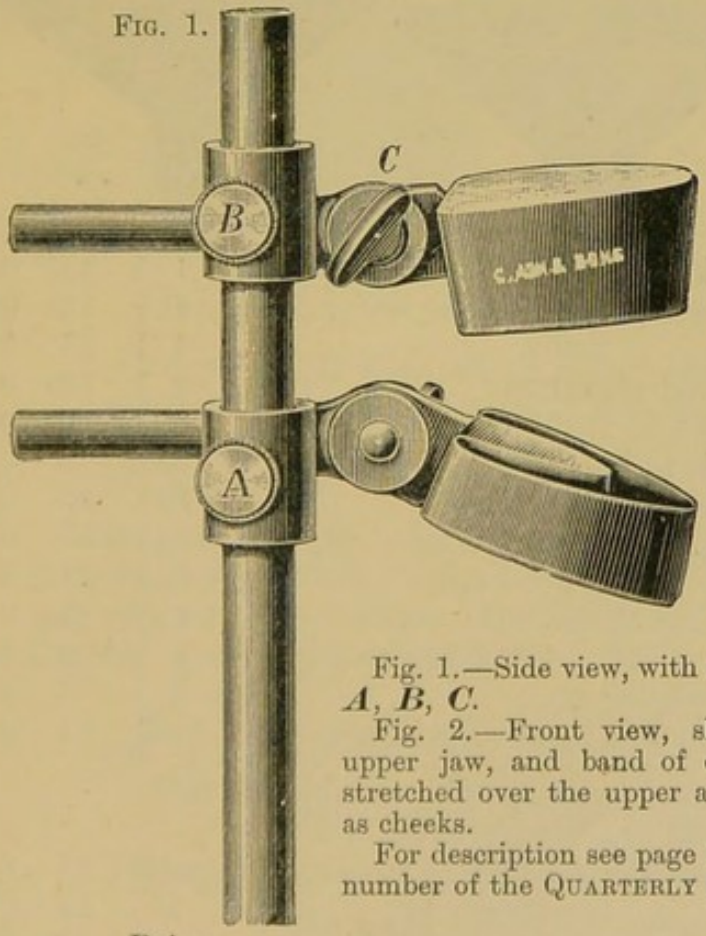


Fig. 2.

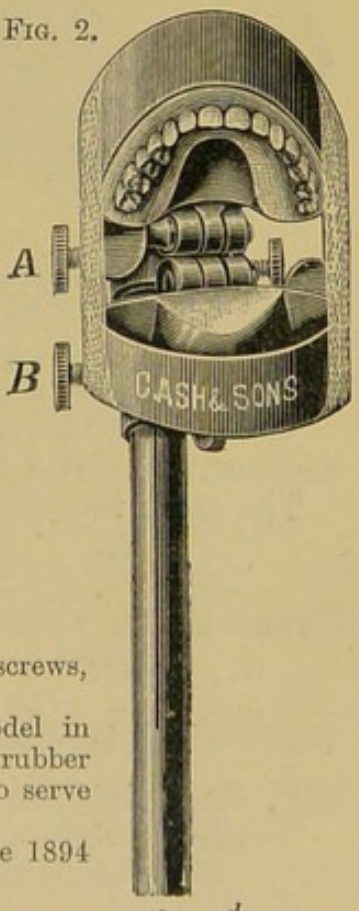


Fig. 1.—Side view, with regulating screws, ***A***, ***B***, ***C***.

Fig. 2.—Front view, showing model in upper jaw, and band of coffer-dam rubber stretched over the upper and lower to serve as cheeks.

For description see page 123 of June 1894 number of the Quarterly Circular.

	s.	*d.*
Price	45	0

SPITTOONS AND FUNNELS,

FOR SPITTOON HOLDERS, CHAIR ATTACHMENTS, &c.

Fig. 1.

Fig. 2.

Fig. 3a.

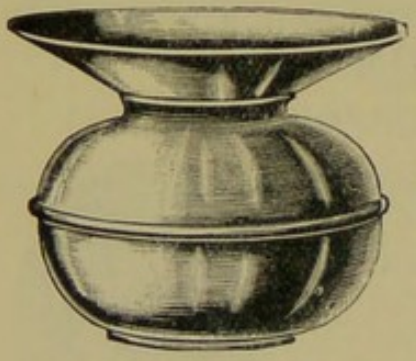


Fig. 1 Funnel.

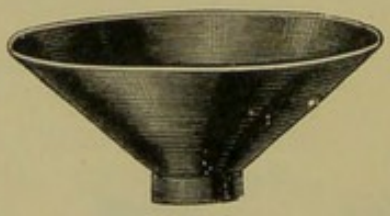


Fig. 2 Funnel.

		s.	*d.*
Spittoon, capacity 3 pints, Nickel-plated	(Fig. 1)	13	0
The same, with Fig. 1 Funnel, in Blue Glass . .	(„ 1)	15	0
„ „ „ 1 „ Ruby „ . .	(„ 1)	15	6
Spittoon, capacity 1 quart, Nickel-plated	(„ 2)	13	0
The same, with Fig. 2 Funnel, in Ruby Glass . .	(„ 2)	16	0
Spittoon, capacity 3 pints, Nickel-plated	(„ 3A)	8	0
The same, with Fig. 1 Funnel, in Blue Glass . .	(„ 3A)	10	0
„ „ „ 1 „ Ruby „ . .	(„ 3A)	10	6
„ „ „ 2 „ „ „ . .	(„ 3A)	11	0
Funnel in Blue Glass	(„ 1)	2	0
„ Ruby „	(„ 1)	2	6
„ „ „ with long neck	(„ 2)	3	0
Improved Nickel-plated Caps for Spittoons now in use	each	1	0

Fig. 3a Spittoon, Nickel-plated, with handle, suitable for use either in Spittoon Holder or as a Hand Spittoon :—

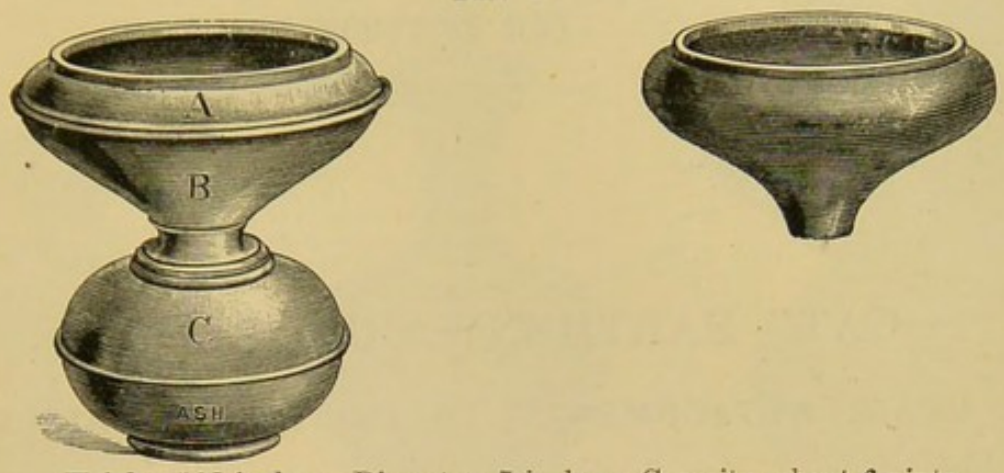
Complete with Blue Glass Funnel (Fig. 1) . .	each	11	6
„ Ruby „ („ 1) . .	„	12	0
„ „ „ („ 2) . .	„	12	6

METAL SPITTOONS.

NICKEL-PLATED, WITH RUBY GLASS FUNNELS.

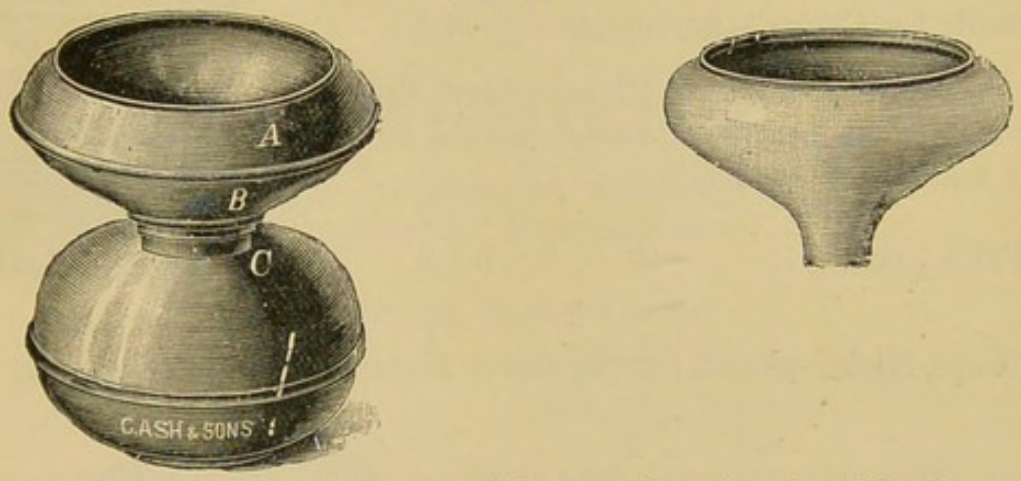
(Reg. No. 253,636.)

FIG. 4.



Height, 10⅝ inches ; Diameter, 7 inches ; Capacity, about 6 pints.

FIG. 4A.



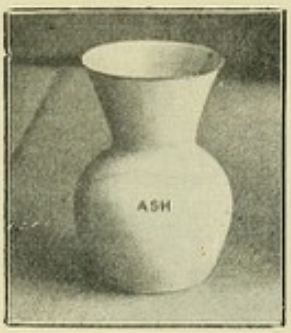
Height, 12¼ inches ; Diameter, 9⅞ inches ; Capacity, about 8¾ pints.

A—Removable Rim, which covers the funnel, attached to *B*.
B—Intermediate part. This unscrews to admit of part *C* being thoroughly cleansed.
C—Lower part.

Both these Spittoons can be used in all sizes of existing Spittoon Holders. Apart from the advantage of large capacity, they also possess this very valuable feature : the shape of the rim and funnel at *A* is such that the water cannot splash out of them.

PRICES:

		s.	*d.*
Fig. 4. —Spittoon, with Ruby Glass Funnel. . . .		17	6
Separately	Spittoon	13	6
	Ruby Glass Funnel	5	0
Fig. 4A —Spittoon, with Ruby Glass Funnel. . . .		24	0
Separately	Spittoon	20	0
	Ruby Glass Funnel	5	0



ENAMELLED STEEL SPITTOON.

(Chocolate Colour.)

FOR SPITTOON BRACKETS.

Capacity, Three Pints.

	s.	d.
Price	3	9

"SQUAT" EARTHENWARE SPITTOON,

FOR CHAIR ATTACHMENTS, IN IMITATION MAJOLICA.

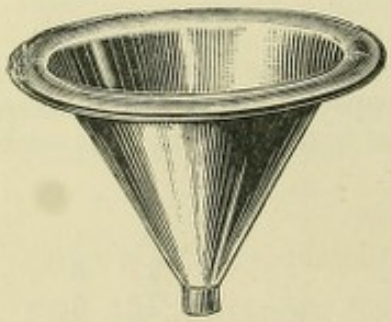
Those Operators who prefer **Earthenware** to **Metal** will find this "Squat" Spittoon very serviceable for Chair Attachments.

It is not so showy as a Nickel-plated Metal Spittoon, but it can be cleansed much more readily and always look nice.

	s.	d.
Price	3	3

	s.	d.
Metal Caps, Nickel-plated, for the above Earthenware Spittoon, each	1	0

FUNNELS FOR PEDESTAL SPITTOONS.



PRICES

(according to the size required):

		From s.	From d.	To s.	To d.
In Blue Glass . . .	each	5	0	7	6
In Metal, *to Order* . .	,,	9	6	12	6
,, Nickel-plated .	,,	18	0	21	0

When ordering these Funnels, please state the extreme diameter required, including the rim.

JUGS, WATER BOTTLE, AND SPITTOONS.

(DOULTON-WARE.)

FIG. 12.

FIG. 11.

HEIGHT, 7½ INS.

HEIGHT, 10½ INS.

FIG. 13.

HEIGHT, 6 INS.

PRICES:

		s.	*d.*
Jug, capacity over 1 quart	(Fig. 11) each	4	9
Water Bottle, capacity between 1 quart and 3 pints	(„ 12) „	6	3
Spittoon, „ „ „ for Spittoon Holders the rings of which are not less than 4 inches in diameter, clear inside measurement	(„ 13) „	6	3

(The set of three, 17*s.*)

FIG. 14.

HEIGHT, 9⅝ INS.

FIG. 16.

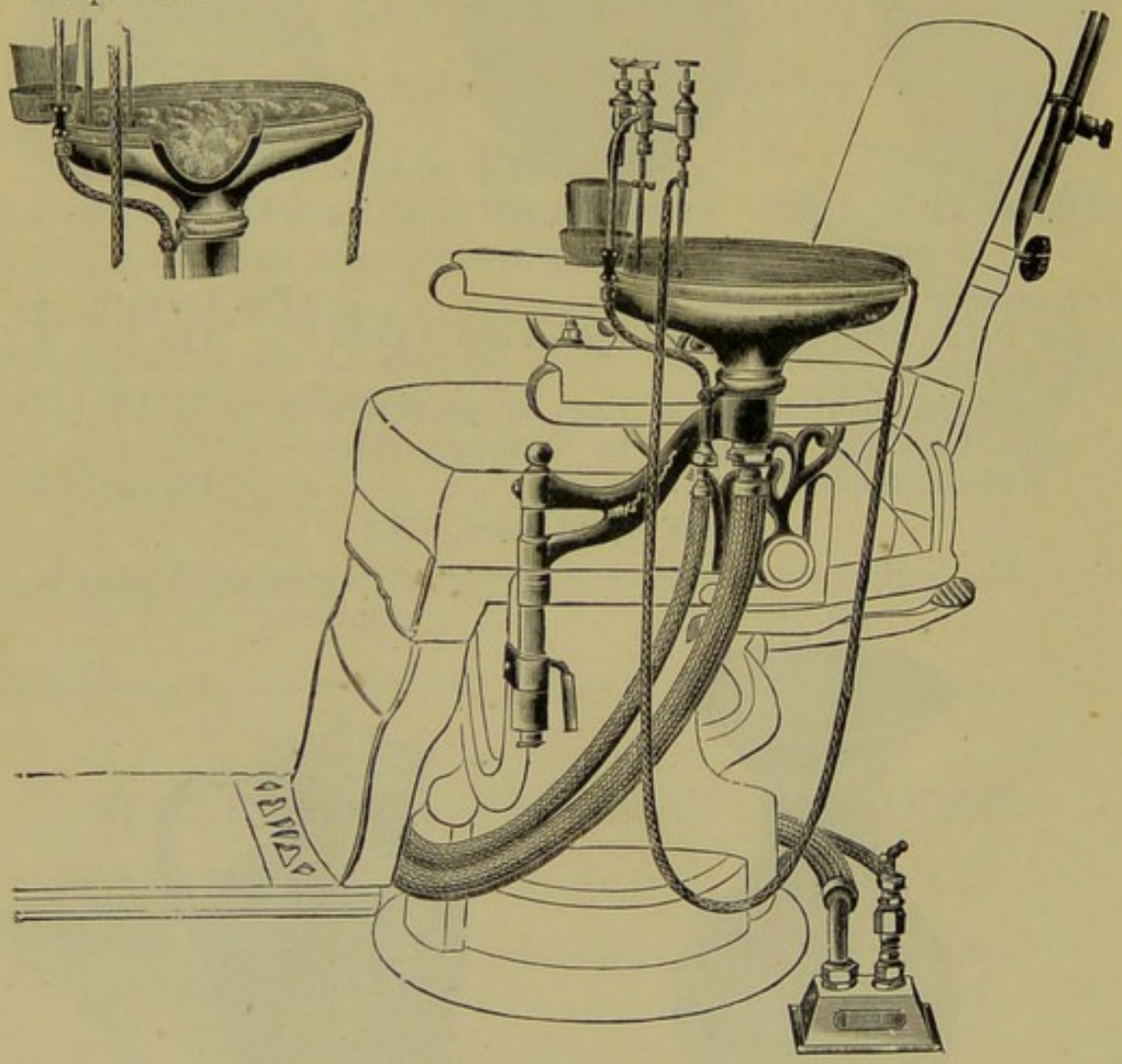
HEIGHT, 8½ INS.

PRICES:

		s.	*d.*
Hand Spittoon, Doulton-Ware, capacity 3 pints	(Fig. 14) each	7	0
Hot-Water Jug, Doulton-Ware, with metal lid, capacity over 1 quart	(„ 16) „	7	6

CLARK'S FOUNTAIN SPITTOON.

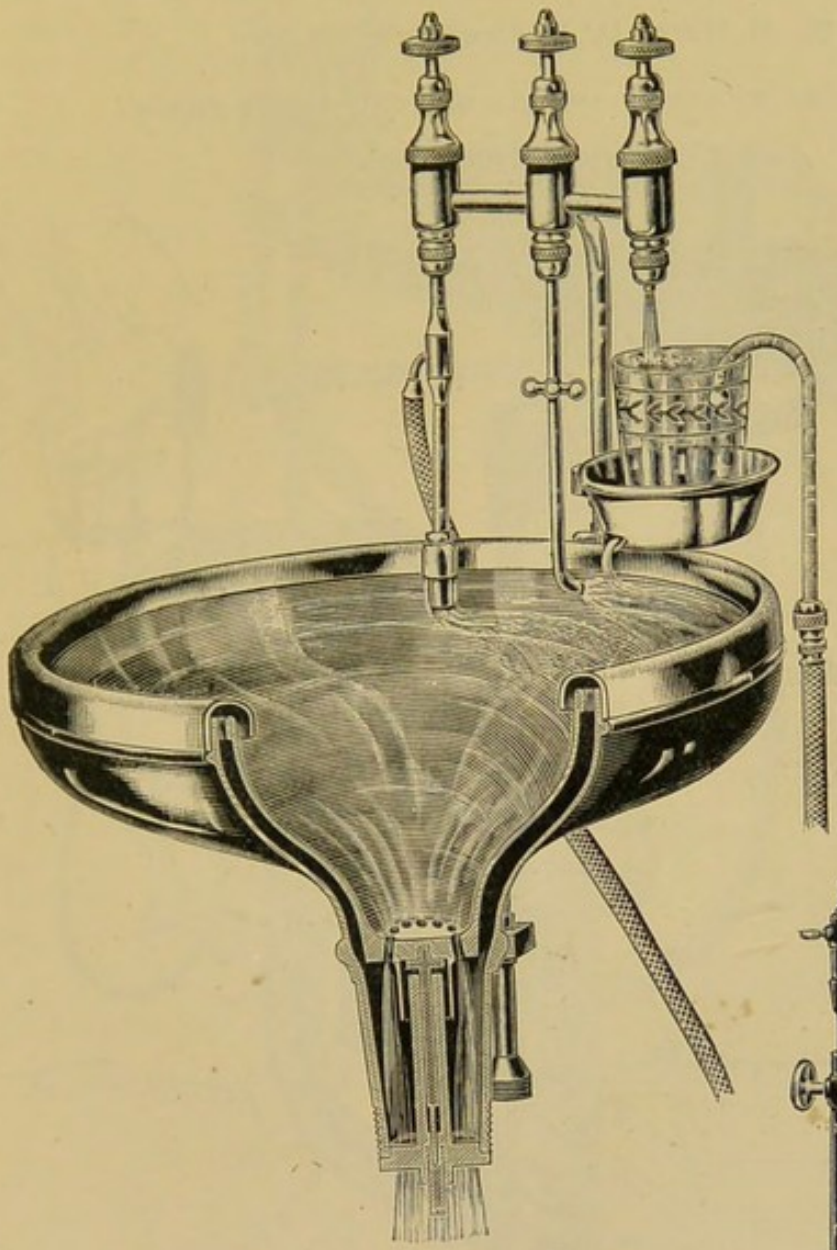
The novel feature about Clark's Fountain Spittoon is a bowl within a bowl, so arranged that the force of the water revolves the inner bowl, and immediately carries away the fluids that are discharged from the mouth. The water in its twisting motion covers the whole of the surface of the inner bowl; it is, therefore, impossible for anything to adhere to it; moreover, there is nothing in the centre to become foul, or to arrest or impede in any way the downward flow of the contents. The Spittoon is thus self-cleansing, and always presents a pleasant and refreshing view to the patient.



	£	s.	d.
Fountain Spittoon, with Saliva Ejector, with Chair Attachment and Silk-covered Tubing, complete as illustrated . . .	13	13	0
The same on Stand, instead of with Chair Attachment .	13	13	0
Improved Form for Hot, Tepid and Cold Water	19	0	0
The same with Water Syringe for Mouth	21	0	0

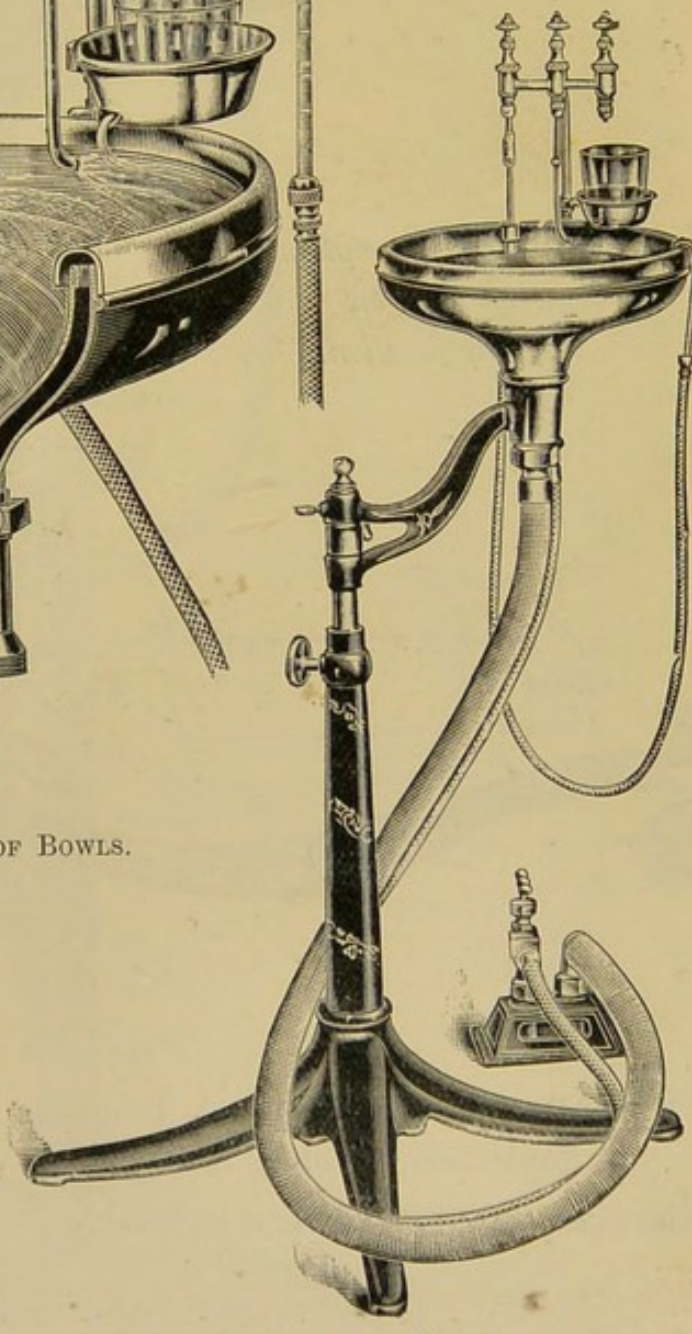
Less 10 per Cent. for Cash.

CLARK'S FOUNTAIN SPITTOON—*CONTINUED.*



SECTIONAL VIEW OF BOWLS.

When ordering the Spittoon with Chair Attachment, please state for which Chair it is required.

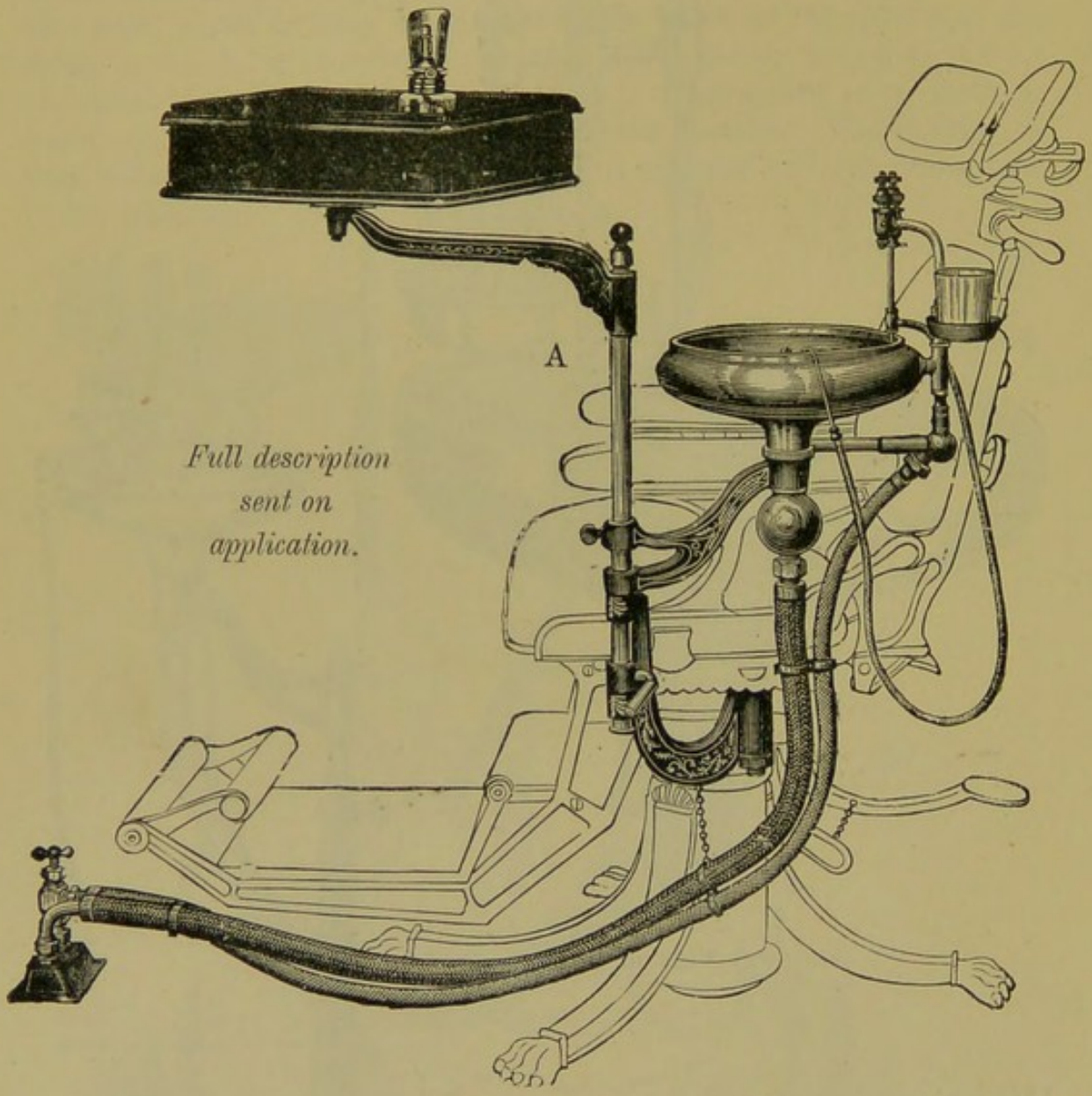


SPITTOON ON STAND.

IMPROVED ATTACHED FOUNTAIN SPITTOON.

(S. S. White D. M. Company's.)

APPLICABLE TO THE WILKERSON AND ALL OUR OWN DENTAL CHAIRS.

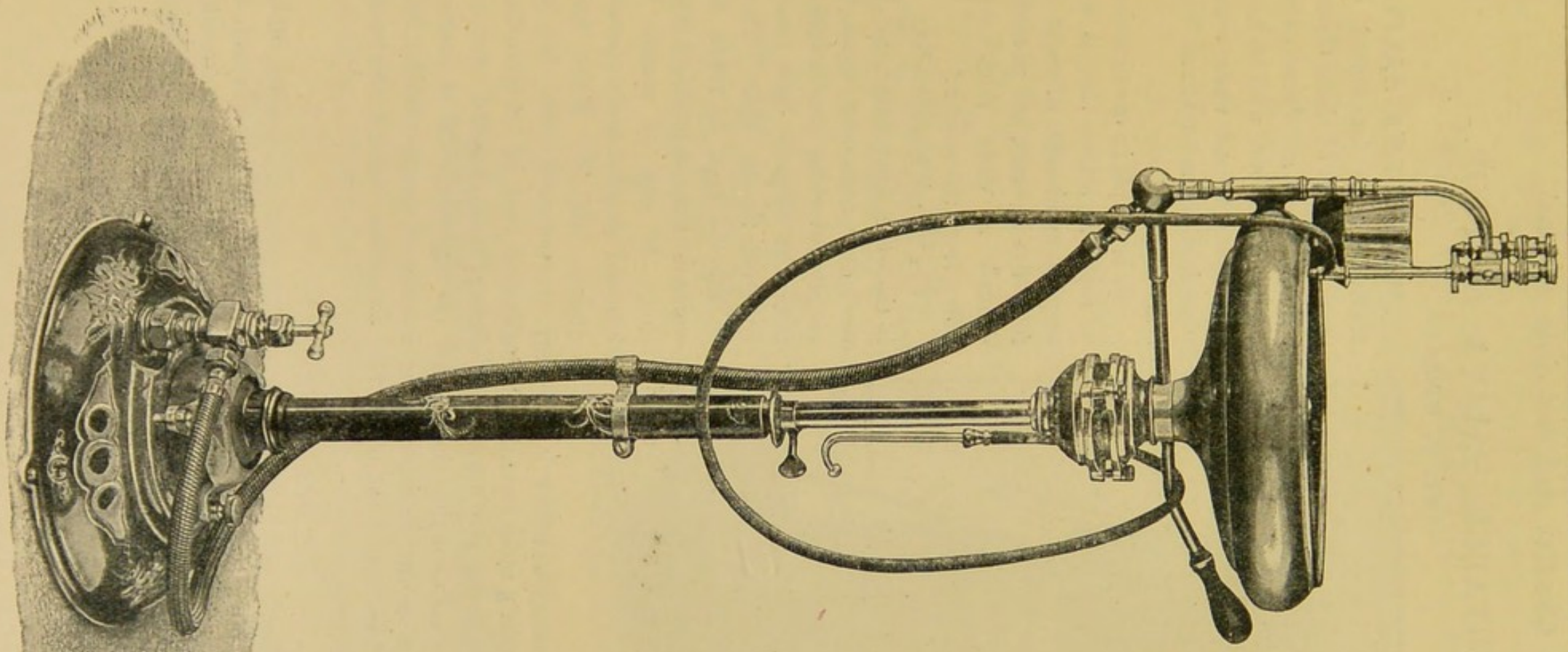


Full description sent on application.

PRICES:

	£	*s.*	*d.*
Chair Attachment, with Allan's Table and Fountain Spittoon, as illustrated, including Boxing	15	6	3
The same, minus Table Arm and Table	12	10	0

Instructions for fixing up sent with each Spittoon.



IMPROVED ADJUSTABLE FOUNTAIN SPITTOON.

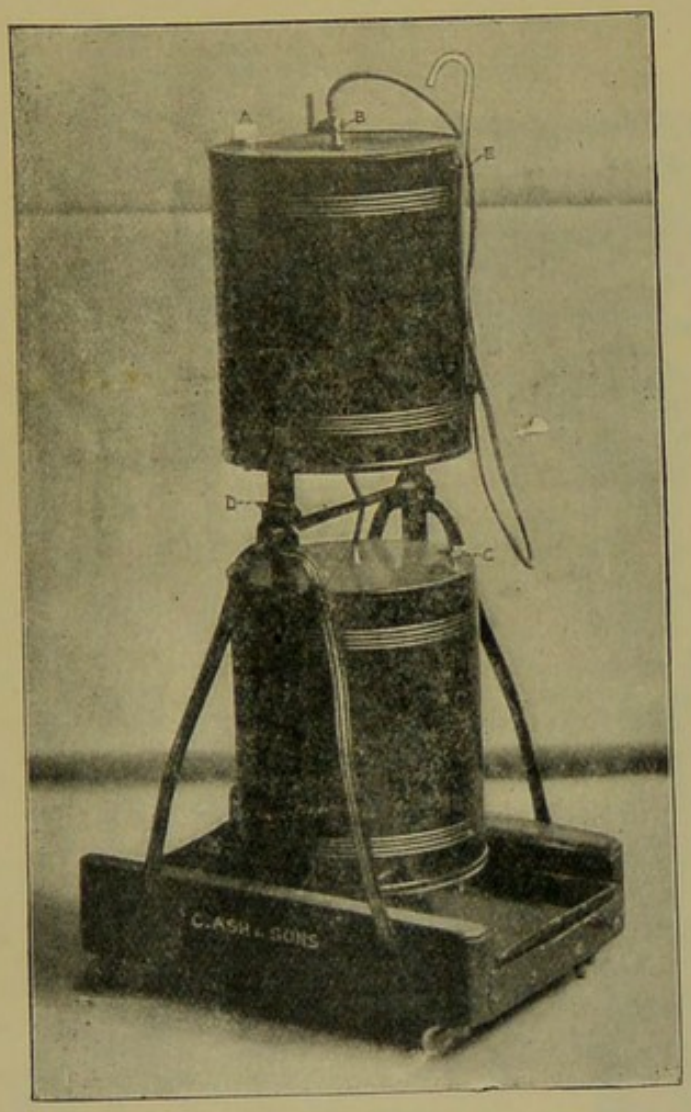
(S. S. White D. M. Co.'s.)

	£	s.	d.
Complete, with two Faucets and Saliva Ejector with Silk-covered Tubing, as Illustrated, including boxing and directions for fitting up	12	10	0

Description sent on application.

PORTABLE SALIVA EJECTOR.

(MR. H. WEISS'S.)



Mr. WEISS'S SALIVA EJECTOR is introduced to meet the needs of those Operators who from any cause either cannot or do not wish to have special supply and waste water pipes laid down for a fixed Wall Saliva Ejector.

It is simple in construction, so rapid in action that it will empty a tumblerful of water in forty-five seconds, and powerful enough to draw thick ropy saliva from the mouth.

The novel feature about it is that the same water can be used over and over again by simply inverting the cylinders after the contents have passed from one to the other. There is thus no need to renew the water during the hours of practice. It can, of course, be renewed as often as the operator desires, but Mr. Weiss finds that it is not necessary to renew it each day, or even each week. He has given the apparatus a most careful and lengthened trial in his operating-room, without renewing the water, and we can from personal examination bear out his statement that there is not the slightest trace of foulness about the contents of the cylinders after months of use, provided a little diluted Condy's fluid from a tumbler is run into them through the mouth tube from time to time.

DESCRIPTION:

The Saliva Ejector complete consists of two cylinders of equal calibre with connecting pipe, taps to which the rubber tubing is attached, air escape taps, filling aperture, supports on which the cylinders are suspended, catch for fixing cylinders in upright position, overflow tray, length of rubber tubing and saliva tube.

WEISS'S SALIVA EJECTOR—*CONTINUED.*

DESCRIPTION—continued.

Of these various parts—

A shows the screw cap of the filling aperture.

B the tap to which the india-rubber tubing is attached.

C the air escape tap.

D the catch for fixing cylinders in upright position.

E the india-rubber tubing and mouth tube.

DIRECTIONS FOR USE:

To Fill the Ejector.—First see that all the taps are turned off. Then fill the upper cylinder with water to within about three inches of the top, replace the screw cap ***A,*** and attach the rubber tubing to the nozzle of the tap ***B.***

To Test and Use the Ejector.—Take a tumblerful of water, and place the saliva tube in it; then open the taps on the top of both the upper and lower cylinders. This will allow the water in the upper cylinder to run into the lower and thus create suction sufficiently strong to empty the tumbler or to draw saliva from the mouth. When the upper cylinder is empty, turn off both taps, remove the rubber tubing, pull back the catch at the side of one of the uprights, invert the cylinders, secure in position with the catch, re-attach the tubing and use again as above stated.

The rubber tubing should not be longer than necessary, and care should be taken to see that it does not kink.

	£	*s.*	*d.*
Saliva Ejector, complete as illustrated . .	4	0	0

Students' Outfits,

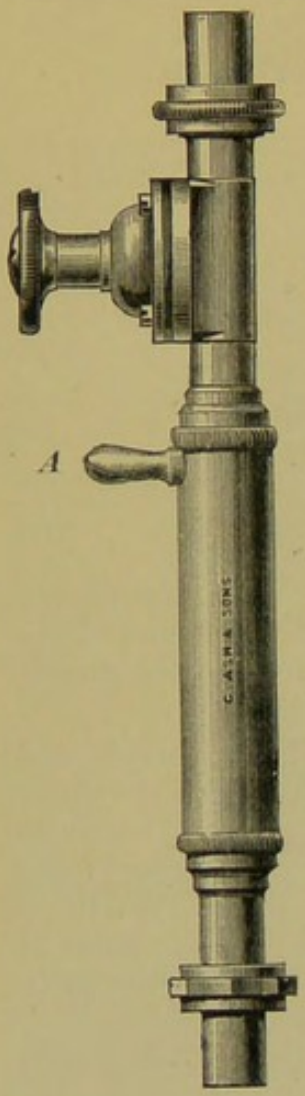
In strict accordance with the Latest Revised Lists of Requirements adopted by the various Governing Bodies of all the Dental Schools in the United Kingdom, supplied on advantageous terms by

CLAUDIUS ASH & SONS,

LIMITED,

BROAD STREET, GOLDEN SQUARE, LONDON, W.

LISTS ON APPLICATION.



WALL SALIVA EJECTOR.

(IMPROVED FORM.)

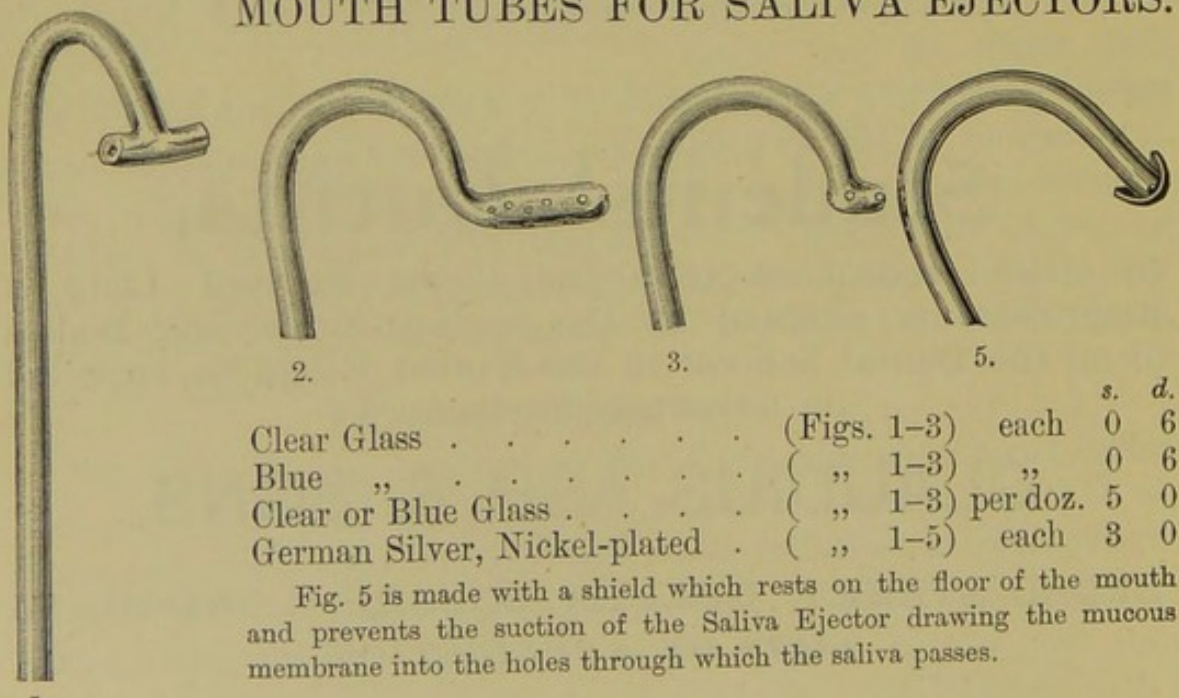
Consisting of a metal tube, 8 inches long, with adjustable unions for attaching to piping against the wall. There are no intricate parts in it to get out of order; it is simple, efficient and economical in working, easily cleaned and always ready for use. Any water supply will work it.

To make it suitable for high as well as low-water pressures, we have substituted the screw-down tap, shown in the present illustration, for the simple T tap, which we formerly fitted to it.

NOTE.—The Wall Saliva Ejector should be fitted about 2 feet from the ground, the top end being connected to the water supply, and the lower end to the waste pipe. The joints can either be made permanently by a plumber, or temporarily with short lengths of stout India-rubber Tubing, as may be desired.

	s.	*d.*
In Brass, Nickel-plated, complete . . .	27	6
India-rubber Tubing for connecting the mouth tube to the pipe *A*, per foot .	0	6

MOUTH TUBES FOR SALIVA EJECTORS.



			s.	*d.*
Clear Glass	(Figs. 1–3)	each	0	6
Blue „	(„ 1–3)	„	0	6
Clear or Blue Glass	(„ 1–3)	per doz.	5	0
German Silver, Nickel-plated .	(„ 1–5)	each	3	0

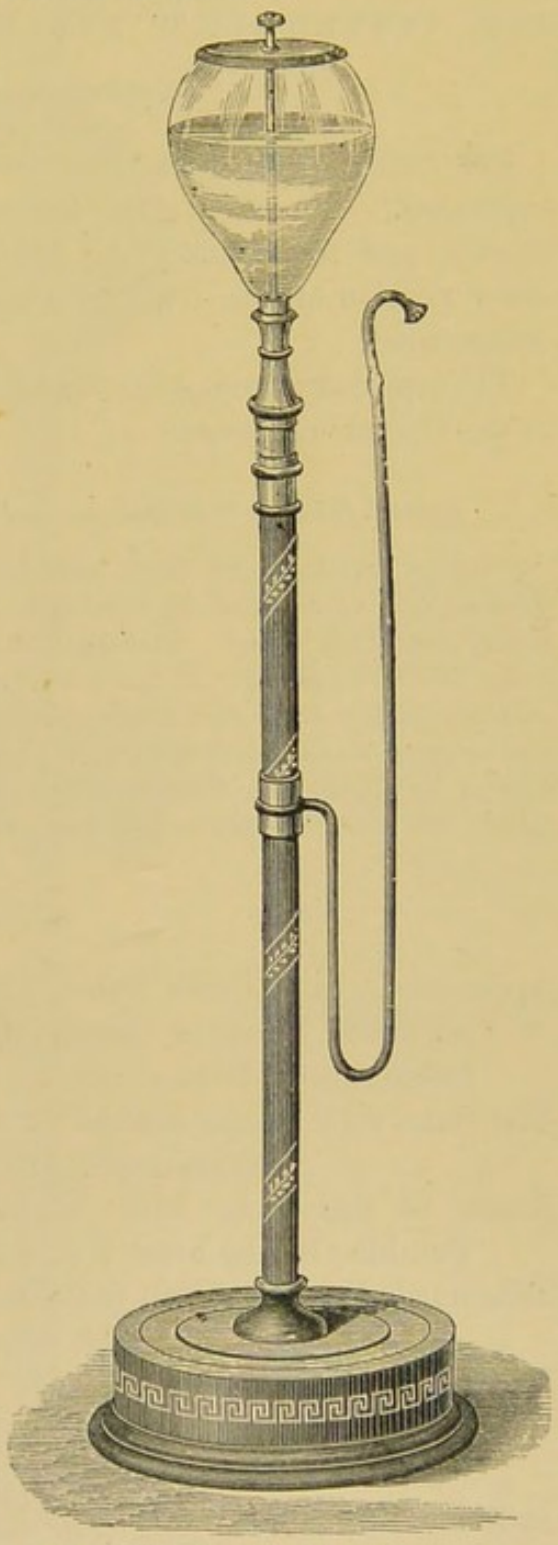
Fig. 5 is made with a shield which rests on the floor of the mouth and prevents the suction of the Saliva Ejector drawing the mucous membrane into the holes through which the saliva passes.

SNOW'S SALIVA EJECTOR

(WITH MR. C. ROGERS' IMPROVEMENTS).

The value and importance of an apparatus that will remove the saliva from the mouth cannot be over-estimated as regards the comfort of either the patient or the operator, the important point being that it shall work automatically for several hours, and yet be independent of a large supply of water.

This Saliva Ejector is an apparatus which is found to meet these requirements. It is elegant in appearance, simple in construction, and easily regulated. The glass vessel at the top of the Ejector holds six pints of water, which passes inside the tube and discharges itself into the receiver under the stand of the Ejector. It can be placed behind or at the side of the chair, as may be desired, and put aside when not in use.



DIRECTIONS:

To prepare the Ejector for use, remove the nickel-plated lid of the glass vessel, fill the vessel with clean water, replace the lid, unscrew the milled button on the top two or three turns, and allow the water to pass freely through the tube for a few seconds; then screw up the button just far enough to allow the water to pass through in drops, when a slight turn one way or the other will be found sufficient to regulate the action.

The mouth-tube can be cleansed by running a little fresh water through it.

		s.	d.
Saliva Ejector complete, all bright parts Nickel-plated, with Glass Mouth-Tube, length of India-rubber tubing, and Hook on upright for holding the mouth-tube		60	0
Extra Parts	India-rubber Tubing . . . . . per foot	0	6
	Glass Reservoir	5	0
	„ „ and fitting	6	0

COMBINED SALIVA EJECTOR AND STAND,

FOR INSTRUMENT TABLE, SPITTOON, AND TUMBLER.

(IMPROVED FORM, WITH FOUR FEET.)

For many years past there has been an increasing demand for this apparatus. Since its first introduction we have improved the Saliva Ejector and the Stand. All the bright parts are nickel-plated, and the lower portion of the Upright and the Stand are tastefully japanned and ornamented.

The apparatus complete forms a most useful and convenient addition to the Operating Room.

Extract from the "British Journal of Dental Science," for March 15th, 1884.

"Messrs. C. ASH AND SONS have manufactured a most elegant and comprehensive apparatus, as represented by woodcut. With nickel-plating, glass, and ornamentation it is very handsome indeed. The engraving gives so accurate an idea of its usefulness that little else is necessary. It may, however, be mentioned that it is provided with the ordinary Allan's table and bracket lamp, nickel-plated spittoon with blue glass funnel, two tumbler holders, and that an important improvement has been made in the Saliva Ejector by placing the India-rubber tubing lower down the stem to give the water a greater fall from the reservoir, and so creating a greater degree of suction."

PRICES:

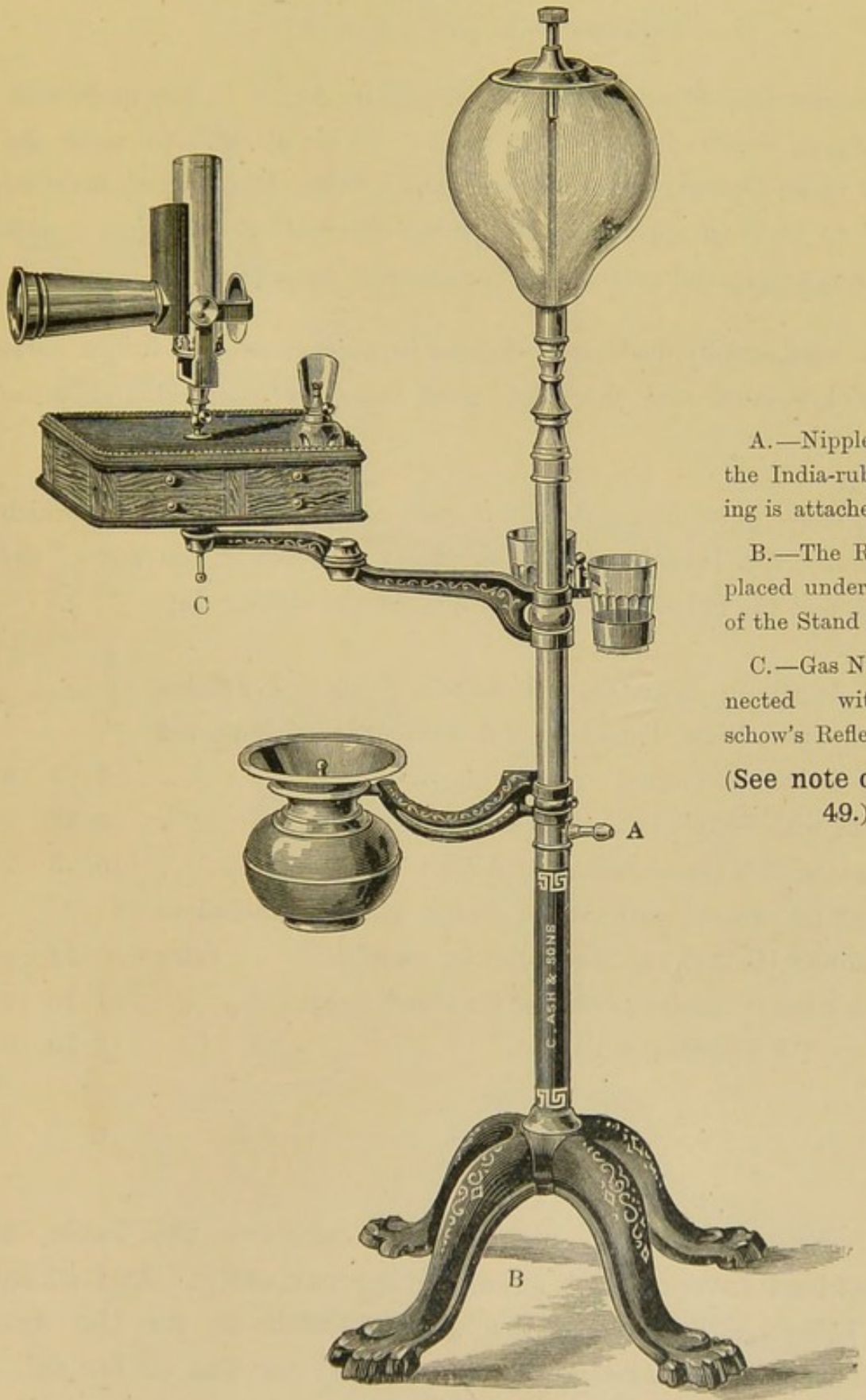
		£	*s.*	*d.*
Apparatus with Allan's Table, Bracket Lamp, two Tumblers, Nickelled Spittoon, Glass Funnel, Glass Mouth Tube, and India-rubber Tubing		8	3	0
The same with Simple instead of Allan's Table		6	19	0
„ „ Holmes' instead of Allan's Table		11	5	0
Either of the above with Water Bottle Holder attached to Tumbler Holder, and Water Bottle complete	extra	0	14	6
Telschow's Improved Gas Reflector for either Table	„	1	10	0
„ Oil Reflector, with Stand „	„	1	10	0
Extra Water Reservoirs	each	0	5	0
„ „ „ and fitting		0	6	0
„ Rods, for inside of Water Vessel	each	0	2	0
India-rubber Tubing	per foot	0	0	6

NOTE.—When ordering, please state whether the Table is required covered with green or maroon cloth. And when a Telschow's Reflector is wanted for or with the Apparatus, state whether it is required for Gas or for Oil.

COMBINED SALIVA EJECTOR AND STAND,

FOR INSTRUMENT TABLE, SPITTOON, AND TUMBLER — *continued.*

(IMPROVED FORM, WITH FOUR FEET.)



A.—Nipple to which the India-rubber Tubing is attached.

B.—The Receiver is placed under the legs of the Stand at B.

C.—Gas Nipple connected with Telschow's Reflector.

(See note on page 49.)

TOTAL HEIGHT, 57 INCHES.

STAND FOR INSTRUMENT TABLE, SPITTOON, &c.

(IMPROVED FORM, WITH FOUR FEET.)

To render this Stand thoroughly steady in use, it is now made with four feet, as shown on the next page. It is intended to meet the needs of those Operators who do not want a Saliva Ejector and Receiver attached to such an apparatus, but prefer the Wall Saliva Ejector with its constant supply and outlet pipes permanently connected to it.

It is substantially made and elegant in appearance, the bright parts being nickel-plated and the other parts tastefully japanned and ornamented.

The Table is so arranged that it rests quite firmly on the arm which supports it; the Tumbler Holder is placed well out of the way of the Spittoon, and the Spittoon is securely fixed in the closing ring.

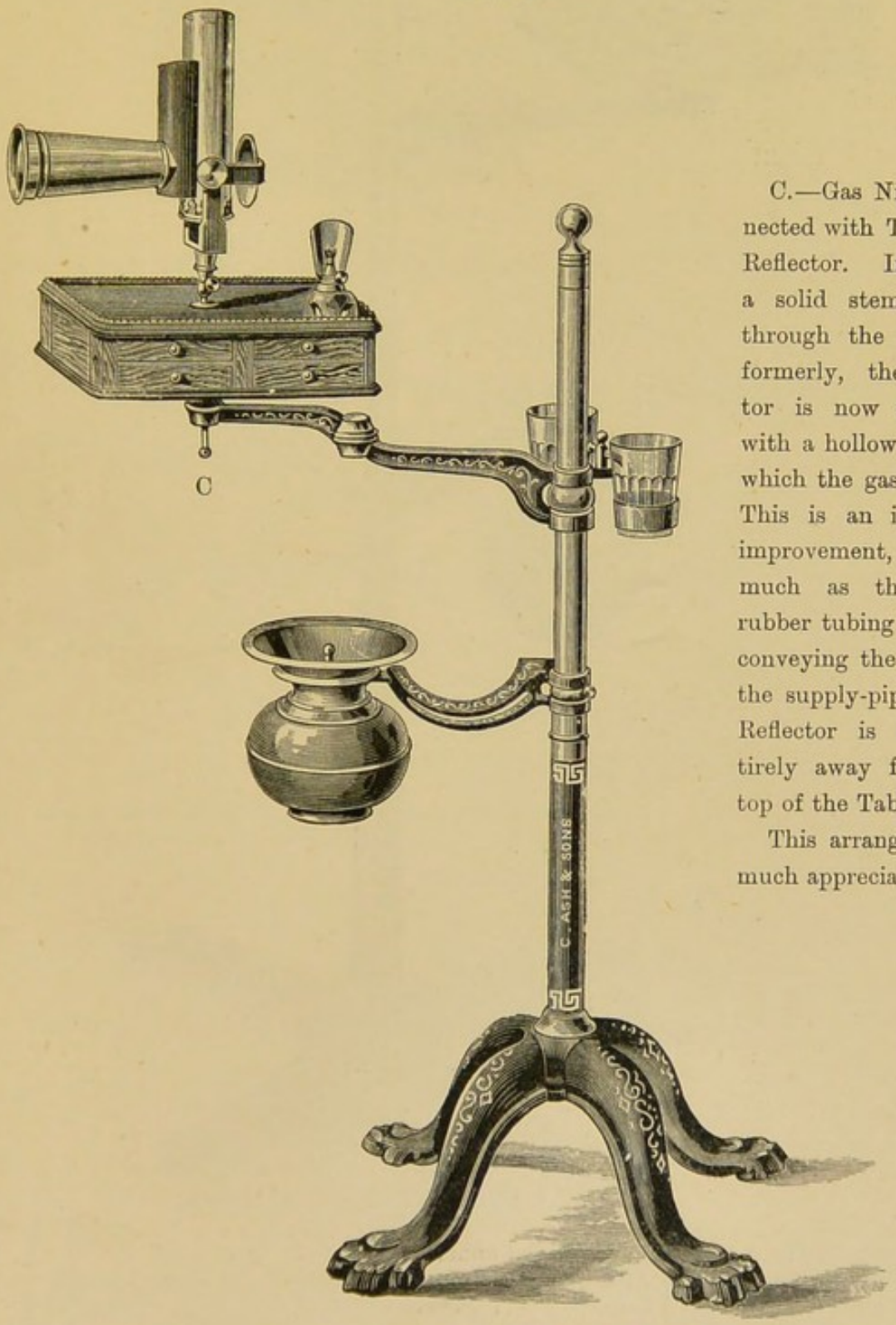
	£	*s.*	*d.*
Price of Apparatus complete, with Allan's Table and Bracket Lamp, two Glass Tumblers, and Spittoon with improved Cap and Glass Funnel	7	3	0
The same, with Simple instead of Allan's Table.	5	19	0
The same, with Holmes' instead of Allan's Table	10	5	0
Either of the above, with Water Bottle Holder attached to Tumbler Holder, and Water Bottle, complete . . extra	0	14	6
Telschow's Improved Gas Reflector for either Table . „	1	10	0
„ Oil Reflector, with Stand „ . „	1	10	0

NOTE.—When ordering, please state whether the Table is required covered with green or maroon cloth. And when a Telschow's Reflector is wanted with or for the Apparatus, state whether it is required for Gas or for Oil.

STAND FOR INSTRUMENT TABLE, SPITTOON, &c.

(Improved Form, with Four Feet.)

Fig. 1.



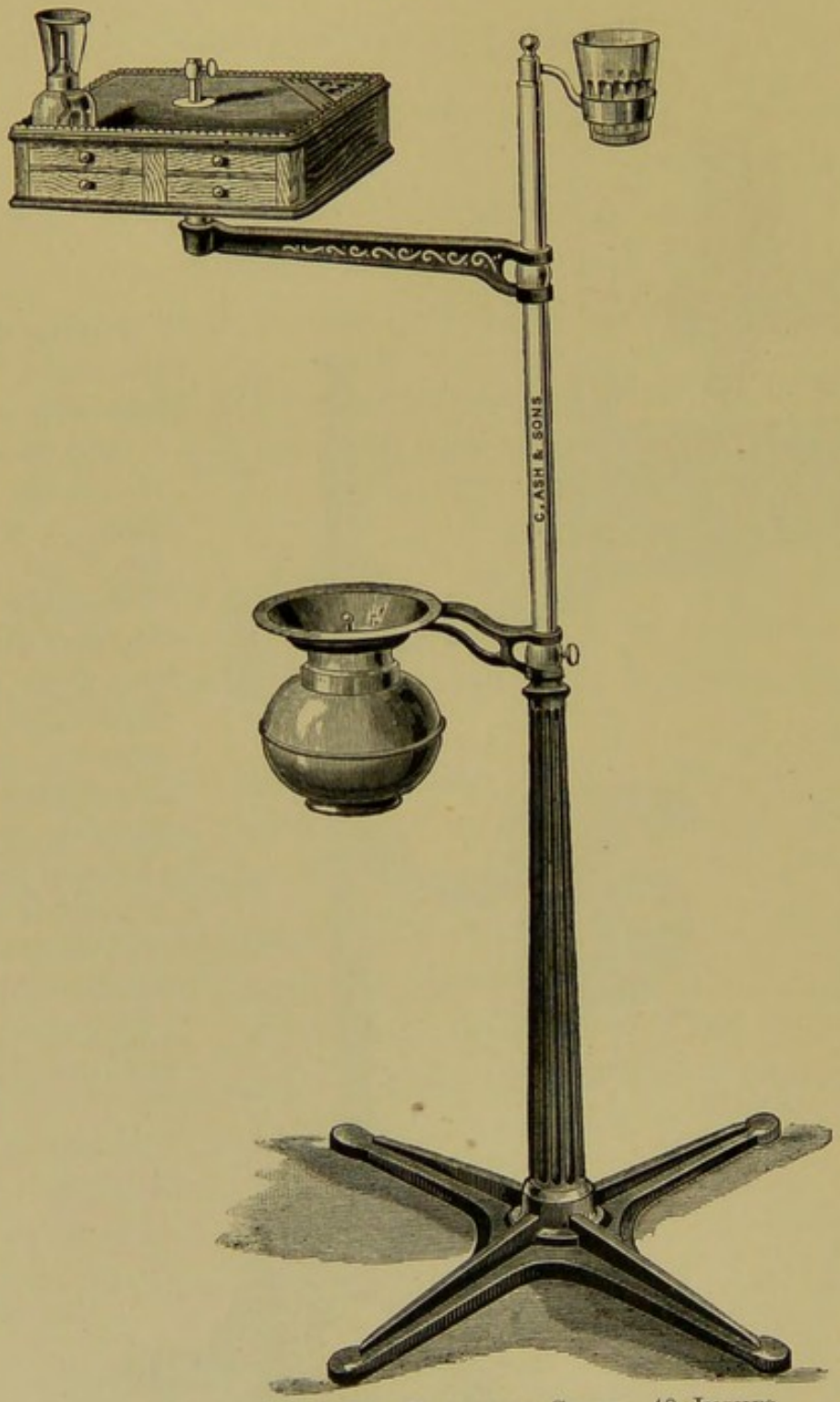
C.—Gas Nipple connected with Telschow's Reflector. Instead of a solid stem passing through the Table as formerly, the Reflector is now furnished with a hollow tube, up which the gas ascends. This is an important improvement, inasmuch as the india-rubber tubing used for conveying the gas from the supply-pipe to the Reflector is kept entirely away from the top of the Table.

This arrangement is much appreciated.

Total height of stand, 49 inches.

TABLE AND SPITTOON STAND.

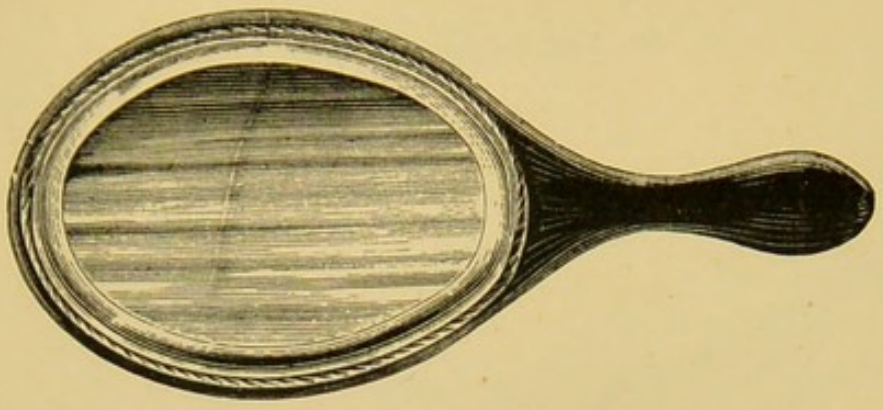
FIG. 2.



TOTAL HEIGHT OF STAND, 48 INCHES.

		£	s.	d.
Stand, with Tumbler, Spittoon and Glass Funnel		3	2	0
The same, with jointed Table Arm like Stand on previous page		3	7	0
Simple Table, with Bracket Lamp	extra	1	4	0
,, Japanese Table, with Bracket Lamp	,,	0	15	0
Allan's Table, with Bracket Lamp, *as illustrated*	,,	2	8	0

MAHOGANY HAND MIRRORS.



Supplied in two sizes as under :—		s.	d.
No. 10, with bevelled glass, $5\frac{5}{8}$ by $3\frac{3}{8}$ inches	each	2	6
,, 11, ,, ,, $6\frac{1}{8}$,, 4 ,,	,,	3	0

SATINWOOD HAND MIRRORS.

Supplied in two sizes as under :—		s.	d.
No. 10, with bevelled glass, $5\frac{5}{8}$ by $3\frac{3}{8}$ inches	each	4	9
,, 11, ,, ,, $6\frac{1}{8}$,, 4 ,,	,,	5	9

ROSEWOOD HAND MIRRORS.

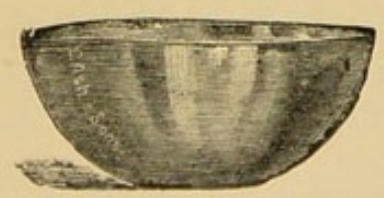
Supplied in two sizes as under :—		s.	d.
No. 10, with bevelled glass, $5\frac{5}{8}$ by $3\frac{3}{8}$ inches	each	4	9
,, 11, ,, ,, $6\frac{1}{8}$,, 4 ,,	,,	5	9

EBONY HAND MIRRORS.

With bevelled glasses, supplied in the following sizes :—		s.	d.
No. 10, glass $5\frac{5}{8}$ by $3\frac{3}{8}$ inches	each	5	6
,, 11, ,, $6\frac{1}{4}$,, 4 ,,	,,	6	6

FINGER BOWLS.

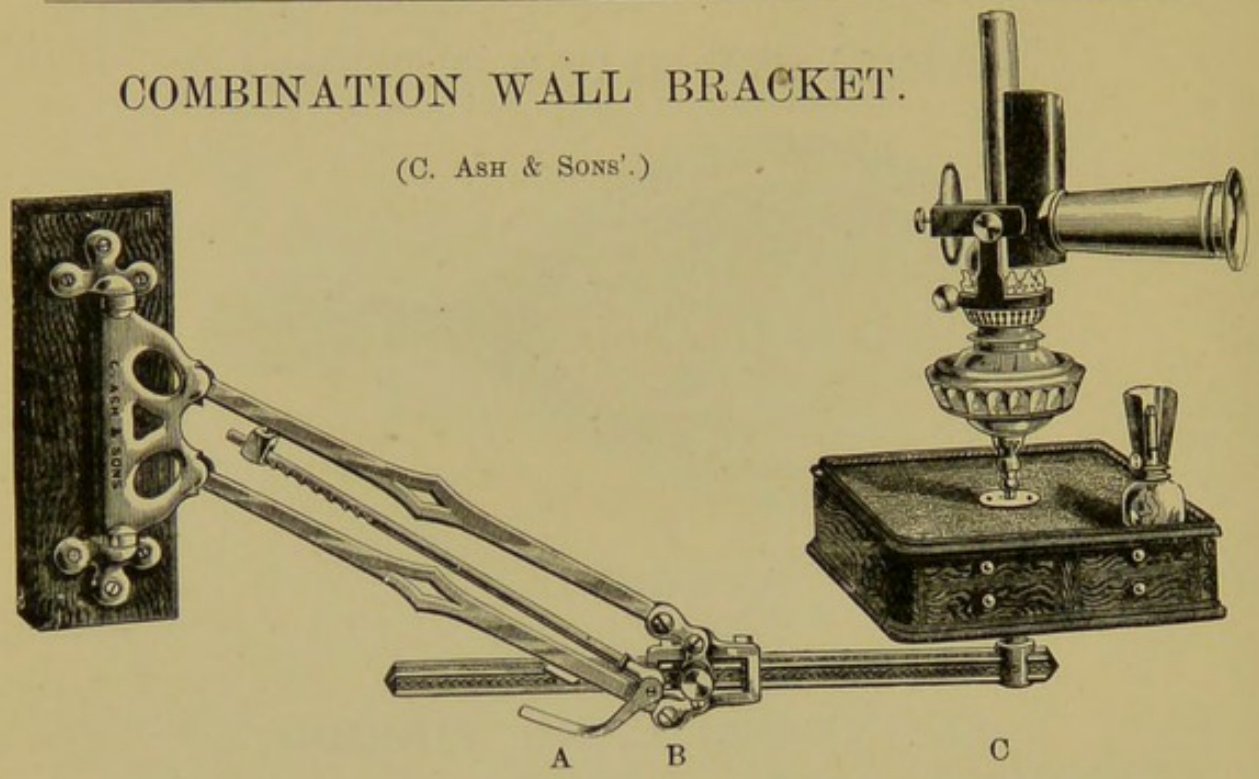
FOR THE OPERATING-ROOM.



		s.	d.
In Blue Glass	each	1	0
,, Green ,,	,,	1	0
,, Ruby ,,	,,	1	6

COMBINATION WALL BRACKET.

(C. Ash & Sons'.)



This Wall Bracket can be raised or lowered 24 inches by means of the handle A, and fixed at any point between the highest and lowest positions. The horizontal bar can be drawn forward 27 inches, and is controlled by the thumbscrew B. When drawn out to its fullest extent the Bracket is 49 inches long.

To increase its usefulness it is adapted for holding a Telschow's Reflector, as shown in the engraving.

When a Telschow's Gas Reflector is used the gas nipple passes through the tube at C, instead of being put over the top of the Table as formerly. This is an important improvement, inasmuch as the india-rubber tubing used for conveying the gas from the supply-pipe to the Reflector is kept entirely away from the top of the Table. The arrangement is much appreciated.

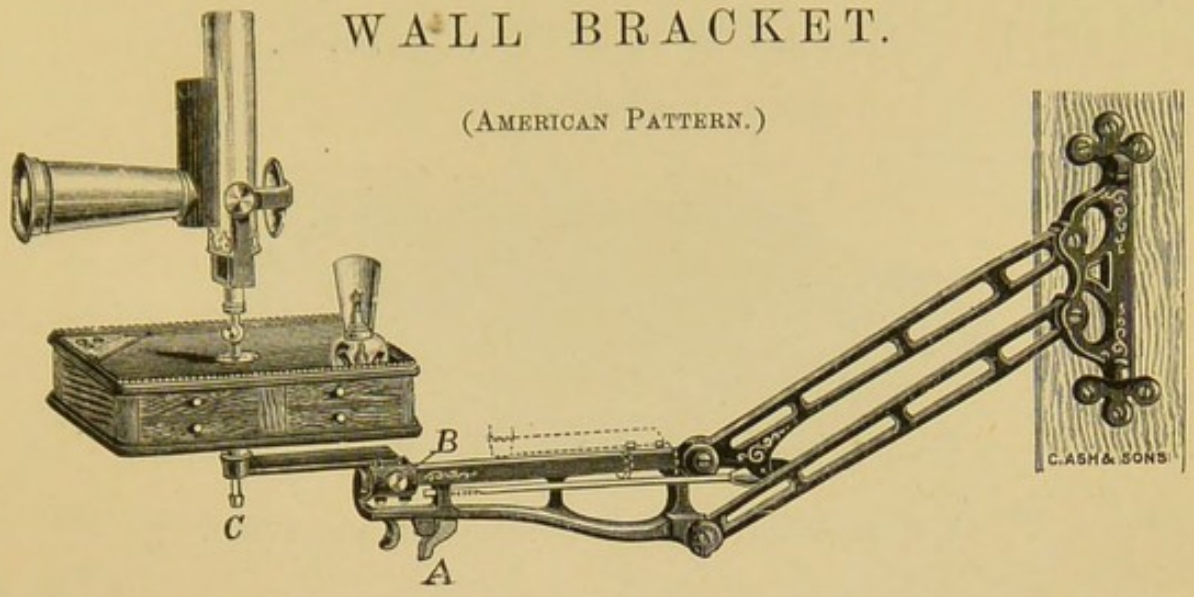
It is a very strong Bracket, handsome in appearance, the whole of the metal parts being Nickel-plated; they can however be had to **order** japanned and tastefully ornamented.

PRICES:

		£	*s.*	*d.*
Bracket, without Table		3	0	0
Simple Table, with Spirit Lamp	extra	1	4	0
Allan's „ „ „	„	2	8	0
Holmes' „ „ „	„	5	10	0
„ „ (American) „	„	5	16	8
Telschow's Reflector for Gas (see note above).	„	1	10	0
„ „ for Oil, with Stand . .	„	1	10	0

WALL BRACKET.

(American Pattern.)



This Wall Bracket can be raised or lowered 17 inches by means of the handle ***A***, and fixed at any point between the highest and lowest positions. When drawn out to its fullest extent the Bracket is 44 inches long. The sliding arm to which the table is attached has an independent range of 15 inches, which is controlled by the thumb-screw ***B***.

The Bracket is adapted for holding a Telschow's Reflector, either for gas or oil.

When a Telschow's Gas Reflector is used, the gas nipple passes through the tube at ***C***, instead of being put over the top of the Table as formerly. This is an important improvement, inasmuch as the india-rubber tubing used for conveying the gas from the supply-pipe to the Reflector is entirely kept away from the top of the Table. The arrangement is much appreciated.

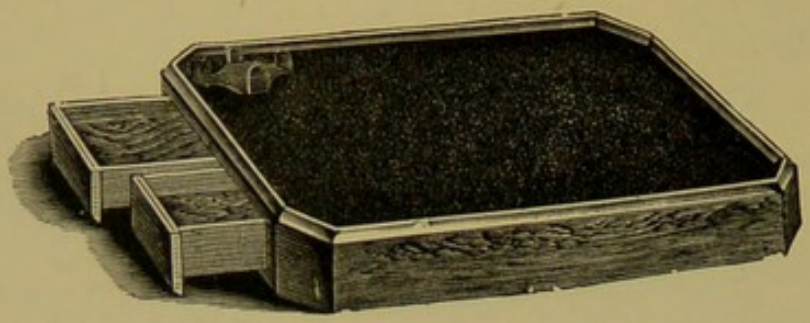
The Bracket is strongly made and thoroughly well japanned.

PRICES:

	£	*s.*	*d.*
Bracket (japanned), without Table	2	5	0
Simple Table, with Spirit Lamp . . . . extra	1	4	0
Allan's „ „ „ . . . . „	2	8	0
Holmes' „ „ „ . . . . „	5	10	0
„ „ (American) „ . . . . „	5	16	8
Telschow's Reflector for Gas . . . . „	1	10	0
„ „ for Oil, with Stand . . „	1	10	0

BRACKET TABLES.

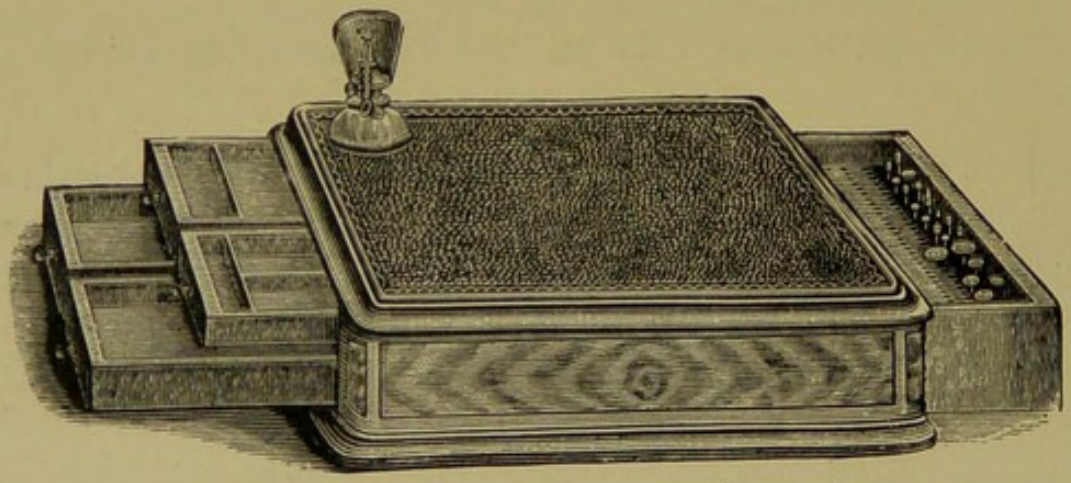
SIMPLE.



In Walnut, covered with Green or Maroon Cloth.

	£	s.	d.
Price complete, with Spirit Lamp and Shield	1	4	0

ALLAN'S.

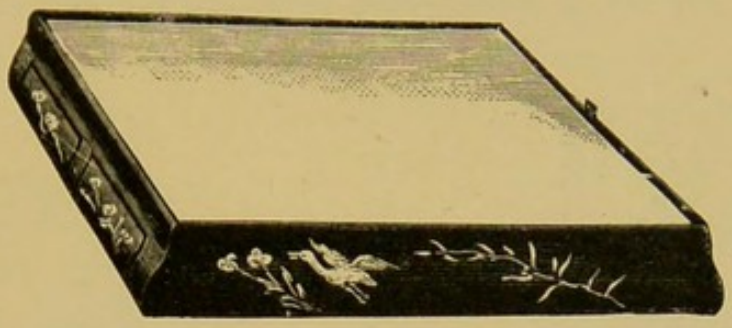


In Walnut, covered with Green or Maroon Cloth.

	£	s.	d.
Price as illustrated, *minus the Engine Instruments*	2	8	0
The same, with one deep drawer in place of two of the shallow drawers.	2	8	0
The same, with one deep drawer arranged for bottles in place of two of the shallow drawers.	2	8	0
The above, with Tiled Top—any kind of Tile of the six designs which we keep in stock . . . . . extra	0	10	0

BRACKET TABLES.

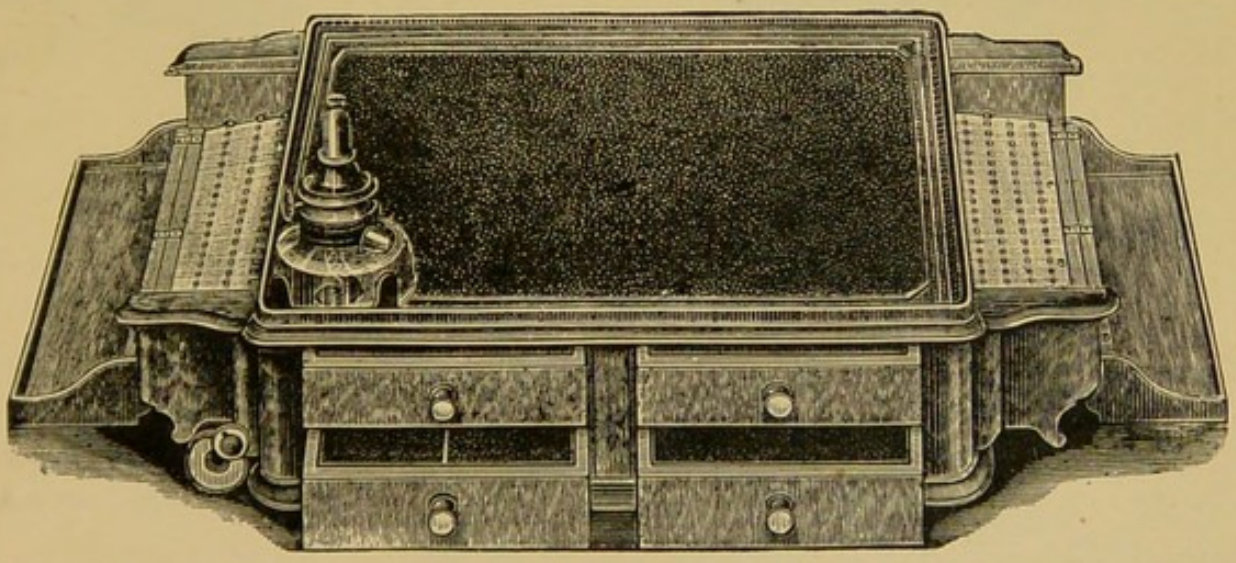
SIMPLE.—Japanese Make.



Lacquered Wood, tastefully ornamented and covered with Maroon Plush.

	s.	*d.*
Price complete, with Spirit Lamp and Shield	15	0

HOLMES'.



In Walnut, covered with Green or Maroon Cloth.

	£	*s.*	*d.*
Price complete, with Spirit Lamp and Shield	5	10	0
The same (American make)	5	16	8

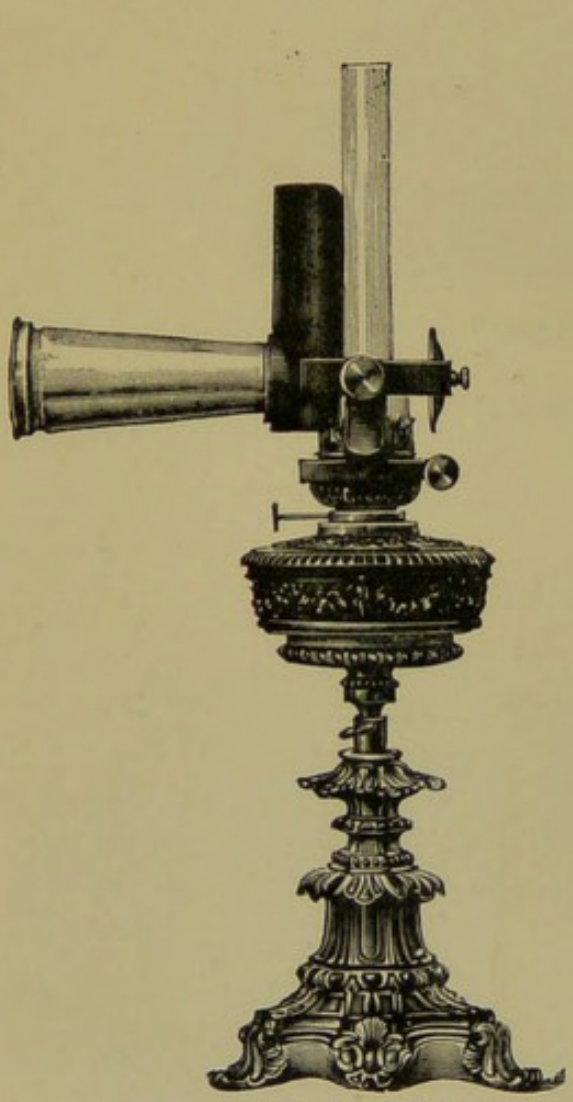
When ordering a Bracket Table, please state whether it is to be covered with Green or Maroon Cloth, and for which Bracket, or Attachment, or Stand it is required; also if wanted with or without hole through the centre.

Tables made in Mahogany or Rosewood to order.

TELSCHOW'S REFLECTORS.

(Ash's English Manufacture.)

Fig. 3, for Oil or Petroleum, arranged for two purposes:



As a Reflector.

As a Reading Lamp.

These Reflectors give a very intense and concentrated light, which is confined to the region of the mouth. Their full range, which has been found sufficient for Dental Operations, is shown by the dotted lines in the illustrations on the next page. The tube containing the lens can be adjusted at any point between these lines by means of a thumb-screw, which is placed near the chimney.

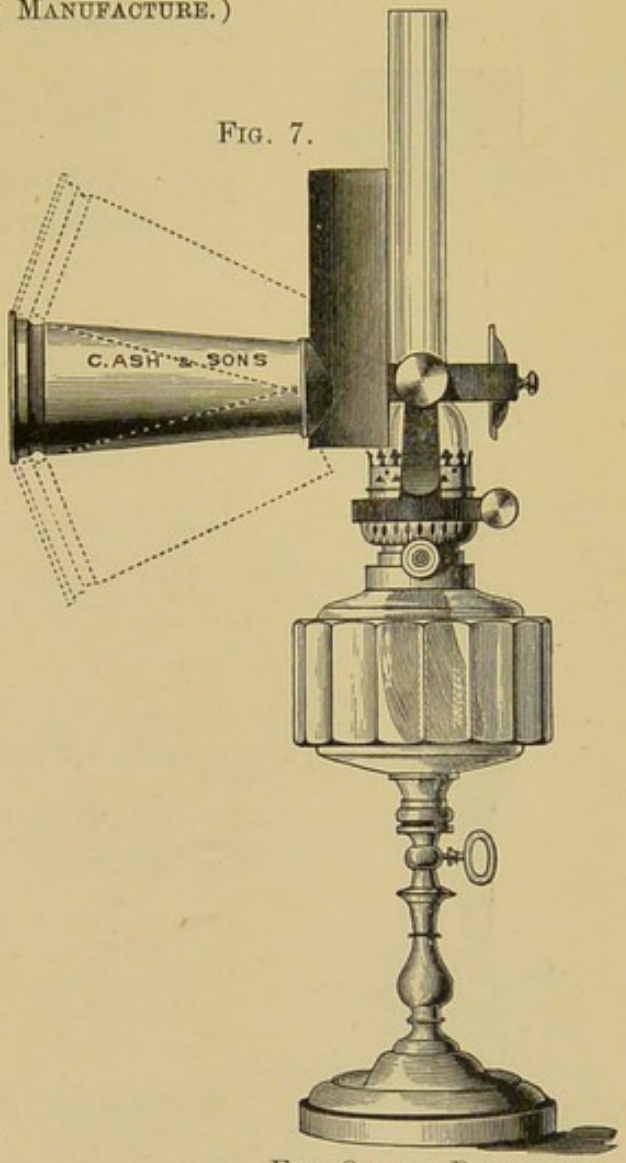
PRICES:

		s.	*d.*
Lamp, with handsome Bronze Pedestal, Reflector and Globe	(Fig. 3)	40	0
Extra Globes	each	2	0

TELSCHOW'S REFLECTORS.

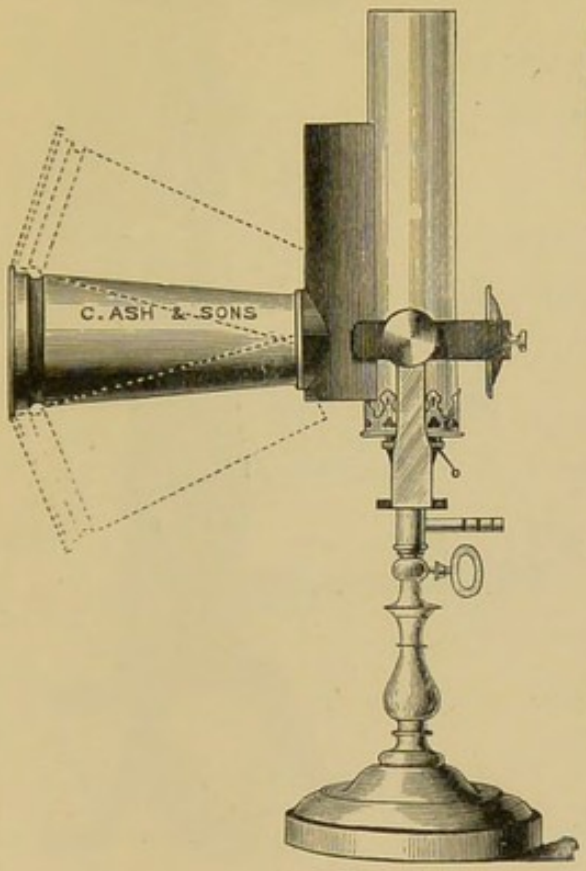
(Ash's English Manufacture.)

Fig. 7.



For Oil or Petroleum.

Fig. 6.



For Gas.

Fig. 7 can be used as a Reading Lamp if fitted with Globe like Fig. 3.

When ordering, please state whether a Gas or Oil Reflector is required.

		s.	*d.*
Gas Reflector, as illustrated	(Fig. 6)	30	0
Oil „ „	(„ 7)	30	0
Gas Reflector with Incandescent Burner and Welsbach Mantle		40	0
Improved Braided Gas-Tight Flexible Tubing	per foot	0	3½
Elastic Ends for fitting to ditto	per pair	1	0
Globes for the Oil Reflectors	each	2	0
Extra Chimneys for Oil Reflectors	„	0	3
„ „ Gas Reflectors	„	0	4
Lamp Wick	per yard	0	3

For Electric Reflectors, *see* our Electrical List.

OPERATING-ROOM LATHES.

FIG. 1.

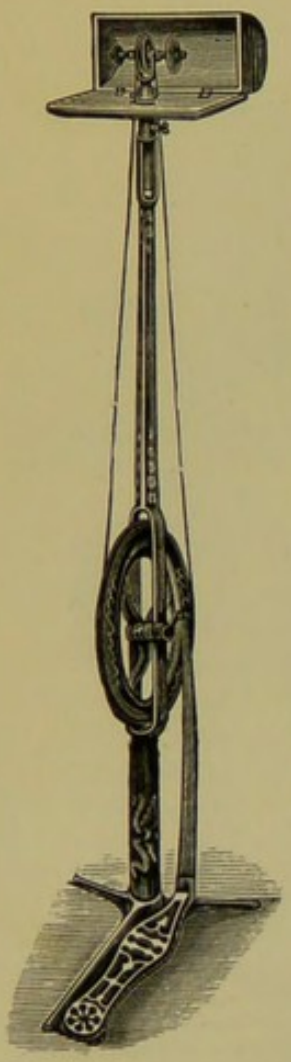


Fig. 1.

FOR GRINDING AND POLISHING.

Suitable for light work in the Operating Room.

It is 44 inches high to the centre of the pulley-head.

	£	*s.*	*d.*
Price, with Spanner .	3	3	6
Extra Chuck to carry Engine Burs . .	0	3	0

FIG. 3.

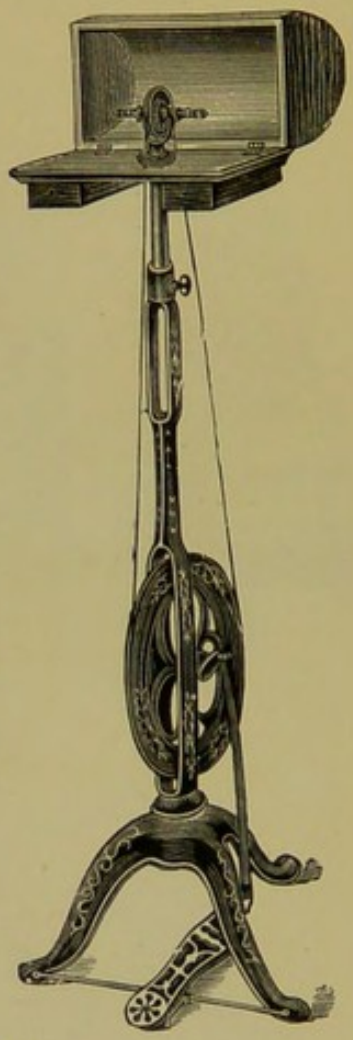


Fig. 3.

LARGE OPERATING-ROOM LATHE.

Height to top of Table, 39 inches. Range of Sliding Rod, 5 inches.

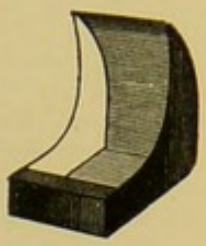
PRICES:

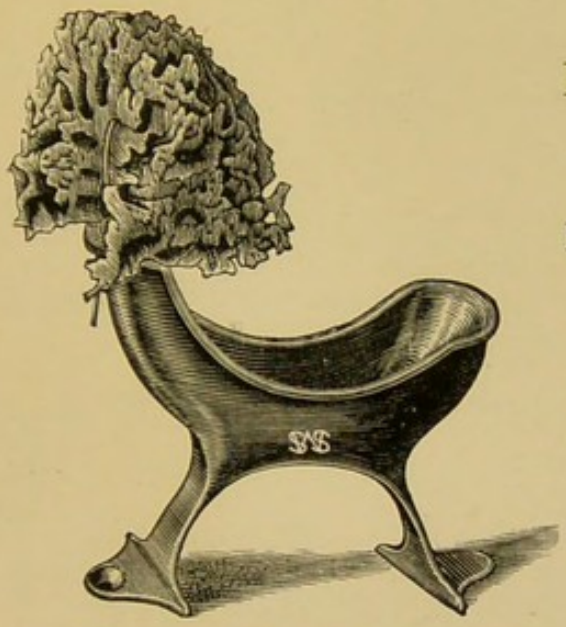
	£	*s.*	*d.*
Stand and Upright, japanned black, relieved with ornamentation, Walnut Table with two Drawers underneath, and Cover to match—with No. 1 Lathe Head—(*see* List L) . .	5	0	0
The same with Lathe Head No. 2	5	10	0
„ „ Iron Head No. 3	5	5	0
„ „ Gun-Metal Head No. 3	5	15	0
„ „ Lathe Head No. 7	5	7	0
„ „ „ „ No. 8	5	17	0

The above Lathe Heads are shown in List L.

WATER APPARATUS.

	s.	*d.*
Small Size for Lathe Fig. 1 on previous page .	2	6
Large Size for Lathe Fig. 3, with well at back and bars across front for holding sponge. Complete with sponge	9	0





DRIP CUP WITH SPONGE.

Suitable for the Fig. 1 Lathe.

It is designed to keep the Corundum Wheel wet while in motion, and to catch the drip.

Made of cast-iron, and lacquered to prevent rusting.

	s.	*d.*
Price complete	1	0

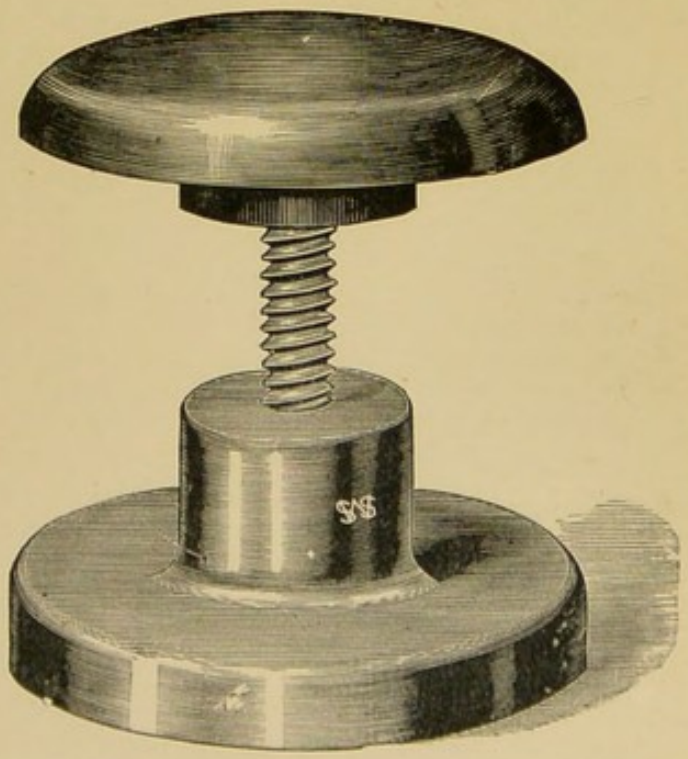
REST OR HAND SUPPORT.

A USEFUL AUXILIARY TO LATHES.

It affords an easy comfortable support for the hand, as for instance in grinding teeth, and enables the operator to hold the work steadily against the Corundum Wheel of the Lathe. It can be adjusted to the proper height by means of the screw.

Made of Metal, Japanned.

	s.	*d.*
Price complete . . .	1	6



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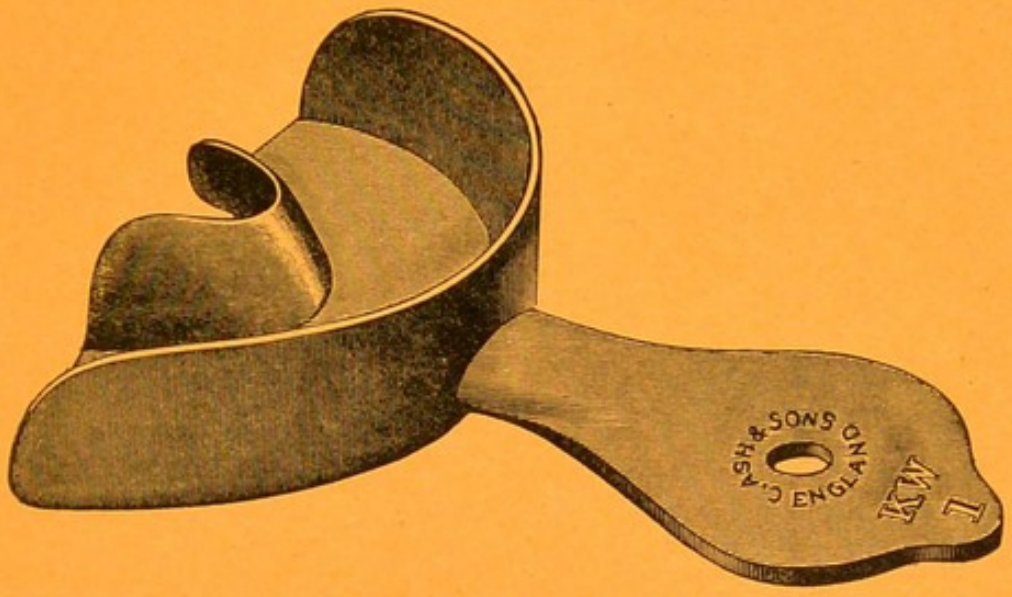
IMPRESSION TRAY.

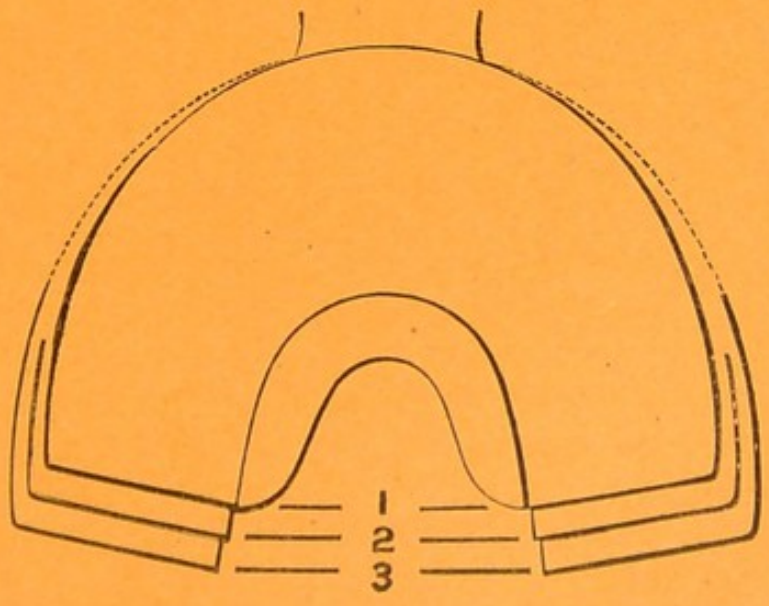
Form KW.

FOR UPPER AND LOWER FRONT PARTIAL DENTURES.

Owing to its special features, viz., (1) depth and (2) width between the palate and front, it is also a most useful tray for regulation cases.



Depth of Tray, $\frac{11}{16}$ inch.

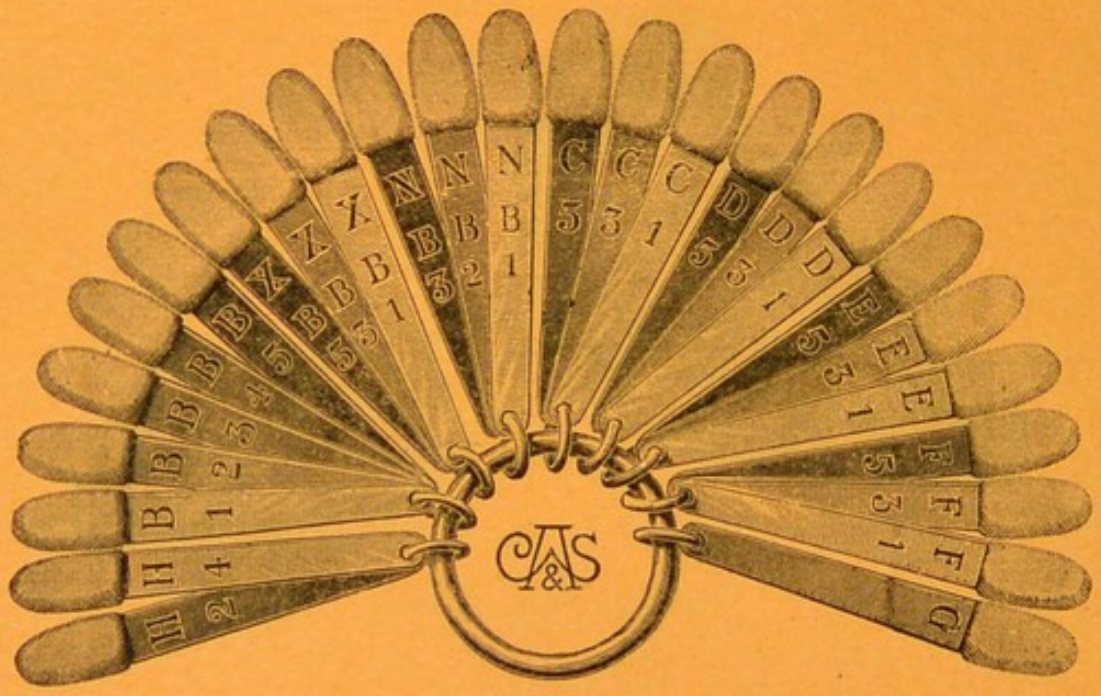


		s.	d.
In German Silver, sizes 1, 2 and 3 Nickel-plated . . .	each	1	9

C. ASH & SONS'

SET OF TEETH SHADES.

(Registered. Reg. No. 269,728.)



SUPPLIED FREE OF CHARGE ON APPLICATION.

Each Tooth in the Set of Shades here illustrated is made with a single pin, and is riveted to a strip of aluminium bearing the colour and shade by which the Tooth is known—the letter or letters indicating the colour and the number the shade.

The single pin serves as a pivot and permits of the Tooth being turned completely round, so that when the Upper Teeth are to be matched the cutting edge can be set downwards, as shown in the engraving, and, inversely, when the Lowers are to be matched, the cutting edge can be set upwards. This arrangement is of great advantage, inasmuch as it enables the operator to place any Tooth in the Set of Shades against the Teeth in the mouth in such a way that the effect is seen at a glance, and when he has found the Tooth which matches, it is only necessary for him to write for B/3, D/4, etc., in order to obtain APPROXIMATELY the colour and shade which he requires.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

FORCEPS

AND

INSTRUMENT CASES.

CLAUDIUS ASH & SONS, LTD.

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COPENHAGEN	3, BOLDHUSGADE.
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ST. PETERSBURG	19, KLEINE MORSKOY.
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ASH'S

CLOTH FINISHING STRIPS.

Of superior quality; will stand hard wear without losing their abrasive power, owing to the fact that the powder is thoroughly secured to the cloth.

Carborundum, medium width, in the following grits :—
Fine, Medium, Coarse, and Assorted.

		s.	d.
Price, any kind	per box	2	0

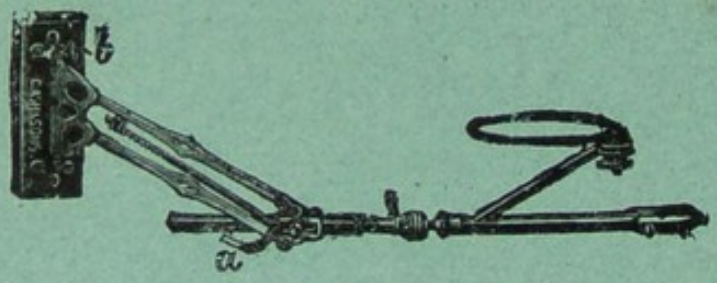
Ruby Crystal, medium width, in the following grits :—
Fine, Medium, Coarse, and Assorted.

		s.	d.
Price, any kind	per box	1	3

WALL BRACKET

FOR HOLDING THE TUBE USED IN RÖNTGEN PHOTOGRAPHY.

(Designed by Dr. H. Gocht, of Würzburg.)



This Bracket is thoroughly suited for holding the tube which is used in Röntgen Photography.

It can readily be moved into any desired position, and just as readily fixed there very firmly, a point of great importance for obtaining good results.

The Ring that holds the cloth which covers the tube can also be moved into any position.

Full particulars of the Bracket are given in Dr. Gocht's work, "Lehrbuch der Röntgen-Untersuchung."

	£	s.	d.
Price of Bracket	3	10	0

WALSH.—The Röntgen Rays in Medical Work, by David Walsh, M.D. Edin., Physician Western Skin Hospital, London; Hon. Sec. Röntgen Society, London. With an Introductory Section upon Electrical Apparatus and Methods by J. E. Greenhill, 58 illustrations, 140 pp. and Index. 8vo., cloth.

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Price	net	6	0

DENTAL FORCEPS.

The Illustrations of Forceps on pages 2 to 22 represent the most improved forms in general use, which have met with the approval of the best operators. The upper part of each is drawn nearly full size, in order to give a clear view of the construction of the beaks. To facilitate reference, the Forceps are placed in numerical order according to the numbers by which they are known. It should be noted that the words: "for the right or for the left side of the mouth," employed in some of the descriptions, mean the right or left side **in the patient's mouth.**

We have devoted special attention to this branch of our business for more than thirty years, during which time we have availed ourselves of the suggestions for new Forceps and for modifications of existing forms made by the most eminent Practitioners in the Dental Profession, including the late Sir John Tomes and other Operators whose names have never been formally associated with the instruments which they designed. All our Forceps are made of the best steel, and we can confidently recommend them for **lightness, strength, temper, finish, and accuracy of adaptation.** The beaks of each are made to fit the teeth for which they are intended so perfectly, that a firm grip can be obtained, and sufficient pressure applied for the removal of any tooth without danger of crushing the crown.

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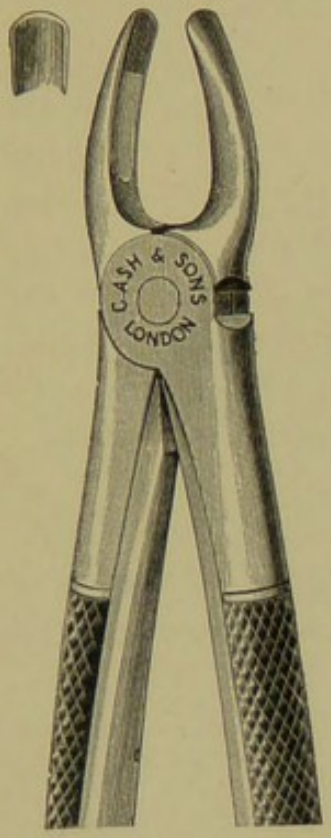
EXTRACTING FORCEPS.

1.



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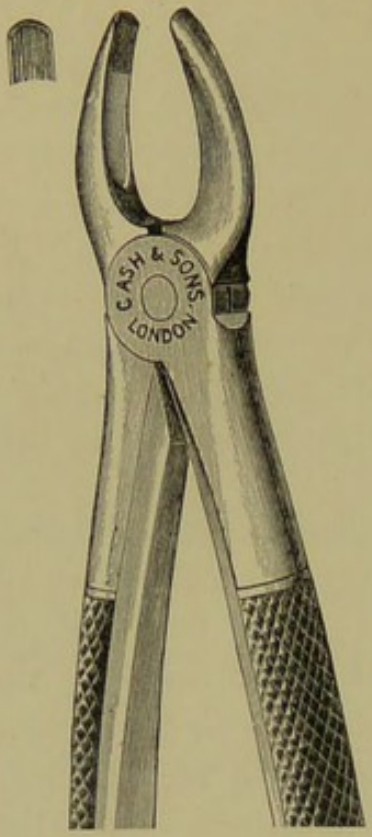

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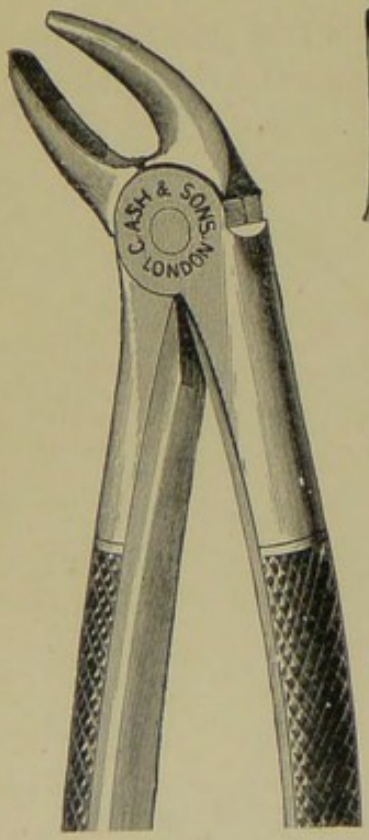

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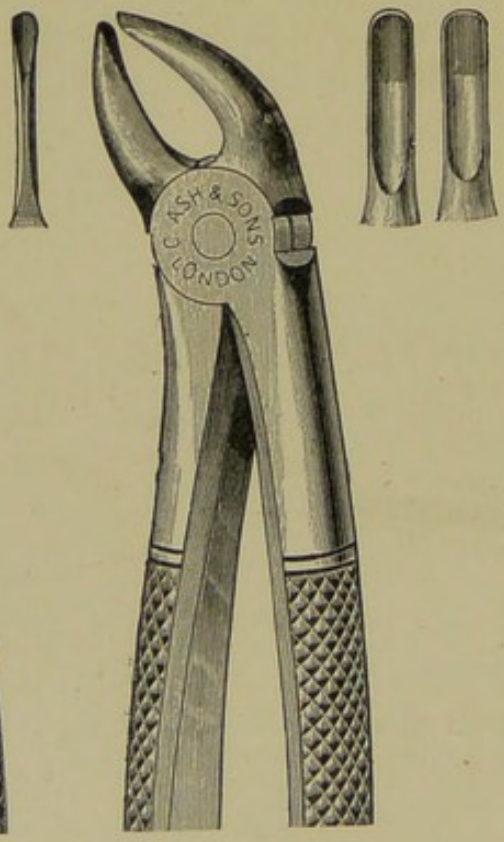

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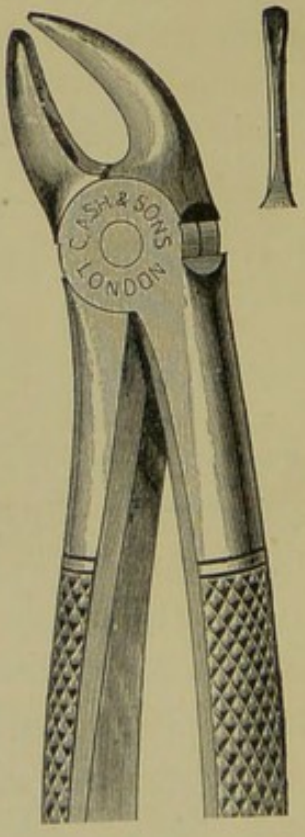


EXTRACTING FORCEPS.

7. 8. 13.

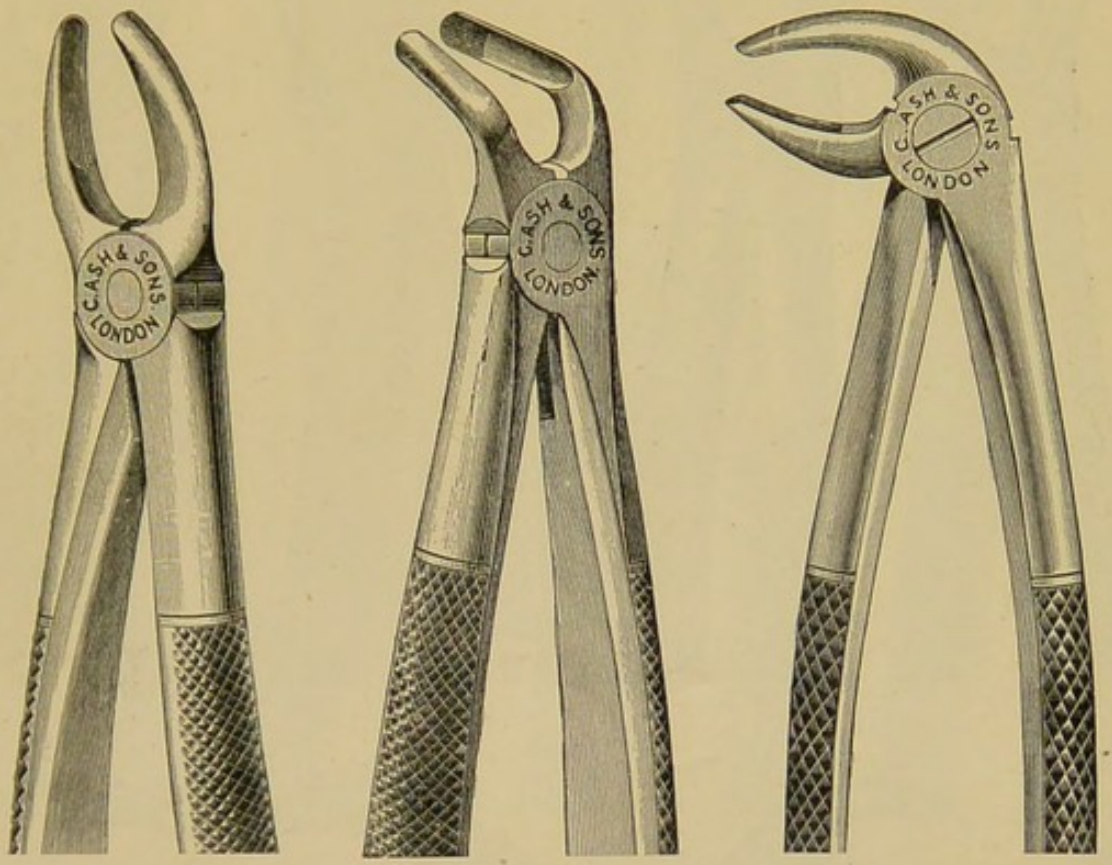
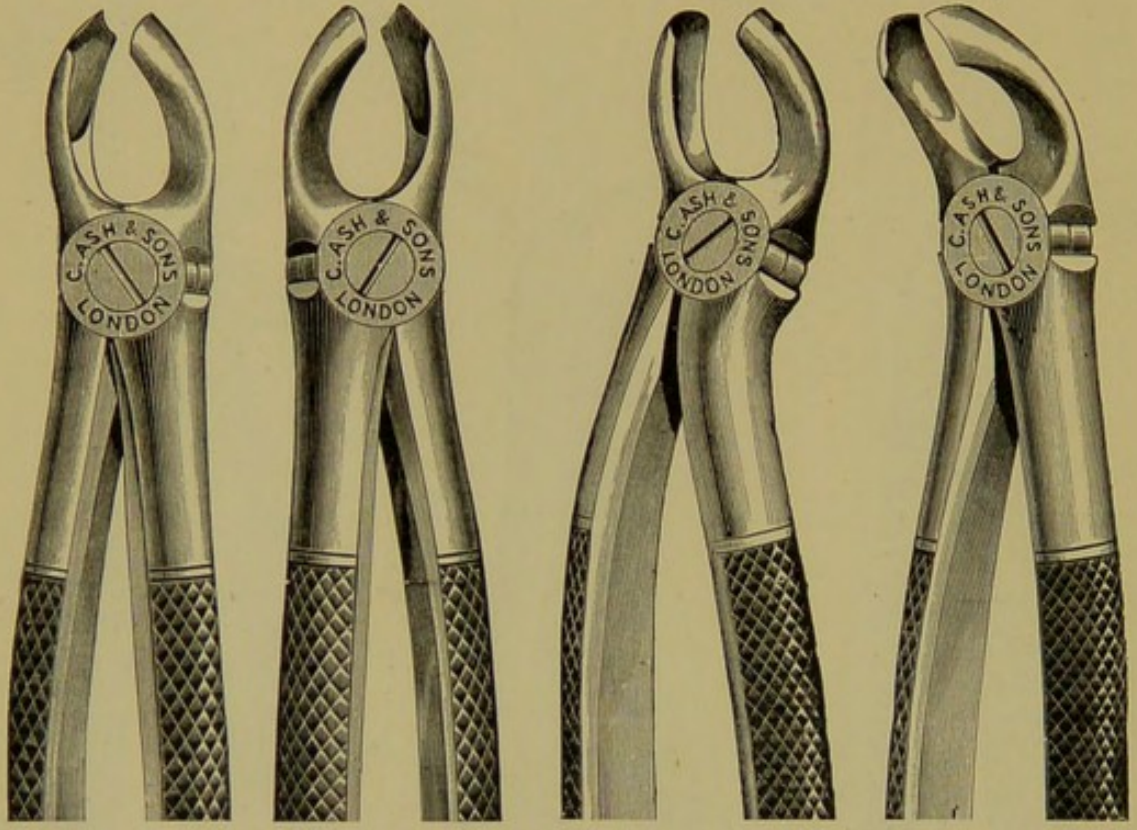


Fig. 1 for Upper Centrals and Canines.
„ 2 „ Laterals and Bicuspids.
„ 3 „ Incisors crowded internally or externally.
„ 4 for Lower Incisors and Canines.
„ 5 „ „ crowded internally.
„ 6 „ „ „ externally.
„ 7 for Upper Bicuspids.
„ 8 for Lower „
„ 13 „ „ (Hawk's bill).

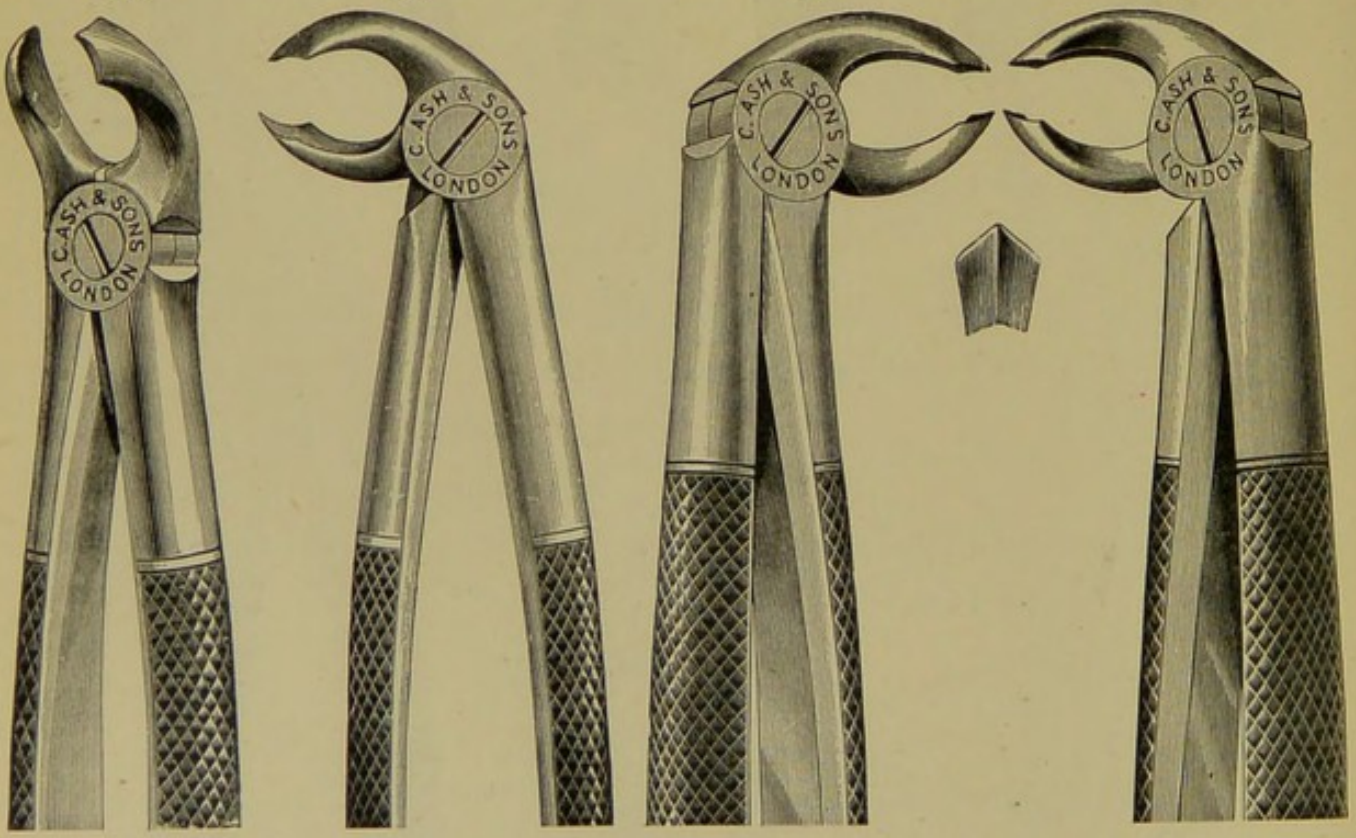
	s.	*d.*
Price, nickel-plated .. .. each	10	0

EXTRACTING FORCEPS.

17. 18. 19. 20.



21. 22. 23. 24.



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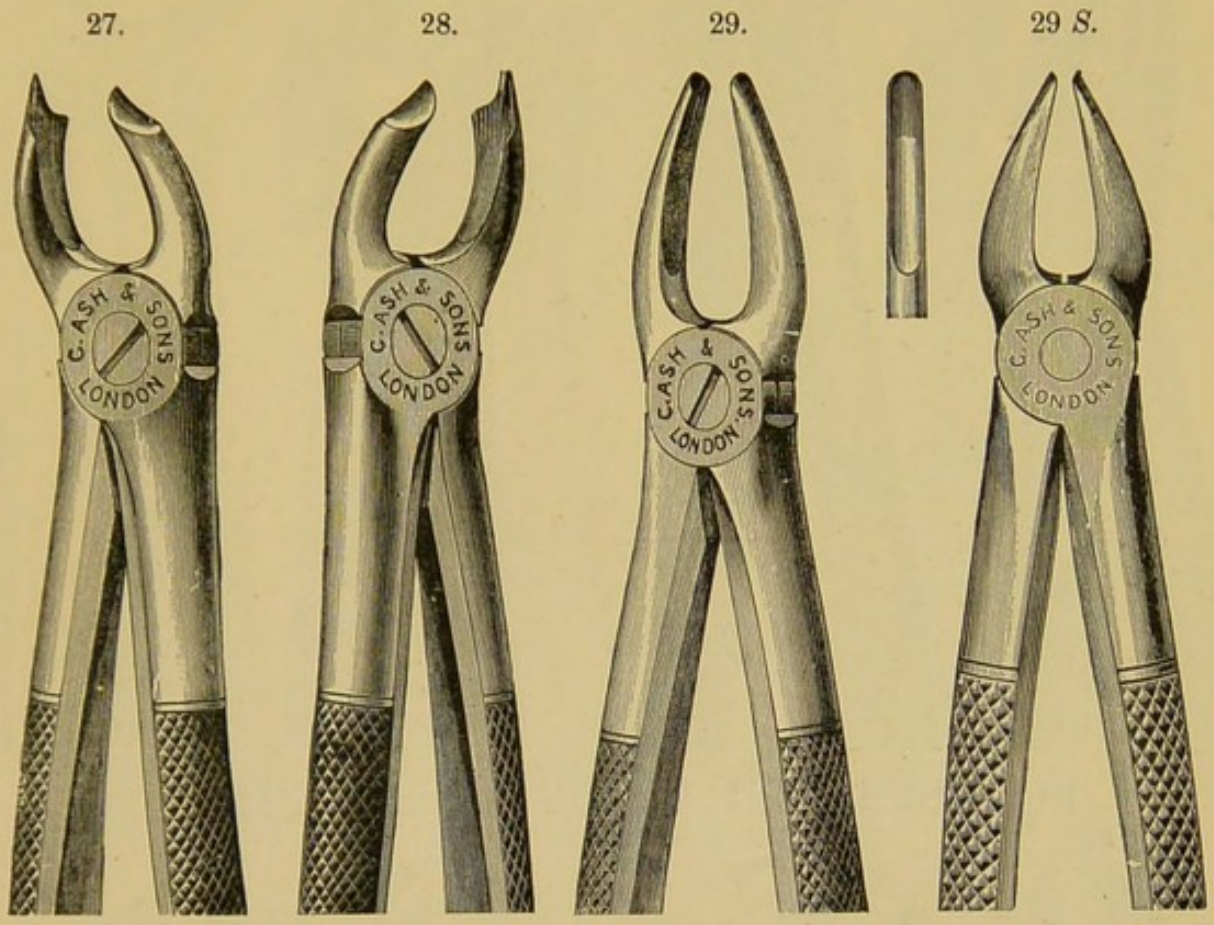
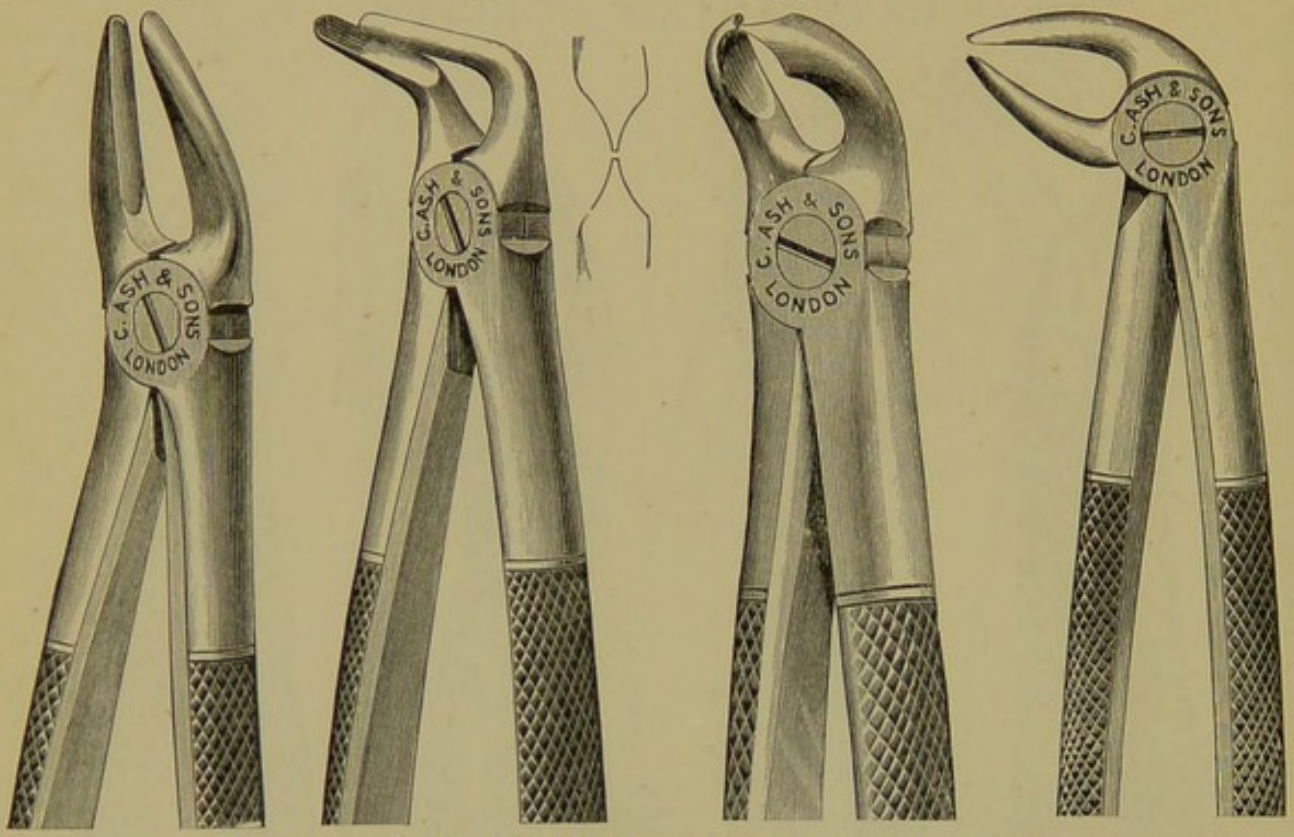


Fig. 17 for right Upper Molars.
„ 18 for left „ „
„ 19 for Upper Wisdoms.
„ 20 for Lower „
„ 21 „ Molars.
„ 22 „ „ (Hawk's bill).
„ 23 for right Lower Molars „
„ 24 for left „ „ „
„ 27 for right Upper „
„ 28 for left „ „
„ 29 for Upper Stumps.
„ 29 *S* „ „

		s.	*d.*
Price, nickel-plated	each	10	0

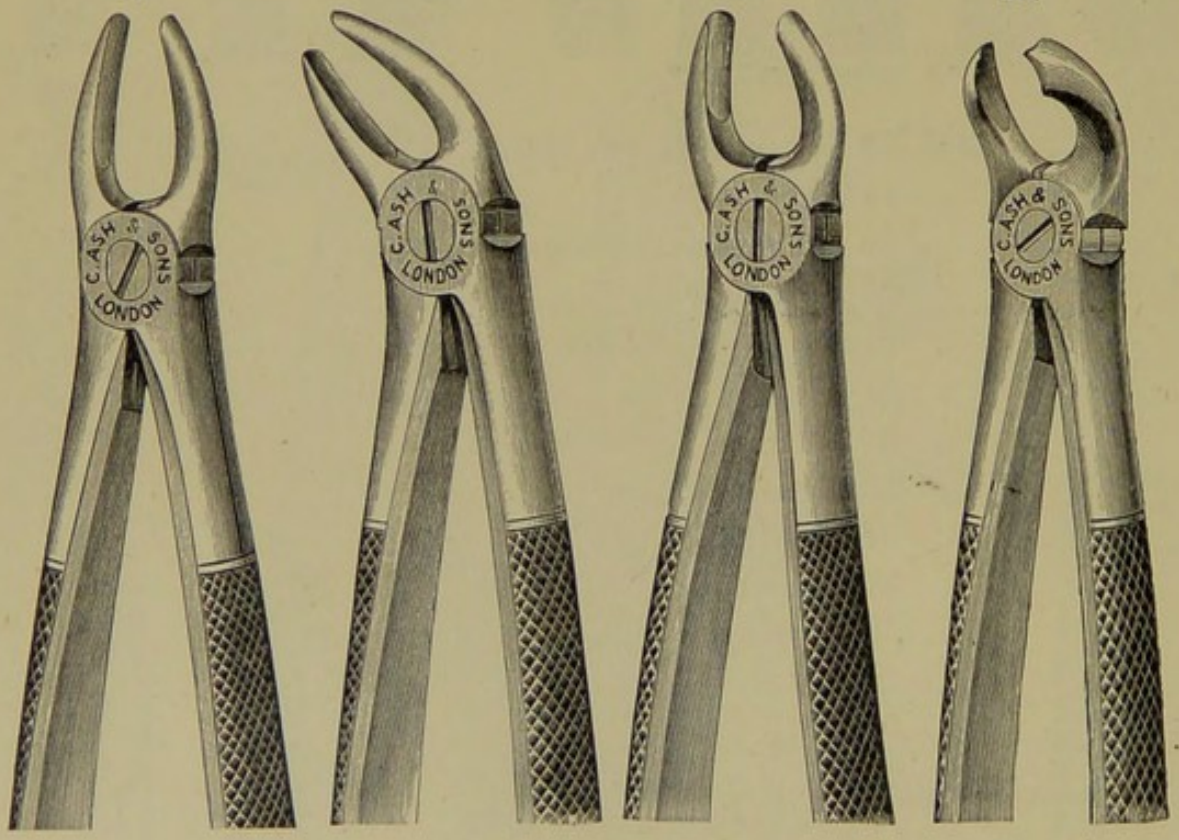
EXTRACTING FORCEPS.

30. 31. 32. 33.



FORCEPS FOR CHILDREN'S TEETH.

37. 38. 39. 40.



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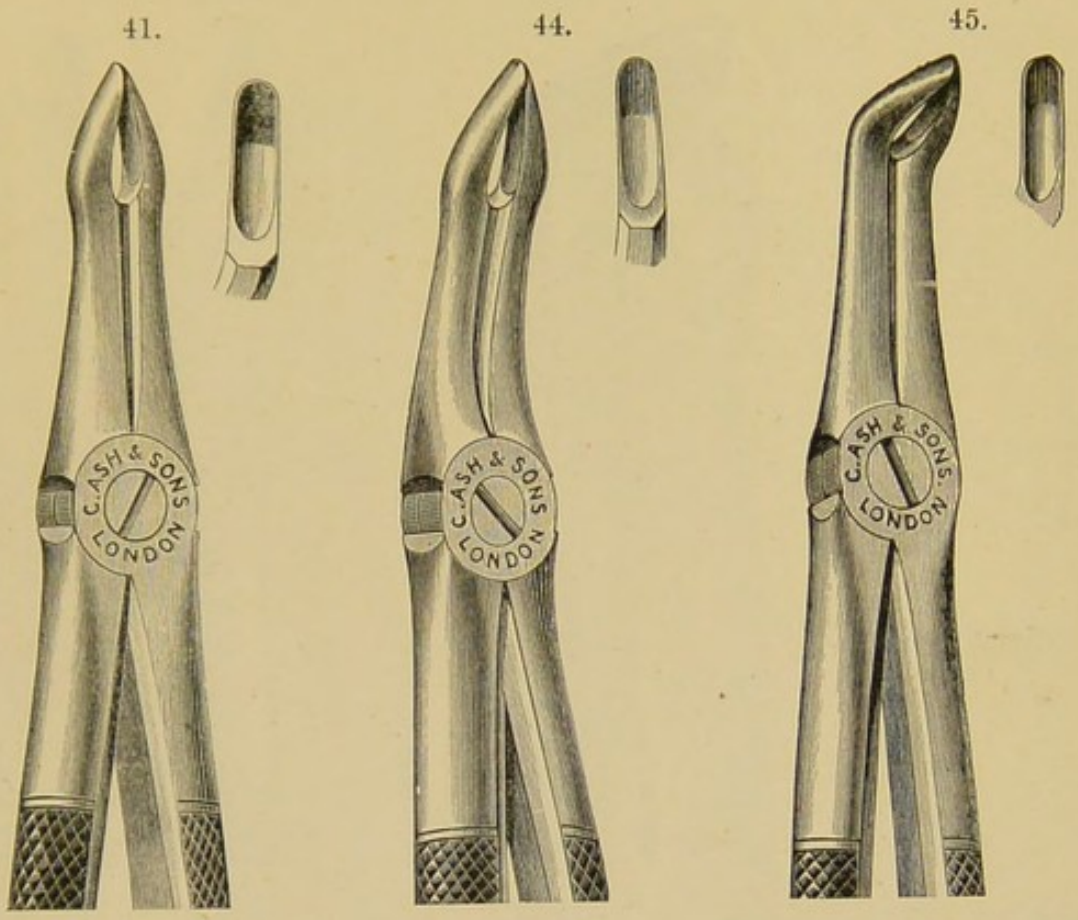
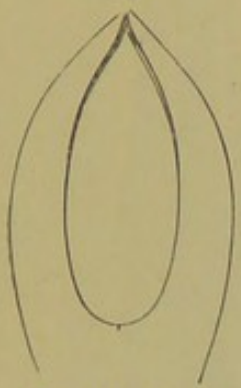


Fig. 30 for Upper Stumps.
„ 30 *S* „ „ with shorter and narrower beaks than Fig. 30.
„ 31 for Lower „
„ 32 „ Molars with decayed and broken-down crowns.
„ 33 „ Stumps (Hawk's bill).
„ 37 for children's Upper Incisors and Canines.
„ 38 „ Lower „ „
„ 39 „ Upper Molars.
„ 40 „ Lower „
„ 41 for Upper Stumps.
„ 44 „ „
„ 44 *S* (not illustrated) same shape as Fig. 44, but smaller in build and with narrower beaks.
„ 45 for Lower Stumps

		s.	*d.*
Price, nickel-plated	each	10	0

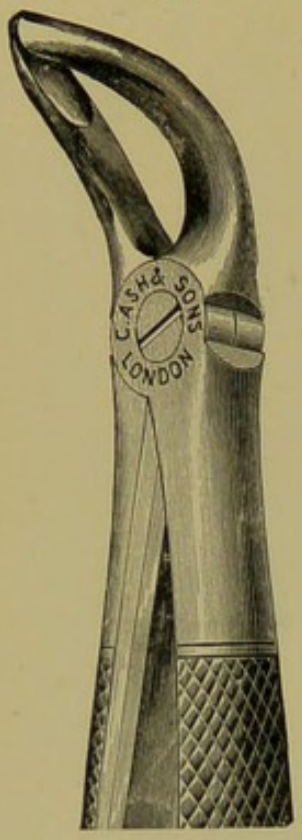
EXTRACTING AND SPLITTING FORCEPS.

A

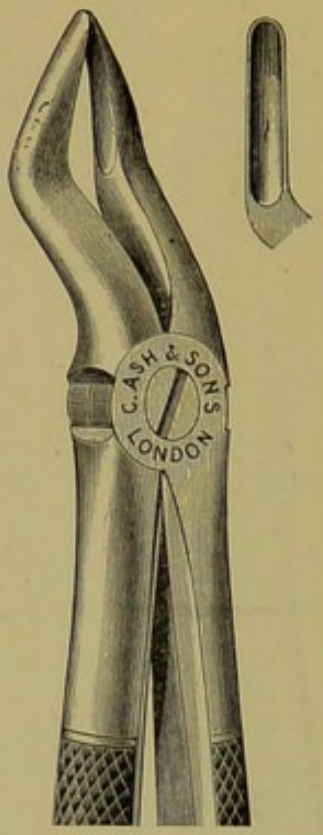


Front view of beaks.

48.



51.



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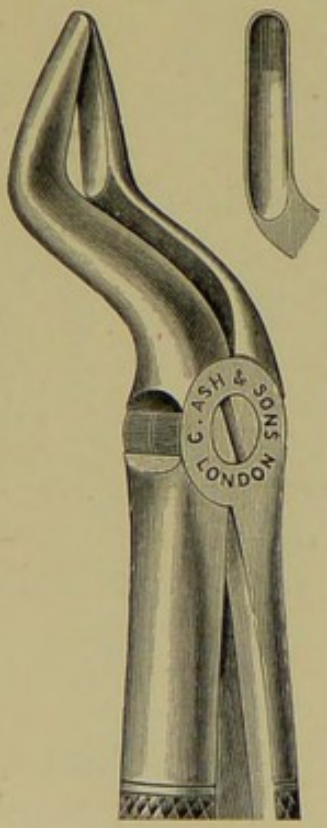

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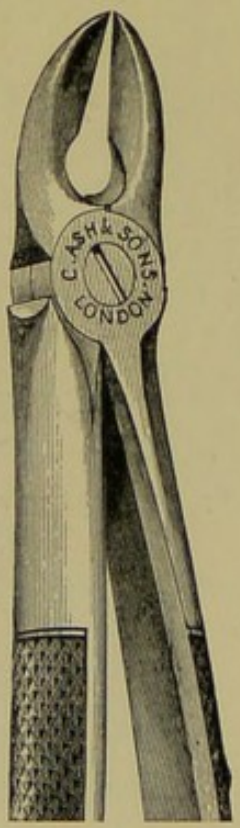

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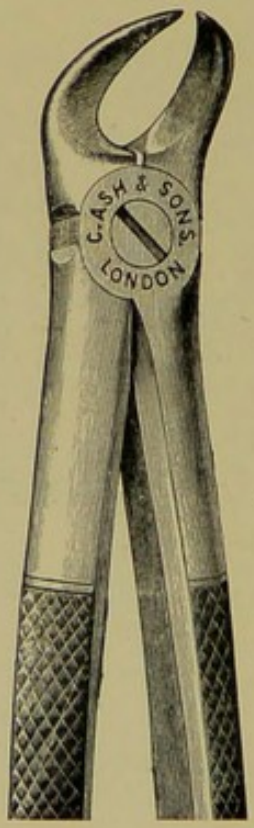
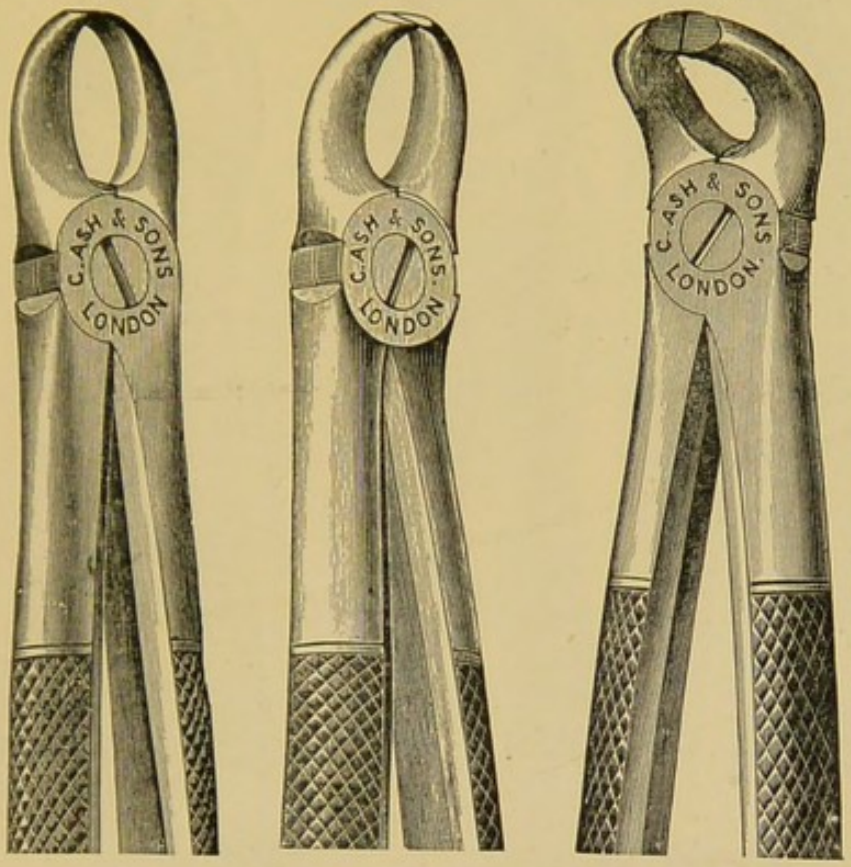
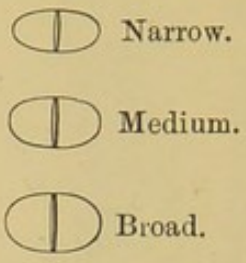


EXCISING FORCEPS.

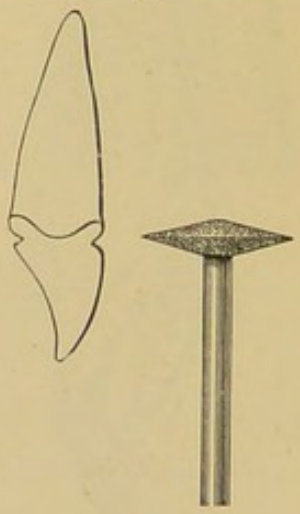
57. 58. 59.



WIDTHS OF BEAKS.



A



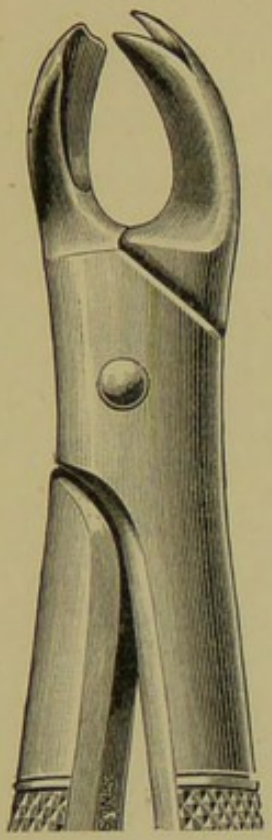
When preparing roots for pivoting, &c., it is not safe to use these cutting Forceps until the portion of the tooth to be removed has been already partly cut through (see Fig. A). Neglect of this precaution may result in the root being splintered longitudinally.— *See "Tomes' Dental Surgery," 3rd edition, page* 756.

Fig. 48 for Lower Stumps (Mr. Lawrence Read's).
„ 51 for Upper „
„ 52 „ „ with beaks slightly wider than Fig. 51.
„ 55 for separating Upper Molar roots.
„ 56 „ Lower „ „
„ 57 for excising Upper Teeth.
„ 58 „ „ ,
„ 59 „ Lower „

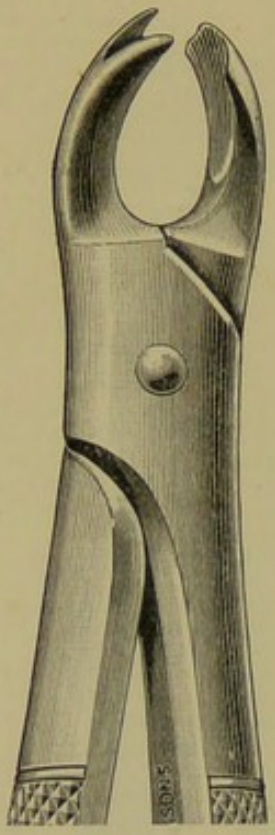
		s.	a.
Price, nickel-plated	each	10	0

EXTRACTING FORCEPS.

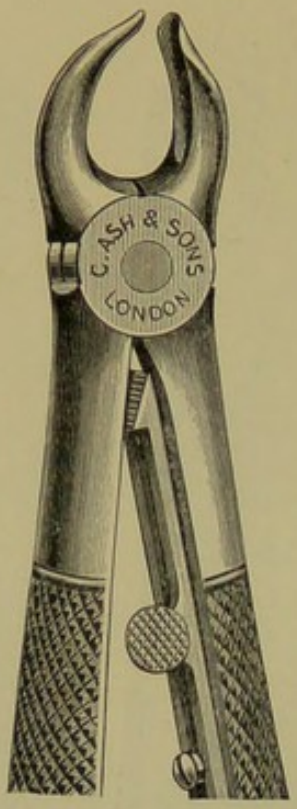
65 (Right.)



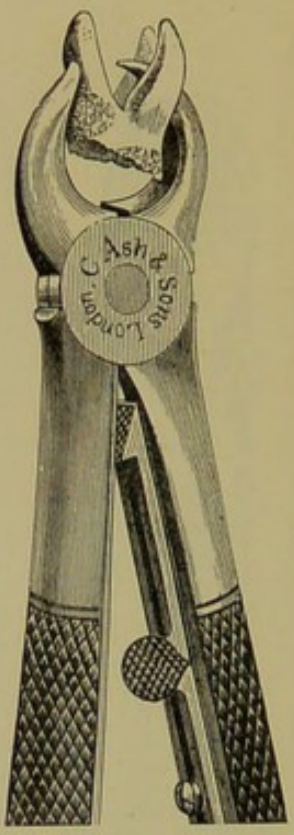
65 (Left).



66 (Right).

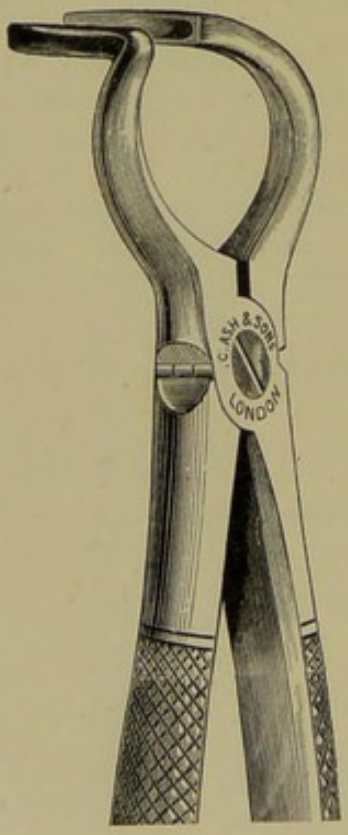


66 (Left).

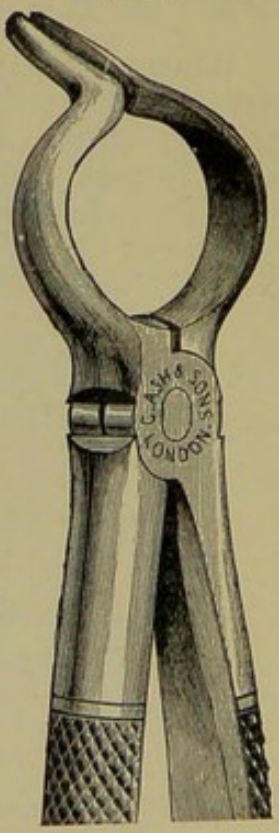


67.

68.



68 *A.*



EXTRACTING FORCEPS.

69. This shows the bend of the handles of Figs. 69 and 70. 70.

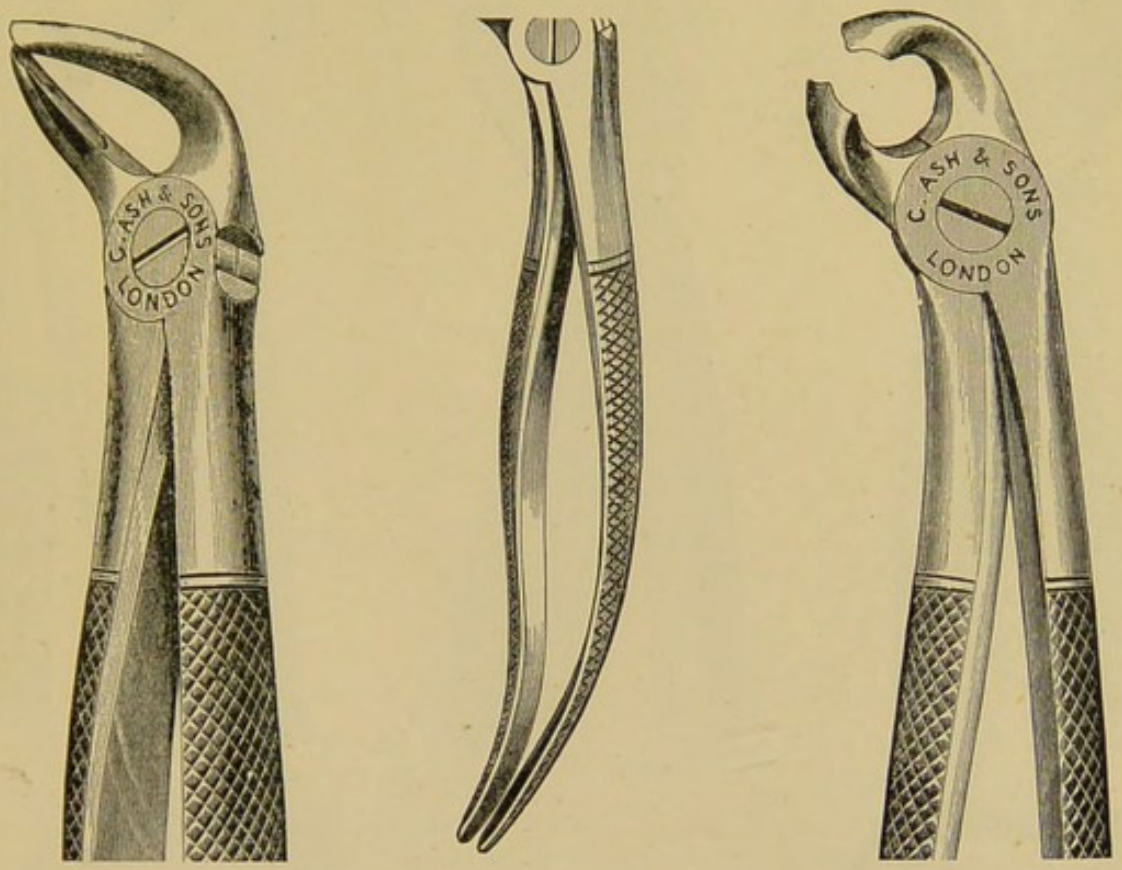


Fig. 65 (Mr. Stevens'), for Upper Molars with decayed and broken down crowns, made in right and left sides, and with simple joint.

„ 66 (Mr. Baly's), for Upper Molars with decayed and broken down crowns, made in right and left sides.

„ 67 for Upper Wisdoms.

„ 68 for Lower Stumps (Mr. Ryding's).

„ 68 *A* „ „ (Mr. Seymour Hare's).

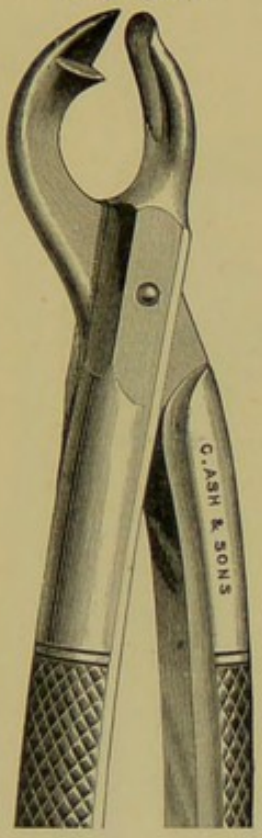
„ 69 „ „ (King's College pattern).

„ 70 „ Molars „ „ „

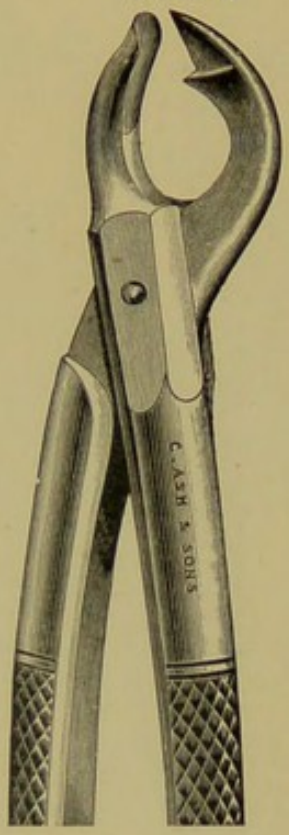
		s.	*d*
Price, nickel-plated	each	10	0

SPLITTING AND EXTRACTING FORCEPS.

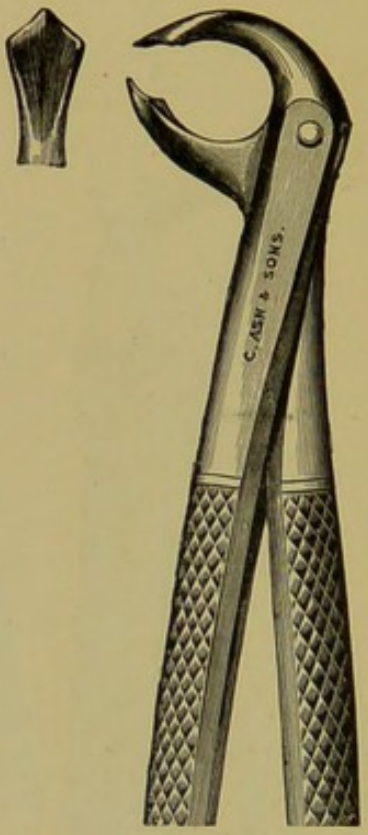
72 (Right).



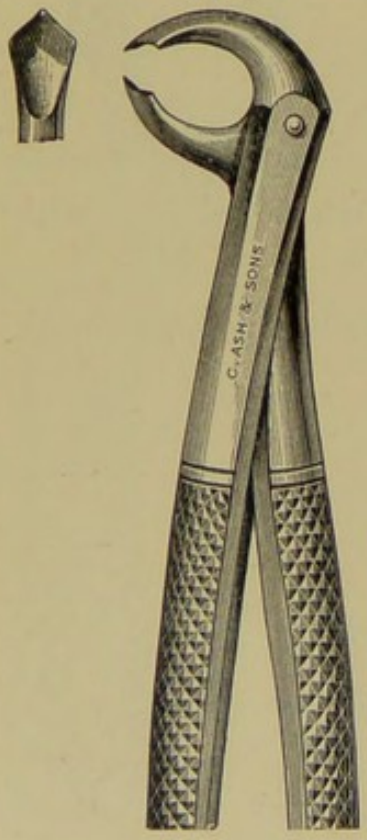
72 (Left).



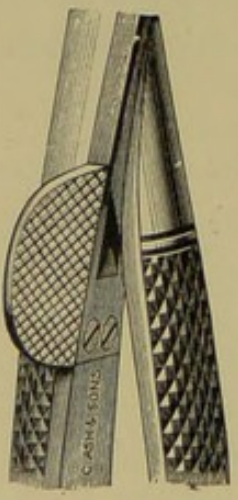
73.



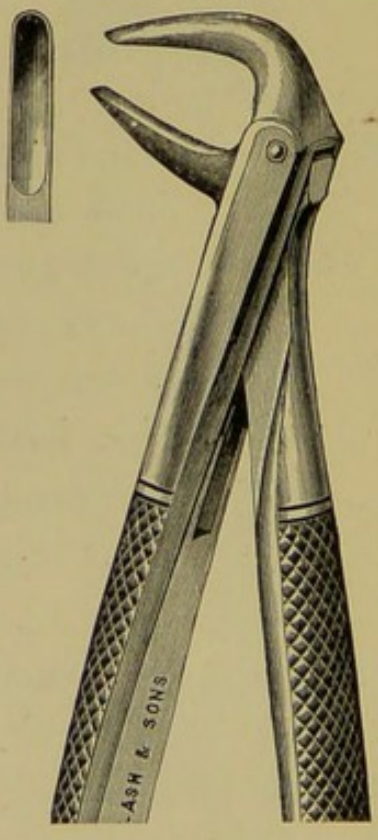
73 *S.*



Thumb Rest on handle.

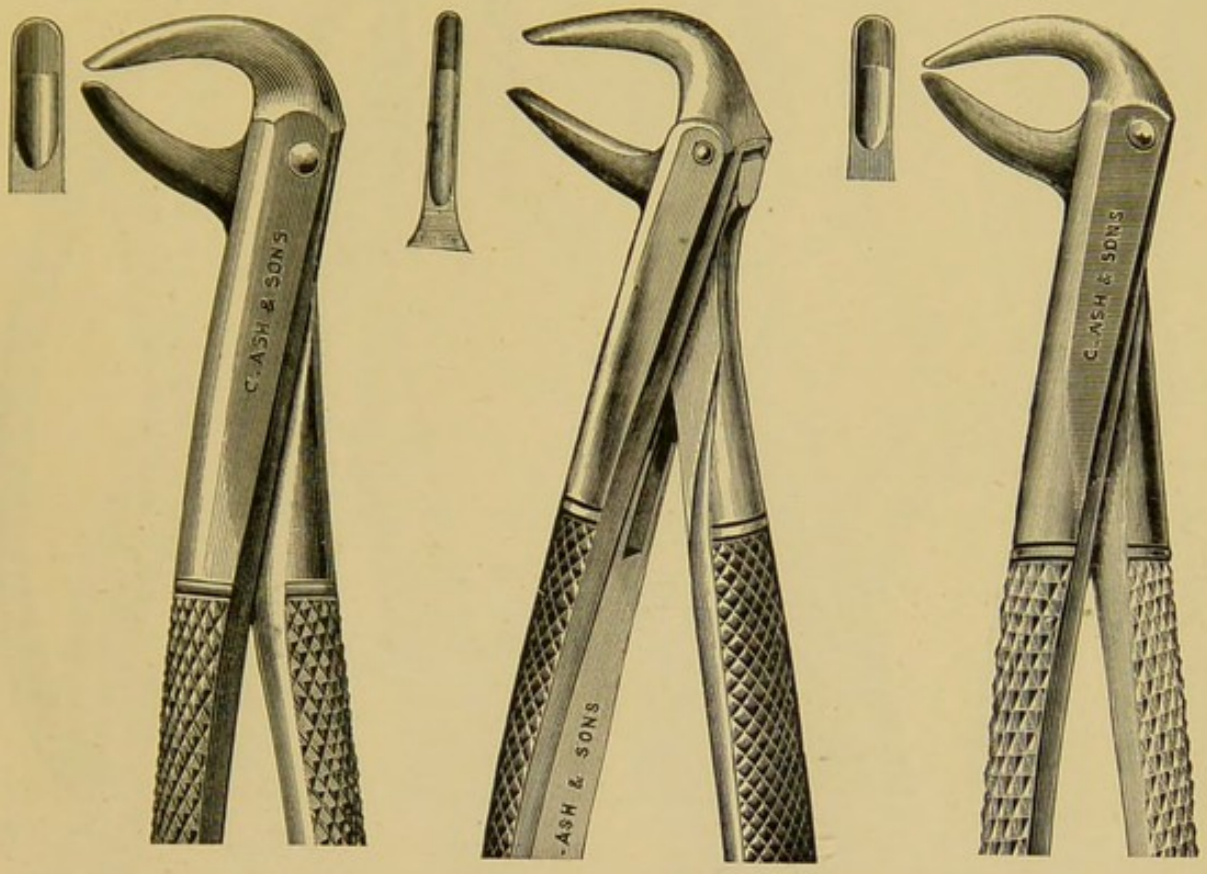


74.



EXTRACTING FORCEPS.

74 *D.* 74 *N.* 75.



Figs. 72 Right and Left, for separating Upper Molar roots (Mr. T. W. F. Rowney's). The shoulders on the beaks, shown in the illustrations, rest upon the tooth, and firm pressure may be applied without fear of the cutting points slipping either up or down.

„ 73 and 73 *S* for Lower Molars (Hawk's bill).

„ 74 for Lower Stumps (Hawk's bill).

„ 74 *D* (Mr. Donagan's) for Lower Stumps with shorter beaks than Fig. 74 (Hawk's bill).

„ 74 *N* for small Lower Stumps, and crowded Incisors (Hawk's bill).

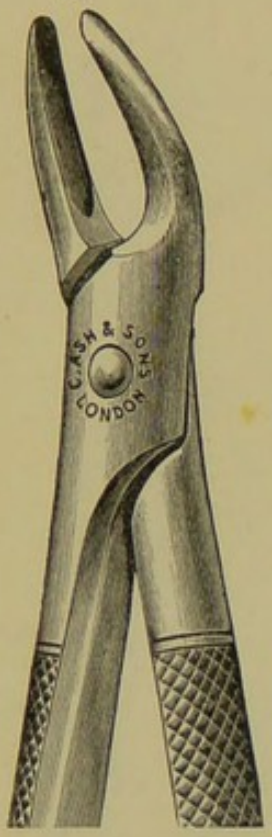
„ 75 for Lower Bicuspids (Hawk's bill).

„ 73 and 74 are also made with thumb-rest suggested by Mr. W. Hern (see illustration between Figs. 73 *S* and 74). All the above are made with Pin joint.

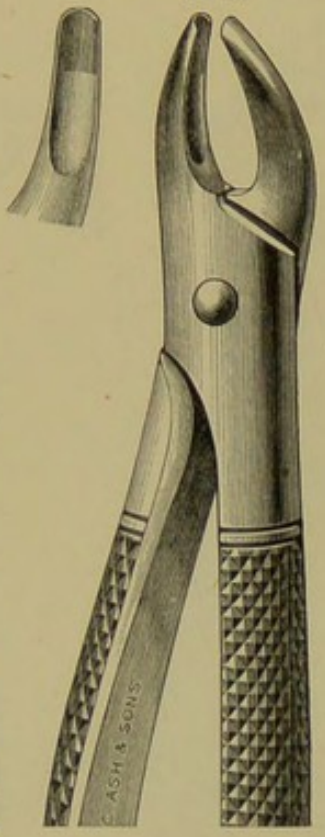
		s.	*d.*
Price, nickel-plated, without thumb rest	each	10	0
„ „ „ figs. 73 and 74 with thumb rest . .	„	12	0

EXTRACTING FORCEPS.

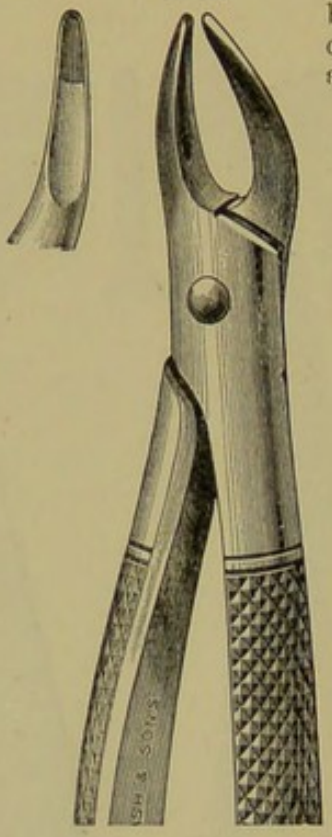
76.



76 *S.*



76 *N.*

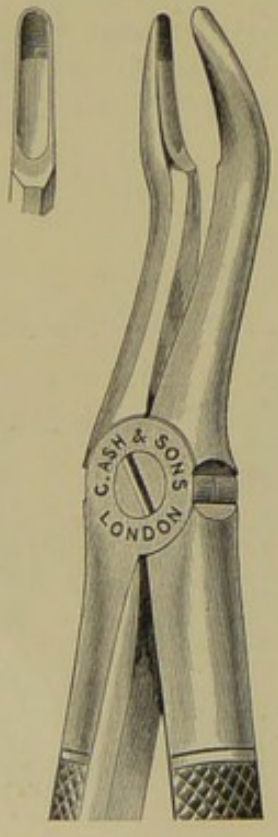


This shows the bend of the handles of Figs. 76, 76 *S* and 76 *N*.

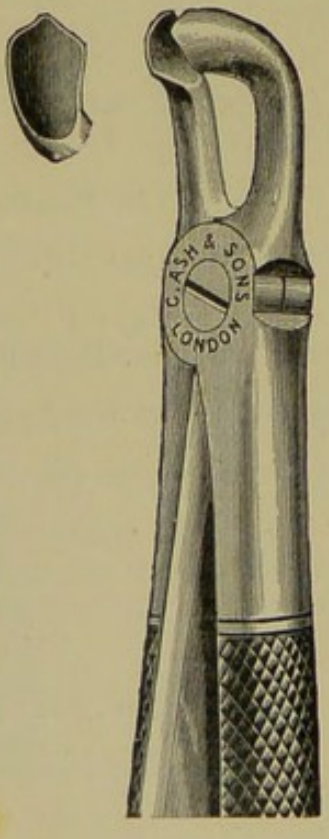
79 (back view)

77.

78.



79.



EXTRACTING FORCEPS.

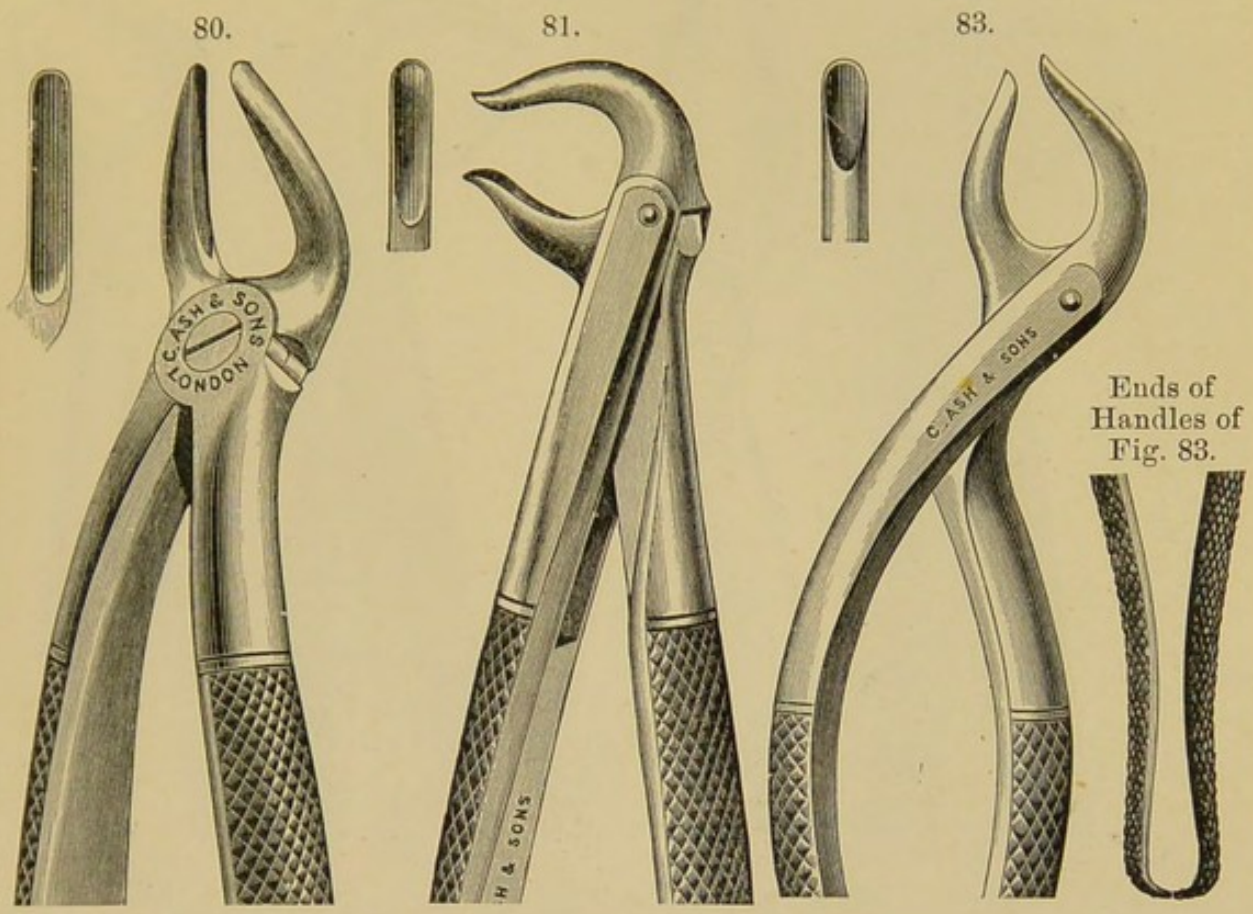


Fig. 76 (Mr. Lawrence Read's), for Upper Stumps.

„ 76 *S* „ „ „ „ with short beaks, as used at the Dental Hospital of London.

„ 76 *N* (Mr. Lawrence Read's), for small Upper Stumps.

„ 77 and 78 (Dr. Redman's), for Upper Stumps.

„ 79 for Lower Wisdoms.

„ 80 (Mr. Coleman's), for Upper Molar and Wisdom Stumps.

„ 81 (Mr. G. Walker's), with Pin joint, for Lower Bicuspids and Stumps.

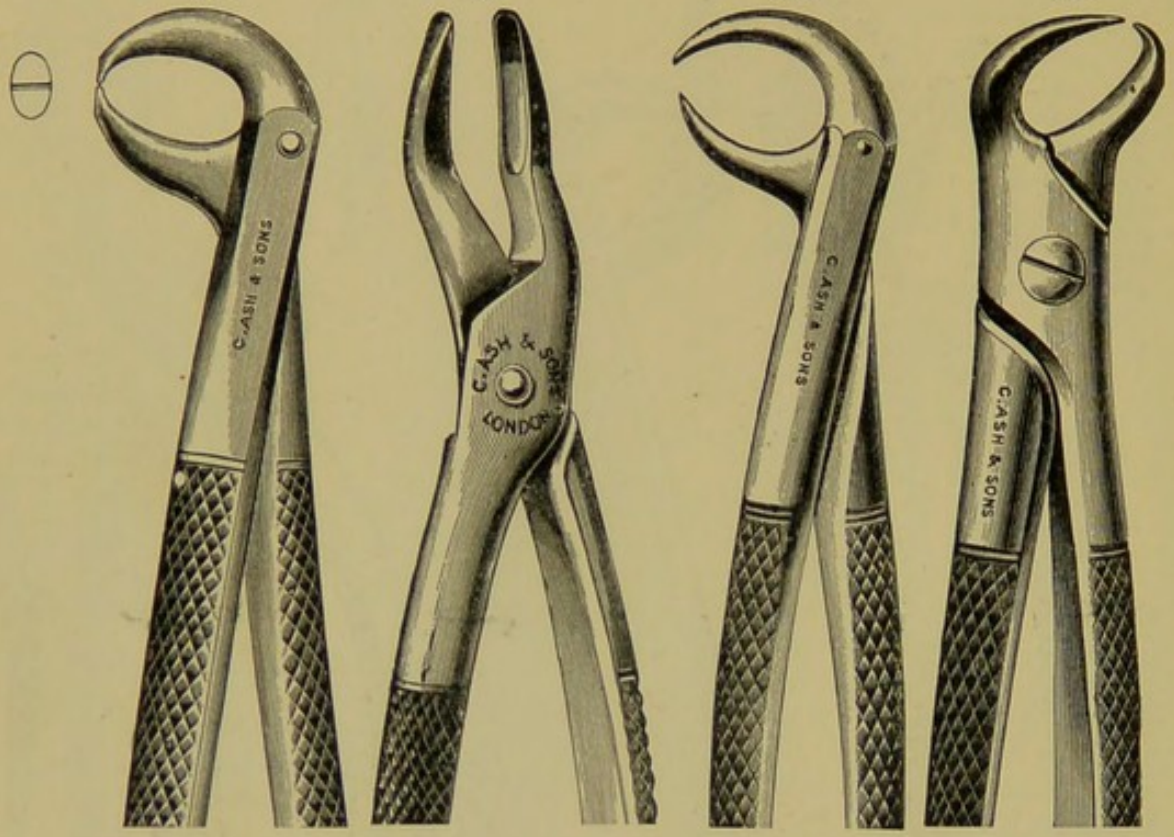
„ 83 (Mr. G. Walker's), with Pin joint, for Upper Bicuspids and Stumps.

Figs. 76, 76 *S*, and 76 *N* are made with simple joint.

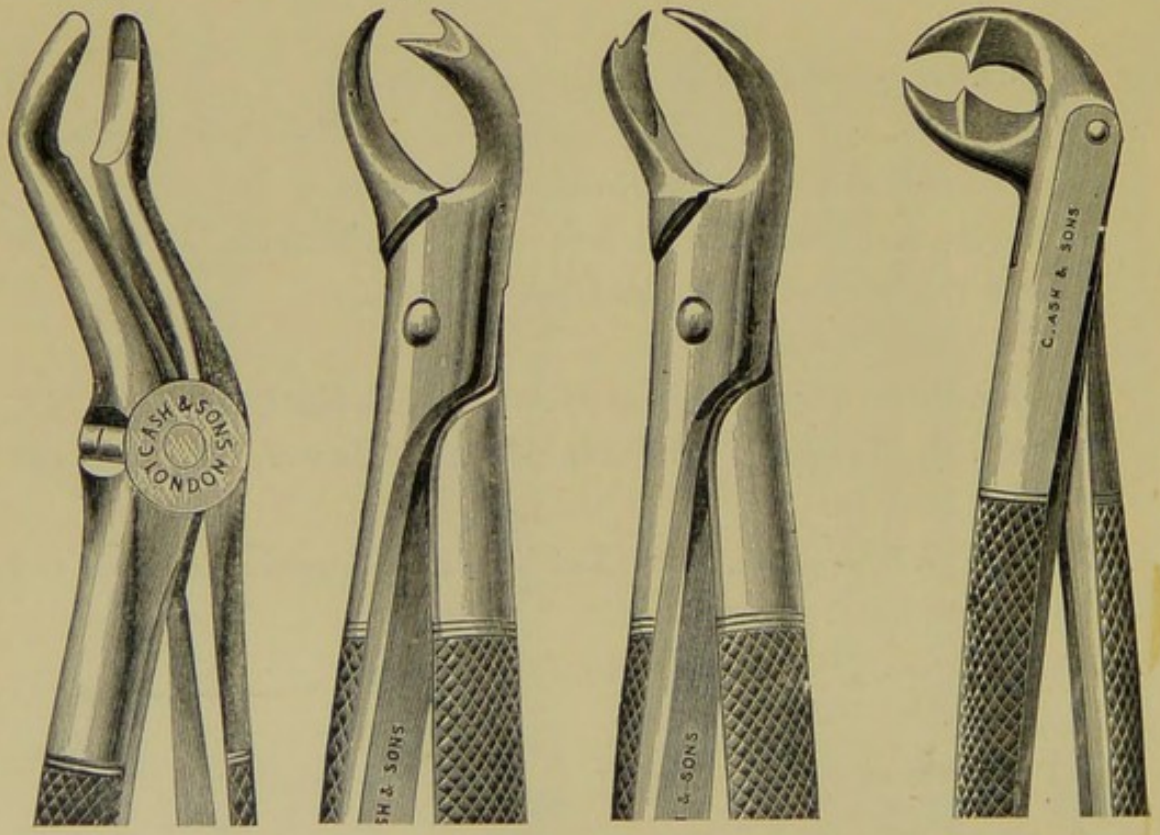
		s.	*d.*
Price, nickel-plated	each	10	0

EXCISING, EXTRACTING & SPLITTING FORCEPS.

84. 85. 86. 87.

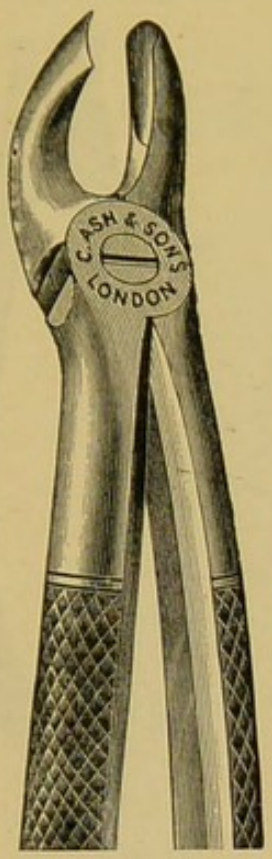


88. 89. 90. 91.



EXTRACTING FORCEPS.

92.



93.

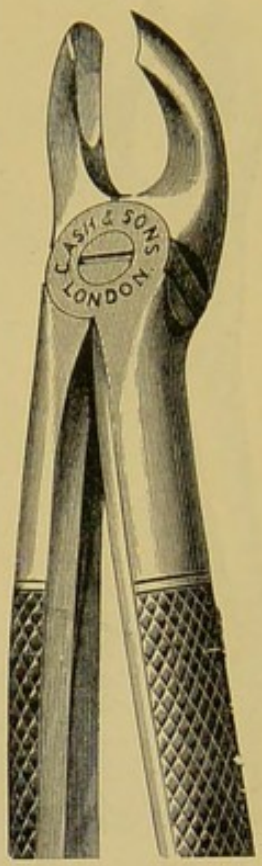


Fig. 84 (Mr. E. J. Ladmore's), Hawk's bill, for excising Lower Teeth.
„ 85 for Upper Stumps.
„ 86 and 87, Cow-Horn, for Lower Molars, with decayed and broken down crowns.
„ 88 for Upper Wisdoms.
„ 88 *S* (not illustrated) same shape as Fig. 88, but smaller in build and with narrower beaks, suitable for upper stumps.
„ 89 and 90 for right and left Upper Molars, with decayed and broken down crowns.
„ 91 (Mr. T. W. F. Rowney's), for dividing Lower Molar roots. See remarks concerning this instrument and Figs. 72 on pages 12, 13.
„ 92 and 93 for second Upper Molars.

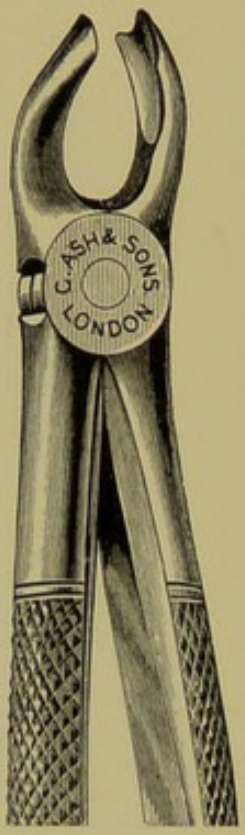
Figs. 85, 87, 89 and 90 are made with simple joint.
„ 84, 86 and 91 „ Pin „

	s.	*d.*
Price, nickel-plated .. .. each	10	0

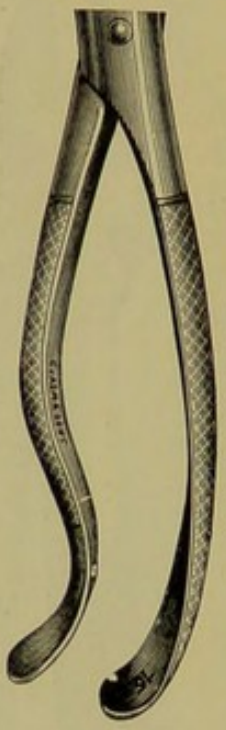
EXTRACTING FORCEPS.

94.

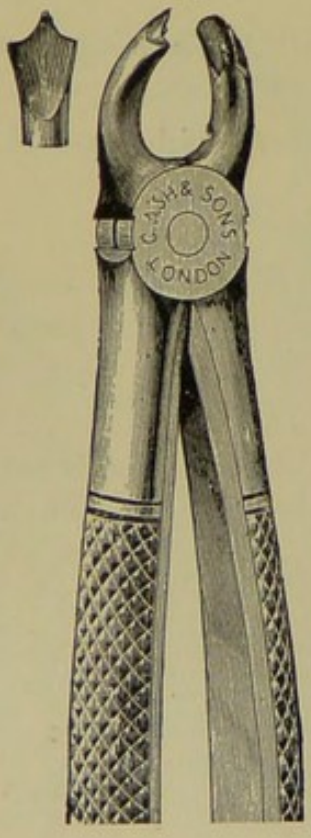
95.



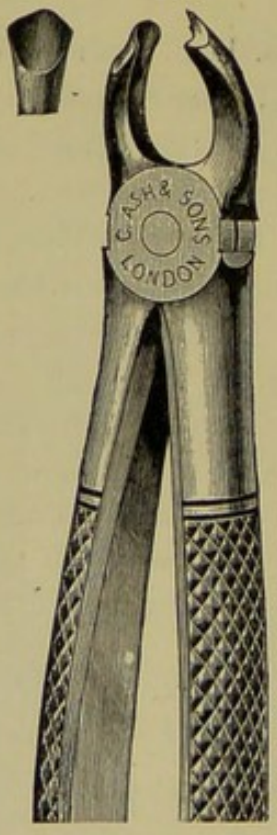
This shows the curve of the handles of Figs. 94, 95, 96 and 97.



96.

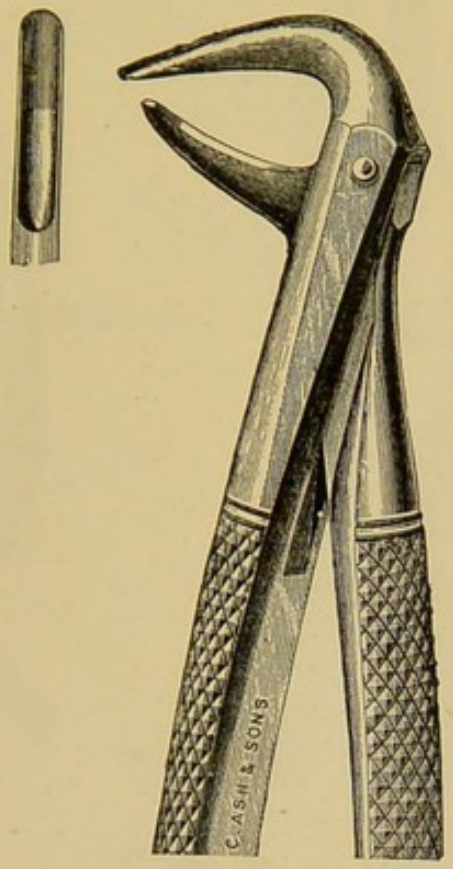


97.

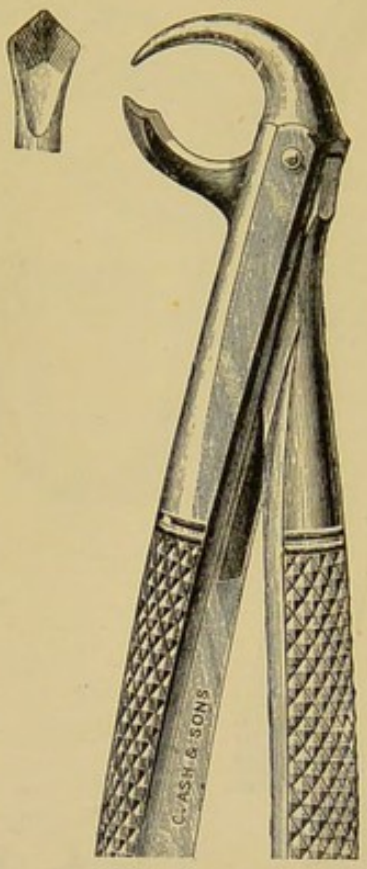


EXTRACTING FORCEPS.

98.



99.



Figs 94 and 95 for right and left Upper Molars.

„ 96 „ 97 „ „ small Upper Molars.

„ 98 (Hawk's bill) for Lower Stumps, also for Lower Molars broken down on the Lingual side.

„ 99 (Mr. J. M. Wood's), Hawk's bill for broken down Lower Molars.

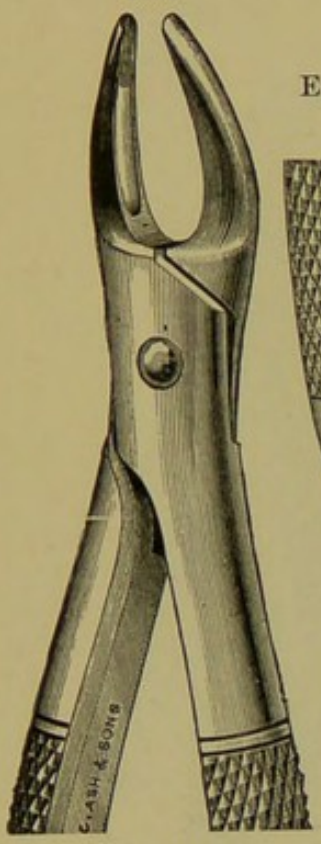
Mr. Wood says:—"With this modified Hawk's bill forceps the operator can penetrate very deeply down, so as to secure firm lodgment between the fangs of the molar for the inside cow-horn beak, away from the diseased and weakened crown, and is thereby enabled to extract such broken down teeth with great certainty and precision. If even it does not remove the tooth at once in its entirety, it divides the roots, and thus provides for their being easily removed afterwards."

Figs. 98 and 99 are made with Pin joint.

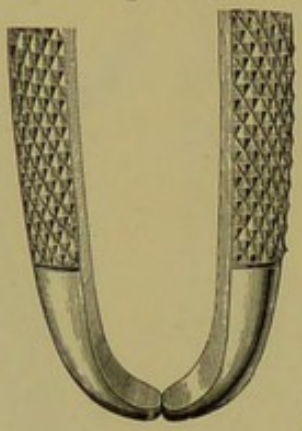
		s.	*d.*
Price, nickel-plated	each	10	0

EXTRACTING FORCEPS.

100.



Ends of handles of Fig. 100.



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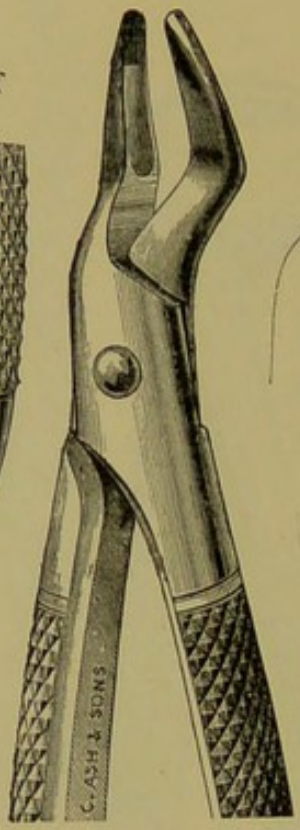
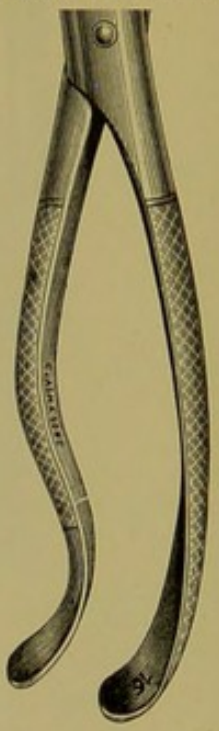
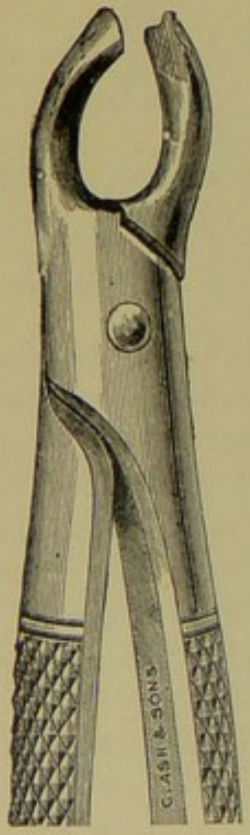


This shows the curve of the handles of Figs. 101 and 104.



102.



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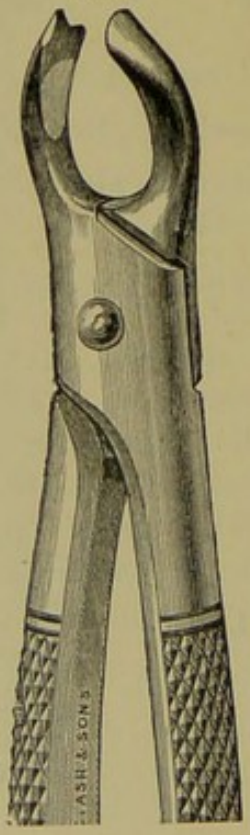

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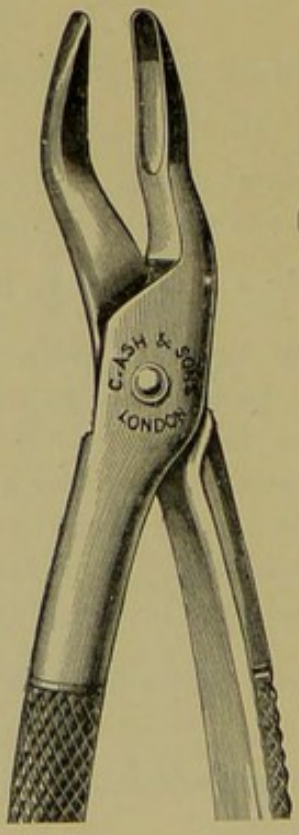


EXTRACTING FORCEPS.

105. 106.

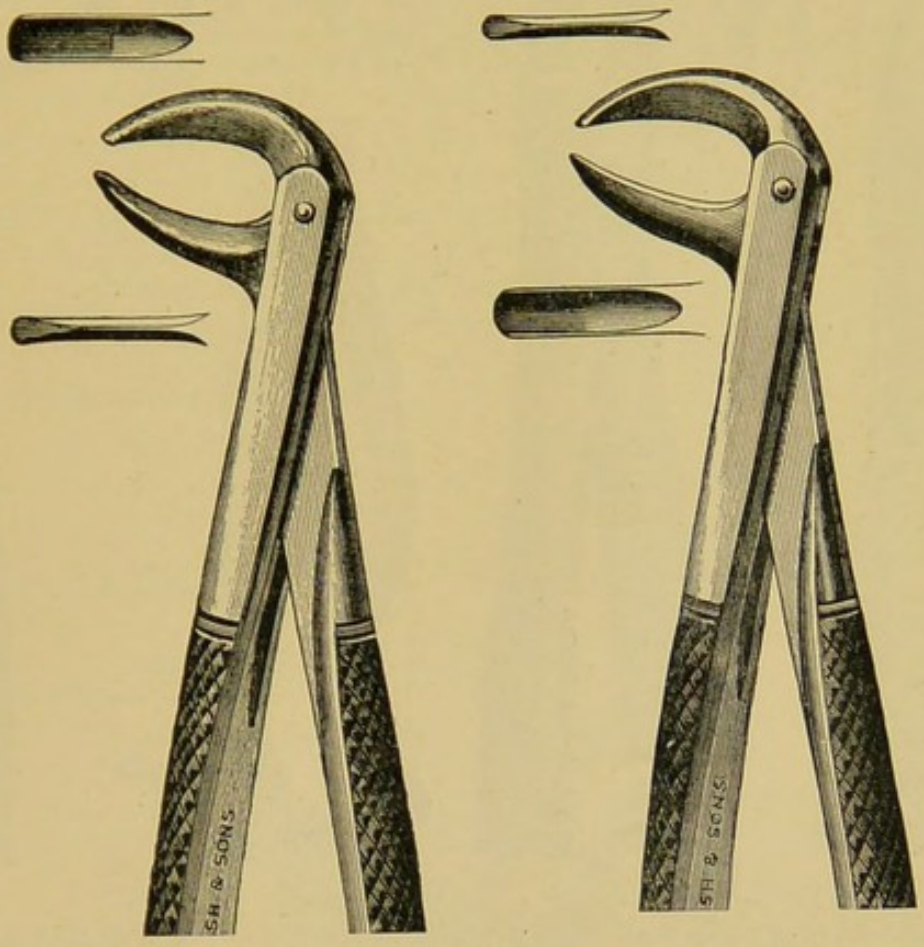


Fig. 100 (Mr. W. Campbell's), for Upper Stumps.
„ 101 for Upper Stumps.
„ 102 and 103 for right and left Upper Molars.
„ 104 (Mr. C. Robbins'), for Upper Molar and Wisdom Stumps.
„ 105 (Hawk's bill) for Lower Incisors crowded externally.
„ 106 „ „ „ „ „ internally.

Figs. 100 to 104 inclusive are made with Simple joint.
„ 105 and 106 are made with Pin joint.

		s.	*d.*
Price, nickel-plated	each	10	0

EXTRACTING FORCEPS.

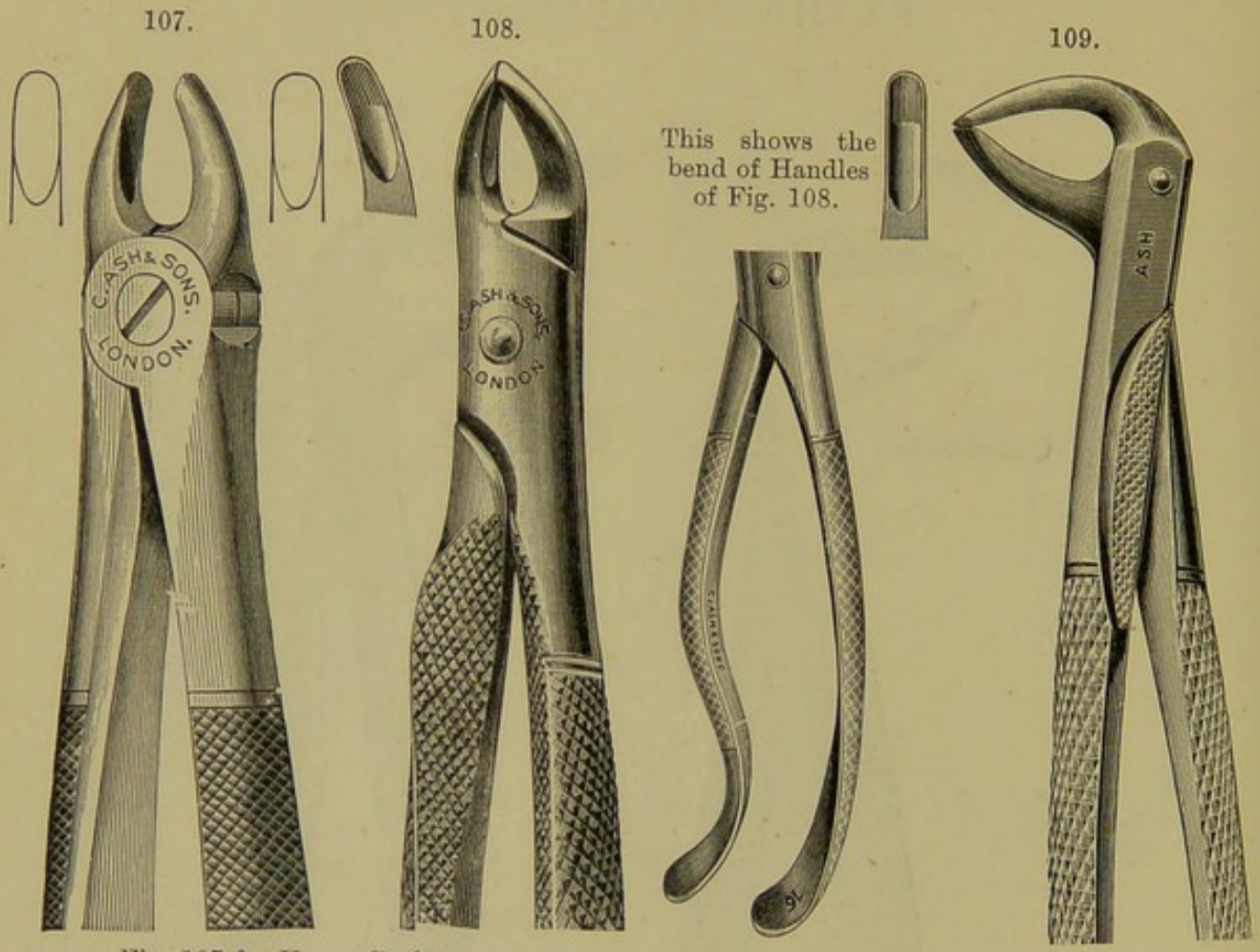


Fig. 107 for Upper Canines.

This instrument is made with short powerful beaks, one of which is slightly narrower than the other, as recommended in **Tomes' Dental Surgery,** where it is stated, on page 492 of the fourth edition, that: "A section through the neck of an incisor of the upper jaw will show that the anterior is larger, and forms part of a greater circle, than the posterior surface. Now, the end to be attained in the application of Forceps is to apply them over as large a surface as possible, so that the pressure may be diffused and the chance of fracturing the teeth by the pressure of the instrument avoided. To extract these teeth, therefore, the jaw to be applied to the posterior surface must have a smaller curve than that for the anterior."

Fig. 108 (Mr. W. E. Hill's) for Upper Stumps.
,, 109 ,, ,, ,, Lower ,, (Hawk's bill).

The build of these forceps is small and delicate, consequently the Operator is able to feel what he is doing with them. The beaks are short and powerful, without any tendency to spring when a firm grip is made upon the root. The checkered depression below the joint of the upper forceps and the READ'S curve at the ends of the handles gives great comfort to the hand of the Operator, enabling him to push the beaks well up on to the root, and thus obtain a firm grip. The lower forceps have a small thumb rest close to the joint, which enables the Operator to push the beaks well down between the process and root.

		s.	*d.*
Price, nickel-plated, Fig. 107	each	10	0
,, ,, Figs. 108 and 109	,,	12	0

DERENBERG'S TWEEZERS.

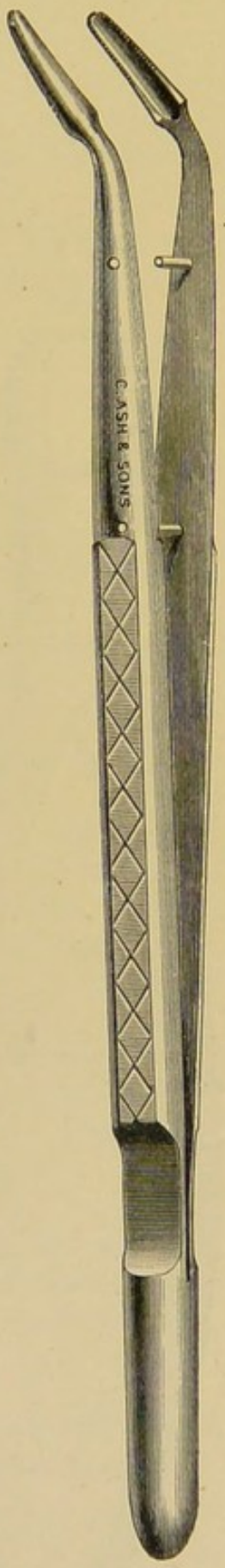
FOR REMOVING LOOSE AND TEMPORARY TEETH, DRESSINGS, ETC.

The appearance of this instrument serves to disarm the fears of the patient. To ensure a firm grip being obtained the beaks are hollowed out and serrated inside.

It is a combination of the usual extracting Forceps and existing forms of Tweezers, the latter of which are usually so light and made with points much too fine and small to possess the needful strength for doing the work for which this instrument is intended.

Mr. Derenberg finds it very useful for removing loose and temporary teeth, dressings, etc.

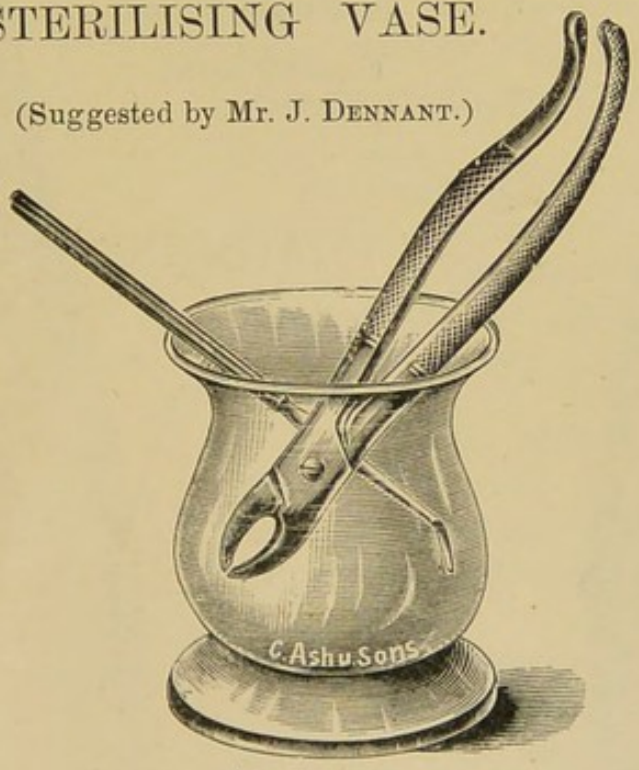
	s.	*d.*
Price, nickel-plated	8	6



Full size.

STERILISING VASE.

(Suggested by Mr. J. DENNANT.)



4 inches high.

FOR USE IN THE OPERATING ROOM.

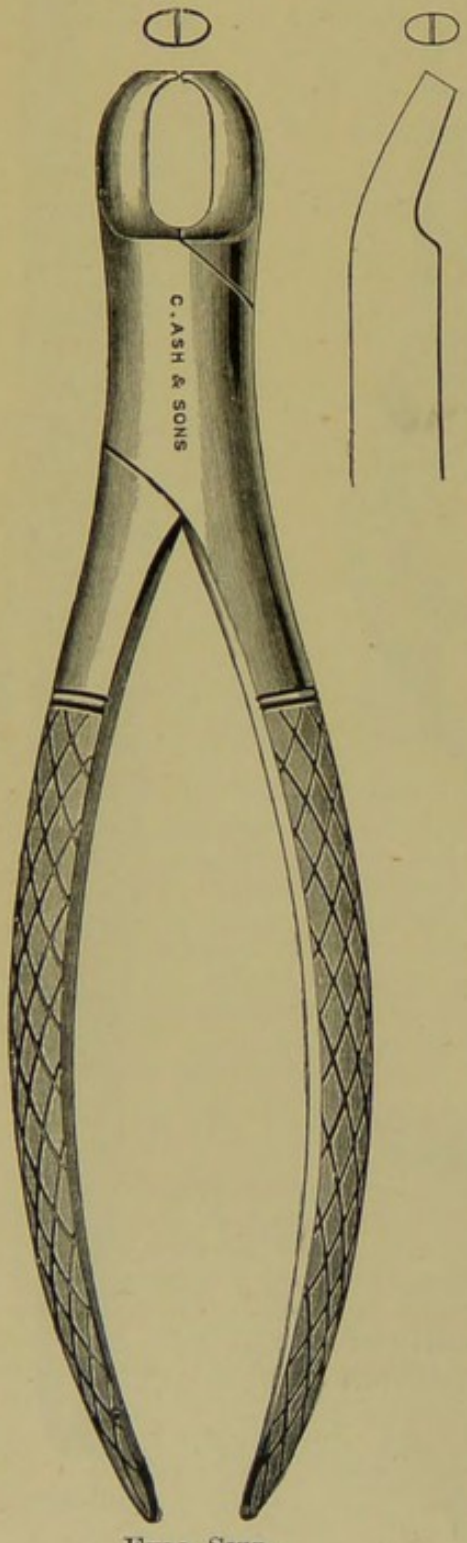
It is made of thick glass, which will not easily break, and has a base $3\frac{3}{8}$ inches in diameter, to prevent its being readily upset.

	s.	*d.*
Price, in clear white glass . .	1	0
„ in claret-coloured glass .	1	6

ROOT NIPPERS

FOR CROWN WORK, &c.

Fig. 1.

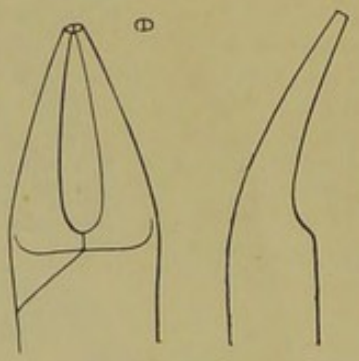


FULL SIZE.

Made in two forms, straight and curved, and in two widths as shown above—known as broad and narrow The full-size illustration shows the straight, and the outline the curved form.

		s.	*d.*
Straight, broad or narrow,			
Nickel-plated ..	each	6	0
Curved ditto	„ „	6	0

FRAGMENT NIPPERS.



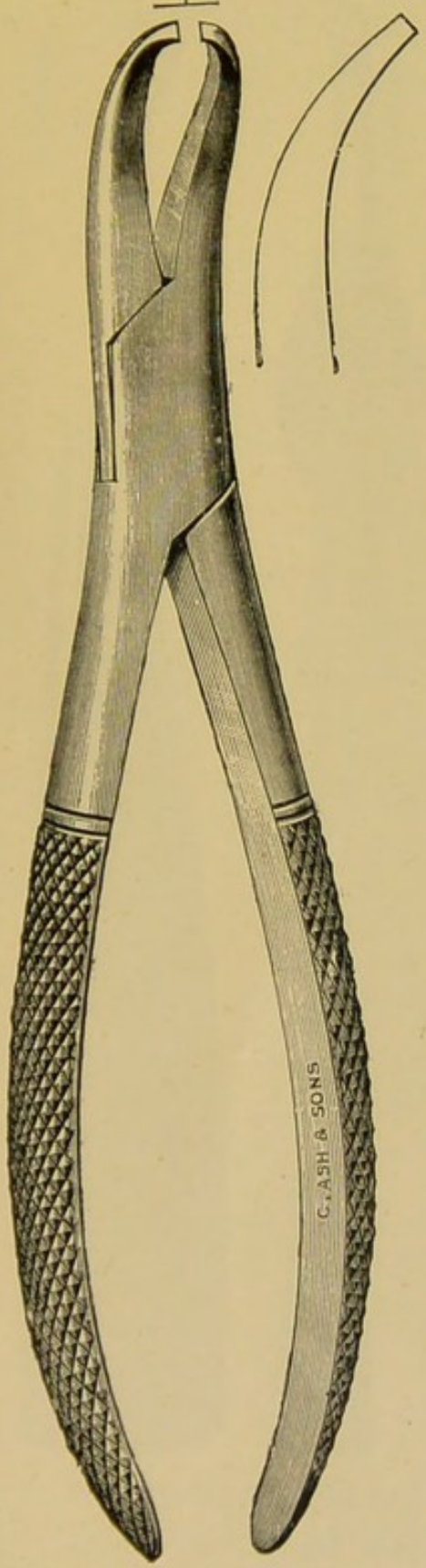
With very narrow, curved, cutting beaks, and handles like the Root Nippers illustrated on this page.

	s.	*d.*
Price, nickel-plated ..	6	0

ROOT NIPPERS,

FOR CROWN WORK, &c.

Fig. 2.



FULL SIZE.

(Suggested by Mr. L. MACHIN, Worcester.)

With curved blades and straight checkered handles.

	s.	*d.*
Price, nickel-plated	7	6

NOTES.

During cold weather Forceps should be warmed by being placed in hot water before they are used. The best tempered steel is liable to snap during the winter months, if this precaution is neglected.

Forceps Figs. 1 to 109 are supplied to order in polished steel — not nickel-plated — with black handles at 1/- each less than advertised prices.

The same Figures nickel-plated can be had with the checkered parts of the handles Blacked over the Nickel at 6d. each extra.

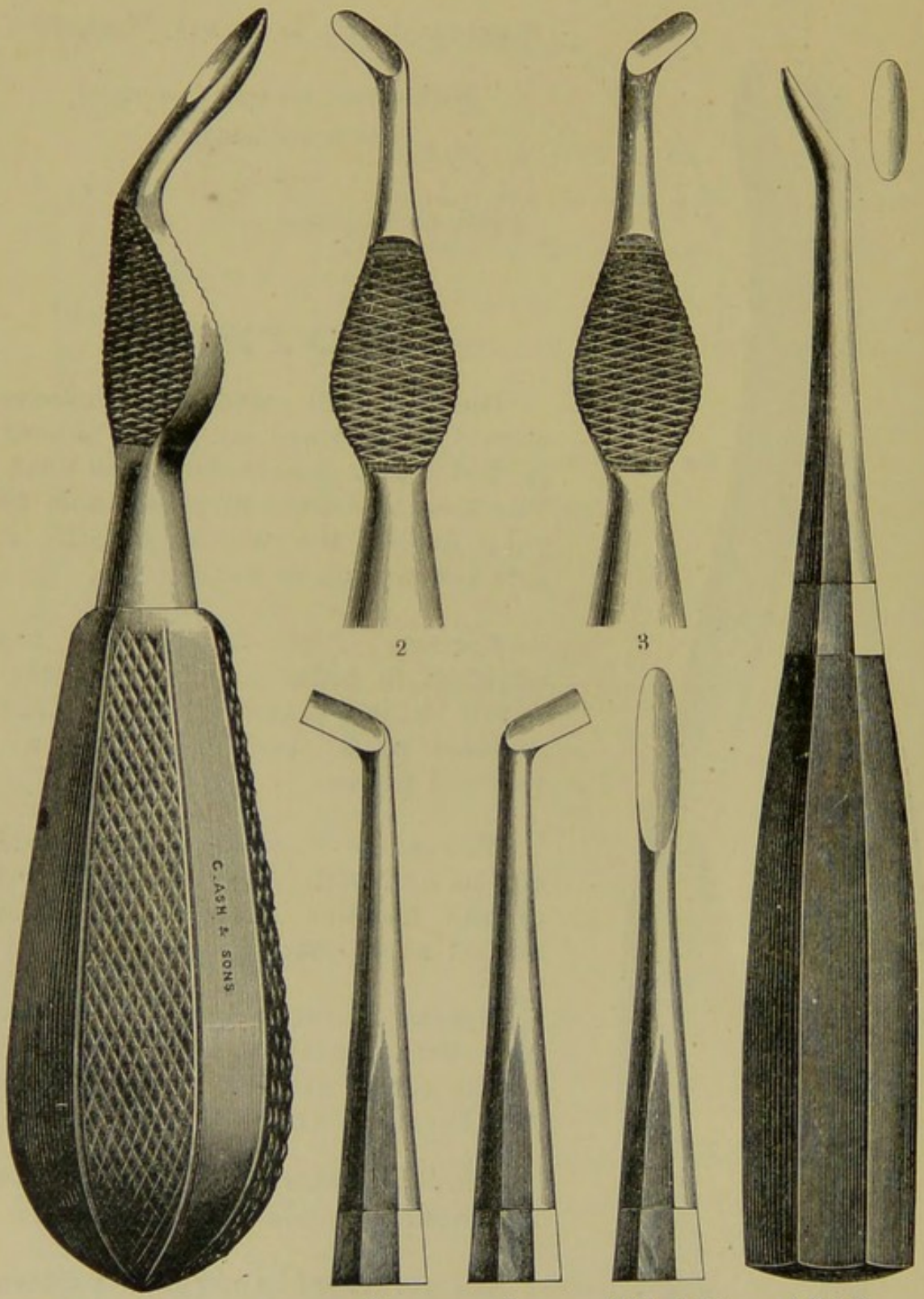
Special Forceps made to Operators' own patterns, and submitted in the rough state for approval before they are finished.

Forceps repaired, re-polished and re-plated at moderate charges.

All forms of American pattern Forceps kept in stock or made or obtained to order.

STUMP ELEVATORS.

FULL SIZE.

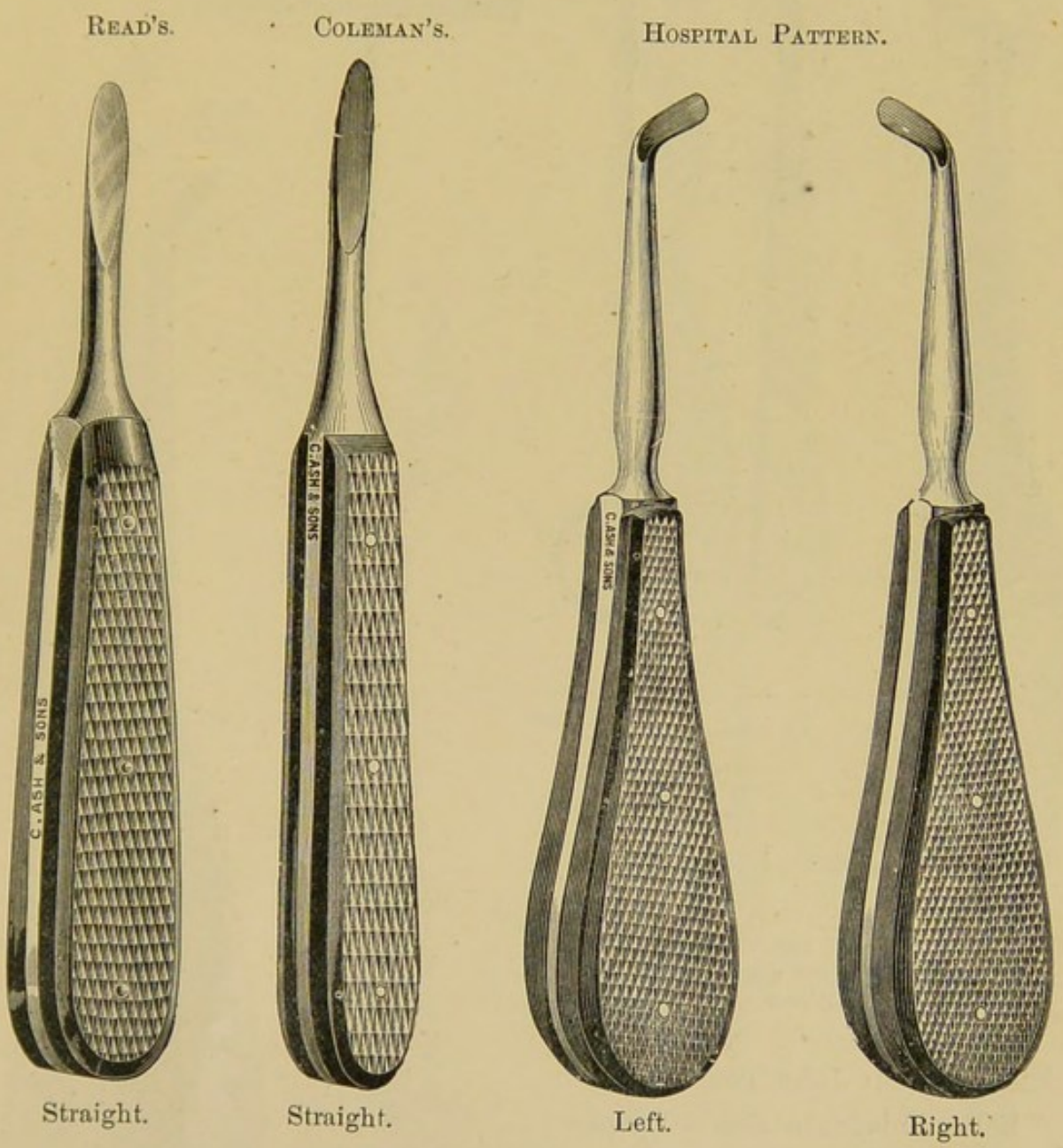


1 2 3 6 5 4 (straight) 4 (bent)

These are all made with plain blades.

STUMP ELEVATORS.

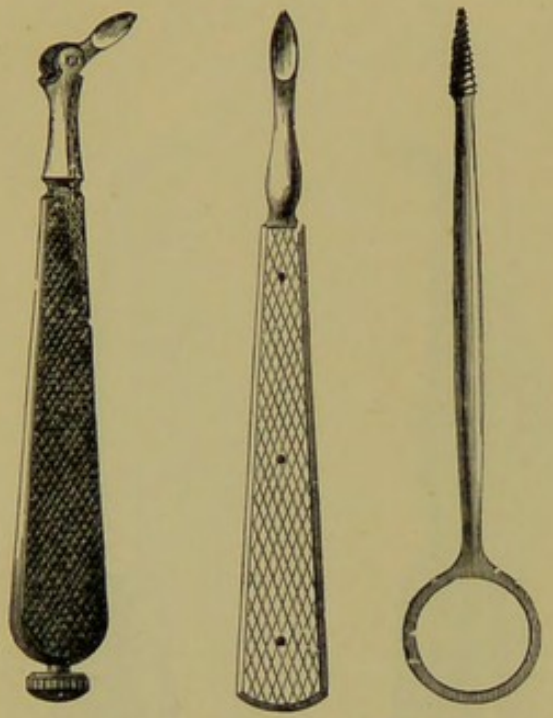
THREE-FOURTHS SIZE.



Coleman's and Hospital patterns with serrated blades,
Read's with plain blades.

					s.	d.
Elevators, Figs. 1, 2, 3, in Ebony handles (Mr. Thomson's)				each	7	6
,,	,, 4, 5, 6,	,,	,, ...	,,	4	6
,,	Straight	,,	,, (Mr. Coleman's)	,,	6	0
,,	,,	,,	,, (Mr. Lawrence Read's)	,,	6	0
,,	,,	,,	,, ,, ,,			
	with handles same size and shape as Hospital pattern			,,	6	6
,,	Right and Left, in Ebony handles (Hospital pattern)			,,	7	6

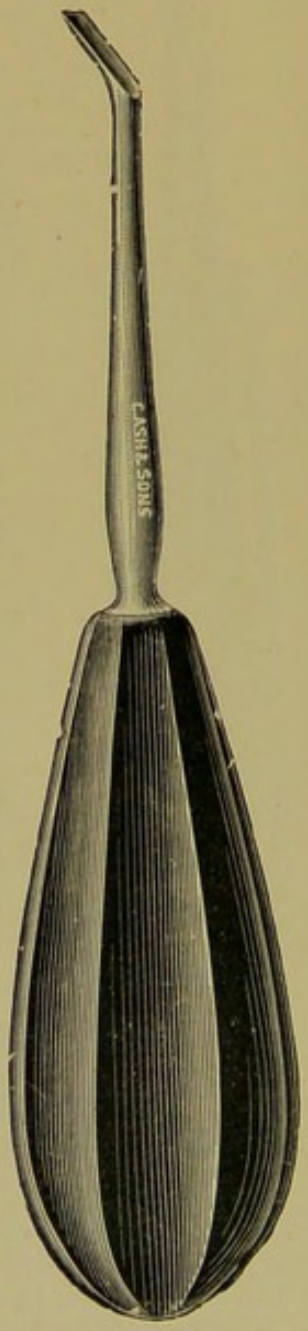
STUMP ELEVATORS.



Lengths

$5\frac{3}{4}$ ins.	$5\frac{5}{8}$ ins.	$3\frac{7}{8}$ ins.	$3\frac{3}{4}$ ins.

Berlin Klinik.



Prices:

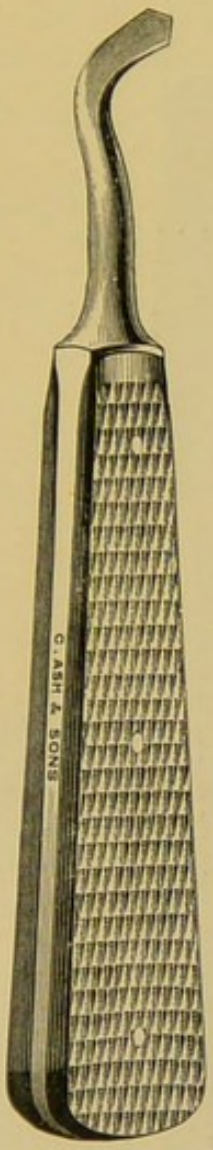
		s.	d.
Elevator, Adjustable, in Ebony handle	(Fig. 7) each	7	6
The blade of this instrument can be set at various angles by means of the thumb-screw at the end of the handle.			
Elevator (Sir John Tomes') with hollow blade, in Ebony handle	(„ 8) „	6	0
Elevator (Berlin Klinik) in Ebony handle	„	3	6
Screws for Stumps, all steel, Nickel-plated	(„ 9) „	3	3
„ „ „ „	(„ 10) „	3	3

Elevators of other forms made or obtained to order.

STUMP ELEVATORS.

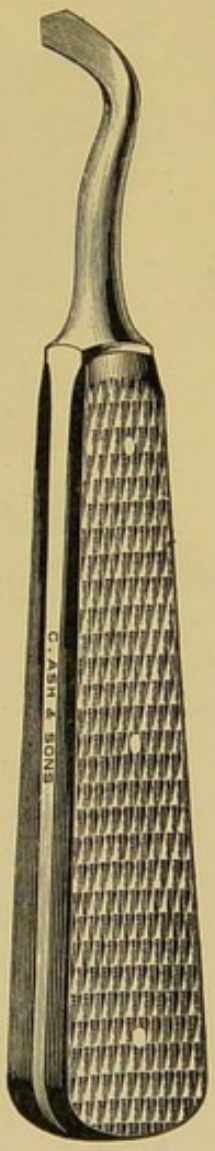
THREE-FOURTHS SIZE.

Fig. 15.



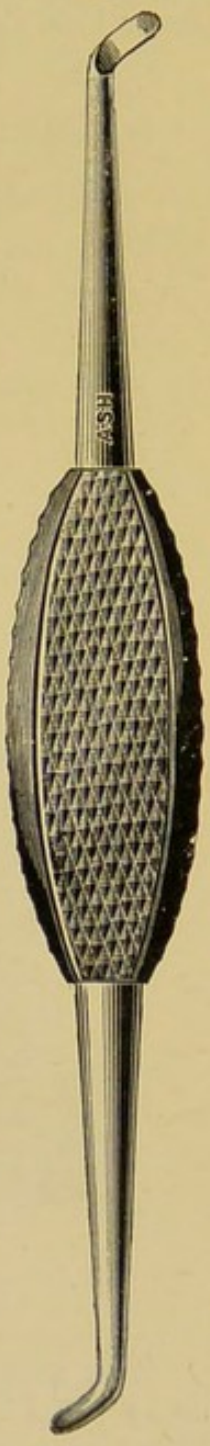
Left.

Fig. 16.



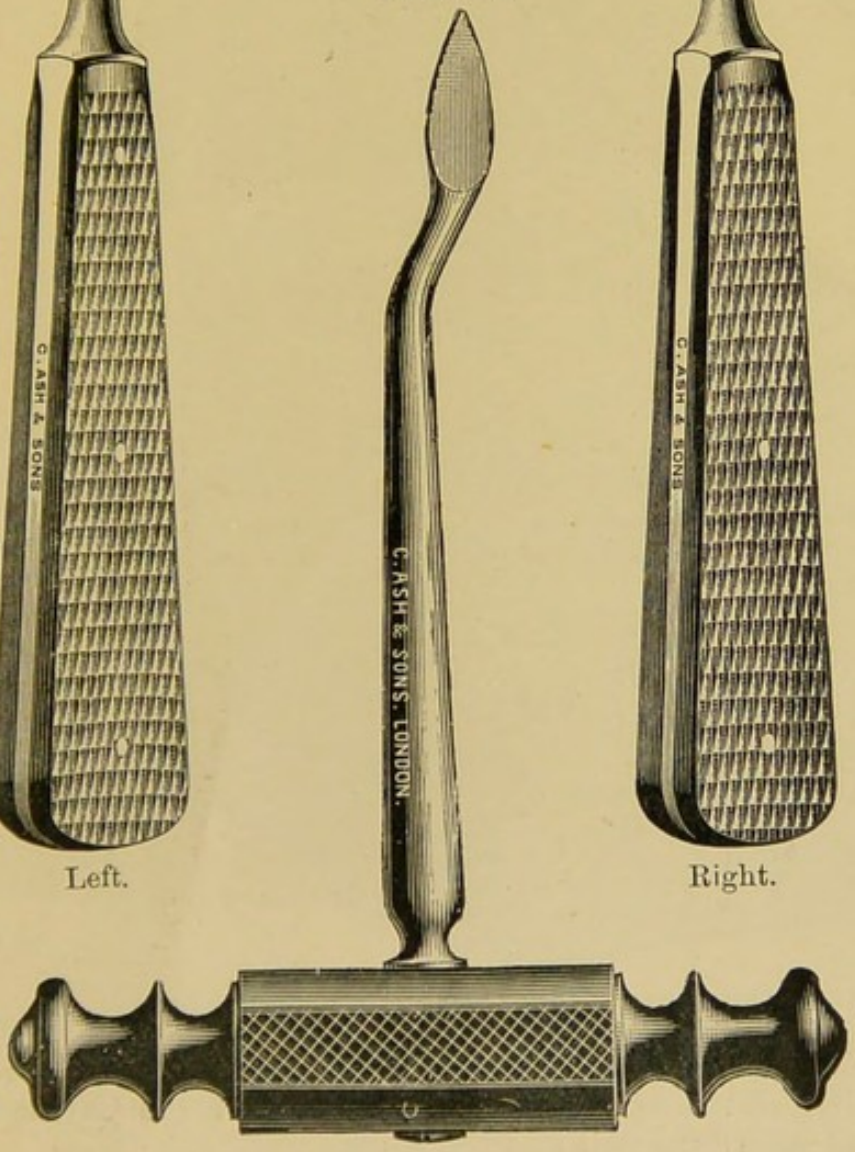
Right.

Fig. 17.



7¼ in. long.

LECLUSE'S.

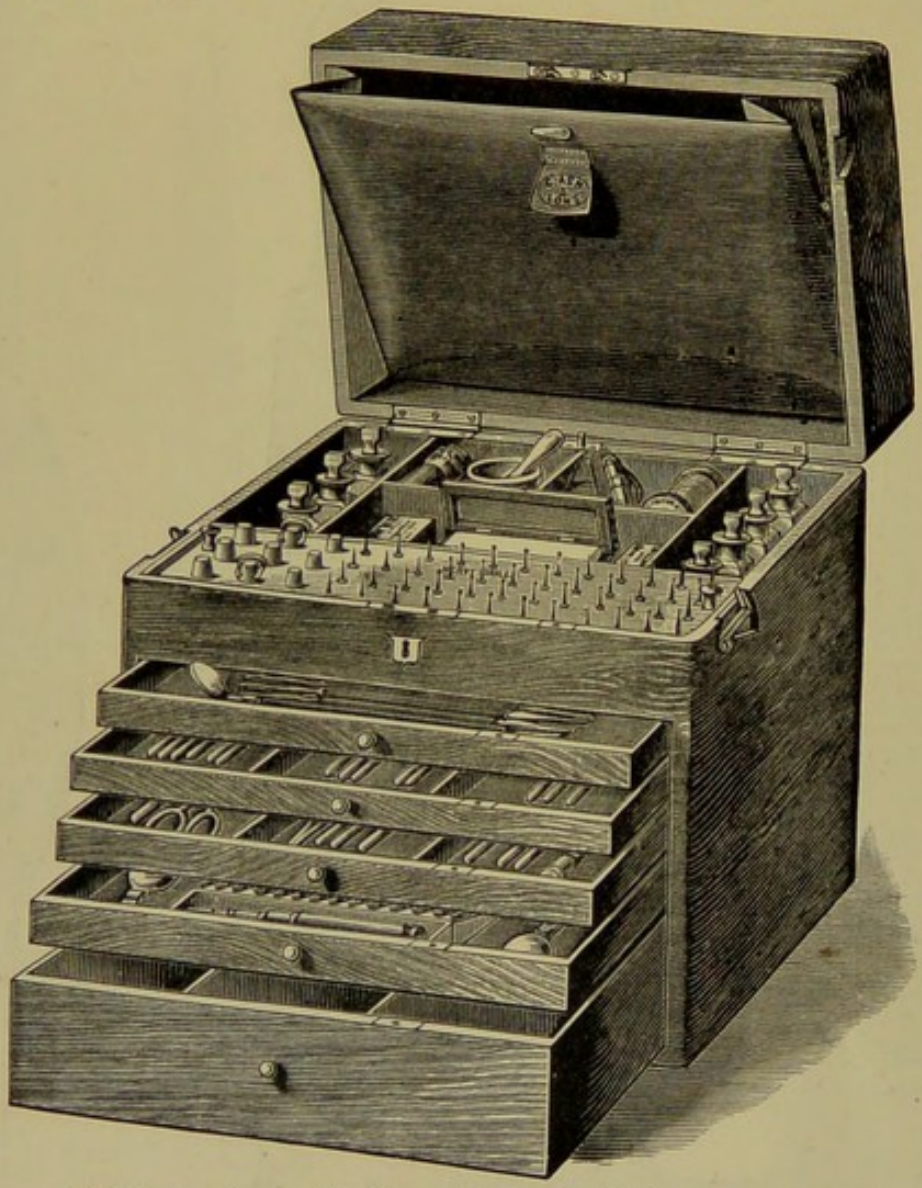


All with plain blades. Figs. 15 and 16 are known as Evrard's pattern.

		s.	d.
Elevator (Lecluse's) in Ebony handle	each	6	6
„ Figs. 15 and 16, in Ebony handle	„	7	6
„ „ 17, „ „	„	8	6

IMPROVED INSTRUMENT CABINET.

Made in mahogany, lined throughout with aseptic leather, fitted with convenient handle on the top, sunk hooks on the ends for relieving the strain on the lock when the Cabinet is lifted or carried about, and four-lever lock and key.



11¾ inches long ; 8¾ wide ; 10 deep (outside measurement).

The aseptic leather lining is the outcome of suggestions made to us by Mr. C. E. Wallis and adds greatly to the value of the Cabinet. It can be washed, and with care will last for years.

The Cabinet has five drawers, varying in depth from ⅜ to 2¼ inches, designed to hold all kinds of instruments with ebony and steel handles ; also cofferdam appliances, gum and foil scissors, syringe, stoppings of all kinds, amadou, canes, and other sundries. Drawer No. 4 is furnished with rack for Snow and Lewis's or Abbott's Automatic Mallet and Points. There is a pocket in the lid suitable for foils, rubber-dam,

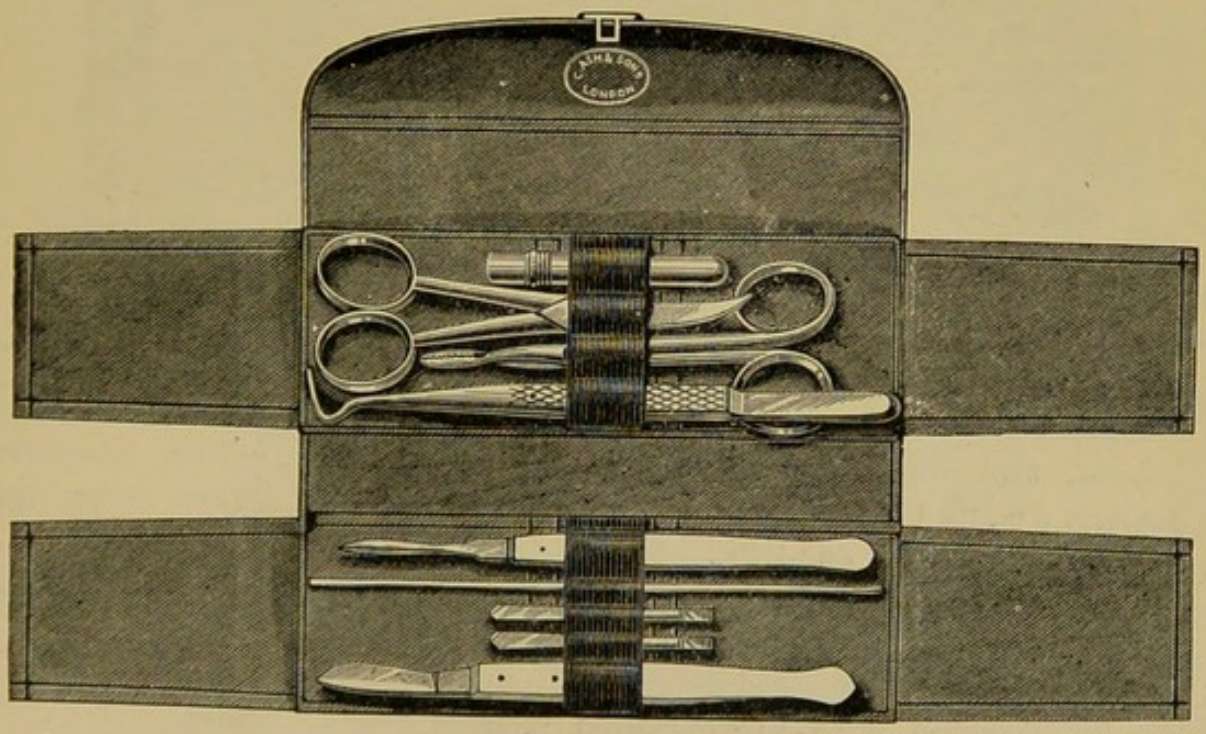
INSTRUMENT CABINET—*continued.*

bibulous paper, &c. The upper part is provided with racks for eight glass bottles, and divisions for small boxes, for an Arkansas stone, a pestle and mortar, mixing slab, &c., and with holder for engine instruments and nine rubber-dam clamps. This holder is removable, and can therefore be lifted out of the Cabinet and placed on the instrument table or in any other convenient position within easy reach.

If required with Instruments, the selection is left to the purchaser.

	s.	*d.*
Cabinet, without Instruments, as illustrated	50	0
Cover for this Cabinet in stout leather, brown or black, with Straps and Handle	27	6
Glass bottles, with flat-top ground stoppers, extra, each	0	8
Cabinet, larger size than the above, with six drawers—outside measurements: 12⅞ inches long; 9 wide; 12¼ deep	60	0

SURGICAL CASE.

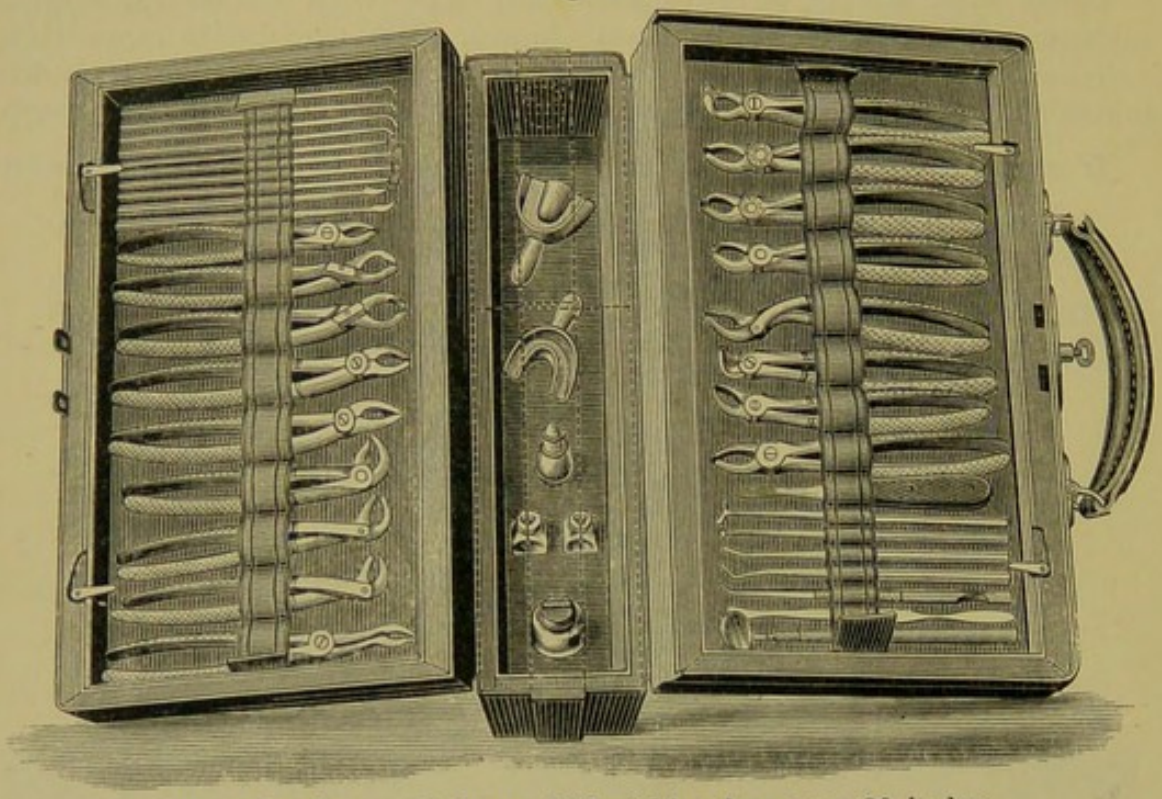


Containing:

	s.	*d.*
1 Sequestrum Forceps	4	6
1 Silver Probe	1	6
1 Ivory Scalpel	2	0
1 Paget's Knife	2	0
1 Curved Gum Scissors	3	6
1 Silver Caustic Holder and Caustic	7	0
1 College Tweezers	4	0
2 Surgical Drills	2	0
Leather Case	5	6
Complete	32	0

PORTABLE INSTRUMENT CASE.

Fig. 2.



14 inches long; 11 deep; full width when open 20 inches.

With partitions as illustrated and tray underneath.

Adapted to hold 16 Forceps, Stump Elevator, Mouth Mirror, Gum Lancet, and an assortment of Burs, Drills, Excavators, Stoppers, Scalers, &c., and provided with Well for Impression Trays, Stoppings, Bottles, and useful sundries.

This Case is specially designed for the Dental Surgeon when visiting. If required with instruments the selection is left to the purchaser.

	s.	*d.*
In Morocco, with Nickel-plated mounts and lock and key, without instruments	60	0

STUDENT'S ROLL-UP LEATHER CASE,

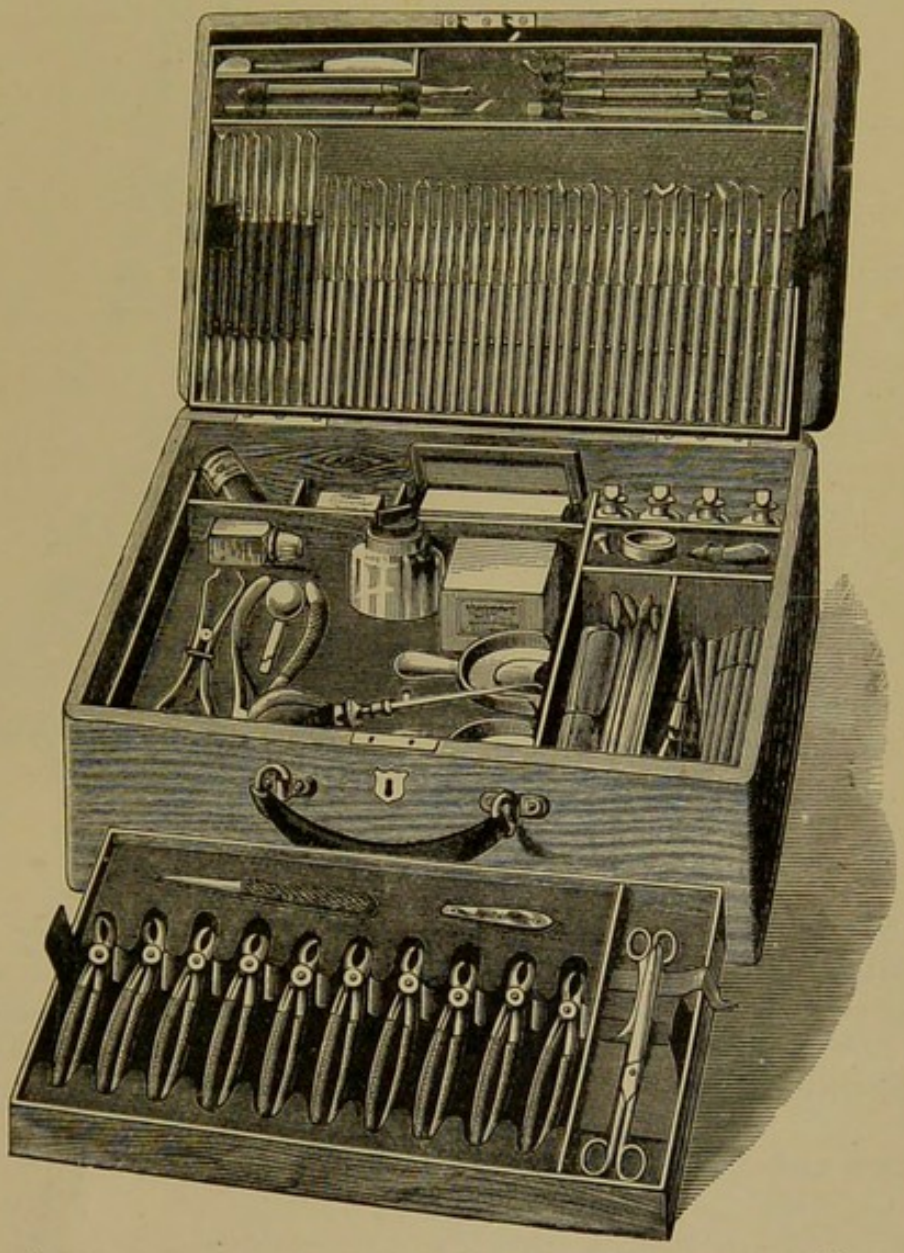
WITH BROAD ELASTIC BAND,

Arranged to hold Stopping Instruments, Excavators, Scalers, Chisels, Burnishers, Probes, Tweezers, &c.

	s.	*d.*
Price	10	6

PORTABLE OR STUDENT'S INSTRUMENT CASE.

Fig. 5.



16 inches long; 11 wide; 5½ deep (outside measurement).

Made of Mahogany and provided with two Trays for Forceps and other instruments, underneath which are compartments for Bottles, Files, Canes, &c. There is also a pocket in the lid to hold Foils, Bibulous Paper, &c. Lined throughout with blue cloth, and fitted with lock, two keys, and handle in front.

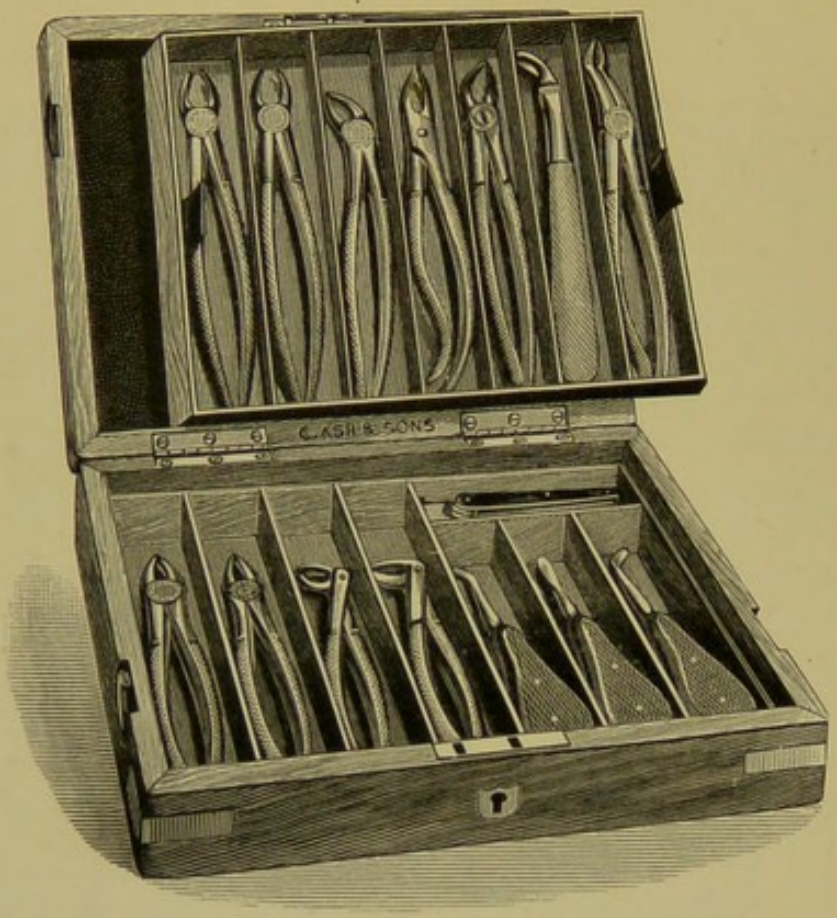
The case is equally suitable for the Operating-Room, for visiting, or for Dental Students at the Hospitals.

If required with instruments the selection is left to the purchaser.

	s.	d.
Price, without instruments	70	0
Cover for protecting the wood .. .. extra	11	6

MAHOGANY FORCEPS CASE.

Fig. 6.



Outside Dimensions : 10 inches long ; $8\frac{1}{8}$ wide ; $2\frac{3}{4}$ deep.

This Case is specially designed for use by Army and Navy Surgeons, also in General Hospitals, Dispensaries, Schools, etc., where only extracting instruments are employed. It is brass bound, and thus suitable for all climates. Contains 15 divisions, arranged to hold 10 Forceps, 3 Elevators, Lancet, Mouth Mirror, 2 Probes, Tweezers, etc. With lock, key, and side hooks.

	£	*s.*	*d.*
Price without Instruments	1	0	0
„ with „	7	15	9

CHEAP VISITING CASE.

This is a handy little Case, suitable for practitioners who only occasionally visit patients, and therefore do not wish to go to the expense of one of the better-class cases. It is made of strong wood, covered with leatherette, with nickel-plated metal corners, and leather handle in front for carrying. It contains one tray for eight Forceps and Elevators, another for smaller instruments, and the bottom part is divided into three compartments, suitable for impression composition, trays, stoppings, etc. Outside measurements, $13 \times 8\frac{1}{4} \times 4\frac{3}{4}$ inches.

	s.	*d.*
Price, empty	15	0

LEATHER FOLD-UP CASE.

Fig. 8.

Outside Measurements : 7 ins. long, 7½ wide, 2 deep.

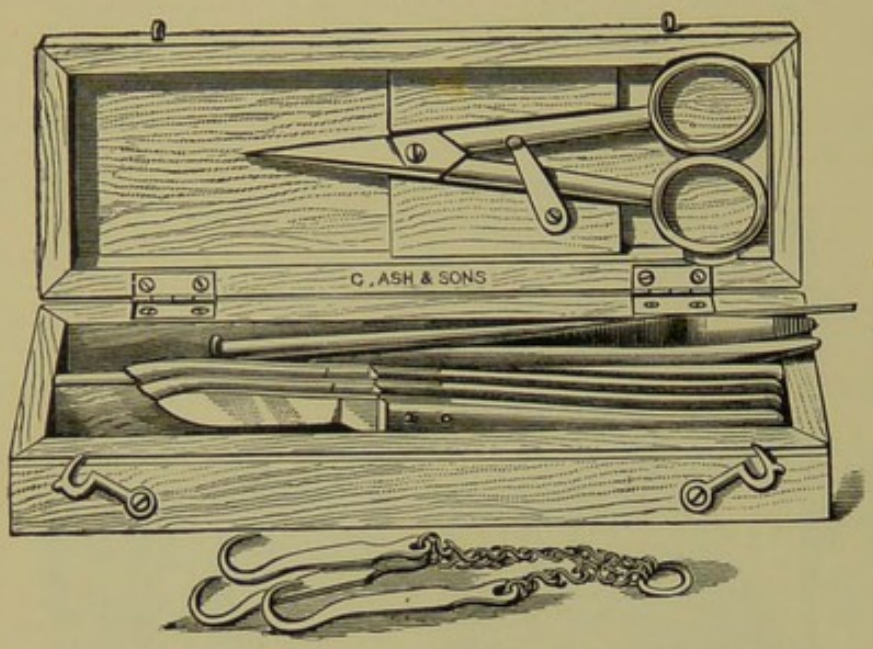
This Case is specially designed for Army and Navy Surgeons, for use in General Hospitals, Dispensaries, Schools, etc., where Extracting, Stopping, and Dressing Instruments are required ; also for general practitioners when visiting Patients or Institutions.

It contains eight loops for Forceps and Elevators, twelve loops for a small assortment of Excavators, Chisels, Scalers, Stopping Instruments, etc. ; also a compartment with lid and catch 7¼ × 5½ × 1⅛ inches, divided to take small bottles, dressings, stoppings, and small sundries.

With Strap, Buckle, and Handle.

	£	*s.*	*d.*
Price, including 8 Bottles and Glass Mixing Slab, but without Instruments	1	0	0

STUDENT'S DISSECTING CASE.



Outside Dimensions : $7\frac{3}{8}$ inches long ; $2\frac{3}{8}$ wide ; $1\frac{3}{8}$ deep.

Made in mahogany, with brass plate in top of lid for name, containing 3 Ebony-handled Scalpels, Tweezers, Blowpipe, Straight Scissors, and set of 3 Chain Hooks.

	s.	*d.*
Price, complete	12	6

LEATHER POUCHES FOR FORCEPS.

Lined with Chamois Leather or Blue Velvet, and provided with two straps and strong leather handle. These Pouches roll up.

To hold	8	12	16	20	Forceps.
Price	9/0	11/6	13/0	14/6	each.

Leather Pouches to hold Forceps, Stump Elevators, etc., made to order.

BOOKS.

		s.	*d.*
Colyer on Teeth Extraction	net	**3**	**0**
Woodburn „ „		**5**	**0**

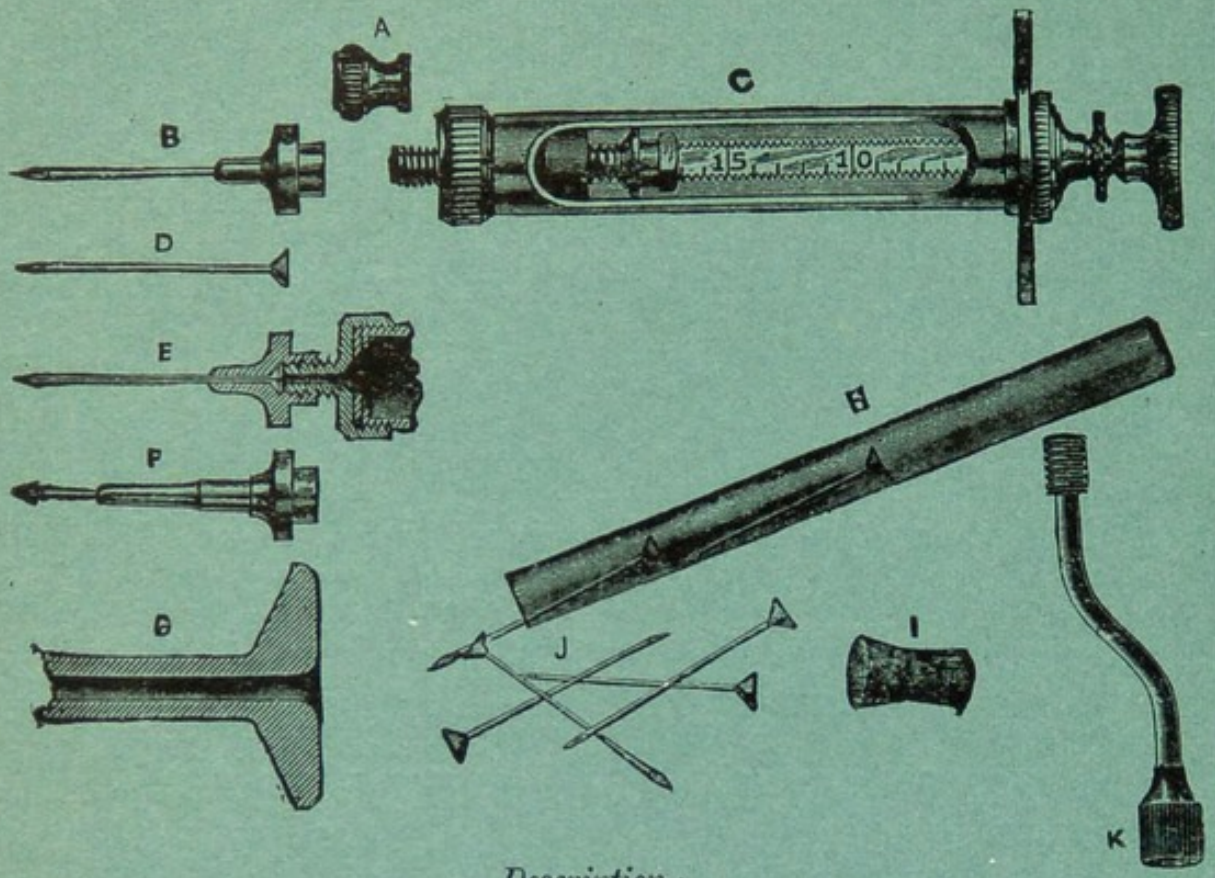
LOCAL ANÆSTHETICS.

The following are the kinds most generally used.

	s.	d.
ANESTILE (DR. BENGUÉ'S)—		
Cylinder with interchangeable jets, containing 140 grammes	12	6
Refilling same	7	0
Cylinder with straight or curved nozzle ,, ,,	10	6
Refilling same	7	0
Cylinder with automatic stopper ,, 70 ,,	14	6
Refilling same	5	0
CHLORIDE OF ETHYL (DR. BENGUÉ'S). See also Kelene below.		
In glass tubes with metal caps containing 40 grammes . . per tube	3	0
,, ,, ,, per box of 3 tubes	7	9
COCAINE HYDROCHLORATE—		
Powdered, in glass tubes one grain . . . . . per dozen	2	0
,, ,, half ,, ... ,, ,,	1	6
,, ,, 15 ,, ... ,, tube	1	9
Wyley's in ½ grain pellets, 12 in tube . . . . . ,, ,,	0	8
,, ,, ,, ... per box of 6 tubes	3	6
CORYL—		
In 100 gramme size cylinders, full . . . . . each	31	6
,, 50 ,, ,, ,, ... ,,	28	6
Refilling cylinders . . . . . per 100 grammes	6	6
CREAGER'S ANÆSTHETIC PENCIL—		
Complete outfit, one holder and four Points	10	0
Trial outfit, one holder and one Point	4	0
EUCAINE—		
Powdered in one grain tubes . . . . . per tube	0	8
In Tabloids ⅛ grain size, 12 Tabloids in tube . . . . . ,,	0	7
,, ,, ,, ,, ... per dozen tubes	6	0
EUCAINE AND COCAINE—		
In Tabloids containing half-grain of each, in bottles of 100 Tabloids, per bottle	2	6
KELENE, OR CHLORIDE OF ETHYL (GILLIARD'S)—		
In glass tubes with metal caps containing 30 grammes . . per tube	3	3
,, ,, ,, per box of 3 tubes	8	0
SNAPE'S CALORIFIC FLUID—		
Large size . . . . . per bottle	7	6
Small size . . . . . ,,	4	0
WILSON'S LOCAL ANÆSTHETIC—		
In 1 oz. Bottles, 4s. ; 2 ozs., 8s. ; 6 ozs., 20s. ; 20 ozs., 60s.		

ASEPTIC HYPODERMIC SYRINGES.

WITH PATENTED SEAMLESS DETACHABLE NEEDLES.



Description:

The great advantage which these syringes possess over other hypodermic syringes is in the Aseptic seamless steel needle D with soft metal cone. Each needle is heavily nickel plated, and is fitted into nozzle B or F by passing it through and screwing the nozzle on to the threaded mount of syringe C, by which means it is jammed into position so as to form a perfectly water-tight joint, as shown in sectional drawing E. Fig. G shows magnified end of needle D with hole countersunk to permit easy introduction of wire. All needles are sterilised at a temperature of 300° F. for five hours, and are put up in glass tubes of six as shown in Figs. H, I, J. The screw mount A is fitted on the end of syringe when not in use, to prevent dust entering the barrel and the packing on piston becoming dry. The piston is graduated to show minims, and the leather packing is self-lubricating, being fitted with an oil-cup, which, when filled with a drop of good oil, keeps the syringe in working order.

	s.	d.
No. 6. Aseptic syringe with short and long nozzles B and F, 12 dental needles D, and two glass vials for hypodermic tablets; complete in Morocco case, leather-lined	7	6
No. 11. Same as above, but larger size, with nozzles B, F, and K, and all the other accessories; complete in Morocco case, leather-lined	9	6
Extra needles in tubes of six for either No. 6 or No. 11 syringe . . . . . per tube	1	6

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

DENTAL ENGINES,

AND

ALL KINDS OF

ENGINE INSTRUMENTS

AND

APPLIANCES.

CLAUDIUS ASH & SONS, LTD.

CENTRAL DEPÔT:

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

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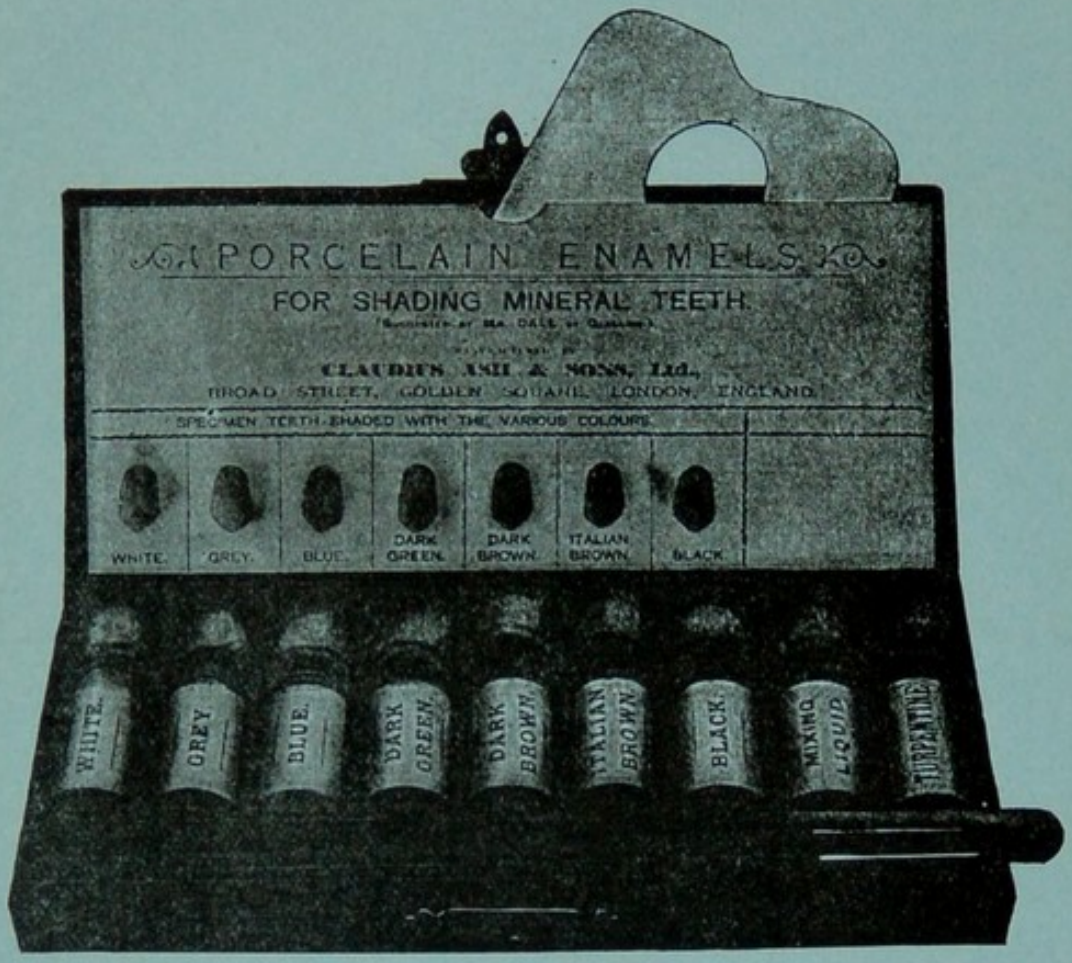
MANCHESTER	118*a*, OXFORD STREET.
PARIS	22, RUE DU QUATRE-SEPTEMBRE.
BERLIN	68, JÄGER-STRASSE.
HAMBURG	62 AND 63, GÄNSEMARKT.
FRANKFURT A/ MAIN	7, BÖRSENPLATZ.
VIENNA	2, SPIEGELGASSE, ECKE GRABEN.
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
STOCKHOLM	9, MALMSKILDNAS GATAN.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

ASH'S PORCELAIN ENAMELS

FOR SHADING MINERAL TEETH.

(Suggested by Mr. DALL, of Glasgow.)



These Enamels can be fused on any make of teeth, and are warranted not to wear off in the mouth. When properly fired, they will stand any test to which they may be subjected, either in soldering or vulcanizing.

We supply them in the following seven colours—White, Grey, Blue, Dark Green, Dark Brown, Light (Italian) Brown, Black, put up in bottles and packed in a neat cardboard box, which also contains :—

1 Bottle Mixing Liquid ;
1 Palette Knife for mixing the colours ;
1 Porcelain Palette on which the colours are mixed ;
2 Camel-hair Pencils ;
1 Bottle of Turpentine for cleaning the brushes ;
1 Nickel Tray for firing teeth in.

Descriptive Circular sent on application.

	s.	*d.*
Price of box complete	15	0

NOTES.

In ordering extra Straight or Angle Handpieces, please say for which Engine they are required.

Always state which Handpiece is used when ordering Engine Instruments. If there is any doubt on this point, send an old bur as a pattern.

When ordering Right, Acute, or Obtuse-Angle Attachments, be careful to state for which Handpiece they are wanted.

The Instruments for these Attachments are shown on page 23. Do not omit to mention which style is required —Fig. 1 or Fig. 2.

We are prepared to supply all kinds of dental materials of American manufacture at published prices, including Engines, Engine Instruments and Appliances, that are mentioned or illustrated in any of the various American Catalogues and Journals.

When ordering goods always quote the figure or state the page of the Catalogue or List on which each article is to be found. This will ensure prompt and accurate execution of orders, and has become necessary now that there are various editions of the English and American Catalogues in existence.

Do not mutilate this or any other Catalogue by cutting out the illustrations. A reference to the page and figure, or article, will be quite sufficient, provided the name and date of the Catalogue are given.

Any article not in stock when an order is received will be obtained with the least possible delay.

CLAUDIUS ASH & SONS, Limited.

SHAW'S DENTAL ENGINE,

WITH

PATENTED ELBOW JOINT.

THIS Engine has all the motions of the **human elbow and wrist,** and is admitted by the first Operators to be the best that is made. For freedom of movement it is unequalled, and will bear the strictest comparison with any other for workmanship and finish. It is in general use at most of the Dental Hospitals in the United Kingdom.

DESCRIPTION:

The movable arm, which works at a right angle to the upright rod ***B***, has a flexible joint forming an elbow; this elbow is connected to the rod ***A*** by a spiral spring, which gives motion to the Mandrels.

A second spring connects the **Handpiece** with the rod ***A***, which is enclosed in a metal sheath to protect it from injury; this spring gives complete freedom to the Operator, and enables him to apply the instrument to any part of the mouth.

The position of the Mandrel ***A*** to which the Handpiece is attached must, when in use, be about at a right angle with the other portion of the flexible joint or elbow. If this rule be observed, the whole arm is so flexible, and the Handpiece so light in the hand, that the Operator can execute his work with the greatest ease to himself and comfort to the patient.

As the first joint of the flexible arm, when in use, points a little to the left of the patient, the treadle is placed to the left of the wheel, so that the Operator can reach the Handpiece without inconvenience.

The Engine is made with a rocking motion, which allows the upright rod ***B*** to be drawn forward fifteen inches, or pushed a similar distance away from the vertical position. It is necessary when using this motion to take hold of the upright; it cannot be controlled from the Handpiece. The upright is made tension-tight, and will remain where it is placed.

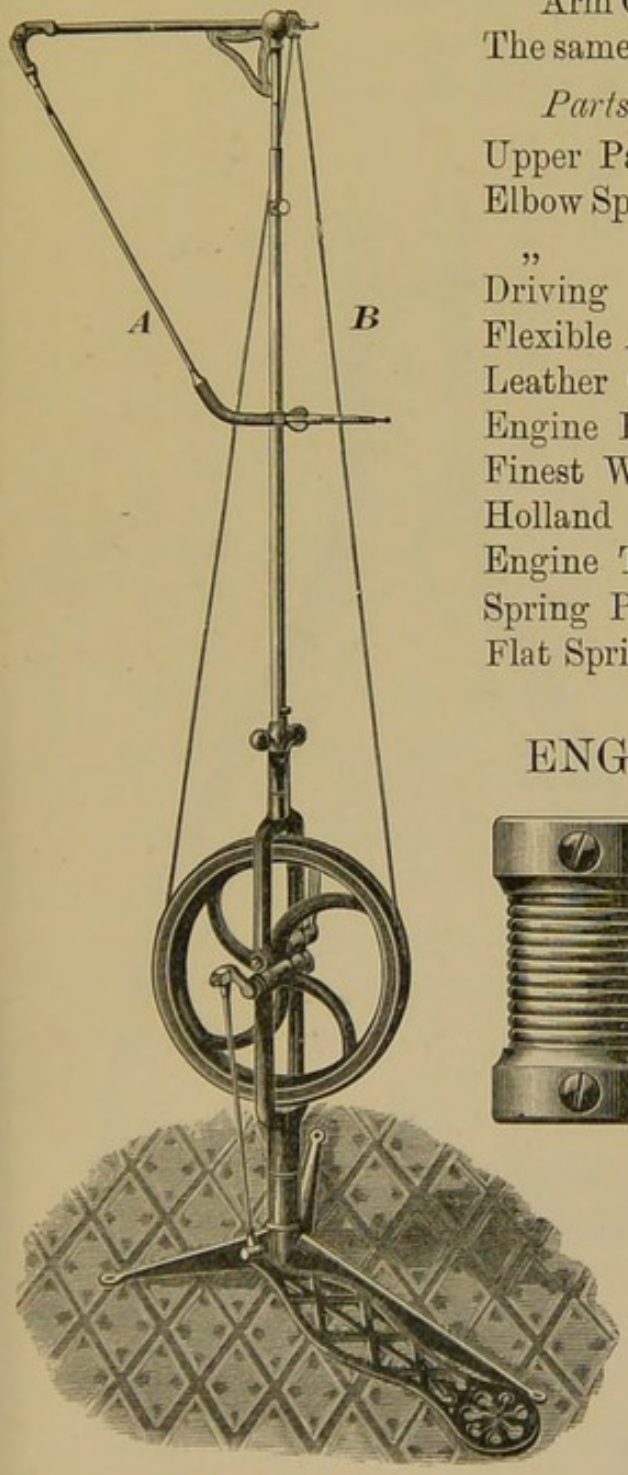
Each Engine is fitted with the Improved Elbow Joint illustrated and explained on pages 4 and 5.

SHAW'S DENTAL ENGINE,

With PATENTED ELBOW JOINT.

PRICES:

	£	*s.*	*d.*
Engine (all bright parts Nickel-plated), with Patented Elbow Joint, Improved Cone-Regulating Handpiece, Arm Controller, Oil Can, and Spanner	7	10	0
The same, with Slip-Joint Attachment .	9	0	0
Parts separately:			
Upper Part of Engine	4	5	0
Elbow Springs, Inside, No. 2, p. 11 each	0	1	0
„ „ Outside . . . „	0	0	6
Driving „ Inside, No. 1, p. 11 „	0	0	7
Flexible Attachment, No. 3, p. 11 . .	0	7	6
Leather Cover for do.	0	0	5
Engine Band	0	0	5
Finest White Oil . . . per bottle	0	0	6
Holland Cover for Engine	0	1	6
Engine Treadle	0	5	0
Spring Pitman, with Loop	0	6	6
Flat Spring Pitman	0	4	6



ENGINE AT REST.

ENGINE ARM CONTROLLER.

This device is the outcome of suggestions made by Mr. Louis Jeffery, of London, and is intended for drawing back the Arm of Shaw's Engine out of the Operator's way when it is set free after use.

To apply.—Put the Controller on the top of the Upright, place the Engine Arm in position, fit Band on Driving Wheel and Pulley, hold the Arm in the position in which it is required when at rest, and fix the Controller to it and the Upright by tightening up the two screws.

After use, the Handpiece should be placed at rest in the Spiral, which should be attached to the centre of the Upright.

	s.	*d.*
Price	2	6

IMPROVED ELBOW JOINT

(Patented October, 1886),

FOR

DR. PARSONS SHAW'S DENTAL ENGINE.

FIG. 1.

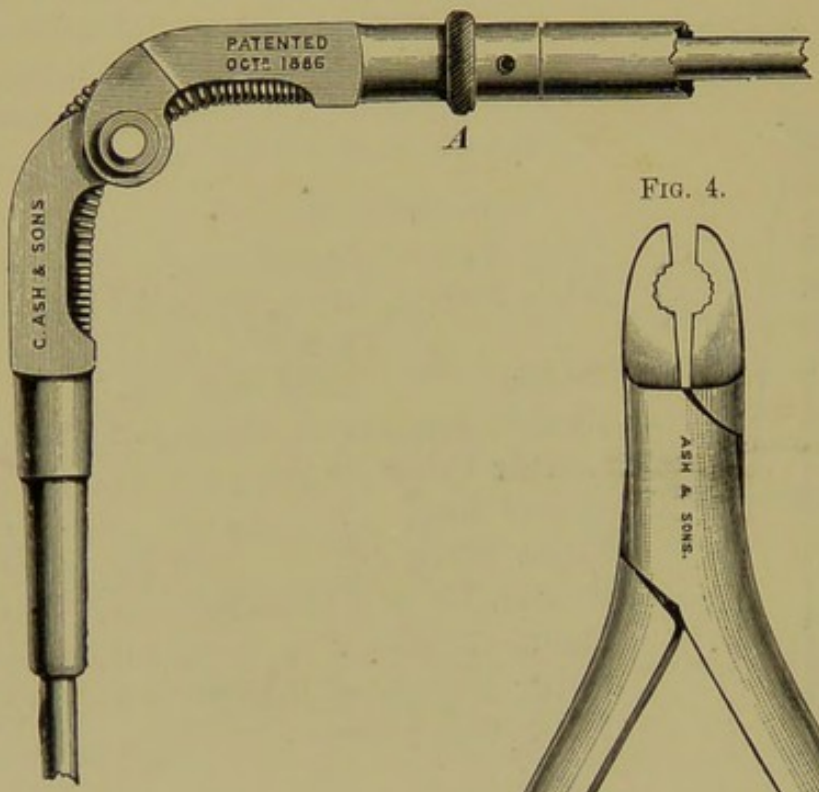
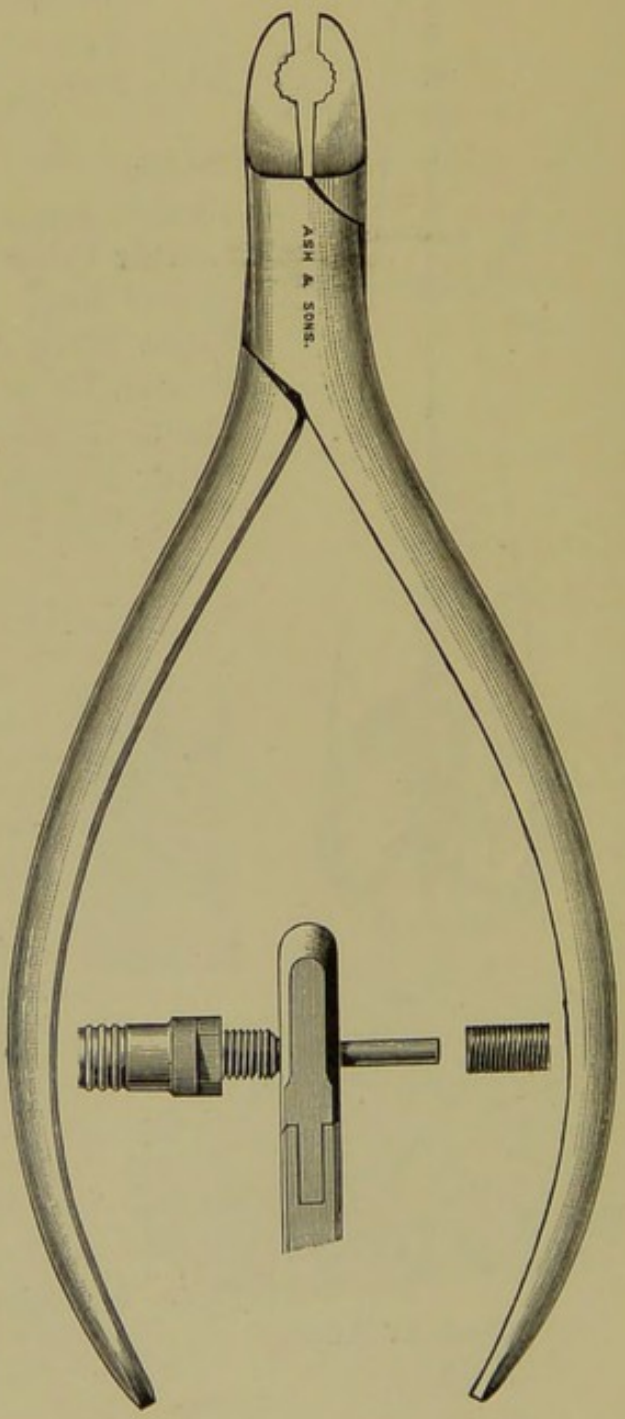


FIG. 2.

FIG. 3.

FIG. 4.



IMPROVED ELBOW JOINT—*CONTINUED.*

DESCRIPTION:

FIG. 1. Elbow Joint, with Inside and Outside Springs, complete.

„ 2. Shows end of horizontal Mandrel inside sheath at part ***A*** of Fig. 1.

„ 3. Shows end of vertical Mandrel—see ***B***—when the Elbow Joint is drawn down over it.

„ 4. Shows Pliers for holding the Mandrels while new Springs are fitted to or removed from them. The part between the handles shows how a Mandrel should be grasped with the Pliers.

DIRECTIONS:

In fitting or removing a Spring it should be turned to the left while forcing it on or pulling it off the Mandrel.

The action of turning the Spring to the left opens it sufficiently to permit of its being forced on or pulled off with comparative ease.

Mr. G. C. MCADAM, of Hereford, says: "In removing or fitting on an Elbow or Wrist Spring of Shaw's Engine, the Spring should be held in a fold of thin rubber-dam, which clings to it in a way that nothing else will, and effectually protects the fingers."

To Renew the Inside Elbow Spring.—Grasp with the Pliers the shoulder of the vertical Mandrel, Fig. 3, below ***B***, remove the end of the old Spring which is on it, and press on one end of the new Spring as far as the shoulder. Then grasp with the Pliers the shoulder of the horizontal Mandrel, Fig. 2, remove the end of the old Spring, and force on the free end of the new Spring.

To Renew the Handpiece Spring.—Unscrew the leather-covered Wrist Spring and slide it along the sheath which encloses Mandrel ***A***—see page 3—out of the way. Then grasp the Handpiece Spindle with the Pliers, remove the old Spring from it, fit on the new Spring, and lay the Handpiece down. Take hold of the end of Mandrel ***A*** just above the shoulder with the Pliers, remove the old Spring and fit on the free end of the new Spring which is attached to the Handpiece.

To avoid the danger of bending a Mandrel, it should be held perfectly tight in the Pliers close to where the Spring is being removed or fitted.

	s.	*d.*
Engine Pliers, nickel-plated	2	6

THE S. S. WHITE SIDE-WHEEL DENTAL ENGINE.

The Manufacturers state that:—"Recent modifications of the S. S. White Dental Engine so change its general appearance as to suggest at first glance an alteration of the general lines upon which it is built. This is not, however, borne out by the facts. The old landmarks—the flexible arm, the rocking upright, and the spring pitman, first brought out in the original S. S. White Dental Engine—are still there, as they have been from the beginning, nearly twenty years ago.

The new form will be known as the S. S. White Side-Wheel Dental Engine, so called from the most important of the modifications which it presents—the substitution of the yoke of the base by an open frame for the driving-wheel, which is supported at one end of a pinion journaled through it, with the crank-shaft at the other end. The spokes are 'dished' to centre the weight of the rim. The pitman is a flat steel spring with brass attachment and ball bearing for the crank-shaft. There is no external balance-spring. Instead, an adjustable coil working in a tube placed below the pinion automatically returns the rocking-standard to the perpendicular. The standard has a movement toward the operator of seven inches; away from him of three inches, a range which experience shows to be ample.

The base is made with one hinged toe—that which permits the Engine to be tilted toward the operator. When so tilted, it holds its position firmly on the floor, while bringing the flexible arm and pulley-head immediately in front of the patient, with the treadle presenting itself to the operator's foot conveniently for easy operating.

The spring pitman holds the crank off centre when the Engine is at rest, and the pedal always in place for a forward motion on foot pressure.

The flexible arm, when not in use, should be dropped vertically beside the upright."

The Side-Wheel Engine is made with four sizes of driving-wheels known as *E, F, G, H.* The weight and diameter of each wheel are as under:—

E,	weight about	$6\frac{3}{4}$	lbs.;	diameter,	10	inches.
F,	,,	,,	$8\frac{3}{4}$	,,	,,	$12\frac{3}{8}$	,,
G,	,,	,,	$15\frac{1}{2}$	,,	,,	$12\frac{3}{8}$	,,
H,	,,	,,	$14\frac{1}{4}$	,,	,,	15	,,

In ordering please specify size of driving-wheel required.

Any of the above Engines can be had with Ball Bearings at an extra cost of 41/8.

THE S. S. WHITE SIDE - WHEEL DENTAL ENGINE—*CONTINUED.*

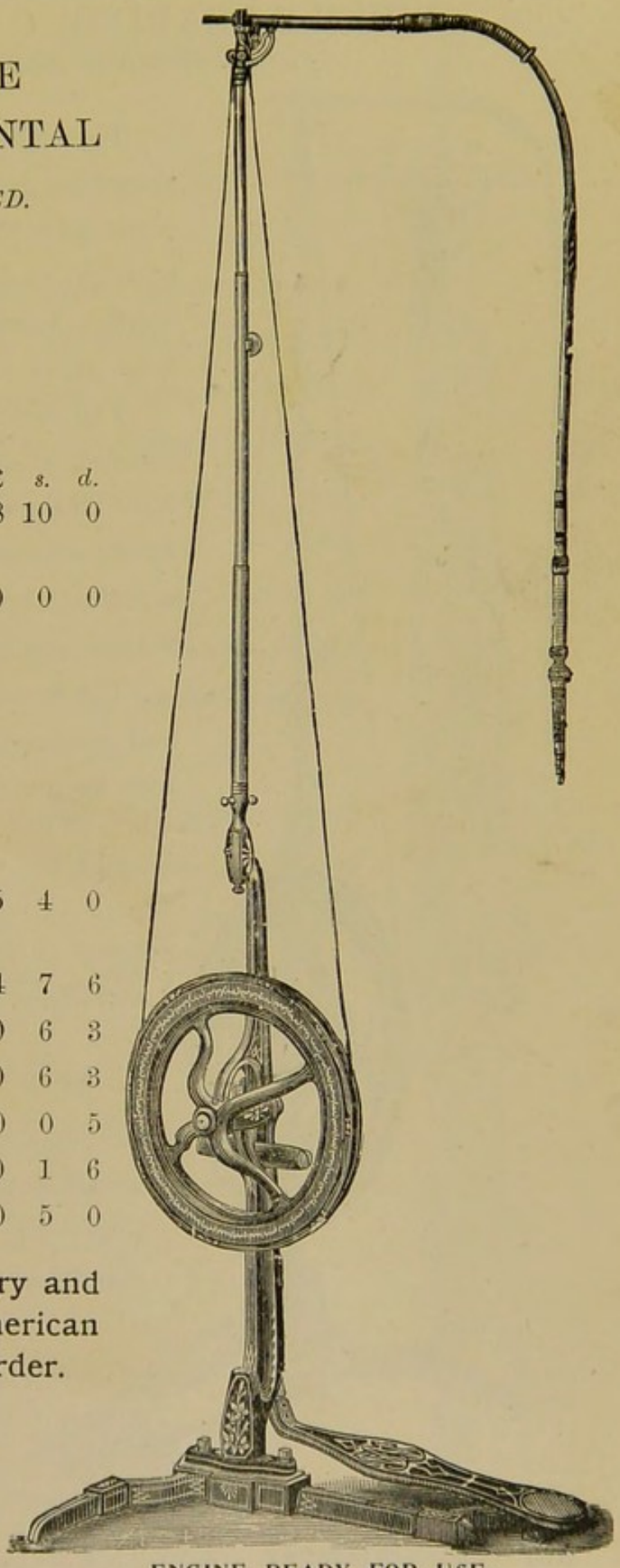
PRICES:

	£	*s.*	*d.*
Engine complete, any size wheel (all bright parts nickel-plated), with Straight Handpiece, Flexible Attachment, and fourteen Instruments	8	10	0
The same, with Slip-Joint Attachment	10	0	0

Parts separately:

Flexible Arm or Upper Part of Engine, including No. 6 or No. 7 Straight Handpiece, Flexible Attachment, Cable, Sheath, and Arm Support	5	4	0
The same, with No. 4 or No. 8 Handpiece	4	7	6
Cables. . . . . each	0	6	3
Sheaths for Cables . ,,	0	6	3
Engine Band	0	0	5
Holland Cover for Engine .	0	1	6
Engine Treadle	0	5	0

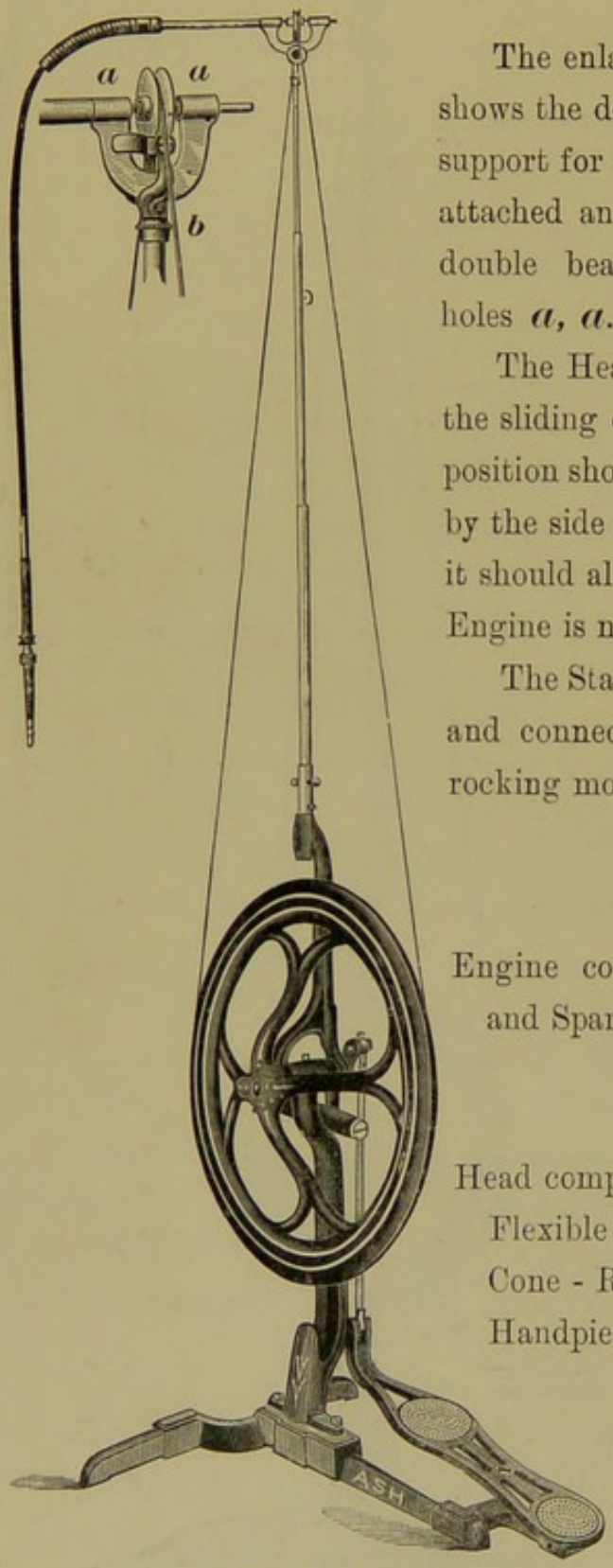
The Doriot, Weber-Perry and other Dental Engines of American manufacture supplied to order.



ENGINE READY FOR USE.

DOUBLE-BEARING CABLE ENGINE

(ASH'S ENGLISH MANUFACTURE).



ENGINE READY FOR USE.

The enlarged drawing in the illustration shows the double bearing, which affords good support for the spindle to which the cable is attached and ensures steady running. This double bearing is provided with two oil holes ***a, a.***

The Head of the Engine is controlled by the sliding collar ***b,*** and can be kept in the position shown in the illustration, or let down by the side of the upright, in which position it should always be allowed to rest when the Engine is not in use.

The Stand consists of Tripod with Treadle and connecting Rod, Upright with forward rocking motion, and large Driving Wheel.

PRICES:

	£	s.	d.
Engine complete with Oil Can and Spanner	6	10	0

Separately:

Head complete with Arm Support, Flexible Attachment, and Ash's Cone-Regulating or No. 7 Handpiece	3	10	0
Stand complete with Upright and Spanner	3	5	0

For ELECTRICAL ENGINES see our List of Electrical Apparatus, which can be had on application.

No. 7 CHUCK HANDPIECE

(American).

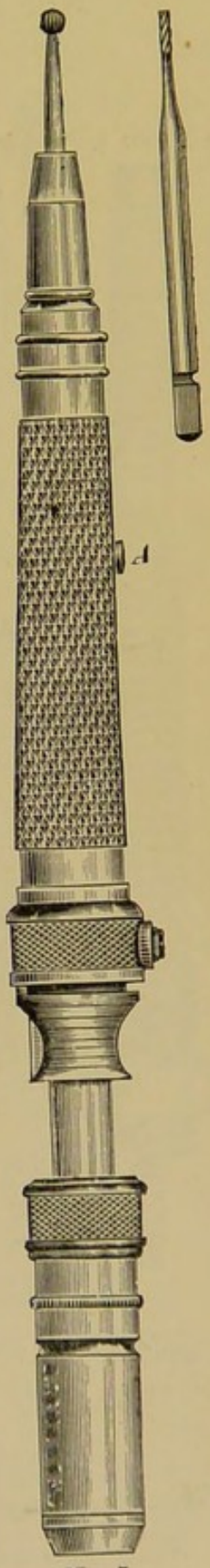
To Secure a Bur in the Handpiece.—Push the Bur into the spindle as far as it will go, and draw out the front section of the Handpiece case, using only very *moderate* force. Try this a few times, observing how very little power is required to secure the Bur firmly, and so learn to avoid overstraining the Chuck apparatus. To release the Bur, push in the front section of the Handpiece. These motions can be easily made with one hand, by grasping the back portion of the Handpiece between the third and fourth fingers and the palm of the hand, and the forward end between the thumb and the first finger.

To Attach the Right Angle it is only necessary to place it over the end of the Handpiece, observing that the notch in the end of the sleeve engages with the stud *A* on the Handpiece. Close the Chuck as in securing a Bur.

For directions how to attach the Handpiece to different Engines, to Oil and Clean and to Take up Wear, see Descriptive Circular, which may be had on application.

PRICES:

	£	*s.*	*d.*
No. 7 Handpiece, as illustrated, for S. S. White's Engine	2	1	8
The same with Flexible Attachment for Shaw's, Double-Bearing Cable, or S. S. White's Engine	2	9	0



No. 7.

No. 4 CONE-REGULATING HANDPIECE

(C. ASH & SONS').

FIG. 1. FIG. 2. FIG. 3.

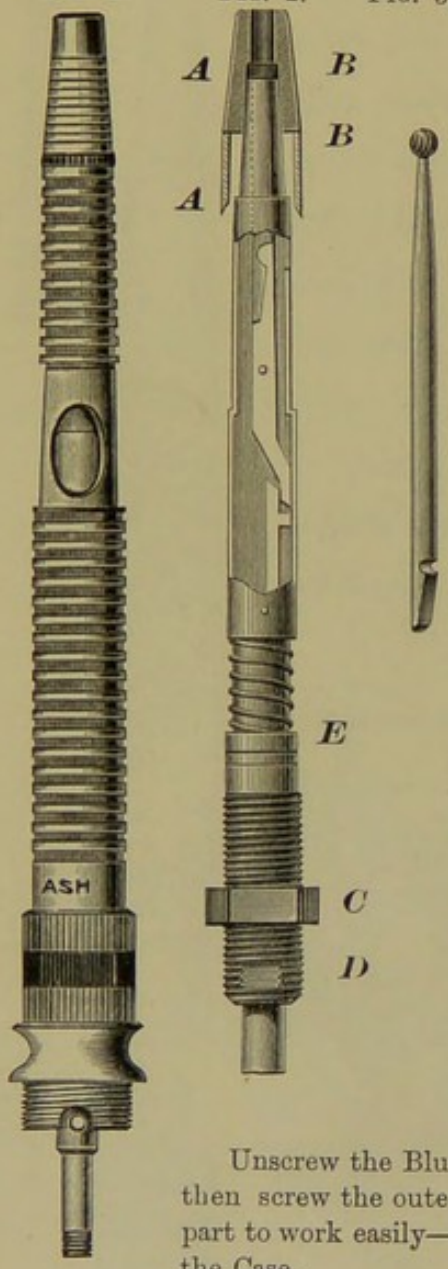


FIG. 4.

The principal features in this Handpiece are the Coned Part ***A A***, Socket ***B B***, and Regulating Screw ***D***.

It is well known that after a time the inner part of a Handpiece becomes loose, through constant friction and wearing away of the nose or socket in which it is fixed. This causes the points to shake about and work unsteadily, to the great annoyance and inconvenience of the Operator.

By means of the Coned Socket and Regulating Screw which have been introduced in the S. S. White's Pattern No. 4 Handpiece, the Operator can adjust the inner part and thus ensure a steady and reliable working of the point.

While removing a broken spring or fitting a new one, a pointed instrument should be inserted in hole of tang (Fig. 1.) at ***F***.

DESCRIPTION:

Fig. 1.—Handpiece complete.
,, 2.—Inner part showing Coned Bearing ***A A***, Socket ***BB***, and Blued Jam-Nut ***C***.
,, 3.—Engine Bur for this Handpiece.
,, 4.—Regulating Spanner.

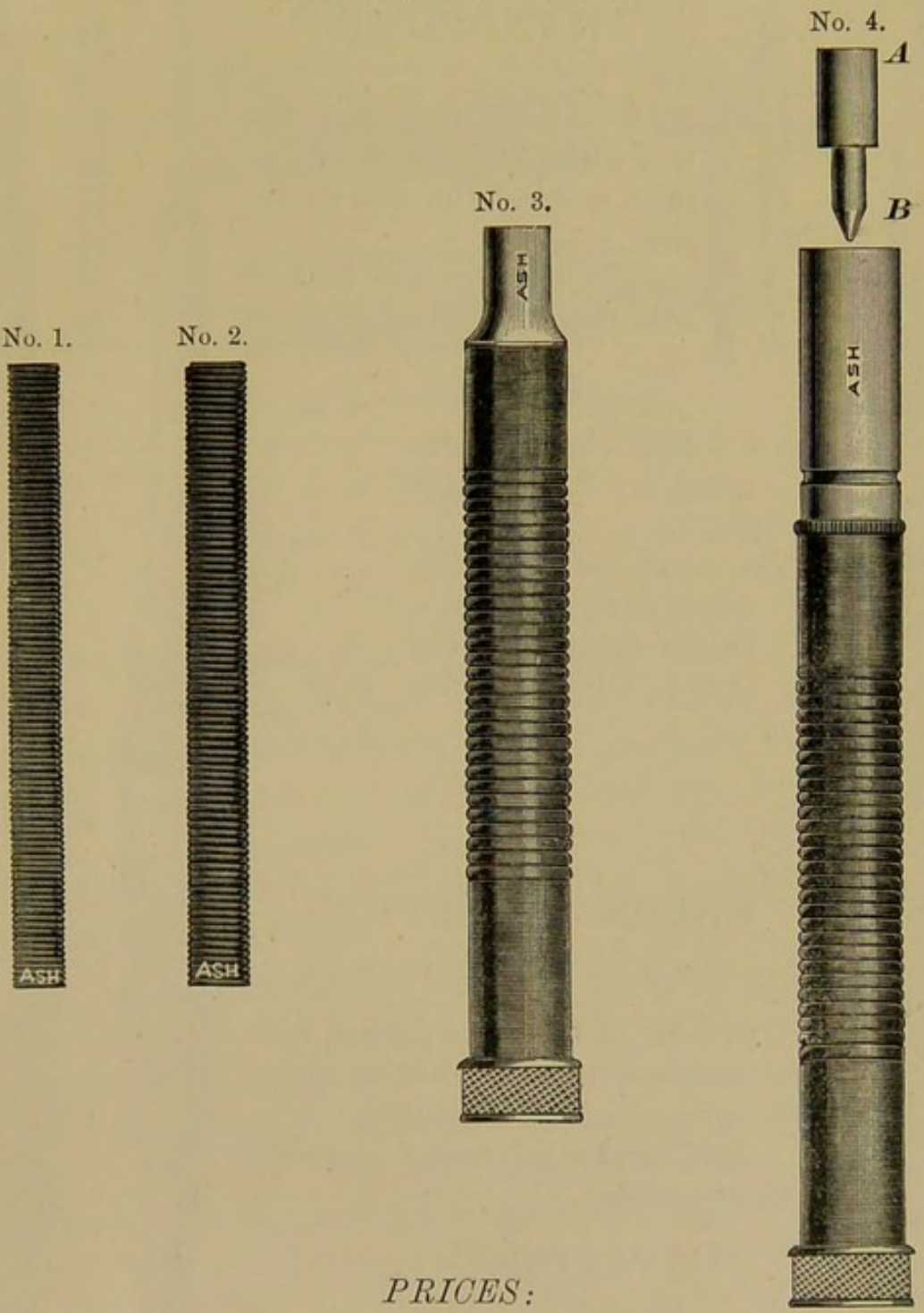
TO TAKE UP WEAR.

Unscrew the Blued Jam-Nut ***C*** with the large end of the spanner; then screw the outer case down towards it far enough to allow the inner part to work easily—but not too freely—and tighten the Jam-Nut against the Case.

	£	*s.*	*d.*
Handpiece, as illustrated . . . . . (Fig. 1)	1	15	0
,, with Flexible Attachment for Shaw's Engine . .	2	0	0
,, ,, ,, ,, for Double-bearing Cable or White's Engine	2	2	6
Extra Steel Noses for Handpiece . . . . . each	0	4	0

When ordering, please state for which Engine the Handpiece is required.

ENGINE SPRINGS AND FLEXIBLE ATTACHMENTS.



PRICES:

	s.	*d.*
No. 1.—Spring for Flexible Attachments, known as Wrist or Driving Spring	0	7
No. 2.—Elbow Spring for Shaw's Engine	1	0
No. 3.—Flexible Attachment for Shaw's Engine.	7	6
No. 4.—Flexible Attachment for Double-Bearing Cable or S. S. White's Engine	7	6

The Engine Cable is attached to end *A* and Spring No. 1 to end *B* of the mount shown above this Flexible Attachment.

No. 6.

24A

S. S. WHITE'S No. 6 CONE-JOURNAL HANDPIECE.

Circular of Directions for use, with illustrations of the parts, supplied with each Handpiece.

This circular can be had separately on application.

Prices:

	£	*s.*	*d.*
No. 6 Handpiece, as illustrated, for S. S. White's Engine	2	1	8
The same with Flexible Attachment for Shaw's, Double-Bearing Cable, or S. S. White's Engine	2	9	0

No. 8 CHUCK HANDPIECE.

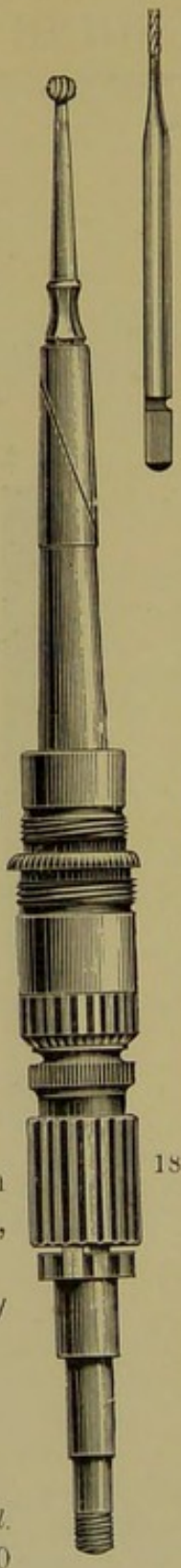
(The S. S. White D. M. Co.'s.)

Circular of Directions for use, with illustrations of the working parts, supplied with each Handpiece.

This circular can be had separately on application.

Prices:

	£	*s.*	*d.*
No. 8. Handpiece, as illustrated, for S. S. White's Engine	1	5	0
The same with Flexible Attachment for Shaw's, Double-Bearing Cable, or S. S. White's Engine	1	12	6



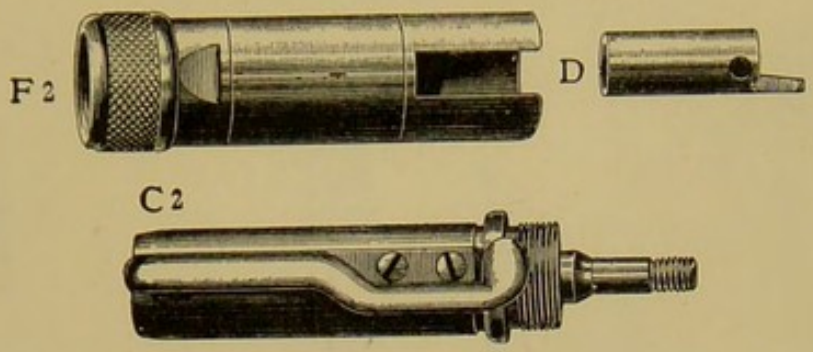
18

Inside of No. 8.

No. 8.

No. 2 SLIP-JOINT ATTACHMENT

FOR DENTAL ENGINES.



F*2** Ferrule. ***D Dog.

These parts are fitted to the Straight Handpiece, Right or other Angle Handpiece and Engine Mallets.

***C*2** Slip-Joint.

This part is attached to the Engine and will receive any Straight Handpiece, Angle Handpiece, or Mallet that is fitted with parts ***D*** and ***F*2**.

The Slip-joint Attachment is highly appreciated on account of its great usefulness. Those Operators who have it attached to their Engines are very pleased to find that the Straight Handpiece can be laid aside when they have occasion to employ the Right or other Angle Handpiece or the Engine Mallet; and that while the Straight Handpiece is at rest it is not being worn out like it is when used to carry the Right Angle or the Mallet.

This feature about the Slip-joint Attachment once recognized usually leads to its adoption, but in addition it may be mentioned that it requires less power to drive a Straight Handpiece, an Angle Handpiece, or a Mallet by itself when coupled direct to the Slip-joint, than it does to drive a Straight Handpiece and Angle Attachment, or a Handpiece and Mallet, coupled together; moreover the Operator has no bother with any increased length of Handpiece, as is the case when one is coupled to the other.

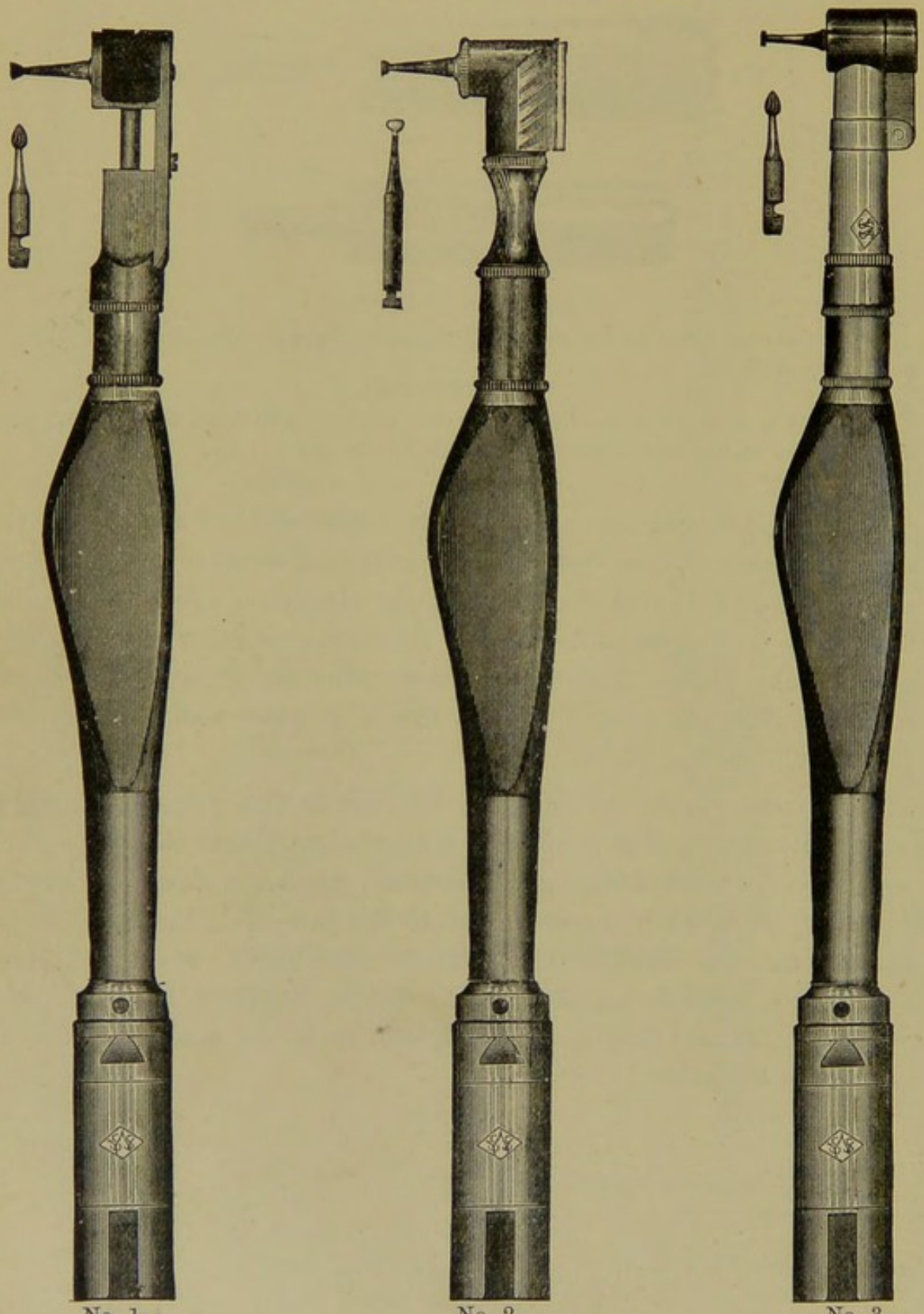
PRICES:

	£	*s.*	*d.*
Slip-joint Attachment, Part ***C*2**	1	5	0
Dog, Part ***D***	0	2	1
Ferrule, Part ***F*2**	0	4	2
Complete	£1	11	3

ANGLE HANDPIECES

(American Manufacture),

FOR No. 2 SLIP-JOINT ATTACHMENT.



No. 1. No. 2. No. 3.

	£	s.	d.
Angle Handpieces, Nos. 1, 2, or 3. . . . . each	1	13	4

ANGLE HANDPIECES

(American Manufacture),

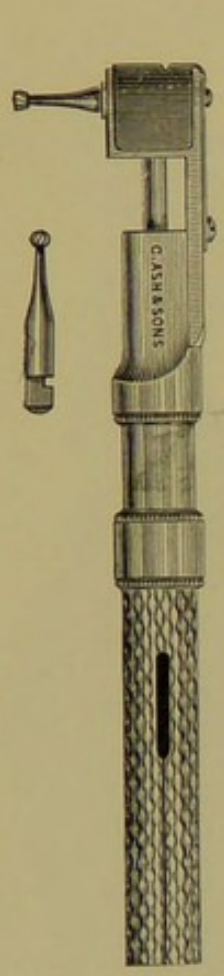
FOR No. 2 SLIP-JOINT ATTACHMENT.

No. 2, OBTUSE.

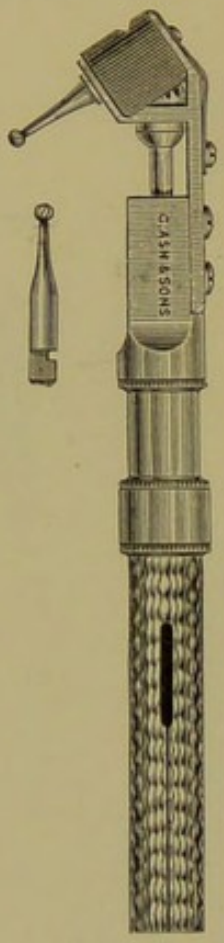
No. 2, ACUTE.

	£	*s.*	*d.*
Price, either form	1	13	4

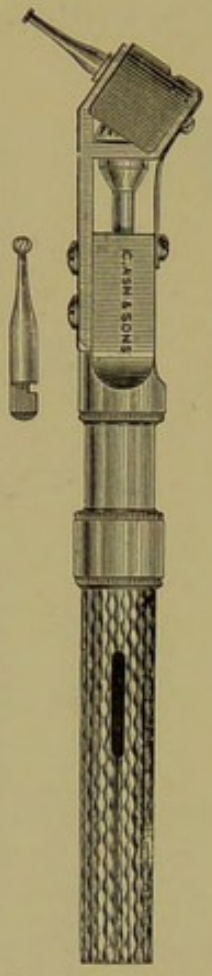
LOCK-BIT ATTACHMENTS.



RIGHT ANGLE, No. 1.



ACUTE ANGLE.



OBTUSE ANGLE.

No. 3.

DIRECTIONS:

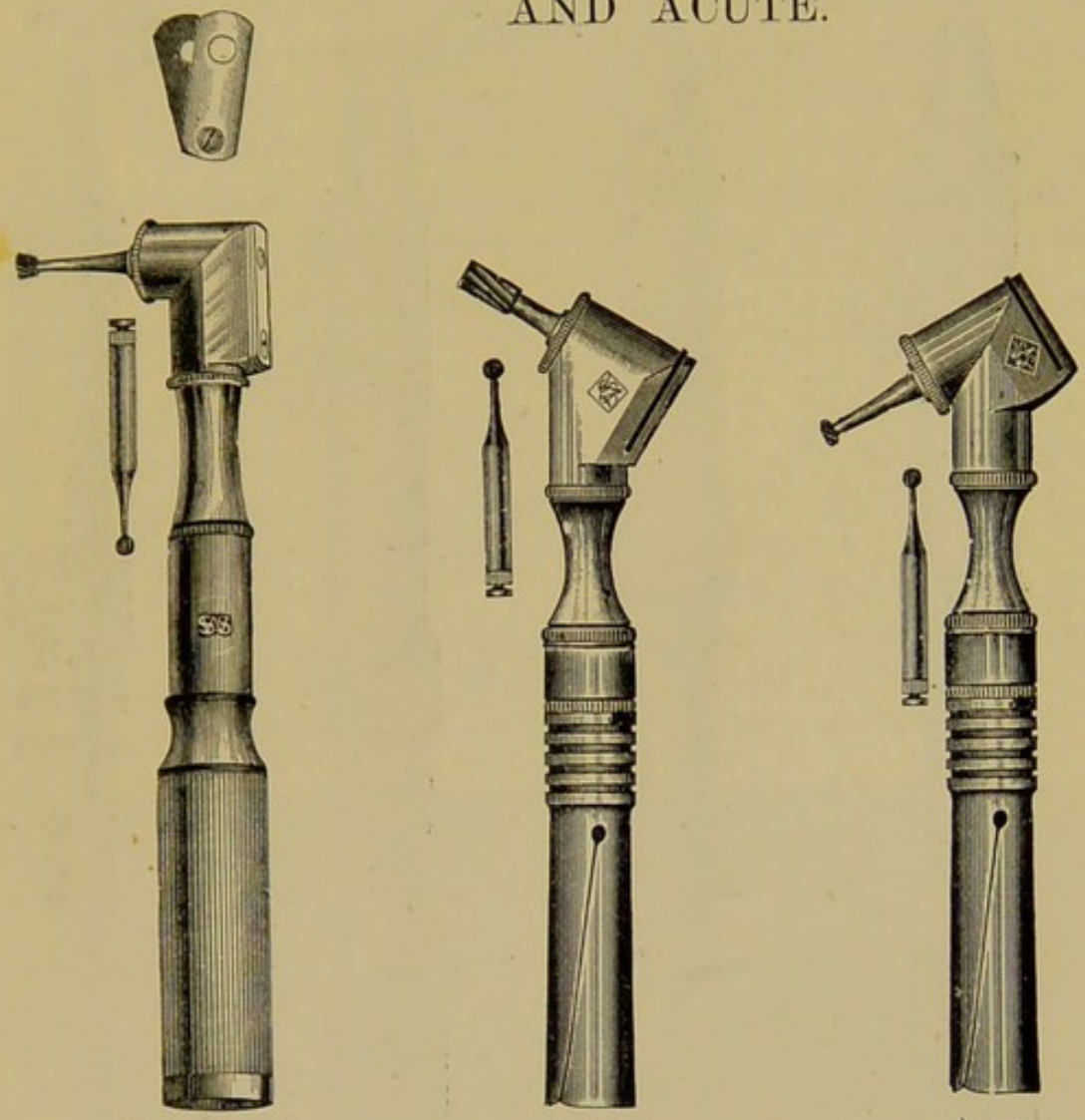
To Secure a Bit in the Right Angle No. 1.—Push the shank of the Bit gently into the socket, turning it at the same time, until it is felt to engage with the carrier-pin. To remove a Bit, lift the spring slightly with the finger-nail and pull the Bit out, turning it to free it from the carrier-pin. These directions are also applicable to the Acute- and Obtuse-angle Attachments.

To Secure a Bit in the Right Angle No. 3.—Pull the cap back which covers the chucking nut, turn the nut away from you a trifle to unchuck the point, and towards you firmly to chuck the same. *Never remove the head except for repairs. Oil often.*

PRICES:

		£	*s.*	*d.*
Ash's Right-Angle (No. 1) for No. 4 Handpiece, page 10 . . .	each	1	0	0
,, Acute-Angle for ,, ,, ,, ...	,,	1	0	0
,, Obtuse-Angle for ,, ,, ,, ...	,,	1	0	0
Any of the above adapted for Nos. 6, 7, or 8 Handpieces, pages 9–12	,,	1	0	0
Extra Hoods for Lock-bit Attachments	,,	0	4	0
American Lock-bit Attachments, No. 1 Right-Angle, Acute, Obtuse, or No. 3 Right-Angle, for any Handpiece	,,	1	5	0
Extra Hoods for American No. 1 Right-Angle Attachment . . .	,,	0	4	0

No. 2 ANGLE ATTACHMENTS—RIGHT, OBTUSE, AND ACUTE.



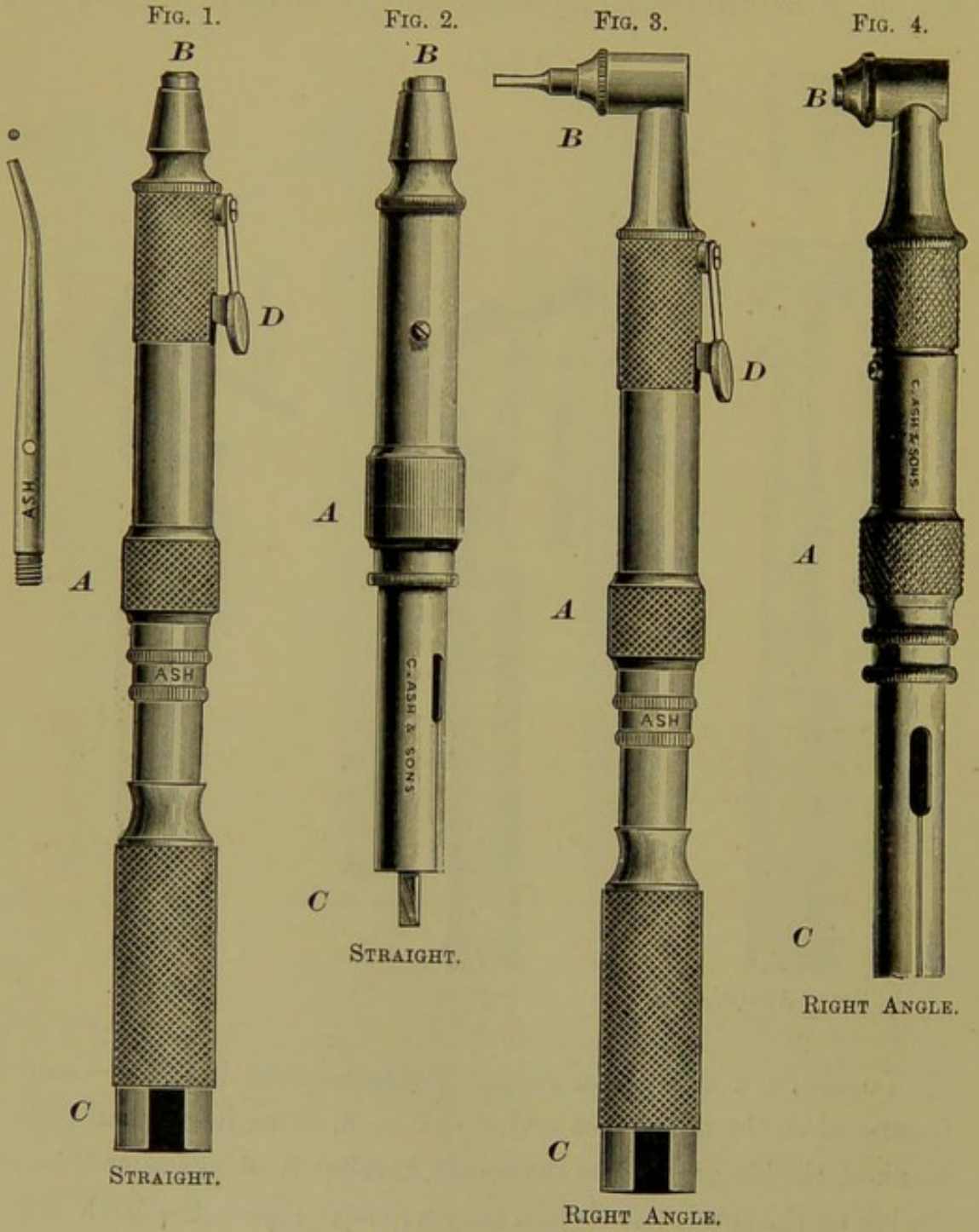
RIGHT ANGLE. OBTUSE. ACUTE.

To Secure a Bit in Angle Attachments No. 2.—Catch the finger-nail on the milled free end of the latch, swing it out, and press the shank of the bit gently into the socket, turning it at the same time until the lug on the end is felt to pass the carrier-pin ; push the latch back to its position, when the bit will be held firmly. Opening the latch releases the bit, which can then be pulled out.

PRICES :

	£	*s.*	*d.*
Right, Obtuse, or Acute-Angle, for Handpieces Nos. 4, 6, 7, or 8 . . . . . each	1	5	0

POWER'S ENGINE MALLETS.



DESCRIPTION:

Fig. 1.—Straight Mallet with Stop-Action, ***D***.
,, 2.—Simple Straight Mallet.
(The style of Point used in Figs. 1 and 2 is shown to the left of Fig. 1.)
Fig. 3.—Right-Angle Mallet with Stop-Action, ***D***.
,, 4.—Simple Right-Angle Mallet.
A.—Milled Collar for regulating speed.
B, C.—Nose and Tang end of Mallets.

To keep a Mallet in good working order, apply a little oil occasionally between the nose and the outer case at ***B***, and pour a few drops down by the tang at ***C***.

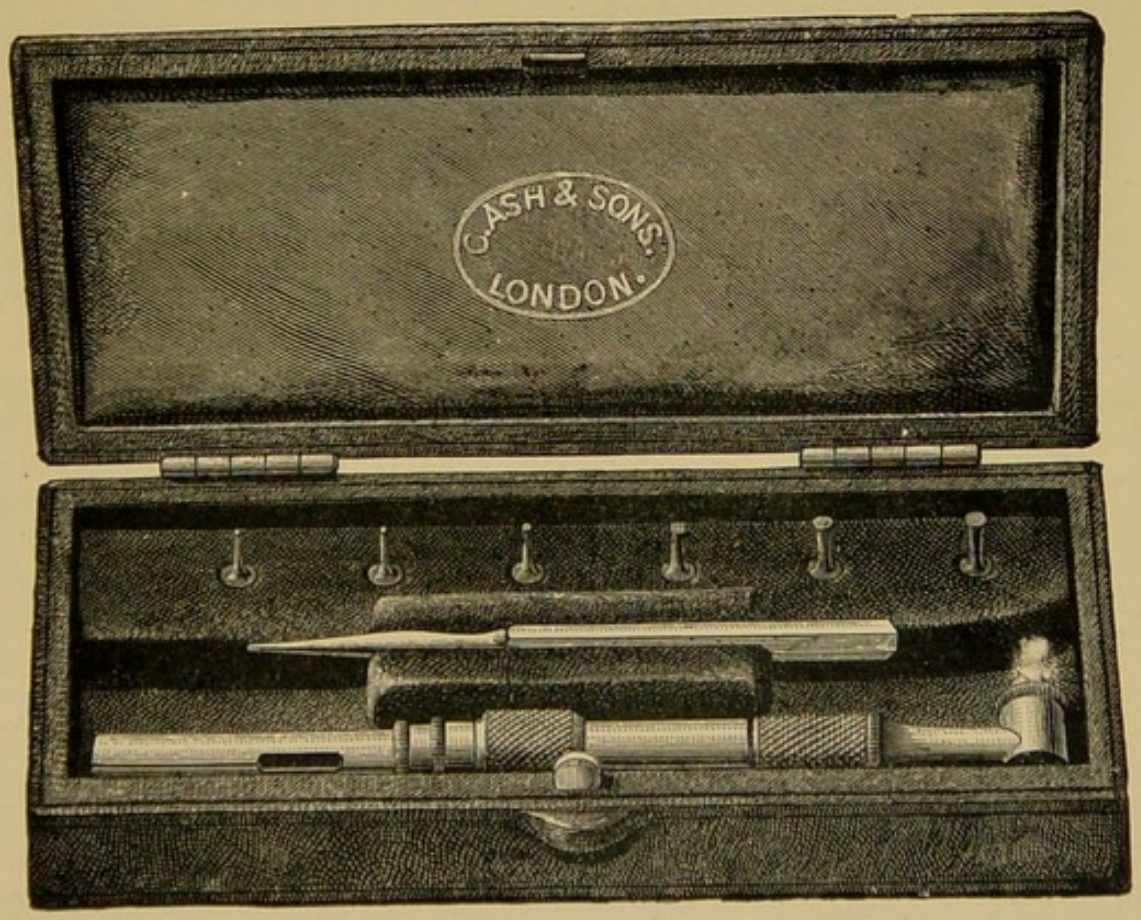
The Mallets can be had for any Handpiece or Slip-Joint Attachment. When ordering, please state for which they are required.

POWER'S ENGINE MALLETS—*CONTINUED.*

Few Engine Mallets can be compared to Power's for range of blow, efficiency, ease of adjustment, durability, and excellency of workmanship. They work equally well whichever way the Engine is driven—a feature which is wanting in some Mallets.

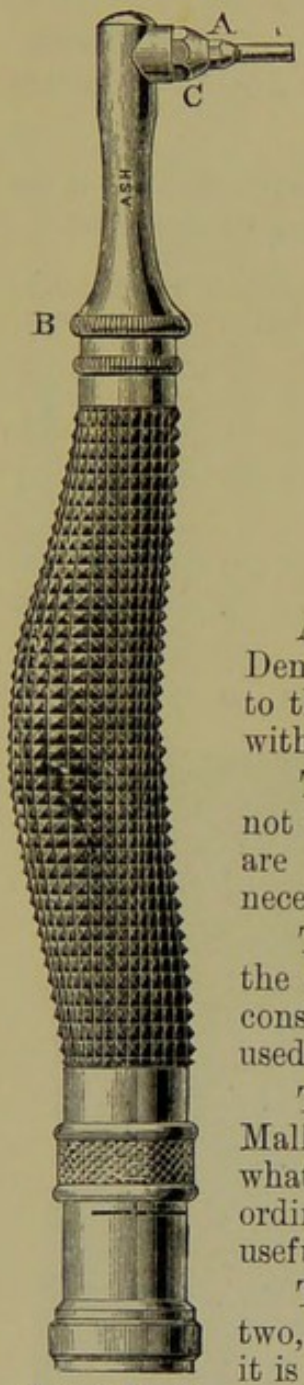
Caution:—There are some very inferior imitation Power's Mallets in the Market, which are so badly constructed that they are dear at any price.

PRICES:	For any Handpiece. £ *s.* *d.*	For Slip-Joint Attachment. £ *s.* *d.*
Fig. 1 Straight, with Stop-Action.	1 12 6	2 2 0
„ 2 Simple Straight Mallet.	1 4 0	1 12 6
„ 3 Right-Angle, with Stop-Action . . .	1 17 6	2 5 0
„ 3 Right-Angle, with Leather Case, Wrench, and six Points, ... extra	0 14 0	0 14 0
„ 4 Simple Right-Angle Mallet	1 10 0	1 18 6
„ 4 Simple Right-Angle Mallet, with Leather Case, Wrench, and six Points . extra	0 14 0	0 14 0

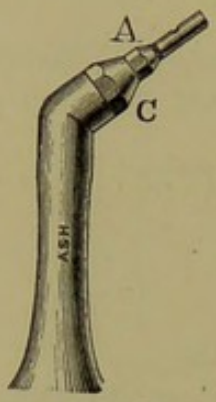


This illustration shows a Leather Case containing six Points, Wrench, and Fig. 4 Power's Simple Right-Angle Mallet for No. 4 Handpiece.

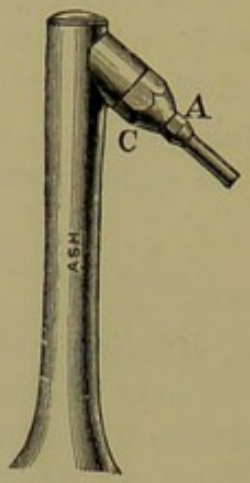
DALL'S ENGINE MALLETS.



RIGHT-ANGLE.



OBTUSE-ANGLE.



ACUTE-ANGLE.

KEY.

Although these Mallets are intended for the ordinary Dental Engine, they will also be found a great acquisition to the outfit of those Operators who use Electric Motors with automatic clutches.

They are made of steel, and are simple in construction, not liable to get out of order, while those parts which are most subject to wear can readily be renewed when necessary.

The Right-Angle Mallet is invaluable in the filling of the lower anterior teeth, as the mallet-head is small, and consequently occupies but little space. It can also be used to advantage in lingual cavities.

The Obtuse-Angle has an advantage over a Straight Mallet in that it enables the Operator to see better what he is doing. Although it is primarily intended for ordinary cavities, it will likewise be found particularly useful in filling the upper anterior teeth.

The Acute-Angle Mallet is not so useful as the other two, but for filling distal cavities in the anterior teeth it is sometimes of great service.

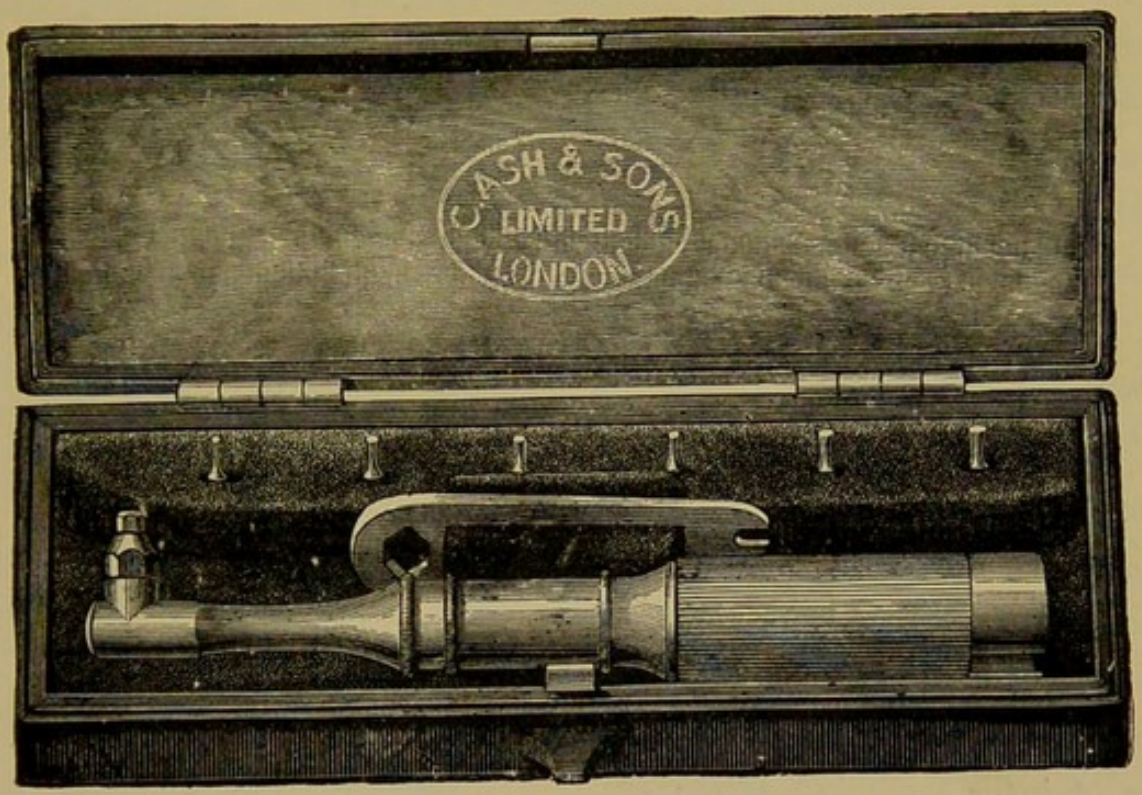
The force of the blow on each Mallet is regulated by pressing harder or lighter on the filling, the best results being obtained by bearing lightly at first on a newly-introduced gold Cylinder, and afterwards increasing the pressure as required. If the Operator desires a uniform blow, it can be had by tightening or loosening the small jam-nut ***A*** on the point end of the case.

To Oil and Clean.—Unscrew case from head at milled part ***B***, also unscrew hexagonal nut ***C*** with key supplied with the Mallet.

DALL'S ENGINE MALLETS—*CONTINUED.*

PRICES:	For any Handpiece. £	*s.*	*d.*	For Slip-Joint Attachment. £	*s.*	*d.*
Right, Acute, or Obtuse-Angle Mallet . . .	1	4	0	1	17	6
Leather Case, Spanner, and 6 Points . . extra	0	12	6	0	12	6

In ordering the Mallets, please state for which Handpiece or Slip-Joint they are required.



This illustration shows Leather Case containing 6 Points, Spanner, and Dall's Right-Angle Mallet for No. 7 Handpiece.

Students' Outfits,

In strict accordance with the Latest Revised Lists of Requirements adopted by the various Governing Bodies of all the Dental Schools in the United Kingdom, supplied on advantageous terms by

CLAUDIUS ASH & SONS,

LIMITED,

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE, LONDON, W.

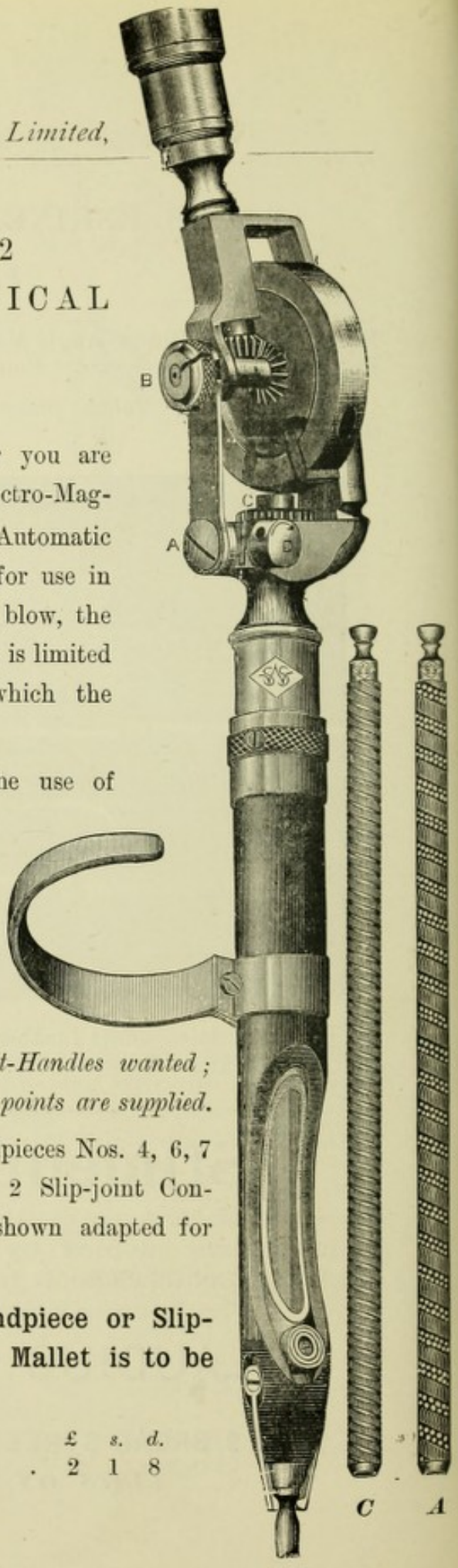
LISTS ON APPLICATION.

THE BONWILL No. 2 IMPROVED MECHANICAL MALLET

(American).

The Manufacturers say: Whether you are equipped with instruments for the Electro-Magnetic Mallet, or with Cone-Socket or Automatic Mallet Points, all are equally available for use in the No. 2 Mechanical Mallet; and its blow, the force of which is under perfect control, is limited in rapidity only by the speed at which the Engine is run.

For the purpose of facilitating the use of *points*, we add to the equipment of the Mallet six Socket-Handles, either for Cone-Socket points or for Automatic Mallet points—see illustrations. Fig. ***C*** is for Cone-Socket points and Fig. ***A*** is for Automatic Mallet points.



Always specify the style of Socket-Handles wanted; otherwise Handles for Automatic Mallet points are supplied.

The Mallet can be used with Handpieces Nos. 4, 6, 7 or 8, or with either No. 1 or No. 2 Slip-joint Connections. In the illustration it is shown adapted for Slip-joint No. 1.

In ordering specify the Handpiece or Slip-joint Connection with which the Mallet is to be used.

PRICE:	£	*s.*	*d.*
Mallet, with six Socket Handles . .	2	1	8

INSTRUMENTS

FOR THE VARIOUS STYLES OF HANDPIECES AT PRESENT IN USE.

For Handpieces

Nos. 4, 7, and 8.

For Cone-Journal

No. 6.

N.B.—When ordering Engine Instruments, please state for which Handpiece they are required. If there is any doubt on this point, send an old Bur as a pattern.

INSTRUMENTS FOR LOCK-BIT ATTACHMENTS.

FIG. 1.

FIG. 2.

Fig. 1 is for Nos. 1 and 3 Angle Attachments and Handpieces.
Fig. 2 is for No. 2 Angle Attachments and Handpieces.

When ordering please specify style required.

LONG BURS AND DRILLS

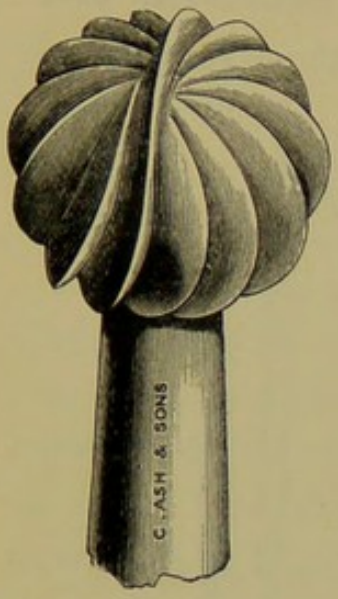
FOR Nos. 1 and 3 ANGLE ATTACHMENTS AND HANDPIECES.

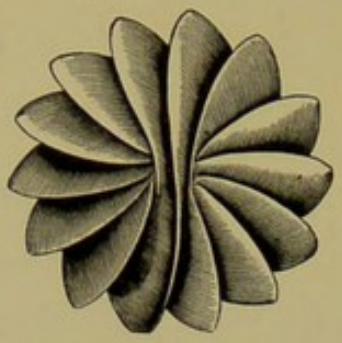
Burs and Drills for these Attachments and Handpieces are frequently required longer than Fig. 1, illustrated above, and to meet the demand which has arisen for them, we keep the most useful forms and sizes in stock, **an eighth of an inch longer than shown in the illustration.**

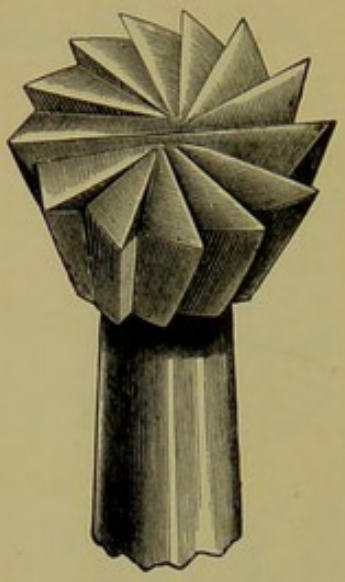
To distinguish them from the regular kind we have named them: Long Burs and Drills for Angle Attachments and Handpieces.

They are charged at the same prices as the regular kind.

STONED CAVITY BURS.







ENLARGED VIEWS OF BURS FROM OUR REGULAR STOCK.

The Prices noted on the following pages apply to Burs, etc. for any Handpiece or Attachment, except where otherwise stated.

The constantly-increasing and ever-widening demand which there is for our **STONED CAVITY BURS** is a gratifying proof that they are highly esteemed, and fulfil the requirements of those Operators who use and appreciate instruments of the finest quality.

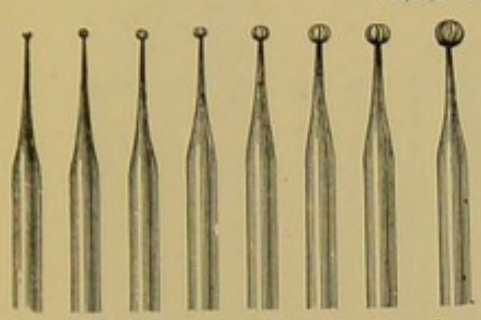
During the last few years they have been subjected to a series of careful and comparative tests, and from the results obtained we are justified in asserting that they are unsurpassed by those of any other make **for excellence of temper, strength of blade, cutting power, and lasting quality;** also that they are thoroughly well-fitted for doing the work for which they are intended, smoothly, rapidly, effectually, and with a minimum of pain to the patient.

The Burs are manufactured from the best steel that can be obtained, specially prepared for the purpose; they are regular in shape; all the teeth on them are of equal length, and each one is brought to a fine keen-cutting edge by means of Arkansas stone.

QUANTITY RATES.	Per doz.		Per half-gross.		
	s.	*d.*	£	*s.*	*d.*
Cavity Burs, small and medium sizes	6	0	1	10	0
„ large sizes, and extra small sizes (5/0 & 6/0)	8	0	2	2	0
„ extra large sizes	12	0	3	6	0

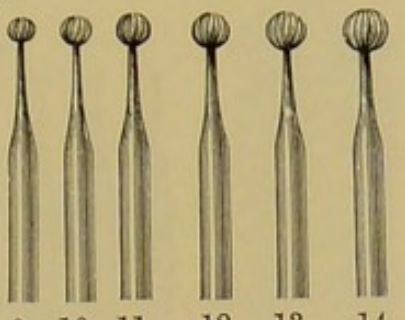
STONED CAVITY BURS—*CONTINUED.*

ROUND.



1. 2. 3. 4. 5. 6. 7. 8.

per doz. 6/-



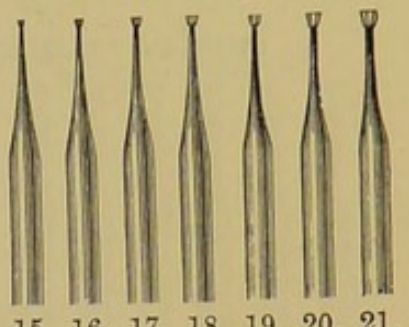
9. 10. 11.

8/-

12. 13. 14.

12/-

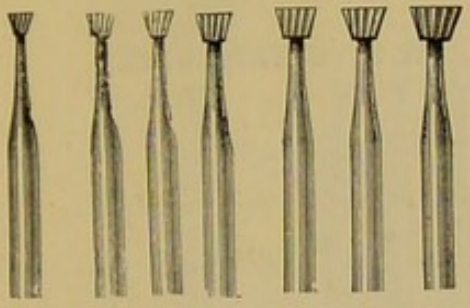
INVERTED CONE.



15. 16. 17. 18. 19. 20. 21.

per doz. 6/-

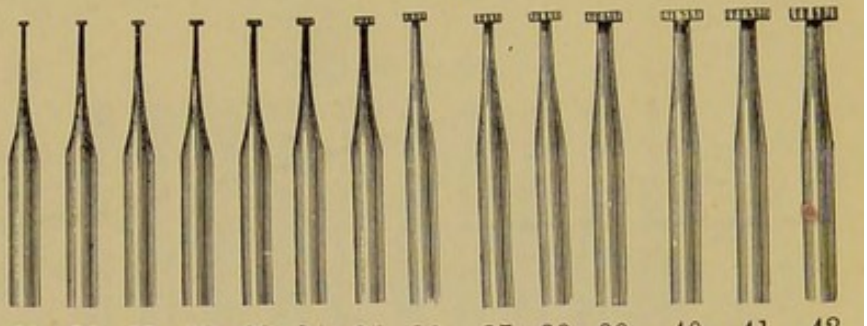
INVERTED CONE.



22. 23. 24. 25. 26. 27. 28.

6/- 8/- 12/-

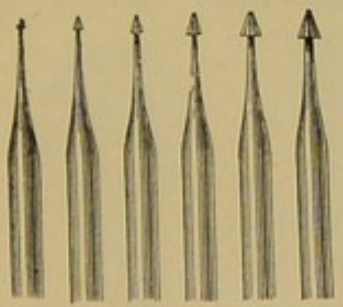
WHEEL.



29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42.

per doz. 6/- 8/- 12/-

CONE.



43. 44. 45. 46. 47. 48.

per doz. 6/-

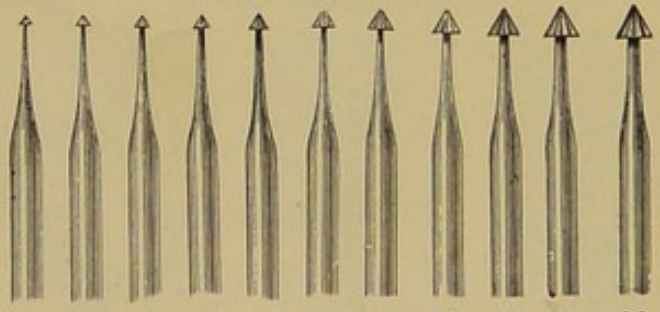
49. 50.

8/-

51.

12/-

TRIANGULAR.



52. 53. 54. 55. 56. 57. 58.

per doz. 6/-

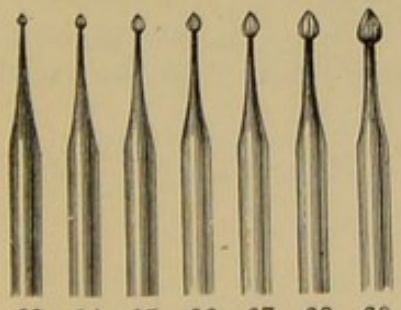
59. 60. 61.

8/-

62.

12/-

BUD.



63. 64. 65. 66. 67. 68. 69

per doz. 6/-

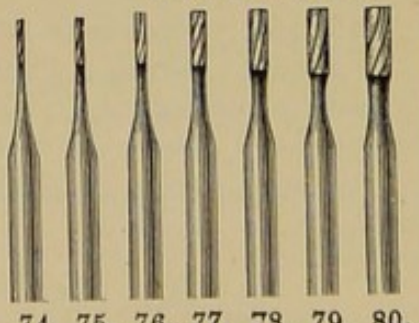
70. 71. 72.

8/-

73.

12/-

FLAT FISSURE.



74. 75. 76. 77. 78. 79. 80.

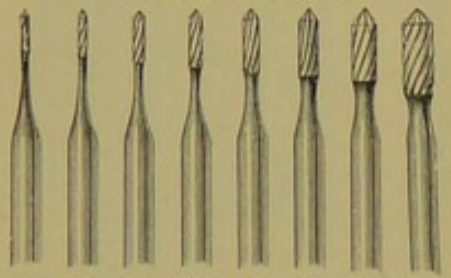
per doz. 6/-

81.

8/-

STONED CAVITY BURS—*CONTINUED.*

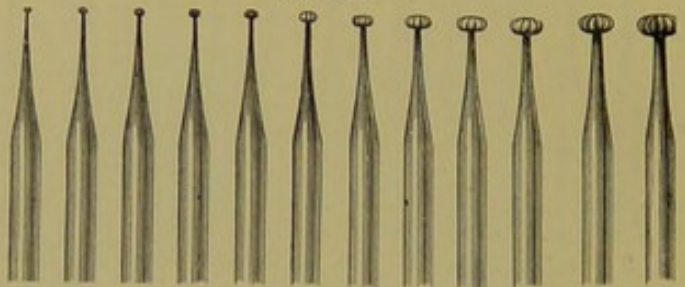
POINTED FISSURE.



82. 83. 84. 85. 86. 87. 88. 89.

per doz. 6/- 8/-

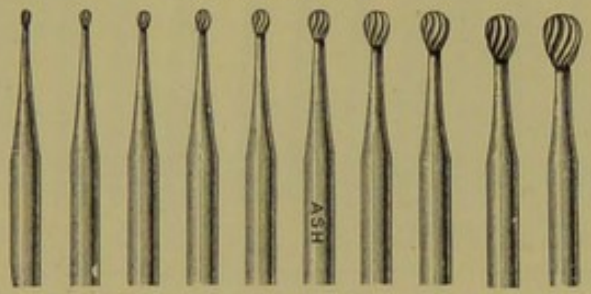
OVAL.



90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101.

per doz. 6/- 8/- 12/-

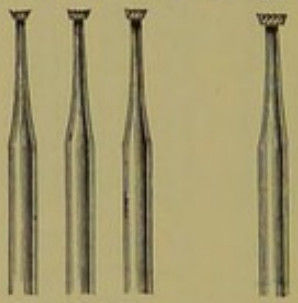
PEAR SHAPE.



Sizes: 000. 00. 0. K. I. H. G. F. E. D.

per doz. 6/- 8/-

SHALLOW INVERTED CONE.



I. H. G. F.

per doz. 6/- 8/-

SQUARING BUR,

FOR TRIMMING AND SHAPING ROOTS.

(MR. THOS. G. READ'S.)

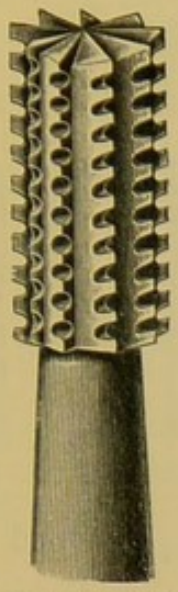
After having excised the standing portions of the tooth above the gum, Mr. READ says :—

"Trim off the enamel all round the stump with chisels, and when this is done follow on with this **Squaring Bur** until the stump is sufficiently shaped to receive the artificial crown. (If the adjacent teeth are close to the stump it will only be possible to trim the labial and lingual edges.)"

	s.	*d.*
Squaring Bur, as illustrated	1	3

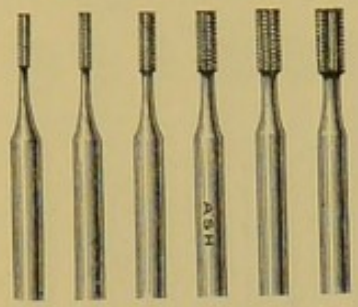
	s.	*d.*
Cavity Burs re-stoned . . . . . per doz.	**3**	**0**

ENAMEL-CUTTING BURS.

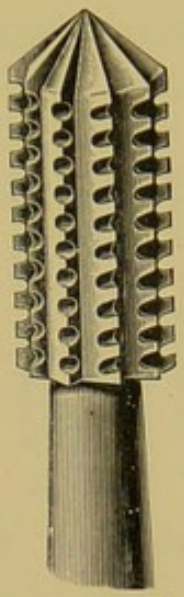


ENLARGED VIEW.

FLAT FISSURE.

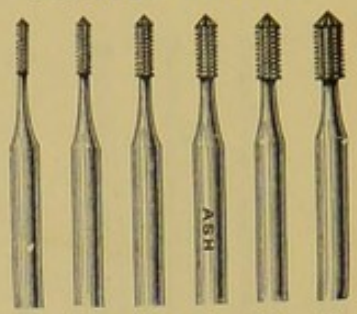


00. 0. K. I. H. G.



ENLARGED VIEW.

POINTED FISSURE.



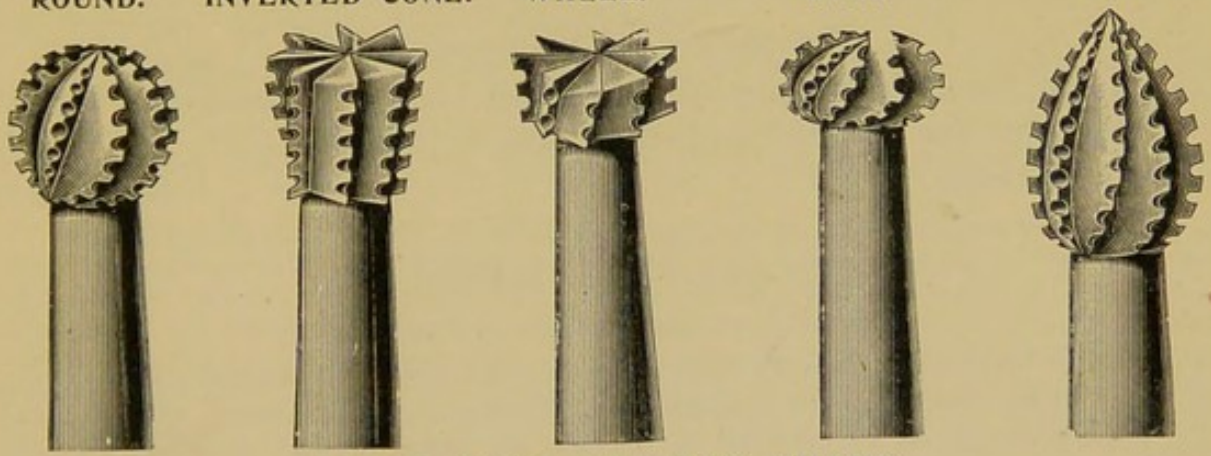
00. 0. K. I. H. G.

The heads of these Burs are fluted, as shown in the enlarged illustrations, each leaf is vertical, and has a saw edge. They cut enamel with great rapidity, and are very highly spoken of by those who use them.

			s.	*d.*
All sizes for	Handpieces Nos. 4, 7, 8	per doz.	6	0
,,	Handpiece No. 6	,,	8	0
,,	any style of Angle-Handpiece or Attachment	,,	6	0

CROSS-CUT CAVITY BURS.

ROUND. INVERTED CONE. WHEEL. OVAL. BUD



MADE ALSO IN PEAR SHAPE.

Like the enamel-cutting Burs shown above, each leaf on these cross-cut cavity Burs has a saw edge. Rapid excavation can be done with them, with little or no pain to the patient, when they are run at high speed and applied intermittingly to the tooth substance under operation. Each shape is made in twelve sizes, ranging from very small to large, or, say, between Nos. 3 and 14 shown on page 25.

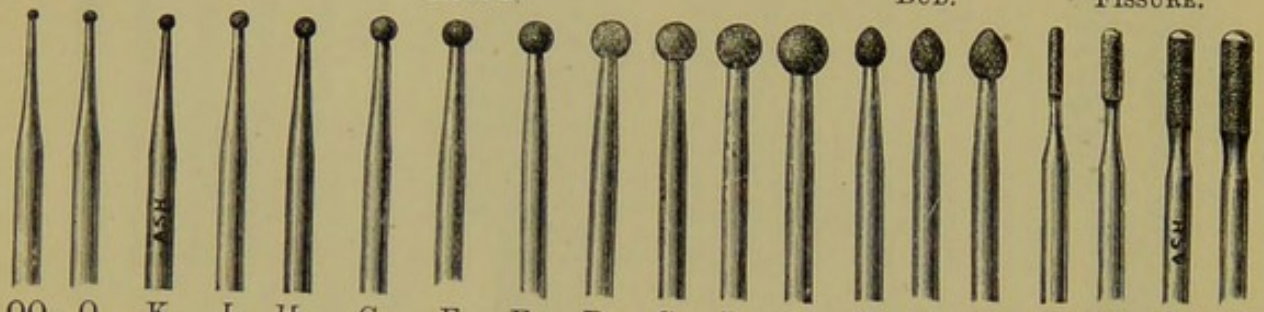
			For No. 6 Handpiece. *s.*	*d.*	For any other Handpiece or any Attachment. *s.*	*d.*
Sizes A, B, C, on our Gauge, page 39 . . .		each	1	2	1	0
,, D, E, F,	,,	,, . . .	0	10	0	8
,, G and smaller	,,	,, . . .	0	8	0	6

DIAMOND BURS

FOR TRIMMING AND POLISHING ENAMEL MARGINS.

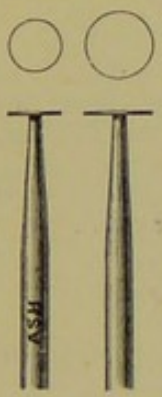
(Suggested by Dr. J. Leon Williams.)

Round. Bud. Fissure.



OO. O. K. I. H. G. F. E. D. C. B. A. F. E. D. K. H. G. F.

Disc Burs.



S L

Dr. Jenkins, of Dresden, says of these Diamond Burs :—

"They are superb. They make it possible to polish the edges of a cavity easily and most perfectly ; and grind so smoothly as to be a great comfort to the patient. They are far superior to small Arkansas stones, upon which I have hitherto been obliged to rely . . . They are invaluable for my purpose in Inlay work, while for general use they must also be a great convenience. I am very grateful to you for furnishing such perfect instruments, and hope they will prove to be tolerably lasting."

We have every confidence in their lasting qualities. They are very carefully charged with Diamond. In use they should be run at high speed, and kept well wetted with water.

Prices for any Handpiece :

		s.	*d.*
Round, Bud, Fissure, any size illustrated . . .	each	2	0
Disc Burs for fissures, &c., either size, S (small), L (large)	,,	2	6

ROOT REAMERS.

(Designed by Dr. J. Leon Williams.)

S L

Unlike the ordinary three-sided reamers, these instruments are grooved, which renders them self-clearing. They cut rapidly, never clog, can be sharpened on an oil-stone as easily as an excavator, and can thus, without difficulty, always be kept in the finest cutting condition.

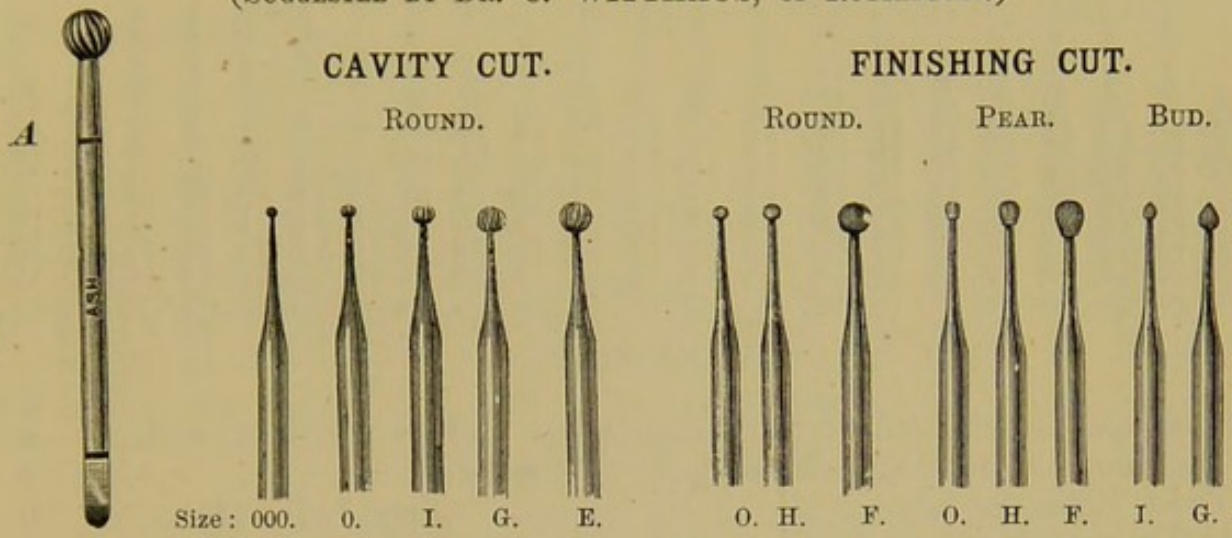
If used with care there is no danger of forcing them through the sides or ends of roots, moreover they make a large cone-shaped opening, which gives plenty of room for working, and is of the best possible shape for the reception of such tapering dowel-pins as the one designed by Mr. Nash of Inverness. Made in two sizes, S—small, L—large.

		s.	*d.*
Price for any Handpiece, either size	each	1	6
,, ,, Attachment ,, ...	,,	1	6

For other Root Reamers, see pages 31 and 34.

LEFT-CUTTING BURS.

(Suggested by Dr. C. Witthaus, of Rotterdam.)



For some of the uses which Dr. Witthaus makes of **Left-cutting** Burs, see his paper in the Quarterly Circular for March, 1897, pages 10–14.

Left-cutting burs are so constructed that they cut when the engine is driven the reverse way, instead of forward, as usual.

They are valuable in the preparation of approximal and other cavities near the margins, in cases where an inward cutting action is indicated, which cannot be obtained with a right-cutting bur. Light touches can be made with them in certain positions where a right-cutting bur would have to be firmly and continuously held to its work to prevent it slipping forward, gliding over and injuring the enamel surface of the tooth and perhaps wounding the gum.

A good general idea of the usefulness of Left-cutting burs may be gathered from the two following quotations from Dr. Witthaus's paper :

Cavity Burs.—The use of a left-cutting cavity bur is indicated "at any place where the right-cutting bur shows a tendency to leap over a sharp margin, and so to take a direction not desired. It must not, of course, be used in the reverse cases, where it would catch a margin ; but this is obvious to anyone who understands the reasons why it was originally made."

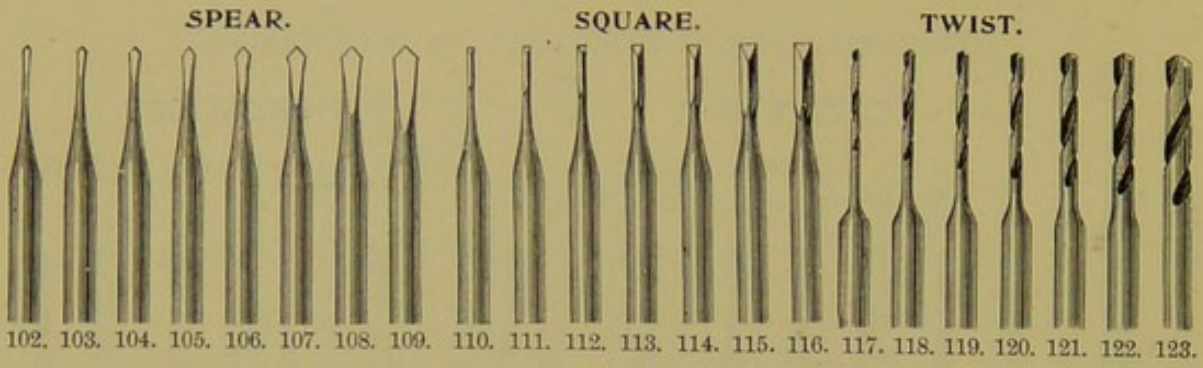
Finishing Burs.—"The left-cutting principle can also be applied to finishing burs. When the margin of a gold filling is rather thin, as must frequently be the case, the teeth of the finishing bur will tend to tear the gold—which is rather a tough material—away from the margins of the cavity, thus doing the filling the greatest harm. This cannot be unknown to the profession, as, where corundum and wood points as well as paper discs are used for polishing, the operator will, as I have several times had occasion to observe, turn the wheel the other way where necessary, thronging as it were the gold to the margins. The left-cutting finishing bur will be found convenient for the same purpose, and it does away with the fatal dark line heretofore observed on one side of large central fillings finished with right-cutting finishing instruments."

The left-cutting burs are made with a groove round the neck of the stem, as shown at *A* in the full-length illustration above, to distinguish them from right-cutting burs.

PRICES:

		s.	*d.*
Left-cutting burs, cavity cut, sizes 000, 0, I, G, E, Round .	each	1	0
Left-cutting burs, finishing cut, any shape or size illustrated above	each	1	9

DRILLS.

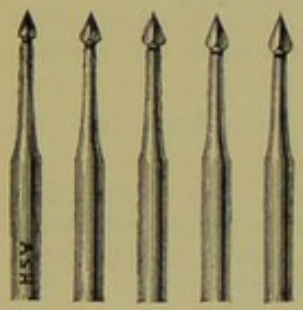


PRICES:

	s.	d.
Spear and Square Drills for any Handpiece (Figs. 102–116) each	0	6
The same for any Angle-Handpiece or Attachment . . . „	0	6
Twist Drills for any „ „ (Figs. 117–123) „	1	0
Drills re-pointed . . . . . per dozen	3	0

TRIANGULAR OR TROCAR DRILLS

(Suggested by Mr. GEORGE PEDLEY).



Mr. Pedley says: "Trocar Drills are useful for opening fissures on the grinding surfaces of teeth, for penetrating enamel to reach decay, and for starting openings when trephining. The form of point prevents running about, so incidental to other forms of drills when commencing an opening; and for this reason the smaller sizes are well suited for drilling through standing metal backs when replacing broken flat teeth."

These Drills are also extremely useful for cutting out old amalgam fillings.

PRICES:

	s.	d.
For Handpieces Nos. 4, 6, 7, and 8 . . . . (Figs. 1–5) each	0	6
„ any Angle-Handpiece or Attachment . . („ „) „	0	6

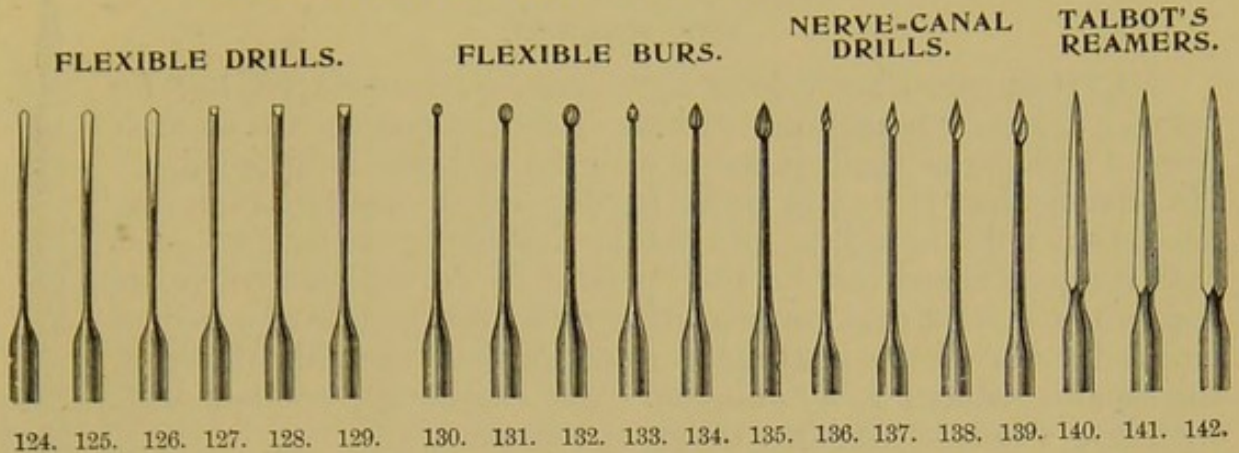
PIN-SIZE ENGINE DRILL,

FOR PIVOT WORK, &c., CORRESPONDING IN SIZE TO OUR PIN-SIZE WIRE.

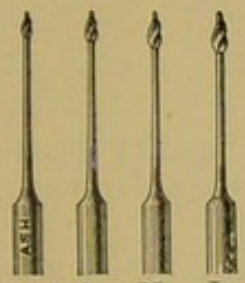
	s.	d.
Price for any Handpiece	1	0

When ordering any of the above, please state for which Handpiece they are required.

NERVE-CANAL INSTRUMENTS.



SHORT NERVE-CANAL DRILLS.

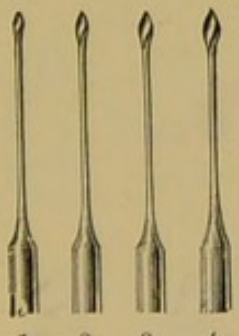


FOR RIGHT ANGLE ATTACHMENTS.

These Drills are a quarter of an inch shorter in the stem than our regular stock sizes, and will be found very useful in those cases in which the longer Nerve-Canal Drills cannot conveniently be employed for want of sufficient room in the mouth.

They are made in sizes extra small, small, medium, and large, as here shown.

NERVE-CANAL DRILLS.



(Dr. ST. GEORGE ELLIOTT'S).

These Drills cut very rapidly, and can be sharpened on an oil stone when they become dulled. They are novel in form, each head consisting of three leaves so arranged that the greatest amount of strength is secured with extreme delicacy of edge.

They are much esteemed by those Operators who use them, and are preferred to other Nerve-Canal Drills.

Prices for any Handpiece or Attachment:

		s.	d.
Flexible Drills	(Figs. 124–129) each	1	0
,, Burs	(,, 130–135) ,,	1	0
Nerve-Canal Drills	(,, 136–139) ,,	1	0
Talbot's Reamers	(,, 140–142) ,,	1	0
Short Nerve-Canal Drills	(Ex. S., S., M., L.) ,,	1	0
Elliott's Nerve-Canal Drills	(Figs. 1, 2, 3, 4.) ,,	1	0

NERVE-CANAL BUR

(Mr. HERN'S).

Mr. Hern describes this as a "coarse-cut, cone-shaped Bur for opening up and 'funnelling out' the orifices of pulp canals at their coronal ends, or at their junction with the common pulp chamber." He claims that it "gives great freedom of access for removing devitalised pulps as well as for dressing and filling the canals"; also that its cone shape enables the operator to do, with scarcely more than a touch, what could only be done with a fissure Bur by a tedious circumduction of the instrument; and further, the risk of boring the canal is reduced to a minimum. The right-angle point is made with long shank to reach the orifice of the canal."

		s.	*d.*
Price for any Handpiece or Attachment . .	each	0	10

ROOT ROUGHENERS

(Suggested by Mr. W. R. HUMBY).

Fig. 1 is flame-shape, and Fig. 2 has a long, square, tapering head. They are both made with saw edges like the enamel-cutting Burs shown on page 27.

1. 2.

Mr. HUMBY says:—"The advantages I claim for the root rougheners are:—

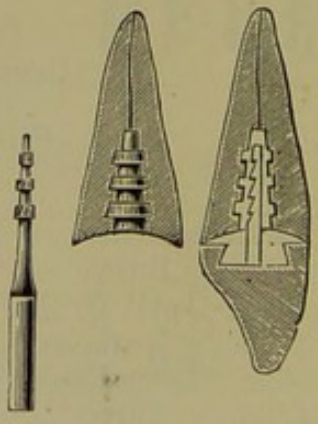
1. That the hole may be roughened in the widest diameter of the root; and
2. That the size of the grooves is automatically proportioned, as shown by the section of the root illustrated, the larger grooves being in the thick end, while the smaller ones are at the apex, with tapering intermediate sizes."

PRICES:

		s	*d.*
For Handpieces Nos. 4, 7, 8	(Figs. 1, 2) each	0	6
„ Handpiece No. 6	(„ „) „	0	8

GROOVING BUR,

FOR MAKING RETAINING POINTS IN THE WALLS OF ROOTS PREVIOUS TO FILLING AND CROWNING.

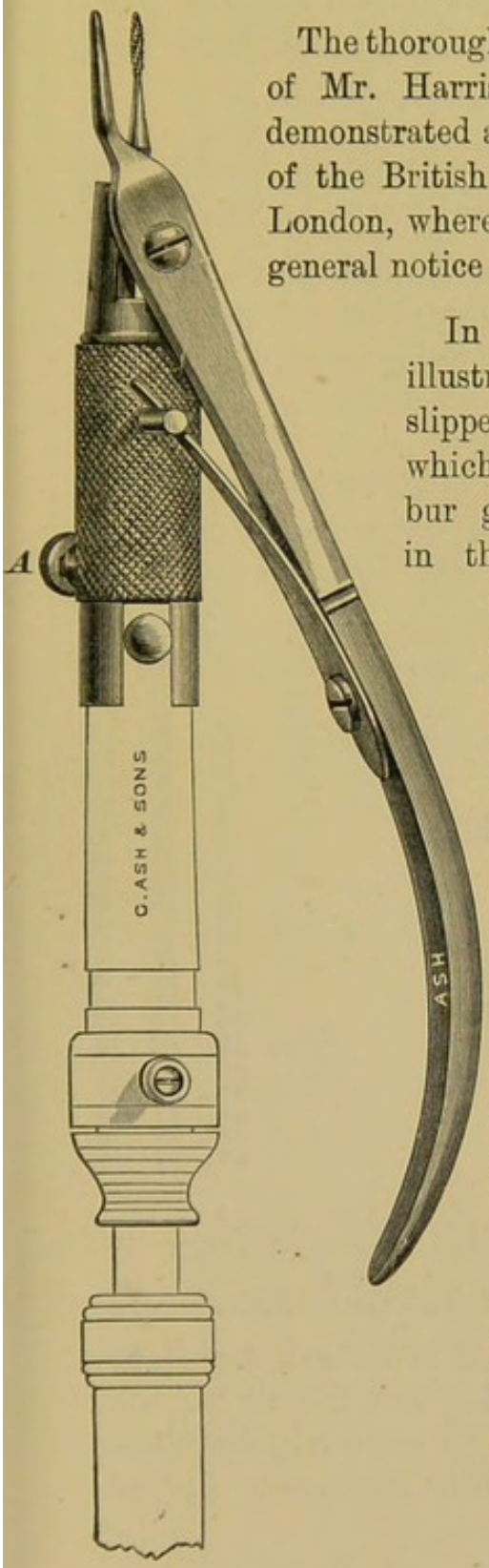


When the barbed pin upon which the crown is mounted is pressed home, the filling material is forced into the grooves, and a secure hold is thus obtained.

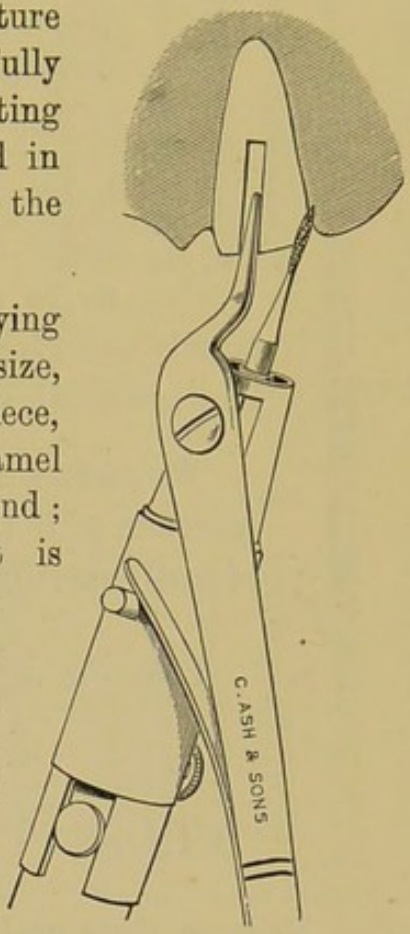
	s.	*d.*
Price for any Handpiece, stoned . . .	1	3

ROOT-TRIMMING BUR GUIDE

(Mr. FRANK HARRISON'S).



The thoroughly useful and practical nature of Mr. Harrison's Bur Guide was fully demonstrated at the 1896 Annual Meeting of the British Dental Association, held in London, where it was first brought to the general notice of the Profession.



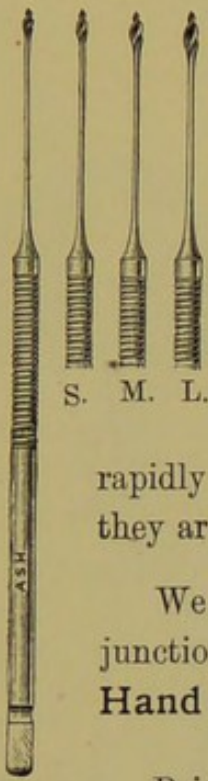
In one of the accompanying illustrations, it is shown full size, slipped on to a No. 7 Handpiece, which has in it a cross-cut enamel bur ground smooth at the end; in the other illustration it is shown with the point at the end of the handle resting in a root-canal, with the bur in the handpiece applied to the root.

The point at the end of the handle is left sufficiently soft to admit of being sprung a little with a pair of pliers in any desired direction; it can also be adjusted as to length by means of the little set-screw ***A***; the Guide is thus applicable to roots of various shapes with canals of different depths.

The handle of the Guide gives the Operator perfect control of the action of the revolving bur, and a root can be easily and quickly trimmed to shape by delicate application and gentle circumduction of the bur.

PRICES:

		s.	*d.*
Bur Guide, Nickel-plated		10	6
Root-Trimming Burs, cross-cut . . .	per doz.	6	0



NERVE-CANAL DRILLS.

Made with Springs in Stems, for Straight Handpiece, in sizes extra small, small, medium, and large, corresponding in sizes to 136-139, on page 31.

These Nerve-Canal Drills have recently been greatly improved, and now give much satisfaction. The cutting edges are carried up to the guide point, which is found to be a decided advantage, as the drills cut much more rapidly and give less pain to the patient. Being carefully tempered, they are tough and not easily broken.

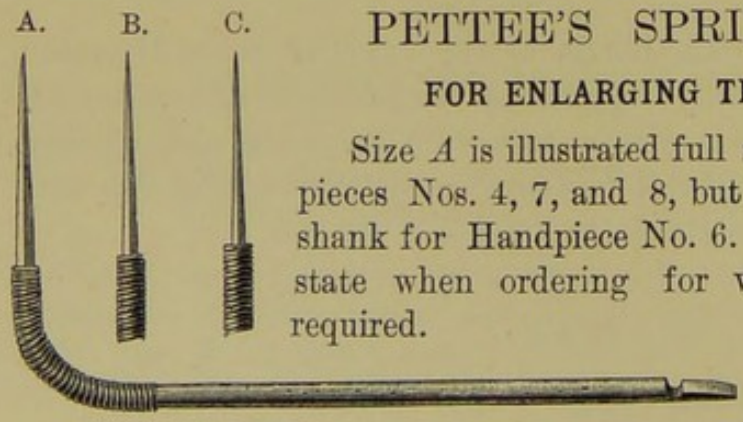
We make a set of three Nerve-Canal Pluggers for use in conjunction with these Drills, illustrations of which are shown in our **Hand Instrument List.**

		s.	*d.*
Price for any Handpiece (Ex. S., S., M., and L.)	each	1	6

CROSS-CUT ROOT REAMERS.

Made in three useful sizes, much esteemed for the rapidity with which they do their work.

		s.	*d.*
Price any size—small, medium, or large .	each	1	0



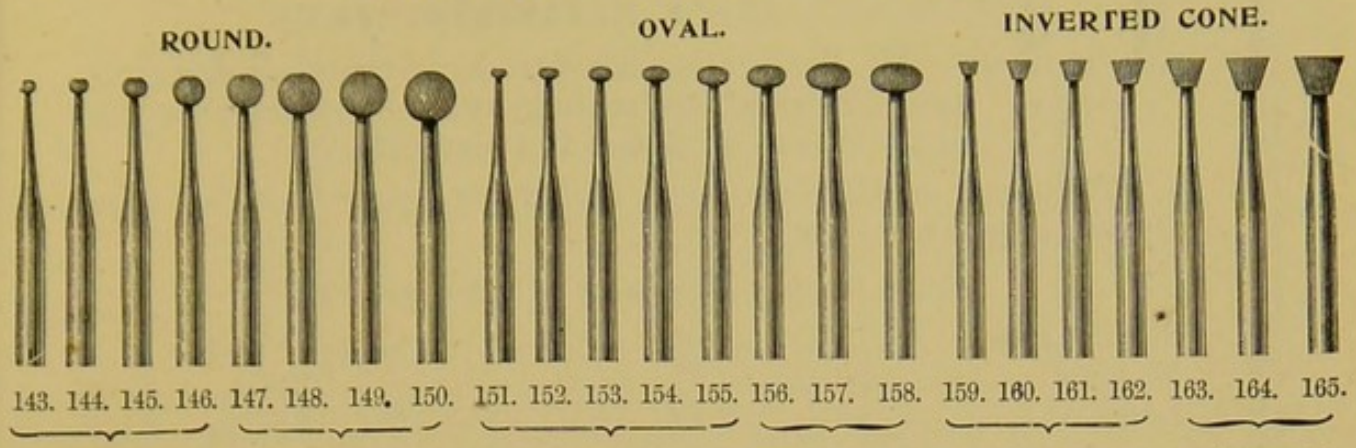
PETTEE'S SPRING REAMERS,

FOR ENLARGING THE NERVE CANAL.

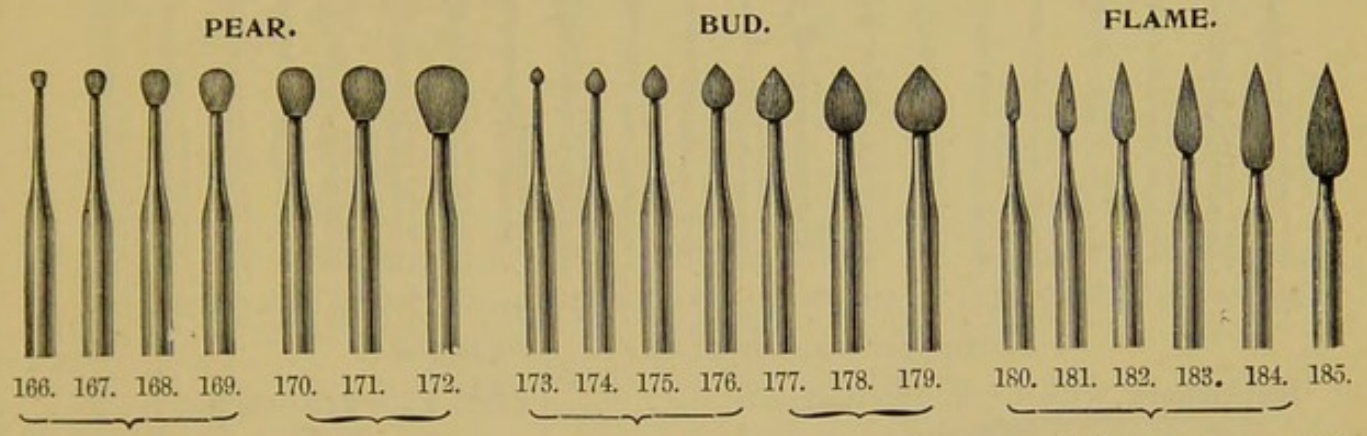
Size *A* is illustrated full size, with shank for Handpieces Nos. 4, 7, and 8, but they may also be had with shank for Handpiece No. 6. To avoid mistakes, please state when ordering for which Handpiece they are required.

		s.	*d.*
Price for any Handpiece.	each	2	6

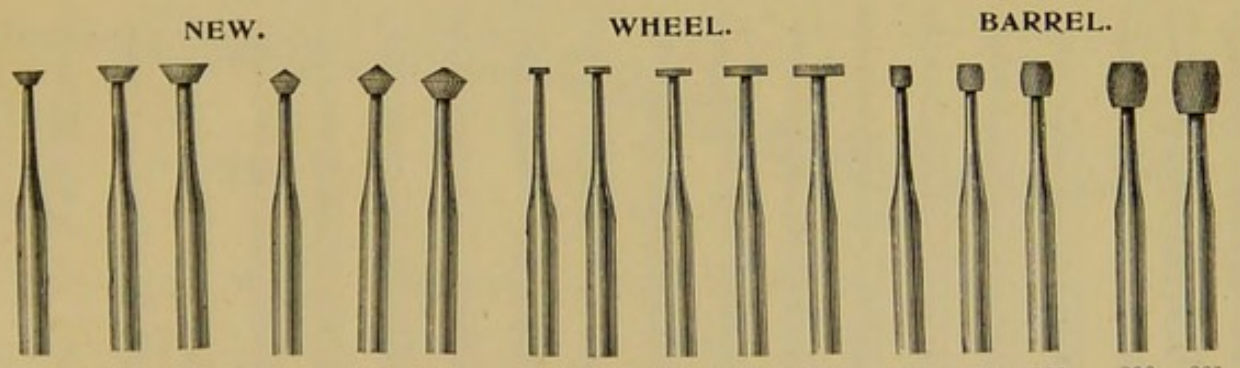
STONED FINISHING BURS.



1/3 each. 1/9 each. 1/3 each. 1/9 each. 1/3 each. 1/9 each.



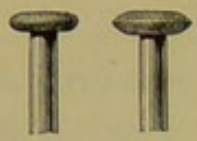
1/3 each. 1/9 each. 1/3 each. 1/9 each. 1/3 each. 1/9



1/3 1/9 1/3 1/9 1/3 1/9 1/3 1/9

	FROM s.	d.	TO s.	d.
Finishing Burs re-stoned . . . per doz.	5	0	7	6

1.



2. 3.

STONED FINISHING BURS—*CONTINUED.*

(Mr. A. H. FAREBROTHER'S.)

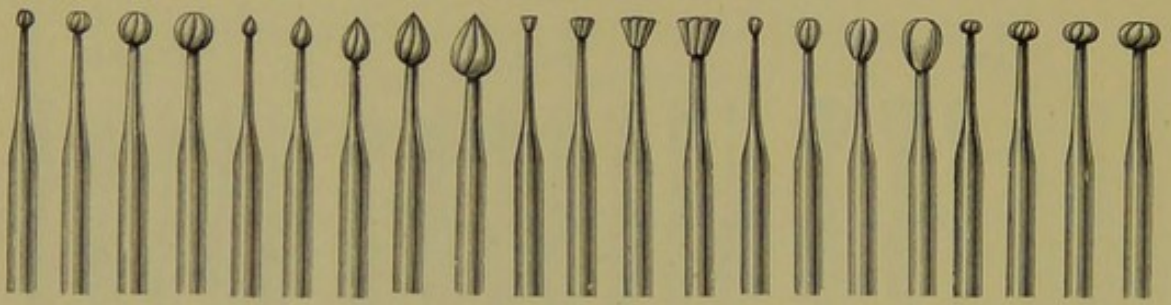
Mr. Farebrother has introduced the Finishing Burs, here illustrated, for cutting away the superfluous gold in the crowns of molars and bicuspids.

They cut rapidly, and are favourably spoken of by those Operators who use them.

Prices for any Handpiece or Attachment:

			s.	d.
Small size	(Fig. 1)	each	1	9
Medium „	(„ 2)	„	2	0
Large „	(„ 3)	„	2	3

BURNISHERS.

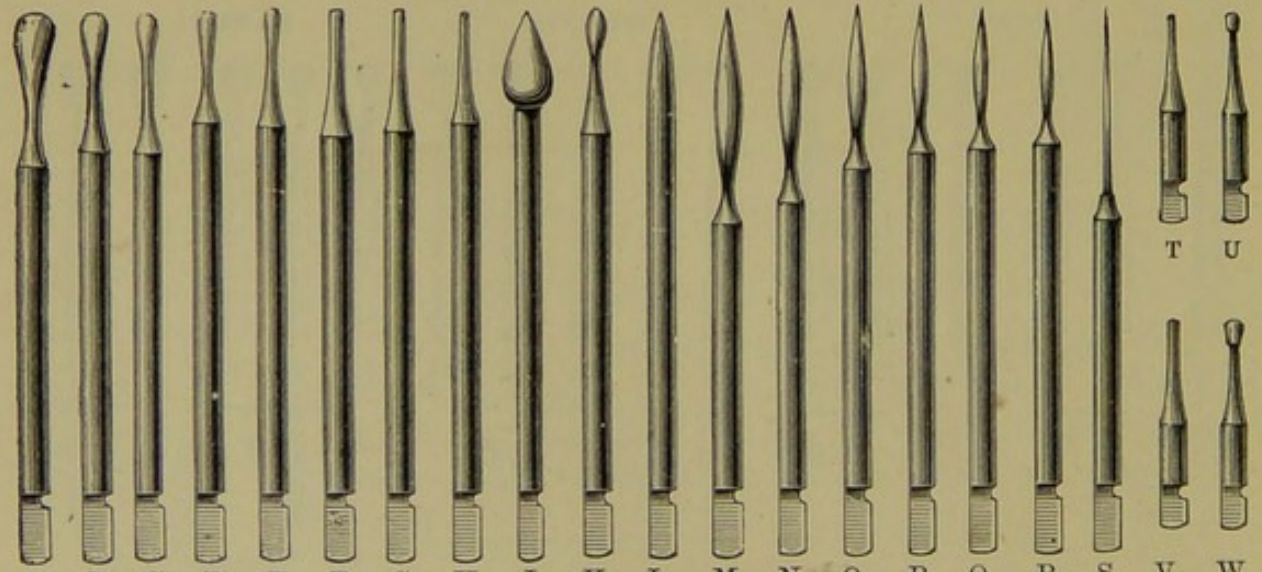


205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225.

Prices for any Handpiece or Attachment:

			s.	d.
Burnishers, with Corrugated Heads	(Figs. 205–225)	each	1	2
„ „ Smooth „	(„ „)	„	1	0

HERBST'S SMOOTH BURNISHERS.



A. B. C. D. E. F. G. H. I. K. L. M. N. O. P. Q. R. S. T. U. V. W.

			s.	d.
Price for any Handpiece or Attachment	(A–W)	each	1	0

INSTRUMENTS, VARIOUS.

TREPHINES.

202. 203.

WHEEL BUR.

204.

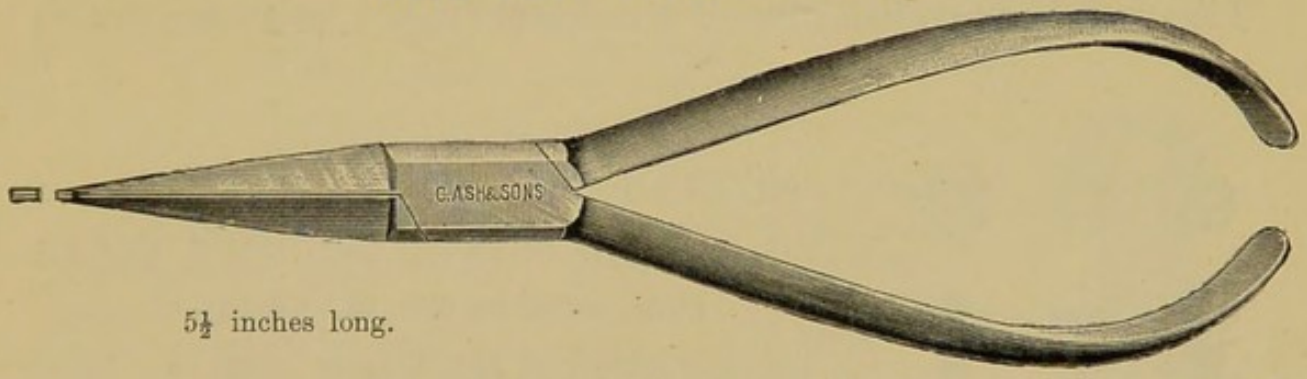
CIRCULAR SAW.

226.

Prices for any Handpiece or Attachment:			*s.*	*d.*
Trephines		each	1	6
Wheel Burs	Large size	„	3	0
	Medium „	„	2	9
	Small „	„	2	3
Circular Saws	Large size	„	2	6
	Medium „	„	2	3
	Small „	„	1	9

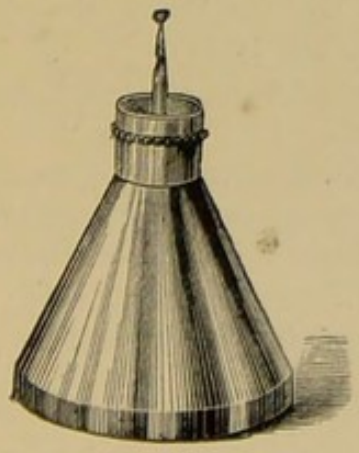
PLIERS FOR OPERATING ROOM,

WITH FLAT TAPERED BEAKS.



5½ inches long.

	s.	*d.*
Price, in bright steel, highly finished and nickel-plated	4	3



ENGINE BIT OILER

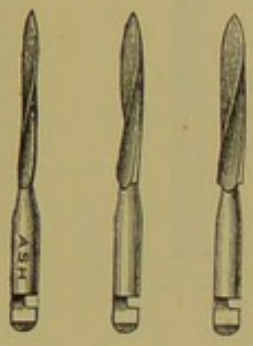
(Dr. HOLMES').

With weighted base to keep it firm and steady in use. The milled top part, which unscrews to admit the oil, is provided with a leather washer that has a small slit in it through which the instrument passes, and when it is withdrawn the washer removes the surplus oil.

	s.	*d.*
Price, nickel-plated	2	0

IMPROVED ROOT REAMERS

(Mr. GIRDWOOD'S).



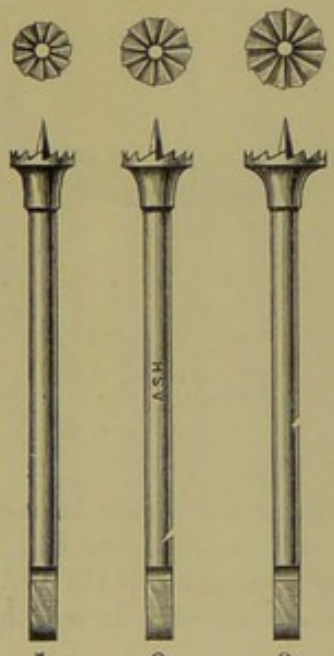
1. 2. 3.

The Root Reamers here illustrated do not call for much description. Their use and advantages over all other forms at present made for Angle-Handpieces and Attachments are self-evident.

It is almost impossible with any of the right-angle drills now before the profession to drill a tapered hole in a root-canal in which a Logan or other tapered pin can be fitted with any degree of accuracy; indeed, the only way to do so is to use right-angle Gates' drills and ordinary twist drills.

The shape of the blades of Mr. Girdwood's Reamers prevents them being clogged with the *débris* of the tooth substance; they are in fact self-clearing, but the Reamer should, of course, be occasionally withdrawn, and the chips blown out of the root-canal. These Reamers will not readily pass through the apex of the root, as they do not cut on the end, which simply acts as a guide point for the Reamer, and causes it to readily follow the course of the root-canal without danger of perforating the sides, a feature wanting in all other instruments, except the Gates-Glidden drills. The smallest size of Mr. Girdwood's Reamers is also useful for enlarging the palatine, and some buccal, roots of upper molars.

			s.	d.
Price for any Angle-Handpiece or Attachment	(Figs. 1, 2, 3)	each	2	0
„ „ Handpiece	(„ 1, 2, 3)	„	2	0



1. 2. 3.

BÜTTNER'S ROOT FACERS,

WITH TROCAR POINTS AND SAFE EDGES

(Suggested by Mr. W. HERN).

The advantage of the Trocar point on these instruments is this: it permits of a hold being obtained on any part of the surface of a root, and thus enables the Operator to use the Facer at any desired angle anywhere around the root.

The safe edge on the Facers is intended to prevent the tearing of the gum.

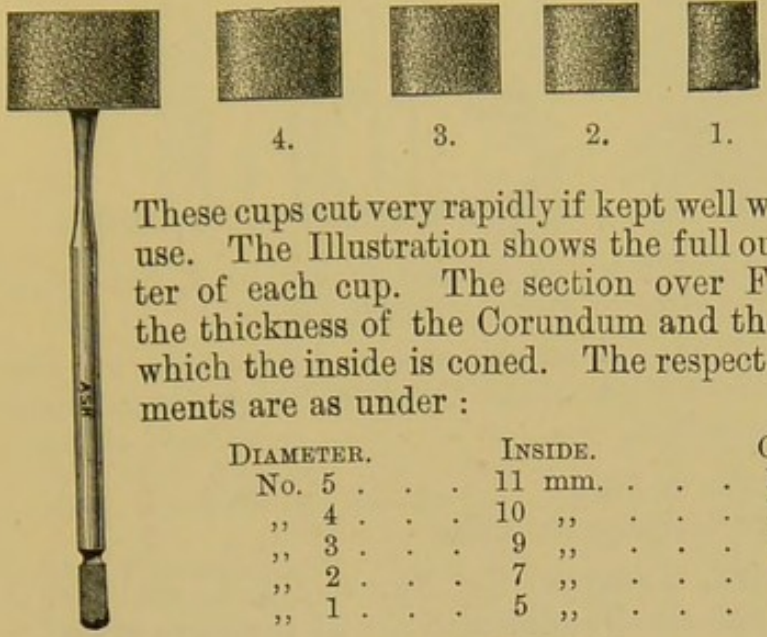
When the root only requires levelling, the Trocar point serves as a rest in the canal, in the same way as the round point on the original form of Büttner's Facer.

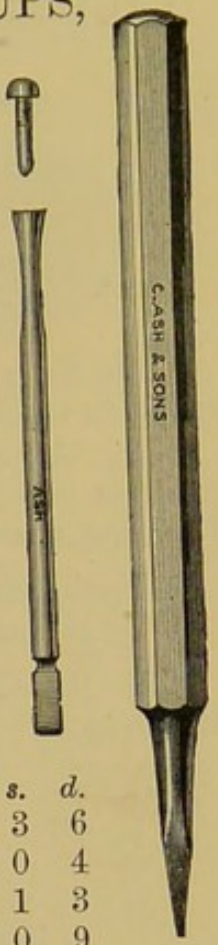
Made in three sizes, large, medium, and small.

			s.	d.
Price, any size, for any Handpiece . .	(Figs. 1, 2, 3)	each	3	0

COMER'S CORUNDUM CONING CUPS,

FOR CONING ROOTS OF NATURAL TEETH.





These cups cut very rapidly if kept well wetted during use. The Illustration shows the full outside diameter of each cup. The section over Fig. 5 shows the thickness of the Corundum and the manner in which the inside is coned. The respective measurements are as under :

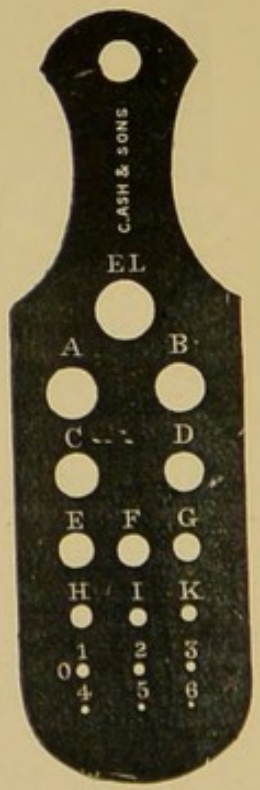
Diameter.	Inside.	Outside.
No. 5 . . .	11 mm. . . .	13 mm.
,, 4 . . .	10 ,, . . .	12 ,,
,, 3 . . .	9 ,, . . .	11 ,,
,, 2 . . .	7 ,, . . .	9 ,,
,, 1 . . .	5 ,, . . .	6 ,,

PRICES:

		s.	*d.*
Corundum Cups, any size, or assorted . . .	per doz.	3	6
,, ,, ,, ...	each	0	4
Mandrel for any Handpiece	,,	1	3
Screw Drivers for mounting the Cups	,,	0	9

When ordering the Mandrel specify for which Handpiece it is required.

ASH'S BUR GAUGE.



This Gauge shows the seventeen different sizes of Engine Burs, &c., which we make in some of the forms illustrated on pages 25–29. It will serve as a useful guide in ordering Engine Instruments. E L means extra large, for which we charge 1*s.* each ; A to K carry their own meaning, and O is represented by the figures 1 to 6, which are known as 1/o, 2/o, 3/o, 4/o, 5/o, 6/o.

The several kinds are made as under :—

The **Round Burs.**
Two sizes smaller than illustrated on page 25.

The **Inverted Cone, Wheel, Cone, Triangular, Bud,** and **Oval Burs.**
Only in the sizes illustrated on pages 25, 26.

The **Flat Fissure** and **Pointed Fissure Burs.**
Three sizes smaller than illustrated on pages 25, 26.

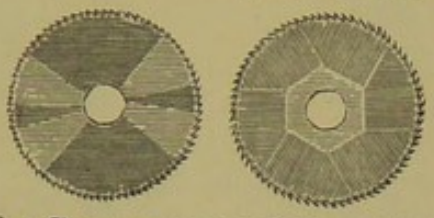
The **Spear-shape** and **Square Drills.**
Two sizes smaller than illustrated on page 30.

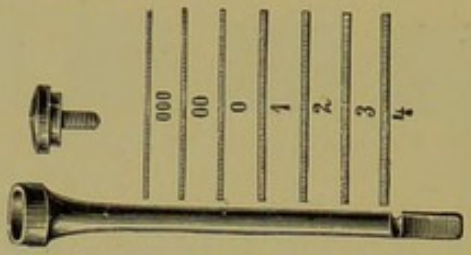
	s.	*d.*
Price of Bur Gauge in Steel, Nickel-plated .	2	6

CIRCULAR STEEL SAWS AND WHEEL BURS,

FOR SEPARATING TEETH, &c.

SAW. WHEEL BUR.





The **Saws** are made in eight sizes, numbered 00000 to 3, and correspond in thickness to the same sizes of Stubs' Dividing Files.

The **Wheel Burs**, which are cut on one side and edge only, are also made in eight sizes, numbered 0000 to 4, of the same thickness as Stubs' Dividing Files of the same numbers.

		s.	*d.*
Price, unmounted, any size or kind	each	1	0
Screw-head Mandrels for carrying the same . .	„	1	3

The Mandrel, as illustrated, is adapted for No. 4, No. 7, and No. 8 Handpieces ; but it can be had for Handpiece No. 6 at the same price.

CROWN SAW

(Dr. MERIAM'S).

SAW.

It is stated in *Tomes' Dental Surgery*, Third Edition, page 756, that when preparing roots for pivoting, &c., it is not safe to use the excising Forceps until the portion of the tooth to be removed has been already partly cut through, and that neglect of this precaution may result in the root being splintered longitudinally or in the Forceps being broken.

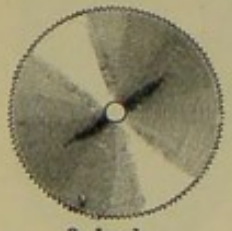
This Saw is well adapted for the purpose ; it cuts rapidly, and is small enough not to touch the adjacent teeth during use. In molars that are much decayed the remaining portions of the crown can be removed from the inside of the cavity.

	s.	*d.*
Price for any Handpiece	1	6

When ordering please state for which it is required.

VERY THIN STEEL SAWS.

FOR SEPARATING FILLINGS, CUTTING SECTIONS OF BONE, &c.

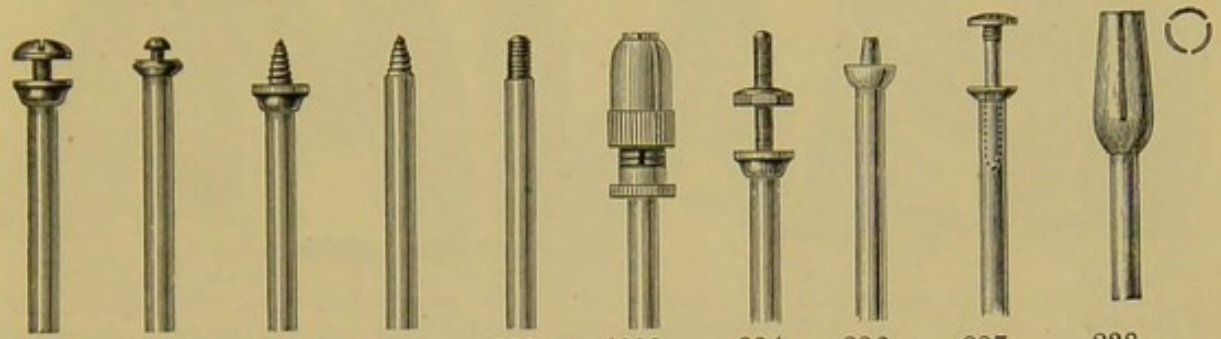


¾ inch.

These saws are so thin that they should be allowed to feed themselves to obtain the best results. They cut with great rapidity, but will not bear heavy pressing against the material which is being cut. Made in four sizes, ½, ⅝, ¾, and ⅞ of an inch in diameter.

		s.	*d.*
Price, any size	each	0	6

MANDRELS AND PORTE-POLISHERS.

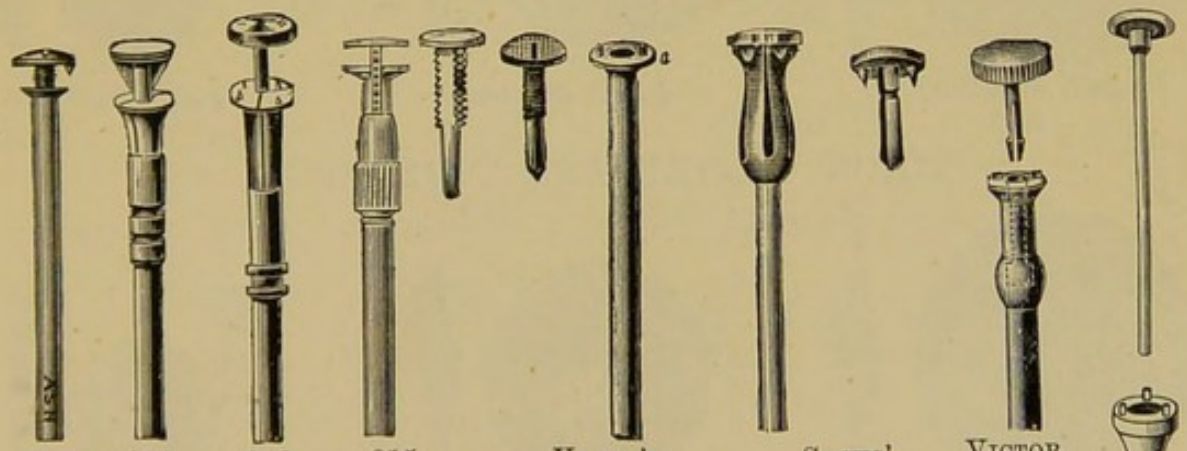


228. 229. 230. 231. 232. 233. 234. 236. 237. 238.

Prices for any Handpiece or Attachment:

			s.	d.
Huey's Mandrel	(Fig. 228)	each	1	0
Disc-Carrier Mandrel	(,, 229)	,,	1	0
Screw Mandrel with Shoulder	(,, 230)	,,	0	9
,, ,, without ,,	(,, 231)	,,	0	4
Stem with Screw end	(,, 232)	,,	0	3
Screw Porte-Polisher	(,, 233)	,,	1	6
Parting-nut Mandrel	(,, 234)	,,	1	0
Shouldered Mandrel with plain end	(,, 236)	,,	0	9
Elliott's Paper Disc Mandrel	(,, 237)	,,	1	0
Split Porte-Polisher	(,, 238)	,,	1	0

PAPER DISC MANDRELS.

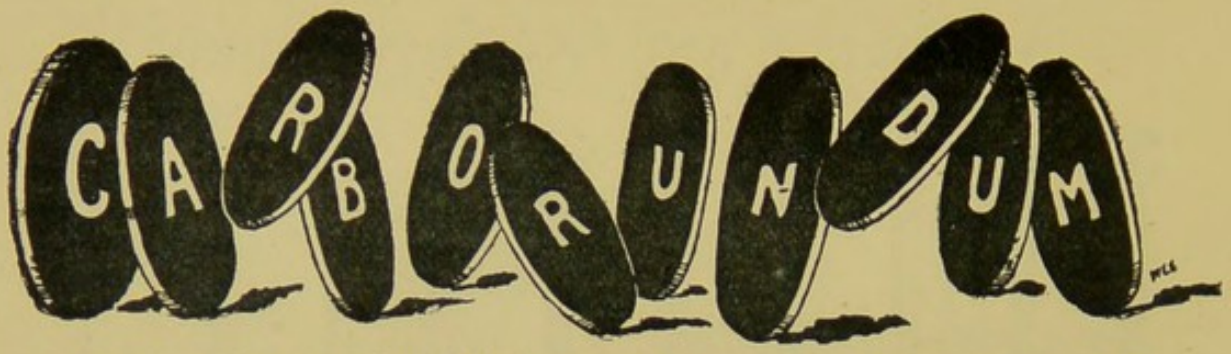


239. 311. 312. 315. VAJNA'S. SACHS'. VICTOR.

MAXFIELD'S.

Prices for any Handpiece or Attachment:

			s.	d.
Pin-head Mandrel	(Fig. 239)	each	1	3
Paper Disc ,,	(,, 311)	,,	2	0
Smith's Mandrel	(,, 312)	,,	2	0
Register's ,,	(,, 315)	,,	2	0
Vajna's ,,			1	6
Sachs' ,,			2	0
The Victor ,,			2	0
Maxfield's ,,			1	6

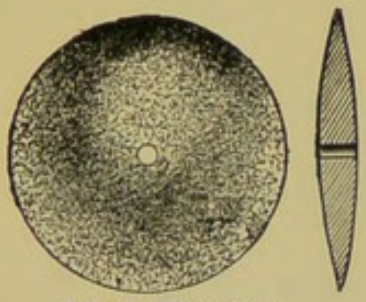


So firmly is the reputation of Carborundum now established that the demand for it rapidly increases. Additional experience has enabled the manufacturers to improve the quality, and no pains will be spared to maintain what has been achieved and to attain to even a greater degree of excellence if that be possible.

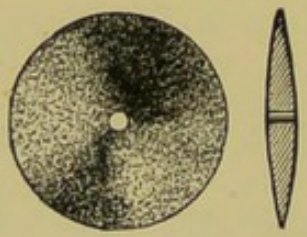
GUARANTEE.—We warrant all the Carborundum goods we sell, and will exchange or credit any that do not give satisfaction.

CARBORUNDUM DISCS.

KNIFE EDGE.



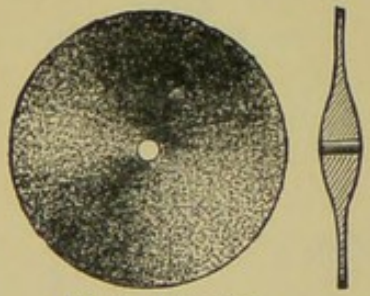
1 inch diameter.



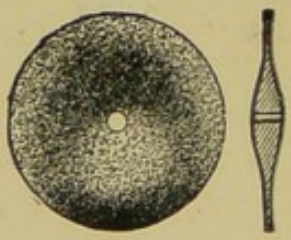
¾ inch diameter.

½ inch diameter.

THICK CENTRE AND THIN EDGE.



1inch diameter.



¾ inch diameter.

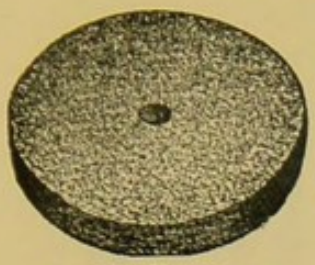
½ inch diameter.

	s.	*d.*
Price, any size or shape . . . . . each	0	8

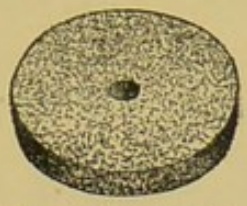
All the Stump Wheels, Discs, and Cups for Engine are stocked in coarse and fine grits, which correspond to our coarse and fine Corundum Discs for Engine. The Points are also stocked in coarse and fine, and Figs. 150, 154, 158 are likewise supplied in extra-fine, which is about equivalent in fineness to Water of Ayr Stone, and is excellent for polishing gold and amalgam fillings.

CARBORUNDUM STUMP WHEELS.

PLAIN, SQUARE EDGE.



1 inch diameter.



$\frac{3}{4}$ inch diameter.

$\frac{5}{8}$ inch diameter.

$\frac{1}{2}$ inch diam.

Made in two thicknesses, $\frac{1}{8}$ and $\frac{3}{16}$ inch.

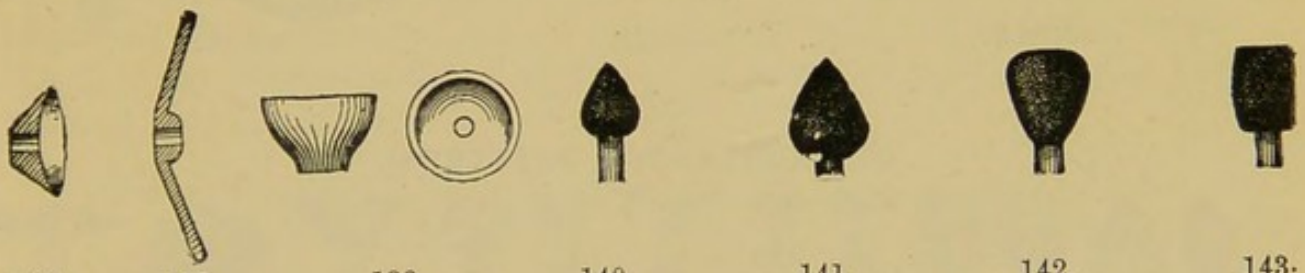
		s.	d.
Price, any size or thickness	each	0	8

STUMP WHEELS WITH ROUND EDGES.

Diameter . . . . $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, and 1 inch.
Each size made in two thicknesses, $\frac{1}{8}$ and $\frac{3}{16}$ inch.

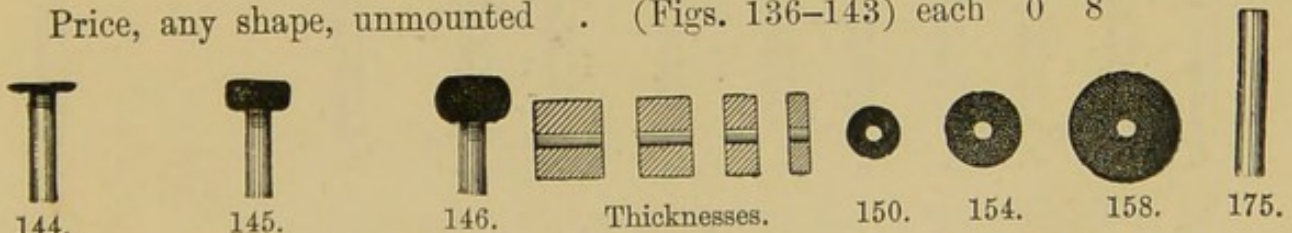
		s.	d.
Price, any size or thickness	each	0	8

CARBORUNDUM DISCS, POINTS, Etc.



136. 137. 138. 140. 141. 142. 143.

		s.	d.
Price, any shape, unmounted .	(Figs. 136–143) each	0	8



144. 145. 146. Thicknesses. 150. 154. 158. 175.

Points 150, 154, 158 are made in these four thicknesses: $\frac{1}{16}$, $\frac{1}{8}$, $\frac{3}{16}$, and $\frac{1}{4}$ inch. Butler's Point (Fig. 175), for use in Porte-Polisher, is supplied in boxes of 10 inches, cut up into assorted lengths. Both ends are square, but one can readily be pointed by holding it against a revolving carborundum wheel in the lathe.

PRICES:

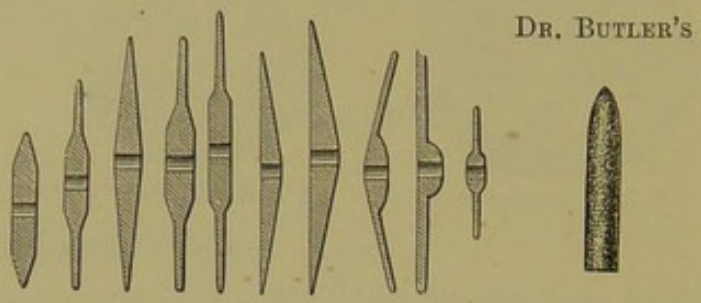
		s.	d.
Points, unmounted	(Figs. 144, 145) each	0	5
,, ,, ...	(Fig. 146) ,,	0	8
,, ,, Square edge .	(Figs. 150, 154, 158) ,,	0	4
,, for Porte-Polisher, Dr. Butler's .	(Fig. 175) per box	2	1

CORUNDUM DISCS AND POINTS.

DISCS

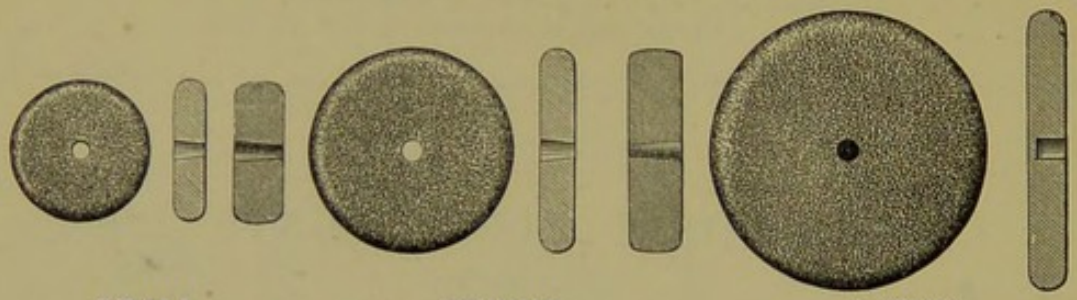
(Dr. ARTHUR'S PATTERNS).

These Corundum Discs are greatly appreciated for their splendid cutting properties. They are made extremely thin, and are suitable for the most delicate separations.



A. B. C. D. F. G. H. I. N. K. Point.

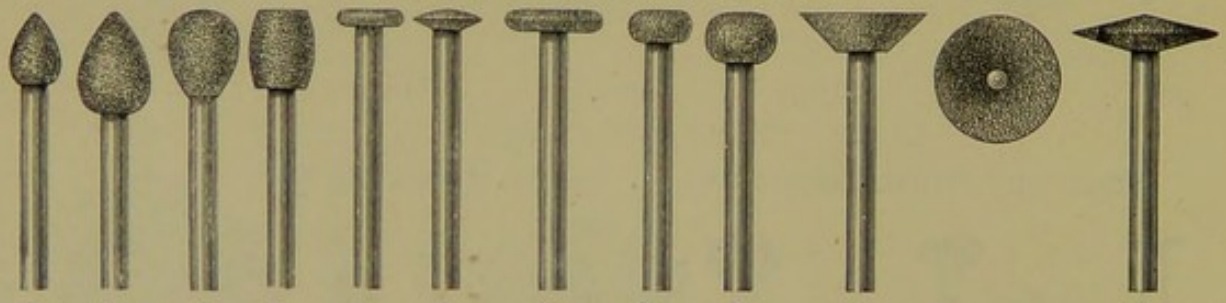
WHEELS FOR STUMPS.



SMALL. MEDIUM. LARGE.

POINTS

(Dr. NORTHROP'S PATTERNS).



1. 2. 3. 5. 6. 7. 8. 9. 10. 11. 12.

PRICES:

				s.	*d.*
Discs (Dr. Arthur's).	Size A	unmounted,	per doz.	1	8
„ „	All other sizes	„	„	3	0
Wheels for stumps, small, medium, and large		„	„	3	0
Points (Dr. Northrop's), Figs. 1-12		„	„	1	8
„ (Dr. Butler's), for Porte-Polisher		„	„	1	8

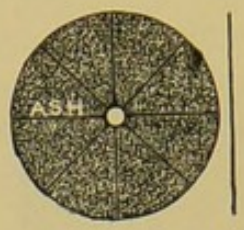
Corundum Discs, Wheels and Points, as above, mounted, extra per doz. **4s.**

Supplied in TWO GRITS known as FINE and COARSE.

When ordering mounted Corundum Discs and Points please state for which Handpiece they are required.

ASH'S GROOVED DIAMOND DISCS.

(Registered. Reg. No. 310,731.)



One of the most prominent and valuable features in these Diamond Discs is, that they will last twice as long as any other and are not so readily spoiled by the application of pressure to the sides and edge. They should be kept well wetted with water during use and run at high speed.

In our practical, every-day experience of Diamond Discs we find that these grooved discs will not only stand hard wear, but that they are superior to any other which we have ever tried.

We make them in two forms as under:—

(a) *Charged on both sides and on edge;* extremely thin and sharp; eminently adapted for cutting fine grooves in mineral or porcelain inlays and rods; for slicing purposes; for separating teeth and fillings in the mouth, &c.

		s.	*d.*
Sizes—$\frac{1}{2}$ inch and $\frac{3}{4}$ inch diameter	each	3	9
„ $\frac{7}{8}$ inch diameter	„	4	6

(b) *Charged on both sides but not on edge;* very useful for smoothing and contouring the surfaces of inlays and hardened fillings, and for imparting little touches of individuality to mineral teeth and crowns, which many dentists make it their aim to produce, in imitation of the patient's natural teeth.

		s.	*d.*
Sizes—$\frac{1}{2}$ inch and $\frac{3}{4}$ inch diameter	each	3	9
„ $\frac{7}{8}$ inch diameter	„	4	6
Cup-shape, *charged on both sides and on edge*, $\frac{3}{4}$ inch and $\frac{7}{8}$ inch diameter	„	4	6

DIAMOND DRILL,

FOR MAKING CAVITIES IN ARTIFICIAL TEETH, &c.

In using this Diamond Drill in the Engine the tooth or other article to be drilled should be placed on a board or table; it cannot be sufficiently well supported in the hand to bear the pressure necessary to bore into a hard substance.

Turpentine or water should be used as a lubricant.

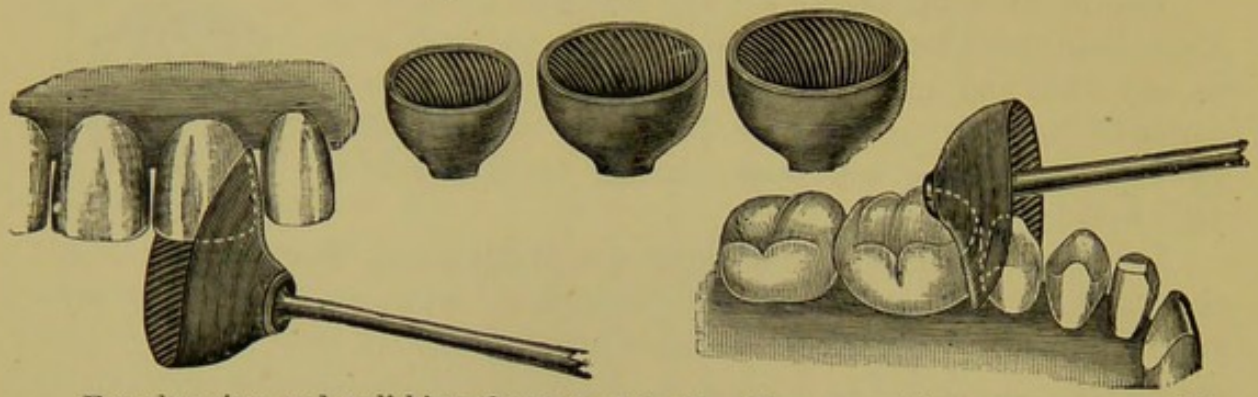
PRICE:

	s.	*d.*
For No. 4 or No. 7 Handpiece	5	0

INDIA-RUBBER POLISHING CUPS—CORRUGATED INSIDE.

(Dr. W. VAJNA'S.)

1. 2. 3.



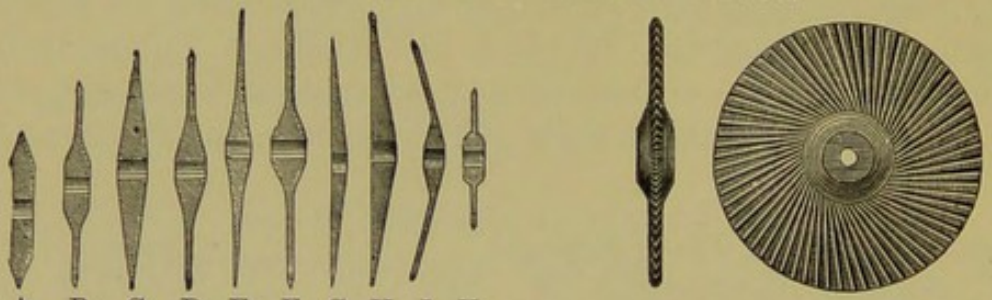
For cleansing and polishing the natural teeth. The corrugations serve as a useful medium for carrying the polishing powder, while the cups themselves readily conform to all the surfaces of the teeth.

MADE IN THREE SIZES:—No. 1—Small. No. 2—Medium. No. 3—Large.

		s.	d.
Price	per doz.	2	6

POLISHING DISCS AND POINTS.

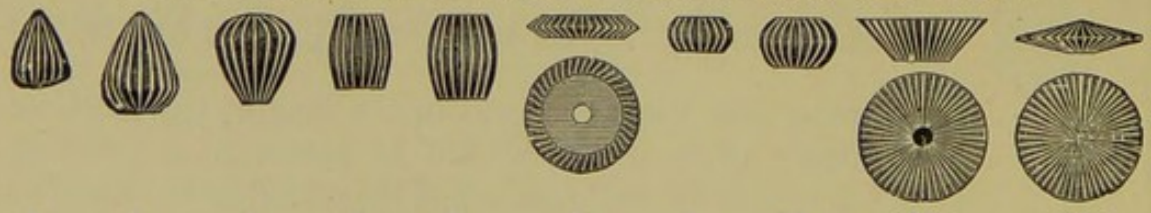
CORRUGATED SOFT RUBBER DISCS.



A. B. C. D. E. F. G. H. I. K.

		s.	d.
Price, all sizes	per doz.	2	6
,, ,,	each	0	3

CORRUGATED SOFT RUBBER POINTS.

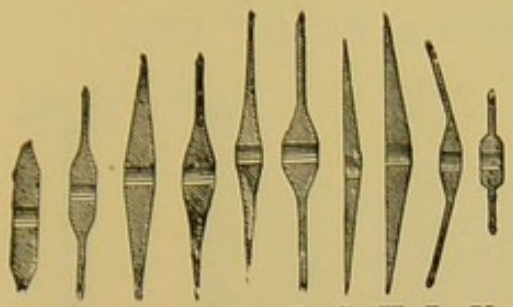


1. 2. 3. 4. 5. 8. 9. 10. 11. 12.

		s.	d.
Price, all sizes	per doz.	1	9
,, ,,	each	0	2

These Discs and Points of Soft Rubber, with **corrugated** surfaces, suggested by Dr. C. E. Francis, are pronounced much superior to those with plain surfaces. They are used for carrying powders, either for polishing the natural teeth or for finishing fillings. They are generally used with Huey's Screw-head Mandrel, shown on page 41.

RUBBER AND CORUNDUM DISCS.



A. B. C. D. E. F. G. H. I. K.

These Discs will be found excellent for separating teeth, because of their extreme thinness. They have all the strength necessary for the purpose. Made of vulcanized rubber and the sharpest selected grit corundum, the latter being thoroughly incorporated with the former. They can be mounted on Mandrel 228, page 41.

		s.	*d.*
Price, all sizes	each	0	3

RUBBER AND CORUNDUM POINTS.

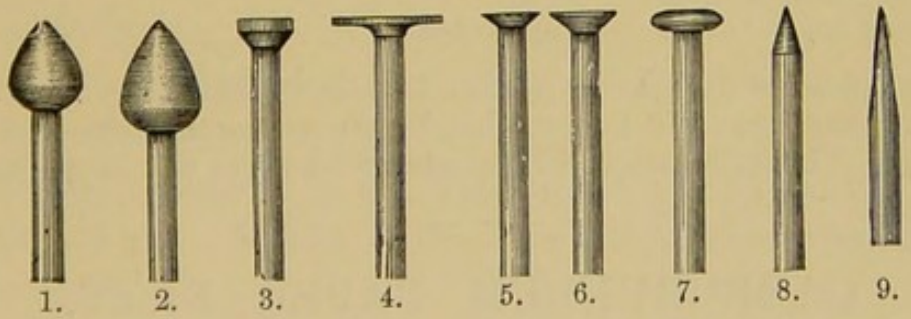
Same Shapes as the Wood Points illustrated below.

These Points are made of the same material as the Rubber and Corundum Discs, and will be found effective in cutting tooth material or dressing off fillings. They are solid throughout and can be used as long as enough of the material remains to be grasped by the Porte-Polishers, shown on page 41.

		s.	*d.*
Price, any shape	each	0	3

WOOD POLISHING POINTS.

(Dr. SOUTHWOOD'S.)



1. 2. 3. 4. 5. 6. 7. 8. 9.

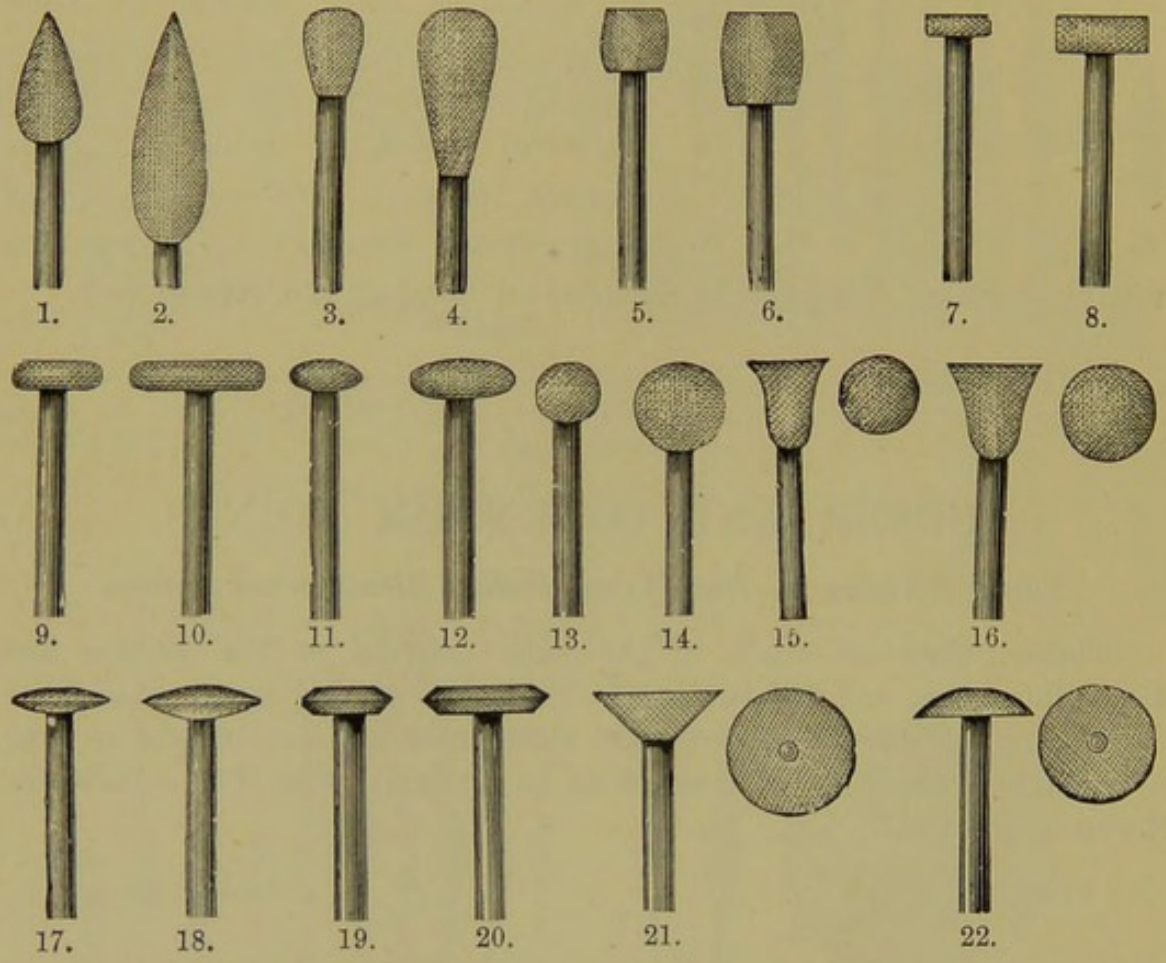
Porte-Polishers 233 and 238, on page 41, will carry these.

		s.	*d.*
Wood Polishing Points, assorted . .	(Figs. 1-9) per box of 100	2	6

Separately—Nos.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Per 100 .	3/2	3/2	2/1	2/1	2/1	2/1	3/2	2/1	2/1

POLISHING STONES.

ARKANSAS, HINDOSTAN, AND WATER OF AYR.



Prices of above for any Handpiece:				s.	d.
American Arkansas Stones, mounted . . .	(Figs. 1–22)	each		4	0
Hindostan „ „ . . .	(„ „)	„		1	6
Water of Ayr (Scotch) „ „ . . .	(„ „)	„		0	9
„ „ „ unmounted . .	(„ „)	„		0	4

It is sometimes difficult to obtain the above Polishing Stones exactly like the illustrations. When unable to do so the nearest in stock are usually sent. The Arkansas and Hindostan Stones are not kept unmounted.

CARBORUNDUM PAPER DISCS,

FOR POLISHING FILLINGS.

Supplied in boxes of 100 Discs, assorted grits.—Sizes : $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ of an inch in diameter.

		s.	d.
Price, any size	per box	0	8

AUTOMATIC PAPER DISC HOLDERS.

(Mr. LOEWENSON'S.)

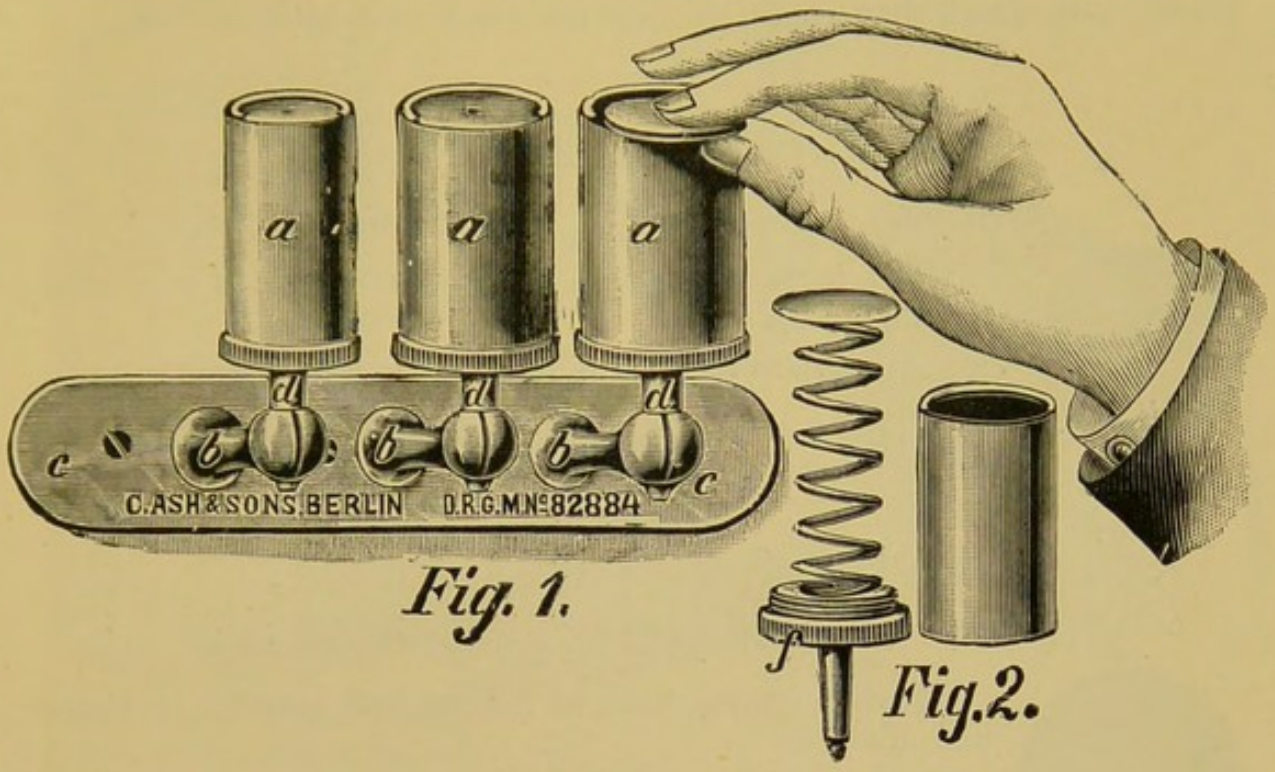


Fig. 1.

Fig. 2.

DESCRIPTION.

Fig. 1.—***a a a***, Holders for discs, $\frac{7}{8}$ in., $\frac{3}{4}$ in., and $\frac{5}{8}$ in. diameter.
b b b, Brackets with split openings, and
c c, Plate to which they are riveted.
d d d, Stems which fit into the Brackets ***b b b***.

Fig. 2 shows the details of a Holder.

DIRECTIONS FOR USE:

To fill a Holder, unscrew the plate ***f*** (Fig. 2), put the discs in the metal tube, insert the pressure plate, and compress the spring sufficiently to admit of plate ***f*** being screwed home.

The advantage possessed by the Holders is this: only one disc at a time can be removed with the finger. The Plate can be screwed on the side of a Bracket Table.

PRICES:

		s.	d.
Holders of different sizes, as illustrated, or all of the same size, complete with Plate and Brackets		7	6
Holders separately, any size—large, medium, or small	each	2	0
Plate with Brackets separately		2	0

ENGINE POLISHING DISCS.

These Polishing Discs are made from the best materials; they are carefully cut, retain their rigidity for a considerable time in use, and the shellac with which they are coated does not crack when they are bent.

EMERY PAPER DISCS,

WITH SHELLACKED BACKS. ASSORTED GRADES.

EMERY.

Made in three sizes, as follows, and assorted in Coarse, Medium, and Fine :—

$\frac{7}{8}$ in. diameter ; $\frac{3}{4}$ in. diameter ; $\frac{5}{8}$ in. diameter.

		s.	*d.*
Price, any size	per box	0	6

CUTTLE-FISH PAPER DISCS,

WITH SHELLACKED BACKS. ASSORTED GRADES.

CUTTLE-FISH.

Made in three sizes, as follows, and assorted in Coarse and Fine :—

$\frac{7}{8}$ in. diameter ; $\frac{3}{4}$ in. diameter ; $\frac{5}{8}$ in. diameter.

		s.	*d.*
Price, any size	per box	0	6

SAND-PAPER DISCS,

WITH SHELLACKED BACKS. ASSORTED GRADES.

SAND-PAPER.

Made in three sizes, as follows, and assorted in Coarse and Fine :—

$\frac{7}{8}$ in. diameter ; $\frac{3}{4}$ in. diameter ; $\frac{5}{8}$ in. diameter.

		s.	*d.*
Price, any size	per box	0	6

EMERY CLOTH DISCS,

WITH SHELLACKED BACKS. ASSORTED GRADES.

EMERY CLOTH.

Made in three sizes, as follows, and assorted in Coarse and Fine :—

$\frac{7}{8}$ in. diameter ; $\frac{3}{4}$ in. diameter ; $\frac{5}{8}$ in. diameter.

		s.	*d.*
Price, any size	per box	0	10

MOORE'S DISCS AND MANDREL.

FIG. 1. FIG. 2. FIG. 3.

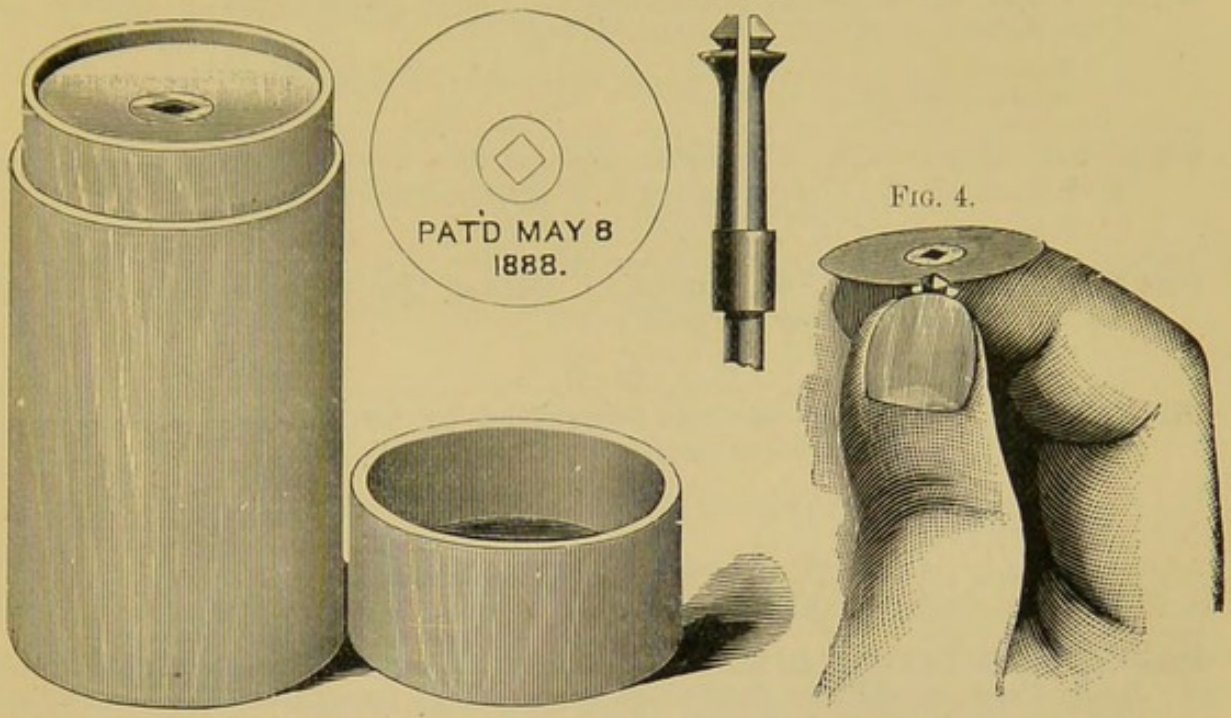


FIG. 4.

FIG. 1. Box of 50 Discs with lid.
,, 2. Disc showing metal centre.
,, 3. Mandrel with split square head and neck.
,, 4. Shows how the Mandrel is held to remove a disc.

The special features in Moore's Discs and Mandrel are these—

(*a*) The Discs are provided with square metal centre.
(*b*) The Mandrel is made with a square tapering head, corresponding in size to the metal centre in the discs.

TO MOUNT A DISC.—After the Mandrel is secured in the Handpiece, force the split square head into the centre of the Disc.

TO REMOVE A DISC.—Grip the neck of the Mandrel as shown in Fig. 4, squeeze it and force off the Disc while doing so.

The Advantages of the Invention are these—

The Discs cannot be torn in the centre ;
They are held quite securely by the Mandrel whichever way the engine is run ;
The Mandrel is always ready for use, there being no screw about it to be manipulated or lost ; and
The valuable time of the Operator is economised.
The metal centres considerably increase the cost of the Discs, but they also greatly add to their durability, and thus make them almost, if not quite, as cheap in the long run as the Discs without metal centres, which are sold at a much lower rate.

Put up in boxes of 50 and supplied in the following kinds and sizes—

Kinds—Emery-Paper, Sand-Paper, and Cuttle-fish Paper.
Sizes—$\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ of an inch in diameter.

PRICES:

		s.	*d.*
Discs, any kind or size	per 1000	12	0
,, ,, ,,	,, 500	6	3
,, ,, ,,	per box of 50	0	8
Mandrels for any Handpiece	each	2	6

DISCS, VARIOUS, FOR POLISHING, ETC.

(American).

CELLULOID DISCS—Dr. Buchanan's. ¾ inch diameter, can be mounted on either Elliott's or Huey's Mandrel—see page 41.

		s.	d.
Price	per box of 100	1	8
Washers for ditto	per box	0	10

CHAMOIS DISCS—Dr. Custer's. Made in three sizes, ⅝, ¾, and ⅞ inch, and put up in boxes of 25. Can be mounted on Huey's Mandrel.

		s.	d.
Price, any one size	per box	1	0

FELT DISCS—Dr. W. W. Smith's. Made of thin stiff felt, ⅞ inch diameter. Can be mounted on Huey's Mandrel.

		s.	d.
Price	each	0	5

MINIM DISCS, ¼ inch in diameter, **suggested by Dr. S. G. Perry.** Put up in boxes of 100 at the following prices :—

	s.	d.		s.	d.
Sand-Paper . . per box	0	6	Cuttle-Fish Paper, per box	0	6
Emery-Paper . ,,	0	6	Emery-Cloth . . ,,	0	10

	s.	d.
Mandrel (Perry's No. 314) for carrying the above	1	3
Screw Driver for this Mandrel	1	0

PAPER AND CLOTH DISCS. In boxes containing 525 Discs, namely : 150 each Emery-Paper, Sand-Paper, Cuttle-Fish Paper, and 75 Emery-Cloth Discs. Assorted diameters, ⅝, ¾ and ⅞ of an inch.

		s.	d.
Price	per box	2	6

THICKENED-RIM SAND-PAPER DISCS. These can be mounted on any of the Paper Disc Mandrels. Supplied in two sizes, ⅝ and ⅞ of an inch in diameter. Put up in boxes containing 400 Discs, assorted grits.

		s.	d.
Price, either size	per box	4	0

STEEL SHIELDS,

FOR USE WITH PAPER POLISHING DISCS.

(Suggested by Mr. W. H. DOLAMORE, of London.)

¾ inch.

They are made quite flat, from exceedingly thin steel, are almost as flexible as paper, and will not break or buckle up when subjected to pressure. In polishing rounded surfaces they lend great support to the disc, and will therefore be found very useful.

Made in two sizes, ⅞ and ¾ of an inch in diameter, and supplied in boxes of half a dozen, as under :—

		s.	d.
Price, either size or assorted	per box	1	0

BRIGHT METAL SHIELDS FOR PAPER DISCS.

Made in two sizes, viz. : No. 1, ⅞ inch diameter ; No. 2, ¾ inch diameter.

		s.	d.
Price	per box	2	6

PAPER DISC EASEL—(American).

A convenient device for standing on the Bracket Table or hanging up in any suitable place near at hand.

	s.	*d.*
Complete with 525 Discs—448 Paper and 77 Cloth .	3	9

DISC TRAY—(American).

This Tray is sold with 1400 Paper Discs, all varieties, well assorted, easy of access; each kind and size in a separate compartment.

	s.	*d.*
Price.	6	3

DARBY'S HARD BUFF POLISHERS,

KNOWN ALSO AS

MOOSE-HIDE POINTS AND LEATHER POLISHING WHEELS.

These polishers are made of a material which possesses peculiar qualities for carrying pumice and other powders, and "taking hold" of discoloured enamel. They will not abrade the gums, and can be run with perfect safety round the necks of teeth. When wet the surface becomes pliable, and adjusts itself to all inequalities. The simplest and quickest carrier for them is the shouldered screw mandrel. A fresh polisher should be used for each case.

Put up in Boxes containing 100 Assorted Sizes with directions for use.

		s.	*d.*
Price	**per box**	**1**	**8**

PURE SHELLAC,

FOR MOUNTING CORUNDUM DISCS AND POINTS.

		s.	*d.*
In Powder	per box	0	6
In Sticks	per doz.	2	6

These Sticks are very useful for repairing broken articles, etc., if employed according to the following

DIRECTIONS FOR USE.

1.—Heat the pieces of the article to be mended, next melt the Shellac at a flame after the manner of sealing wax, without allowing it to burn, smear thinly the parts to be joined, then hold both pieces to the flame until the Shellac is quite melted, and finally press them together; or

2.—Break the Shellac into small pieces and put into a bottle with about twice its own bulk of spirits of wine. The spirits will dissolve the Shellac and form with it an exceedingly strong liquid glue which may be applied with a brush, without the aid of heat. It is always ready for use, and is superior to the strongest glue, in that water does not affect it.

BROKEN PIVOT EXTRACTOR AND BROKEN DRILL EXTRACTOR.

(Mr. W. HERN'S.)

In bringing these Instruments to the notice of the *Odontological Society of Great Britain* at the ordinary monthly meeting held on December 3, 1894, Mr. Hern said, "that in the case of a pivot breaking off short in a root, a considerable amount of labour was caused, and a good deal of time had to be expended in getting out the pin."

Pivot Extractor.

Full Size.

Trephines.

202. 203.

PIVOT EXTRACTOR.

"The instrument now exhibited he considered a useful one. It consisted of two bi-concave tapering jaws or blades, controlled by a screw with an ordinary cone-bearing joint. When the screw was worked it approximated the jaws, and there was a good deal of force at command."

TREPHINES.

Mr. Hern "showed also two small trephines, one just pin size, and the other just over pin size, for use in the dental engine, and suggested their use for trephining around the pin, instead of the small fissure bur commonly employed for this purpose, as being a safer and readier method of loosening the pin and giving a grip to the instrument used for its removal."

DRILL EXTRACTOR.

"He also exhibited a somewhat similar instrument with a small mechanical appliance for removing parts of a flexible drill or dressing broach which might be broken off in the canal. The contracted nature of the situation prevented the use of anything like a crocodile jaw, or any widely-opening instrument. He had, therefore, devised an instrument much on the same lines as the previous one, the jaws of which were controlled by a sliding tube. The instrument could be made either straight or oblique as required."—*Odonto. Transactions.*

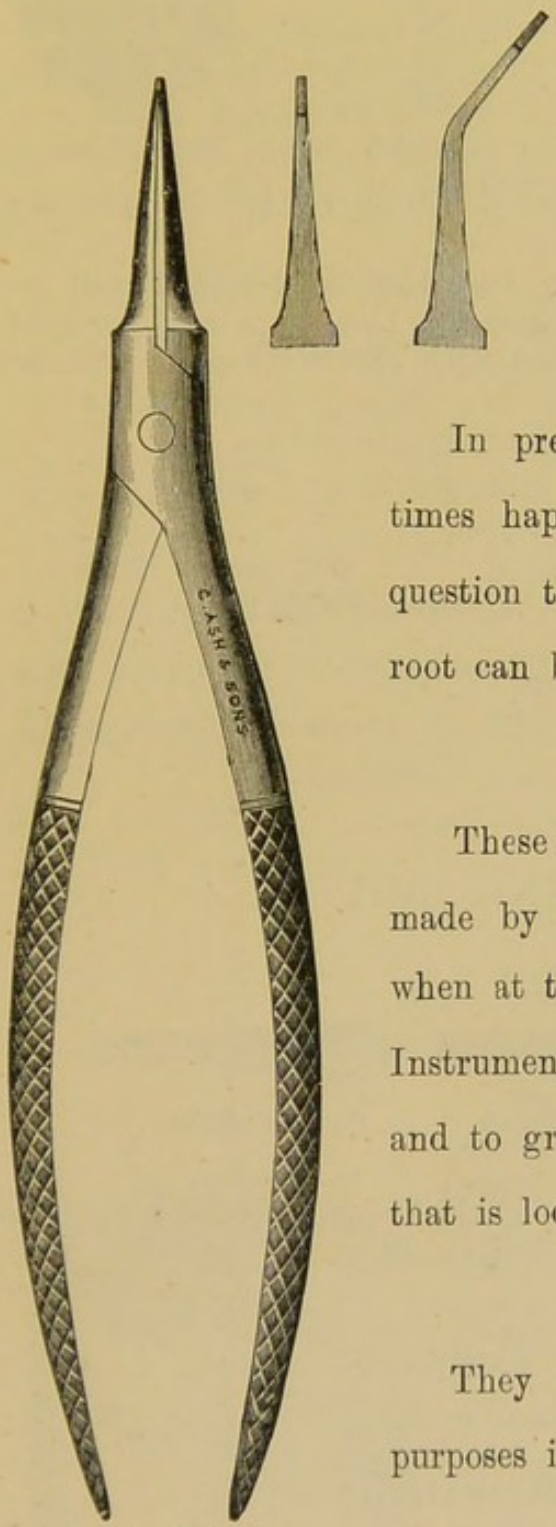
Drill Extractor.

Full Size.

PRICES:	*s.*	*d.*
Broken Pivot Extractor, Nickel-plated . .	5	6
Trephines. . . . (Figs. 202, 203) each	1	6
Broken Drill Extractor	5	6

NERVE CANAL PLIERS,

STRAIGHT AND CURVED,



FULL SIZE.

FOR REMOVING BROKEN DRILLS FROM ROOT CANALS.

In preparing root canals for filling it sometimes happens that a drill is broken, and the question then arises how the piece left in the root can best be extracted.

These Pliers are the outcome of suggestions made by Messrs. T. G. Read and G. Seymour, when at the Dental Hospital of London, for an Instrument fine enough to enter the root canal and to grasp the thin stem of the broken point that is lodged within it.

They will also be found useful for other purposes in the Operating Room.

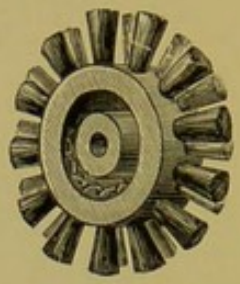
		s.	*d.*
Price of Pliers, Straight or Curved, Nickel-plated . .	each	5	6

POLISHING BRUSHES, Etc.

Straight.

Cup-shape.

Straight.


Steel Wire.

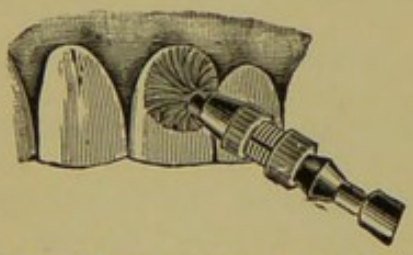
The Cup-shape and Straight are for polishing teeth, the Steel-wire Brush is for cleaning burs.

The Straight Brush without stem and the Steel-wire Brush are mounted on the Parting-nut Mandrel, and the Cup-shape and Straight, with bone centres, as illustrated, are used with the Screw-porte Polisher —see page 41.

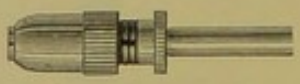
PRICES:

		s.	d.
Straight Polishing Brushes, metal centres	each	0	9
,, ,, ,, bone ,,	,,	0	6
,, ,, ,, wooden ,,	per dozen	2	6
Cup-shape ,, ,, bone ,,	with Stem, each	0	9
Straight ,, ,, ,, ,,	,,	0	9
Steel-wire Brushes for cleaning Burs	,,	1	3
,, ,, metal centres	,,	1	0
Brass-wire ,, ,, ,,	,,	1	0

TOOTH POLISHING BRUSH.



Brush.


Porte-Polisher.

The Metal Stem in which the bristles of the brush are fixed is made to fit the Screw-Clamp Porte-Polisher here illustrated.

		s.	d.
Price, with stiff, medium, or soft bristles	per doz.	1	0
Screw-Clamp Porte-Polisher for any Handpiece	each	1	6

POLISHING POWDERS.

		s.	d.
Carborundum Powder, Superfine and Extra Superfine	per box	0	6
Corundum Flour	,,	0	6
Pumice, Superfine	per lb.	0	4
Rouge	per box	0	6

STEEL WIRE BRUSH WITH HUB

(FOR SHAW'S ENGINE),

FOR CLEANING BURS.

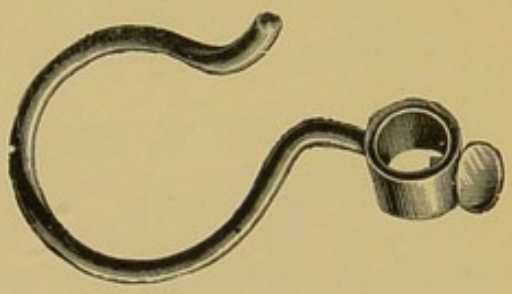
The Hub on which this Brush is mounted fits on the projecting end of mandrel outside the pulley on Shaw's Engine arm. The Bur should be cleansed *before* being put in the Handpiece, otherwise the acute bend to which the springs are subjected is liable to break them. A few light touches will be found sufficient to remove all *débris* without damaging the Bur.

	s.	*d.*
Brush and Hub complete	3	0
Separately { Brush	2	0
Separately { Hub.	1	0
Steel Wire Brush, with metal Hub, for mounting on the end of mandrel outside the pulley on White's Engine, complete	3	2

HANDPIECE SPIRAL,

FOR UPRIGHT OF SHAW'S ENGINE.

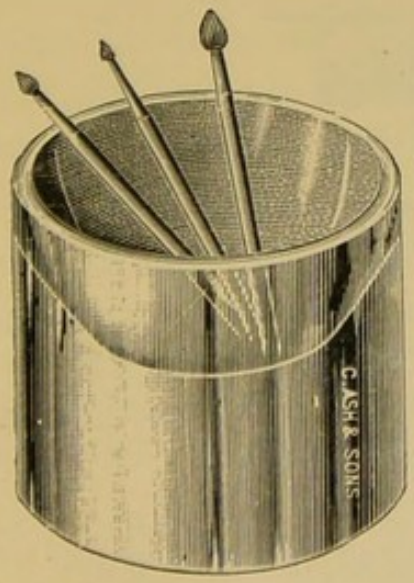
(Suggested by Mr. J. O. BUTCHER, of London.)



	s.	*d.*
Price	2	6

BUR CUP

(Suggested by Mr. MOON).



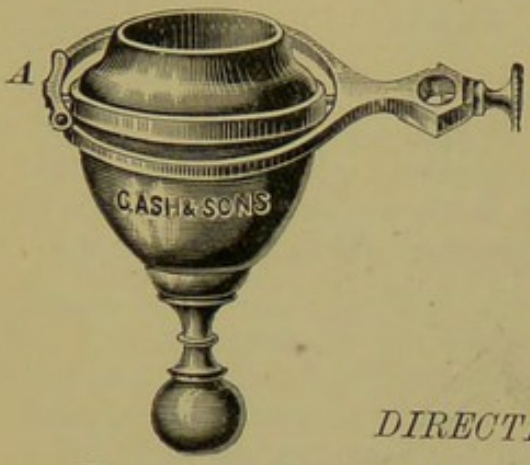
This cup is designed to hold the burs required for each operation. Mr. Moon finds it useful and very convenient. He says that the burs can be seen at a glance in the Cup, and that, being ready to the hand of the operator, much time is saved in changing one for another in the Handpiece.

It is made in Metal, nickel-plated, also in Glass as here illustrated. The Glass Cup forms a useful Mortar for amalgams ; the base is very thick and can be gripped and held firmly in the hand.

	s.	*d.*
Price, in Metal, nickel-plated	2	9
„ in Glass	0	9

WATER CUP,

FOR FIXING ON THE UPRIGHT STANDARD OF THE DENTAL ENGINE.



It holds sufficient water for wetting Corundum Discs, &c., during an operation, and can be emptied and re-filled in a few moments. The overhanging rim round the inside of the top of the Cup prevents the water being readily upset.

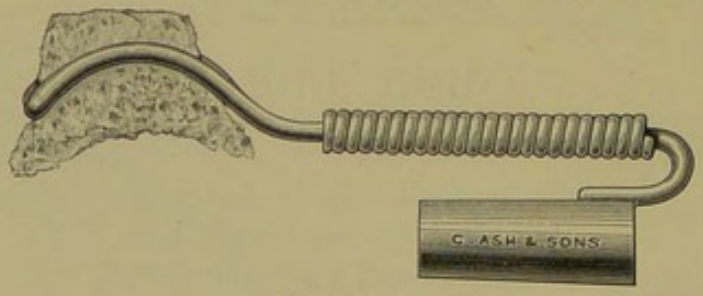
DIRECTIONS FOR USE:

To empty the Cup, draw aside the spring ***A*** on the ring in which it is fixed, lift it out and discharge the contents. Before re-filling it, replace and fasten in position by pushing back the spring.

	s.	*d.*
Price, Nickel-plated	5	0

SPONGE HOLDER FOR ENGINE

(Designed by Mr. WALTER CAMPBELL, of Dundee).



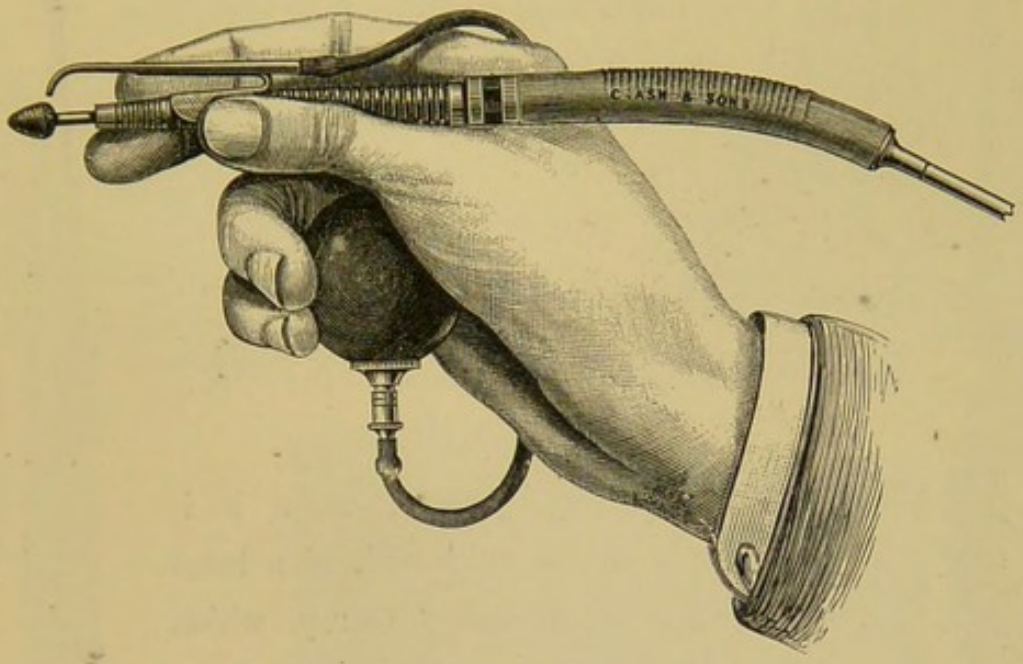
FULL-SIZE.

Of the various appliances in use for moistening Discs and Points in the Dental Engine, few, if any, are simpler or more useful than the one here shown. It fits on to the Handpiece, and is provided with a spring which can be readily depressed sufficiently to bring the sponge in the frame in contact with any Disc or Point that may be in use at the moment.

	s.	*d.*
Price for any Handpiece	3	6

IMPROVED ENGINE SYRINGE

(Introduced by Dr. C. H. STOKES).



This Syringe is intended for wetting the Corundum Discs and Points which are used in the Handpiece of the Dental Engine. The half-ounce bulb with which it is supplied has a slip-off mount so that it can be quickly refilled when the water is exhausted. To admit of the nozzle being adapted for large or small discs and points the metal to which it is attached is soft and easily bent to the required position.

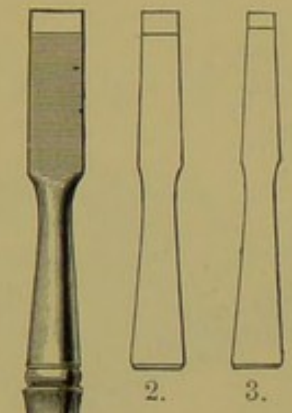
DIRECTIONS FOR USE:

Slip the metal clip to which the nozzle is joined on the case of the Handpiece, as far as is necessary, then pass the India-rubber tubing over the back of the hand to keep it from kinking, and place the bulb between the palm and two last fingers, as shown in the engraving.

To make the clip smaller press the sides a little closer to each other.

A duplicate of the above, employed as an Air Syringe, will be found useful for blowing cuttings and dust out of the cavity while the Bur is actually at work.

	s.	*d.*
Engine Syringe to fit any Handpiece, in card box .	5	6



2. 3.

SMALL SCREW DRIVERS,

FOR THE OPERATING ROOM.

Made in three widths, Figs. 1, 2, 3, as illustrated, carefully tempered, and set in fancy ebony handles.

		s.	*d.*
Price . .	per set of 3	7	0
,,	any size. . each	2	6

1.

THE KÆBER ENGINE-BIT HOLDER.

A convenient appliance when it is desirable to use an engine-bit as a hand instrument. A slit-coned clamp, which grasps the shank of the instrument firmly, working in a coned socket, is controlled by a screw-collar, as shown in the cut. The coned bearing and the substantial quality of the workmanship make this a valuable addition to the operating-room. It is handsomely finished, and may be had to carry either style of bur shown on page 23.

When ordering, please specify for which it is wanted.

PRICES:

		s.	*d.*
In Knurled Handle, Nickel-plated . .	(Fig. 1)	5	0
Revolving-Head Socket Handle for holding Engine Burs, &c.		3	0

This can also be had to carry either style of bur shown on page 23. When ordering, please state for which it is required.

1.

STANDS FOR ENGINE BITS.

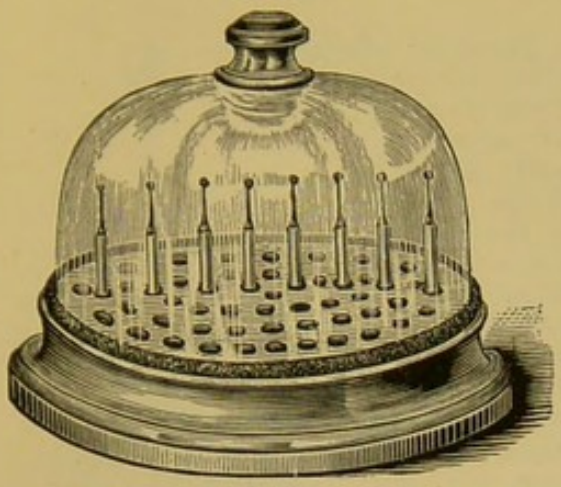


Fig. 2.

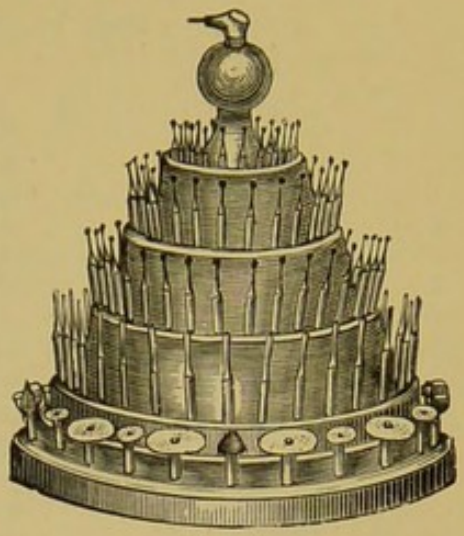


Fig. 5.

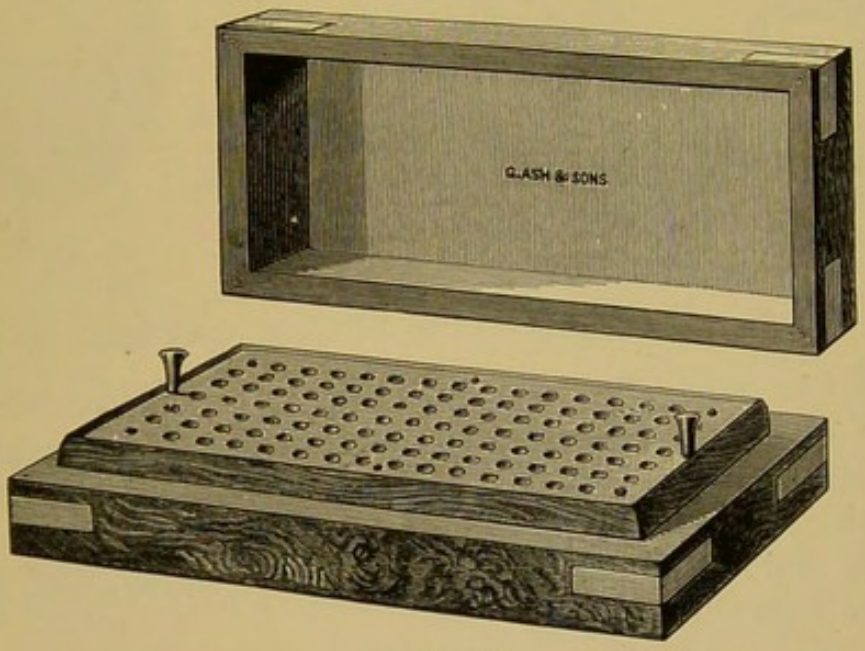


Fig. 6.

PRICES:

		s.	d.
In polished maple or ebonized wood, containing 60 holes	(Fig. 2) each	5	0
The same, minus glass cover	,,	2	6
In polished maple or ebonized wood, with revolving stand and 120 holes	(Fig. 5) ,,	12	0
Stands in ebonized wood, with glass cover, with 73 holes	,,	10	6
,, ,, ,, without ,, ,, 73 ,, ...	,,	7	0

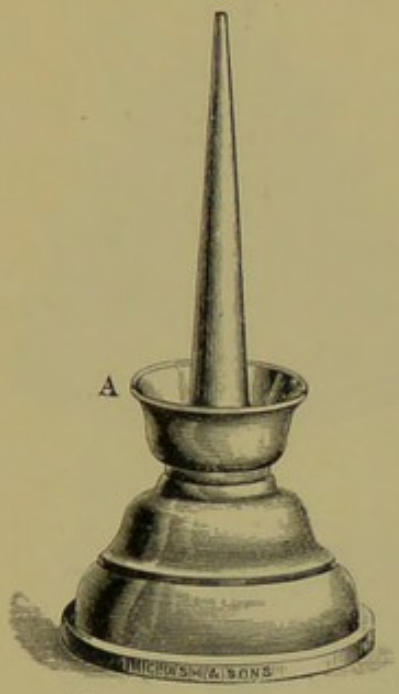
BUR BOXES.

		s.	d.
In polished walnut, to hold 108 points	(Fig. 6) each	9	6
In ,, ,, ,, ,, for Straight Handpiece and Lock-bit Attachments, with nickelled metal plate and layer of leather for keeping the instruments oiled	(Fig. 6) ,,	17	6

OIL CANS.

Fig. 1.—DR. BONWILL'S PATTERN.

FIG. 1.

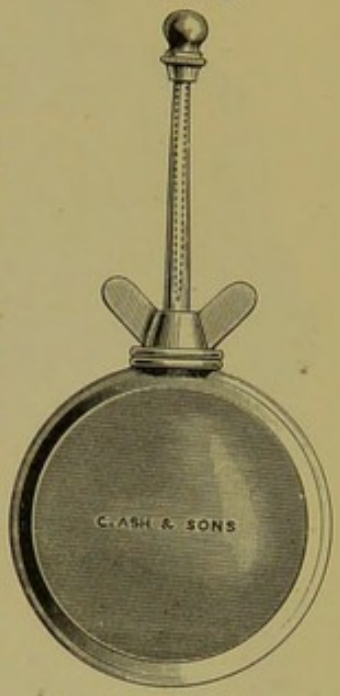


$3\frac{1}{4}$ INCHES HIGH.
$1\frac{1}{2}$,, DIAMETER.

This Oil Can meets a want long felt by the Dental Surgeon. It is small and neat in appearance, cleanly and economical in use, and eminently suited for the Operating Room. It is so constructed that the oil which remains on the end of the nozzle, when the Can is laid down after being used, is caught in the cup A, shown in the illustration. There is an undercut in the bottom of the cup in which the oil lodges each time the Can is used. This keeps the lower part always clean and effectually prevents oil stains and soiled fingers.

When there is too much oil in the cup unscrew the nozzle, and the oil will run into the Can.

FIG. 2.



$3\frac{3}{4}$ INCHES HIGH.
$1\frac{1}{8}$,, DIAMETER.

Fig. 2.—FLAT OIL CAN, WITH SCREW-CAPPED NOZZLE.

This Oil Can is suitable for carrying in Visiting Bags, or keeping in the drawers of Cabinets, Bracket Tables, &c. The pin attached to the screw-cap shown by the dotted lines in the illustration is very useful for conveying an extremely small quantity of oil to Handpieces, Lock-Bit Attachments, and other delicate pieces of mechanism, and keeps the nozzle of the Can always clear.

		s.	*d.*
Price, Nickel-plated	(Fig. 1)	2	0
Flat Oil Can, Nickel-plated.	(,, 2)	1	0

OIL FOR ENGINES, ETC.

This is the finest white transparent oil that can be obtained. It is eminently suited for the delicate mechanism of Dental Engines, Handpieces, Mallets, etc.; does not gum or become sticky, and is quite free from smell.

PRICES:

	s.	*d.*
Two-ounce Bottle	0	6
Six-ounce ,, ...	1	6

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(Mr. W. A. HUNT'S)

Full size.

FOR CONE SOCKET HANDLE.

Mr. Edwin Goodman, of Taunton, says: "I find this Extracting Spoon most useful in many ways, especially for children's temporary teeth when badly broken down. It must be supplied in a good sized handle similar to the one here illustrated."

	s.	*d.*
Price, complete	4	6
Separately:		
Extracting Spoon	1	6
Socket Handle	3	0

NERVE INSTRUMENT HOLDER

WITH SCREW CLAMP.

	s.	*d.*
Price, in neat black vulcanite handle . .	1	0

Full size.

BALDOCK'S

PERMANENT COCAINE SOLUTION.

The safest, most reliable, and the *only Permanent* solution of Cocaine ever offered to the Profession. Has been safely employed since 1892—seven years.

Supplied in glass bottles, with directions.

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Price	per bottle	**4**	**0**

ASH'S
RUBBER-BLOCK SWAGER

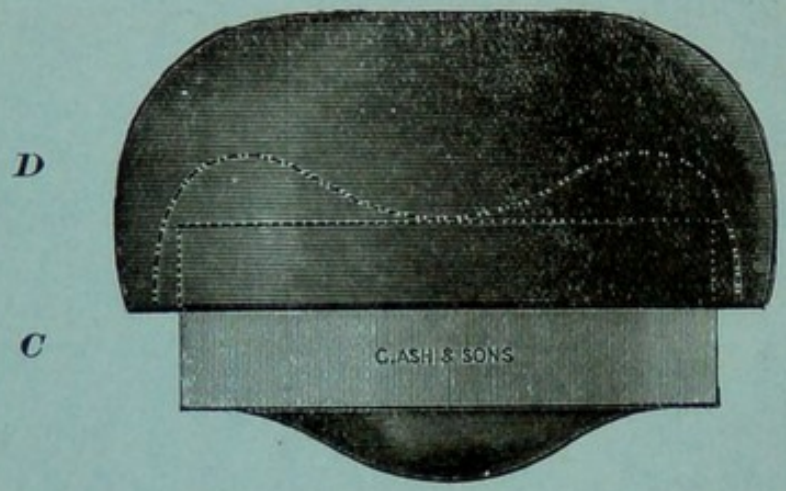
(Registered. Reg. No. 325,701.)

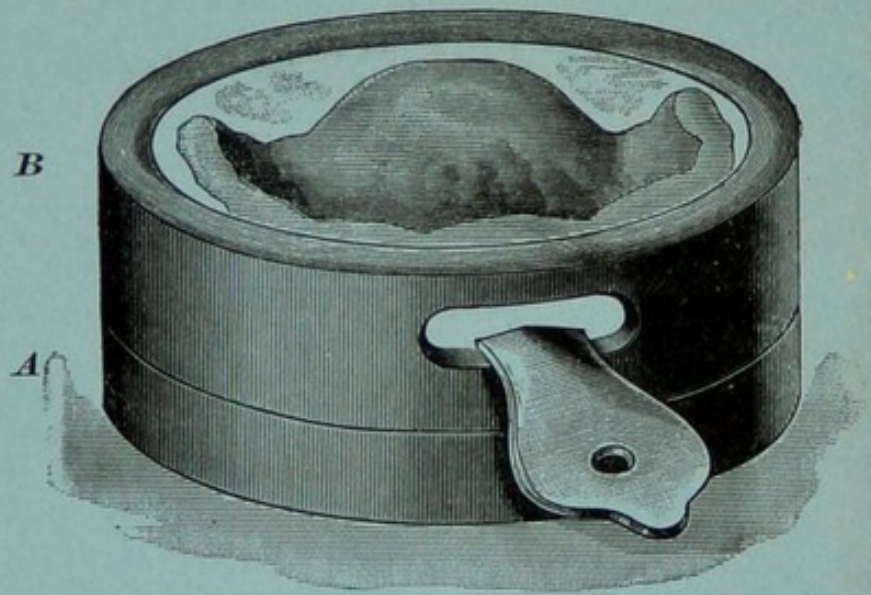
1. For lining impressions of the mouth with soft metals, so as to obtain metal-faced plaster models.

2. For making trying in plates and base plates.

3. For making polishing plates for the lingual and palatal surfaces of vulcanite dentures.

4. For swaging strengtheners or gold facings for vulcanite dentures.





***A*—Bed Plate. *B*—Metal Cup. *C*—Rubber Block. *D*—Metal Dome.**

Outside dimensions of Bed Plate, 4¼ inches.

		s.	d.
Price of Swager complete, consisting of Bed Plate, two Metal Cups, Rubber Block, and Metal Dome . . .		15	0
Extra Rubber Blocks	each	5	0

Descriptive Circular sent on application.

LONDON : PRINTED BY WM. CLOWES AND SONS, LTD., STAMFORD STREET AND CHARING CROSS.

ELECTRICAL APPARATUS:

SECTION I.

MOTORS, REFLECTORS, LATHE, MOUTH LAMPS
AND
BONWILL'S MALLET.

SECTION II.

ACCUMULATORS and BATTERIES.

SECTION III.

REGULATING RESISTANCES, CATAPHORIC APPARATUS,
GAS ENGINE and DYNAMO,
FURNACES and GILDING APPARATUS.

CLAUDIUS ASH & SONS, LTD.

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

ADDRESS FOR TELEGRAMS: FRENES, LONDON.
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Electricity for Dental Purposes.

After considerable experience, it is our opinion that, given a suitable current, electrical power is the best and most convenient force available for use in the dental operating room. One of the initial difficulties was the lack of reliable batteries for Motor work, but this has been happily overcome by the use of Accumulators, and by the large increase in the number of Street Supply Currents. The Motors, too, have been brought to a high state of perfection, and now possess many advantages over the foot-engine.

The value of a Motor may thus be briefly summarised :—The Operator has complete control over it; he can stop or start it instantaneously; it can be run at high or low speed at will; it saves the Operator a great deal of time and labour; it does not require treadling—a two-fold advantage which gives freedom of movement to the Operator, and enables him to perform delicate operations with a steady hand ;—it stands on the opposite side of the Chair to that on which the Operator is working, and is thus well out of his way.

The Dental Motors which we supply may, speaking generally, be divided into three classes :—

(1) Those adapted for use with Accumulators. By means of suitable Regulating Resistances, Motors of this class can also be used with Continuous main currents.

(2) Those constructed for use with Continuous main currents.

(3) Those constructed for use with Alternating main currents.

Continuous are preferable to Alternating main currents for Motor work.

In ordering a Motor for either of these currents, it should be stated whether the current is Continuous or Alternating. If it is *Continuous*, the voltage should be stated; if it is *Alternating*, the voltage and periodicity should be stated. The Electric Supply Company of the district in which the Dentist resides will furnish these particulars.

Descriptions of Motors, Reflectors, Lathe, Mouth Lamp, and Bonwill's Electric Mallet are given in Section I.

Accumulators and Batteries are shown and described in Section II.

Regulating Resistances, Cataphoric Apparatus, Gas Engine and Dynamo, Furnaces, etc., are shown and described in Section III.

CLAUDIUS ASH & SONS, Limited.

September, 1899.

SECTION I.

(*Pages* 2–20).

MOTORS, MOUTH LAMP,

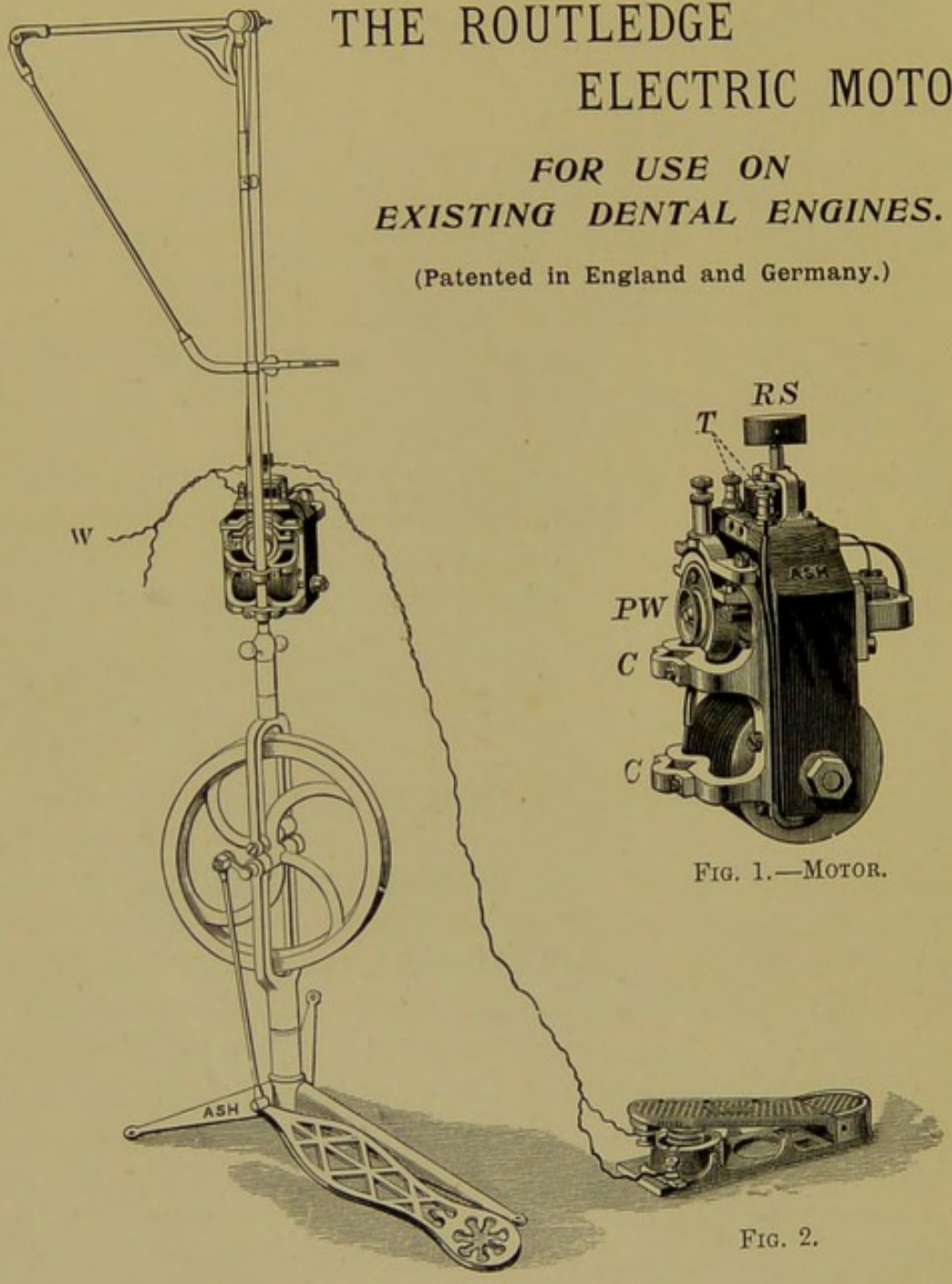
LATHE, BONWILL'S MALLET,

REFLECTORS.

THE ROUTLEDGE ELECTRIC MOTOR

FOR USE ON EXISTING DENTAL ENGINES.

(Patented in England and Germany.)



ENGINE WITH MOTOR FIXED ON UPRIGHT.

FIG. 1.—MOTOR.

FIG. 2.

W. Wires leading to current supply.

FIG. 1.—MOTOR :

R.S. Reversing Switch. *T.* Terminals. *P.W.* Pulley for driving cord. *C.C.* Clamps for attaching Motor to Engine.

FIG. 2.—FOOT-PRESS.

THE ROUTLEDGE ELECTRIC MOTOR

(*CONTINUED*).

This Motor can be worked either by—

(*a*) The Five Accumulators (shown on page 26) ; or

(*b*) The Five-cell Accumulator with Primary Battery (shown on page 25) ; or

(*c*) Continuous Main Current **when used in conjunction with a Wallis Regulator** (see page 29).

The primary claim made for the Motor is that it can be fixed to the upright of any existing dental foot-engine. The expense of a special stand and engine-head is thus saved ; moreover, should the electric current not be available at any time (say, while the five accumulators mentioned above are being re-charged—assuming that they are employed for driving the Motor—or for any reason that may arise, in case either of the other arrangements are used), **the engine can instantly be converted to its original form and driven with the pedal for the time being by simply slipping the cord off the Motor and putting the ordinary cord on the driving wheel and engine-arm pulley.**

The bur starts immediately the toe-end of the foot-press is forced downwards, and stops instantaneously when the heel-end is depressed.

As the foot-press can be adjusted to remain in any position, it is not necessary to keep the foot on it all the time that the Motor is working. The regulation of speed is effected by depressing the toe-end more or less, and the Motor is reversed by means of the switch *R.S.*

PRICES:

	£	*s.*	*d.*
Motor	6	0	0
Foot-Press	0	16	6
COMPLETE	6	16	6

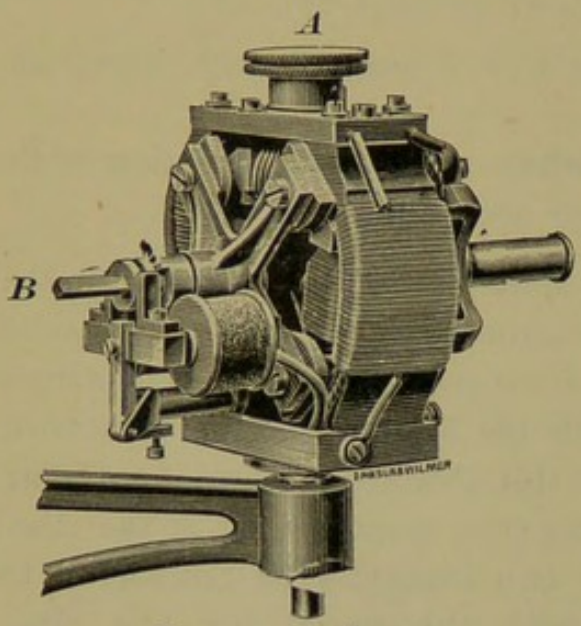
WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full Instructions sent with each Motor.

THE

CUTTRISS-GREENHALGH ELECTRIC MOTOR

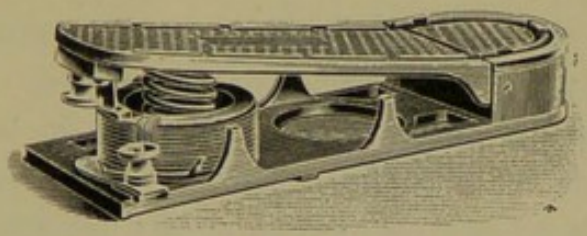
(PATENTED).



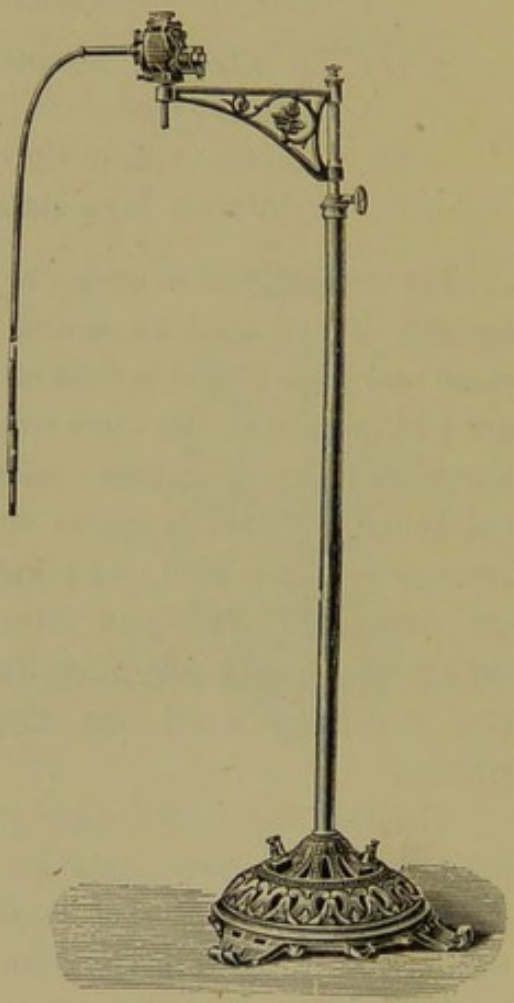
MOTOR WITH CLUTCH.

A. Reversing Switch.

B. Square End of Shaft.



FOOT-PRESS.



MOTOR, STAND AND FLEXIBLE ARM.

This Motor can be worked either by—

(*a*) The Five Accumulators (shown on page 26); or

(*b*) The Five-cell Accumulator with Primary Battery (shown on page 25); or

(*c*) Continuous Main Current *when used in conjunction with a Wallis Regulator* (see page 29).

THE

CUTTRISS-GREENHALGH ELECTRIC MOTOR

(*CONTINUED*).

The Foot-Press is connected to the base of the Stand by means of wires, and wires are carried from the base to the source of supply.

The bur starts immediately the toe-end of the Foot-press is forced downwards and stops instantaneously when the heel-end is depressed. The speed is regulated by pressing more or less on the toe-end of the Foot-press, and the Motor can be reversed by a simple turn of the Reversing Switch ***A***.

The horizontal arm at the top of the Stand can be swung all round the Upright, and the Motor turns on its pivot at the end of the arm. These movements give all the range that can be desired.

As the Foot-press can be adjusted to remain in any position, it is not necessary to keep the foot on it all the time that the Motor is working.

In ordering please state Voltage of Current to be used.

PRICES:

	£	*s.*	*d.*
Motor with Automatic Clutch and Reversing Switch	6	0	0
Stand	1	10	0
Foot-Press	0	16	6
Arm for above, consisting of Cable, Sheath, Flexible Wrist Attachment, Arm Support and No. 4 Handpiece	3	2	6
COMPLETE	11	9	0

If fitted with No. 7 Handpiece, 5s. extra is charged.

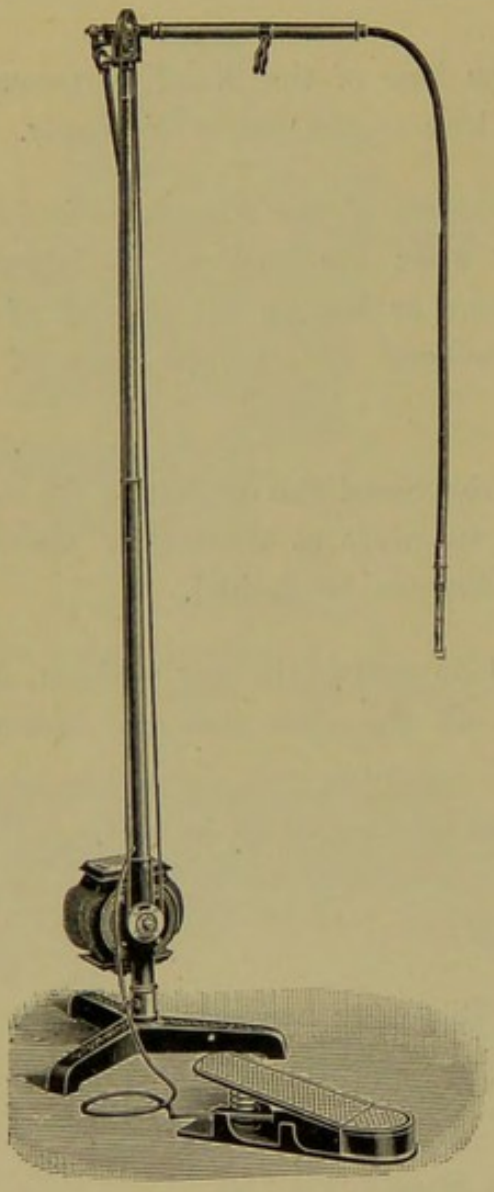
WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

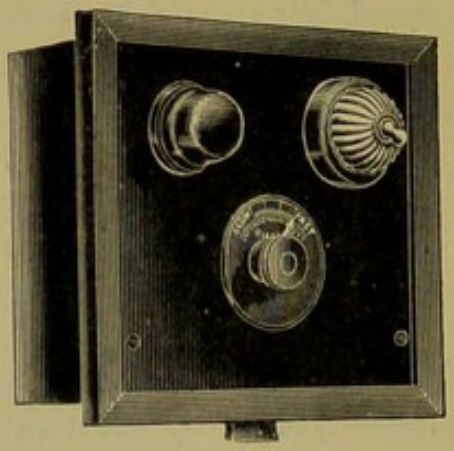
Full Instructions sent with each Motor.

THE

CUTTRISS-GREENHALGH IMPROVED MOTOR,

FOR CONTINUOUS MAIN CURRENTS.





WALL REGULATOR.

9¼ ins. long by 10¼ ins. wide by 6¼ ins. deep.

This Motor is fixed near the base to give additional stability to the stand, and is out of sight of the patient—a point which will be appreciated by the dentist when operating on nervous patients.

The motion is conveyed to the two-speed pulley at the top of the stand by means of a thin cord. The clutch at the back of this pulley opens immediately the current is cut off by the Wall-regulator shown above, or by the Foot-press.

THE

CUTTRISS-GREENHALGH IMPROVED MOTOR,

FOR CONTINUOUS MAIN CURRENTS

(CONTINUED).

This throws the engine arm out of gear and stops the bur instantaneously. The Motor continues to revolve by virtue of its own impetus, and the bur can again be instantly thrown into gear by turning the current on either by means of the Wall-regulator or of the Foot-press.

When pressed down, the Foot-press is automatically locked by a small side lever (not shown in the illustration). This arrangement obviates the necessity of keeping the foot upon it all the time the Motor is working. The small lever can be disengaged at will and the bur stopped instantaneously by a slight lateral movement of the foot.

The two grooved pulleys for the cord provide for a considerable variation of speed without loss of power, and the Wall-regulator allows of further variation. The Motor works very noiselessly, and is fitted with a small reversing switch which permits of its being run either way for polishing, burnishing, etc. The cost of the current consumed when working at full power is under one halfpenny per hour (at the rate of eightpence per unit).

In ordering please state Voltage of Current to be used.

PRICES:

	£	*s.*	*d.*
Motor, with Stand and Nickel-plated Upright, Foot-press and Wall-regulator	15	0	0
Arm for above, consisting of Cable, Sheath, Flexible Wrist Attachment, No. 4 Handpiece and Arm Support . .	3	2	6
COMPLETE	18	2	6

If fitted with No. 7 Handpiece, 5s. extra is charged.

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full Instructions sent with each Motor.

COLUMBIA ELECTRIC DENTAL ENGINE.

FOR USE WITH OR WITHOUT MAIN CURRENT SUPPLY.

No greater improvement than the Columbia Electric Engine has been introduced in dental electrical apparatus for some time past. In simplicity, durability, quiet working, and adaptability to the requirements of dentists, we believe it to be unexcelled. It is no exaggeration to say that, in replacing the foot-engine, it will enable the busy dentist to do one-and-a-half times the usual amount of work, and this with greater comfort to both operator and patient.

Some of the Claims for Excellence :—

1.—Flexible Suspension, giving great freedom and a large range of movement.

2.—**Extreme simplicity** and novelty of design.

3.—Practically quiet running.

4.—Pleasing and ornamental appearance.

5.—Moving parts inclosed.

6.—Shunt wound motor, instantly reversible.

7.—Full power at **all** speeds, either slow or fast.

8.—Highest efficiency.

9.—An automatic stopping device.

10.—Direct connection of the flexible cable with the motor.

11.—Adapted to any and all localities.

12.—Perfect starting, stopping, reversing and speed-controlling device, under complete control of the operator's foot.

13.—No multiplicity of controlling levers to confuse when quick stop is most desired.

This motor can be had to work on any continuous main current, and when ordered for such the voltage should be stated. If, however, the dentist's supply current is alternating, or there is no current supply at all, the accumulator outfit described below may be used, and will be found equal in most respects to the continuous main current supply. **The alternating main current will not work the engine.**

The accumulator outfit consists of a small two-cell accumulator, kept fully charged by means of a twelve-cell Elmwood Battery, which lasts for from six to nine months without attention, and at the end of that time may be quickly re-charged to last for another similar period.

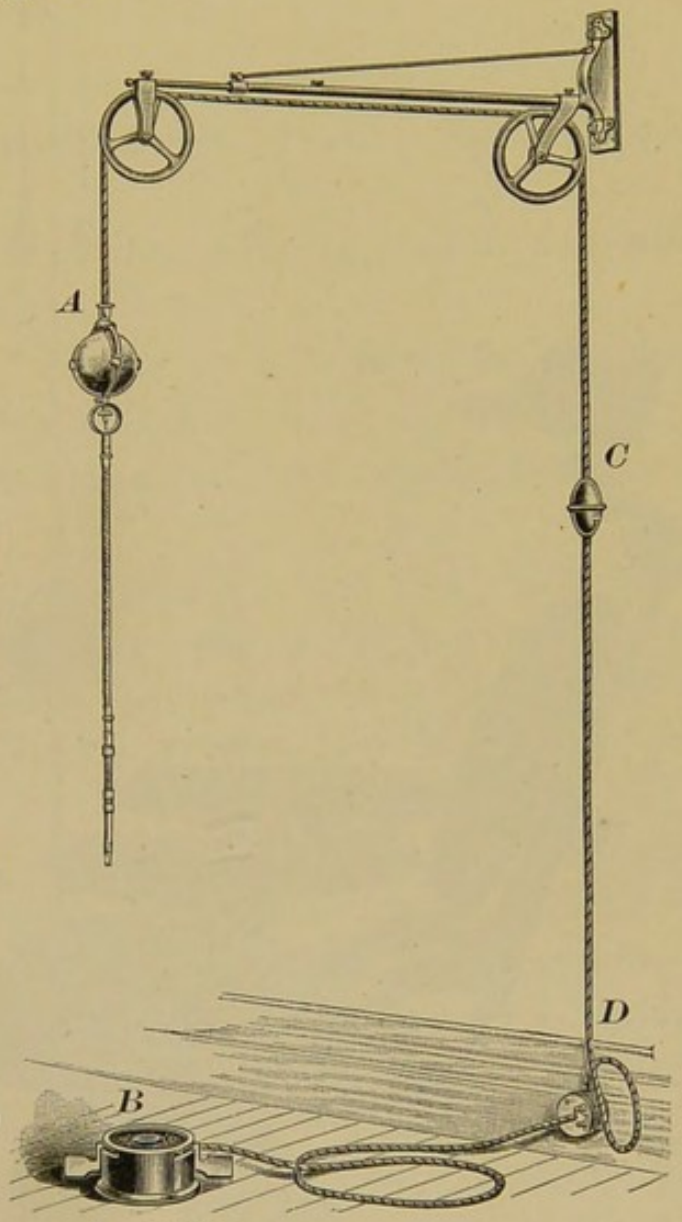
COLUMBIA ELECTRIC DENTAL ENGINE

(CONTINUED).

The whole outfit is exceedingly simple, and can be thoroughly recommended. For details of it, see page 24.

PRICES:

	£	s.	d.
Columbia Suspension Motor, complete with Wall Bracket, Engine Arm, No. 7 Handpiece, Foot Controller and Wires, for 100–110 volt continuous current . . .	24	7	0
If fitted with Slip-joint Attachment extra	1	11	3
Resistance to work above motor on 200–220 volt continuous current .	1	5	0
Columbia Suspension Motor for Two-Cell Accumulator complete, with Bracket, etc., as above . .	23	7	0
If fitted with Slip-joint Attachment extra	1	11	3



A.—Motor.
B.—Foot Controller.
C.—Balance Weight.
D.—Wires leading to current supply.

Less 10 per cent. for Cash.

Accumulator Outfit for above:

	£	s.	d.
Two-Cell Accumulator	3	0	0
12 Elmwood Cells	4	16	0
24 lbs. Sulphate of Copper	0	9	0
Two-Way Switch	0	2	6
		8	7	6

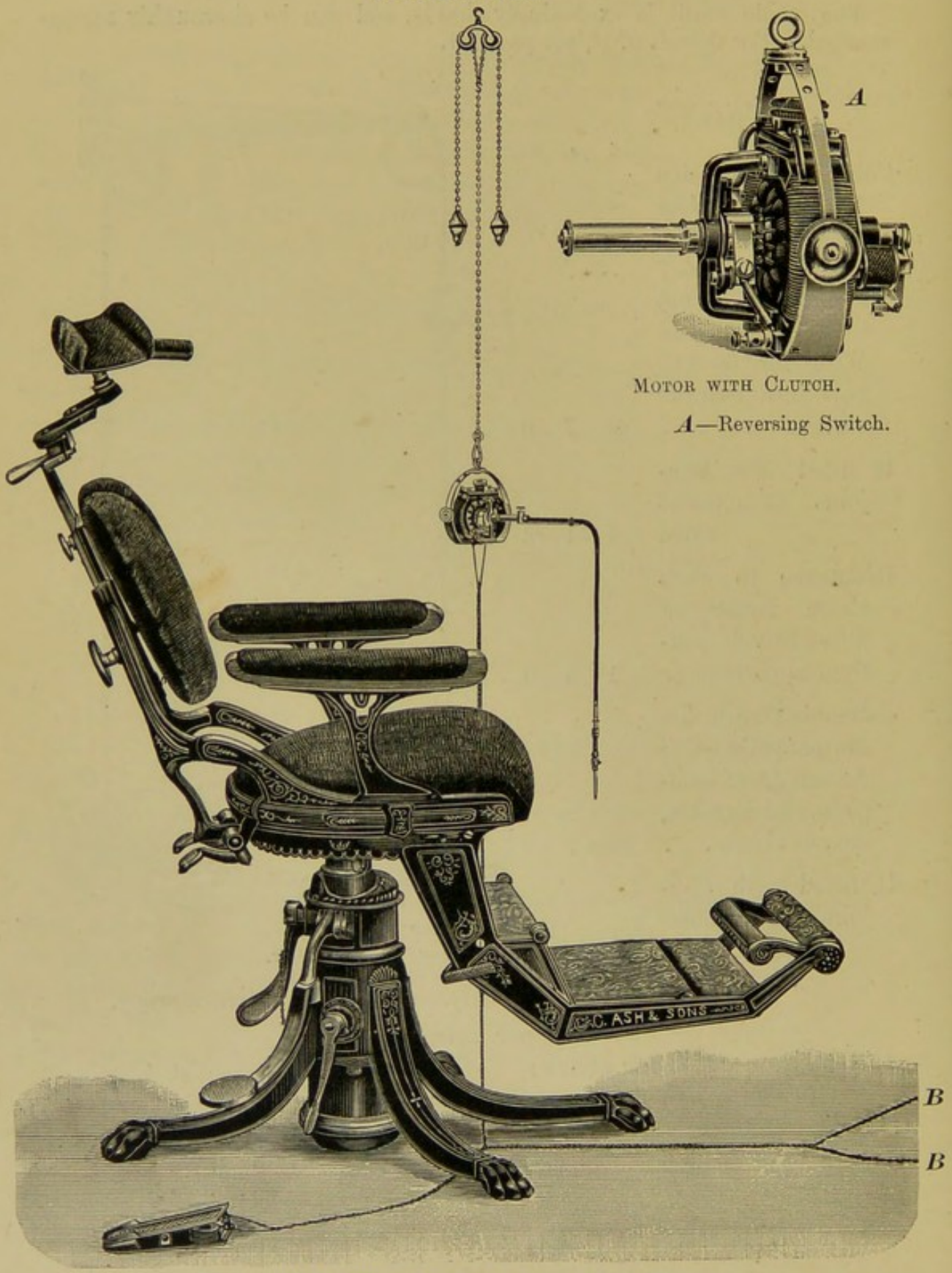
THE

CUTTRISS-GREENHALGH SUSPENSION MOTOR

(PATENTED).

MOTOR WITH CLUTCH.

A—Reversing Switch.



B B—Wires leading to source of supply.

THE

CUTTRISS-GREENHALGH SUSPENSION MOTOR

(CONTINUED).

This Motor can be supplied for use with—

(*a*) The Five Accumulators (shown on page 26); or

(*b*) The Five-cell Accumulator with Primary Battery (shown on page 25); or

(*c*) Continuous Main Current **when used in conjunction with a Wallis Regulator** (see page 29).

In ordering, please state whether it is required for use with Accumulators or with Continuous Main Current.

When used with Accumulators the connections are made as shown in the illustration.

The bur starts immediately the toe-end of the foot-press is forced downwards, and stops instantaneously when the heel-end is depressed. The regulation of speed is effected by pressing more or less on the toe-end of the foot-press. The Motor is reversed by a simple turn of the reversing switch ***A***.

The suspension chains allow of very free swinging movement, and when the Motor is not required, it can be pushed up out of the way.

As the foot-press can be adjusted to remain in any position, it is not necessary to keep the foot on it all the time that the Motor is working.

PRICES:

	£	*s.*	*d.*
Motor, with Reversing Switch	6	10	0
Chains, with Counterweights	0	15	0
Foot-Press	0	16	6
Arm, with Cable, Sheath, Flexible Wrist Attachment, No. 4 Hand-piece, and Arm Support	3	2	6
COMPLETE	11	4	0

If fitted with No. 7 Handpiece, 5s. extra is charged.

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

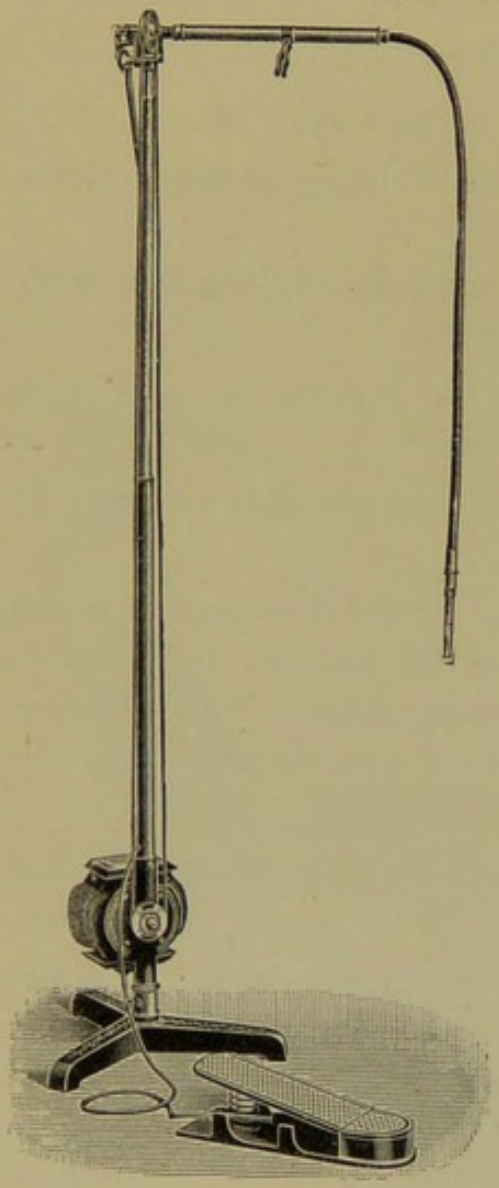
Full Instructions sent with each Motor.

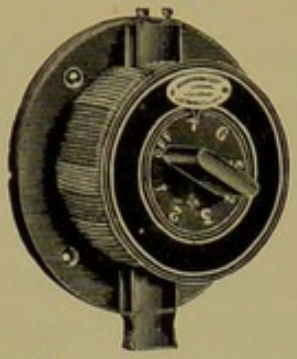
THE

CUTTRISS-GREENHALGH IMPROVED MOTOR,

FOR

ALTERNATING MAIN CURRENTS.





WALL REGULATOR.

This motor is fixed near the base to give additional stability to the stand, and is out of sight of the patient—a point which will be appreciated by the dentist when operating on nervous patients.

The motor is started by switching the current on at the Wall Regulator. The bur is then independently started and stopped by means of the clutch at the top of the upright, which is controlled by the pneumatic foot-press. An improved form of this foot-press is now supplied, which does not require constant pressure of the foot. A momentary depression of the heel or toe end opens or locks the clutch permanently.

The two grooved pulleys for the cord provide for a considerable variation of speed and power, and the wall regulator allows of further variation.

The cost of the current consumed when the motor is working at full power continuously is under a penny per hour (at the rate of sixpence per unit).

In ordering, please state Voltage and Periodicity of Current to be used.

PRICES:

	£	*s.*	*d.*
Motor with Stand and Nickel-Plated Upright, Foot-Press and Wall Regulator	15	0	0
Arm for above, consisting of Cable, Sheath, Flexible Wrist Attachment, No. 4 Handpiece, and Arm Support . .	3	2	6
COMPLETE . . .	18	2	6

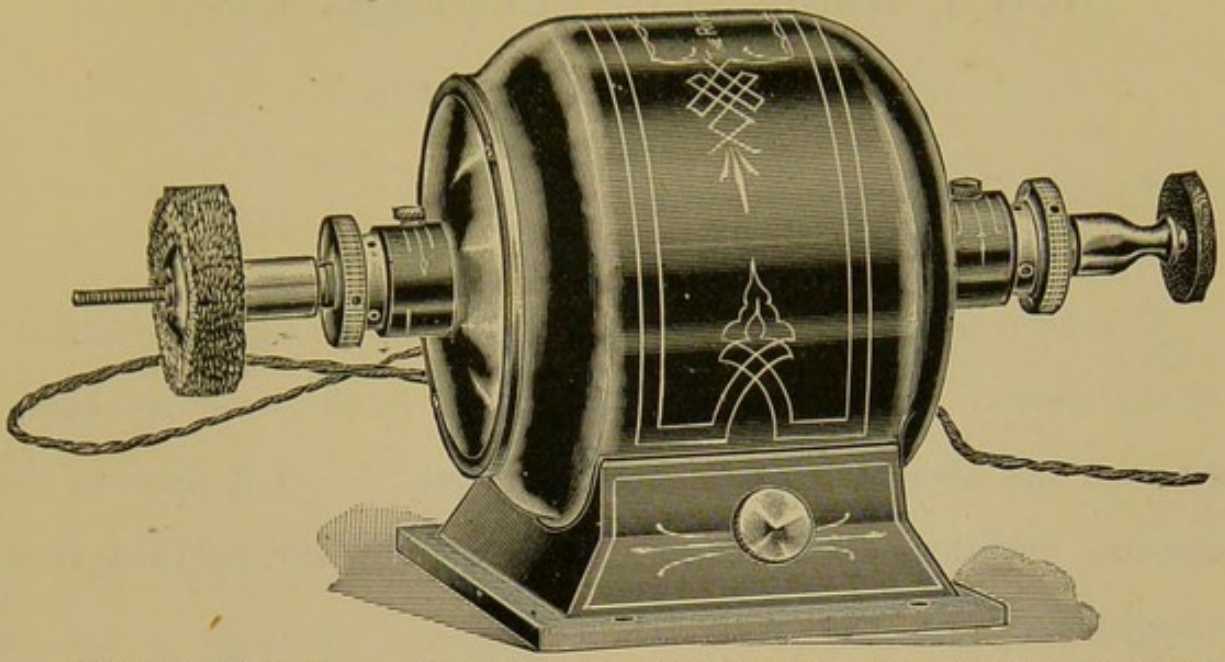
If fitted with No. 7 Handpiece, 5s. extra is charged.

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full Instructions sent with each Motor.

COLUMBIA ELECTRIC LATHE.

FOR THE DENTAL WORKROOM.



This Lathe has a range of speed varying from 1,000 to 4,000 revolutions per minute, and the torque or pull is as great at the lowest speed as at the highest. The manufacturers say: "This one feature alone actually determines the success or failure of such an outfit; and we claim that our Motor is the only one in existence capable of such a performance."

The regulation of speed, and the starting and stopping of the Lathe, are effected by a slight turn of the stud on the base. The Chucks are fixed on to the tapered ends of the spindle by a light tap with any metal tool which may be conveniently at hand, and can be instantly removed, while revolving or stationary, by a turn of the milled nuts near the ends of the spindle.

PRICES:

	£	*s.*	*d.*
Columbia Laboratory Lathe for 100–110 volt continuous current, with Wires complete	8	0	0
Resistance for reducing 200–220 volt current to work above lathe	1	5	0
Connecting Plug for above, to fit Lamp Socket	0	1	6
Columbia Laboratory Lathe for 8-volt Battery, with Wires complete	8	0	0
Set of eight Chucks for either Lathe	1	4	0
Four-cell Q-Type Accumulator	4	5	0

A Discount of 10 *per cent. is allowed off either Lathe for Cash.*

NOTE.—The Chucks will carry the Carborundum Lathe Wheels which we supply, and also the Corundum Wheels of our own manufacture. —*C. ASH & SONS, Ltd.*

In ordering, please state Voltage of Current to be used.

ASH'S IMPROVED ELECTRIC LAMP

FOR EXAMINING THE MOUTH.

This lamp is of great assistance in making a thorough examination of the mouth. By its use very small defects in the teeth are easily detected, and when it is placed behind a tooth, should it prove to be unsound, any dead or discoloured internal parts are rendered very conspicuous.

The current supply is regulated by the switch, which may be fixed in any convenient position near the operator.

The current to the lamp is turned on and off by means of the sliding switch *S* near the end of the handle. It can be turned off immediately it is out of use without leaving the chair side.

When worn out, the lamp can be unscrewed at *A* and replaced by a new one in a few moments.

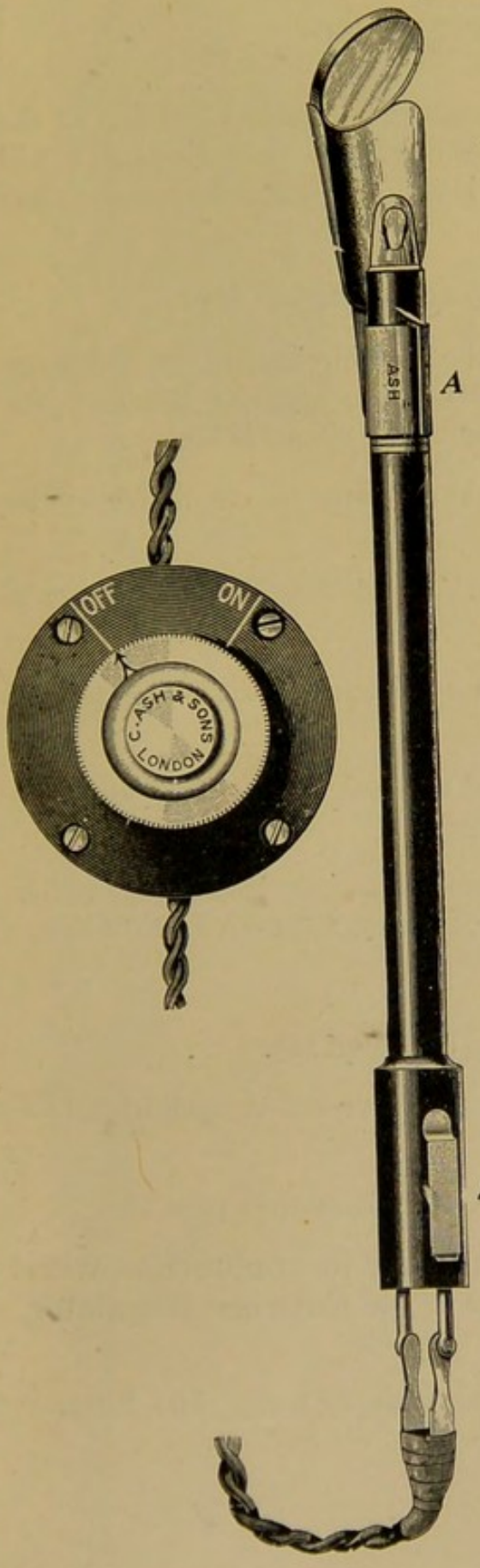
The whole apparatus is simple and of good design and will be found most convenient in use.

Instructions for use sent with each Lamp.

ASH'S IMPROVED ELECTRIC LAMP

FOR EXAMINING THE MOUTH.

(CONTINUED.)



This Electric Mouth Lamp can be worked by :—

(*a*) The Six-cell Leclanche Battery (see page 22).

(*b*) Two cells of the Five-cell Accumulator (see page 25).

(*c*) Two of the 7-L Type Accumulators (see page 26).

(*d*) Continuous Main Current when used in conjunction with a Wallis Regulator (see page 29), or Cuttriss Regulator (see page 28).

(*e*) Alternating Main Current when used with a special Regulator, which is only supplied to order.

PRICES:

	£	*s.*	*d.*
Electric Lamp, complete with Regulator and Wires . .	2	12	0
Extra Lamps fitted with mounts for screwing on handle.	0	6	0
Extra Lamps, unmounted .	0	2	6

THE BONWILL ELECTRIC MALLET,

WITH MODIFICATIONS AND IMPROVEMENTS BY MARSHALL H. WEBB.

(*AMERICAN MANUFACTURE.*)

The Manufacturers say:—This Mallet is endorsed by many of the most skilful operators in the world. When properly understood, it will be found to approach more nearly the ideal condensing instrument than any other ever offered to the profession.

Some of the principal advantages are:

First.—The blow is delivered upon the packing-instrument just when its force is greatest, because the attraction of the magnets increases constantly as the hammer approaches them until the circuit is broken.

Second.—The force of the blow can at all times be controlled by the operator.

Third.—Properly used, it condenses the gold thoroughly and evenly throughout the entire filling.

Fourth.—Gold may be impacted against thin, frail walls with ease, and without fracturing the enamel.

Fifth.—It saves the operator time and the fatigue attendant upon the use of a hand, automatic, or foot-power mallet.

Sixth.—When its operation is understood, as per instructions which accompany each Mallet sold, the instrument cannot fail togive satisfaction.

It can be worked by—

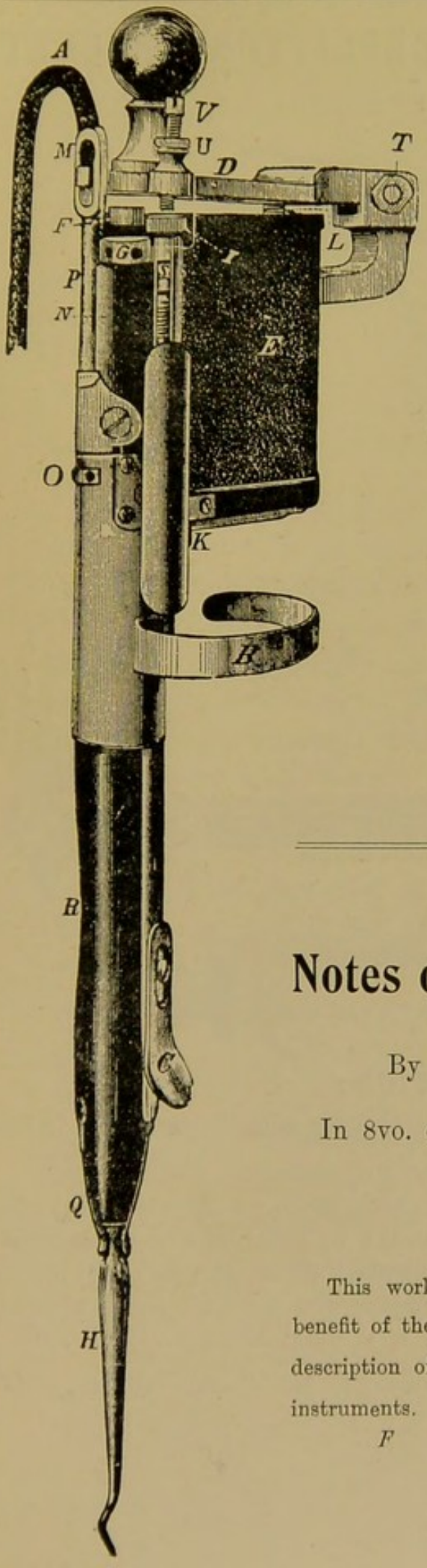
(*a*) The Six-cell Leclanche Battery (see page 22).

(*b*) One, two or three Cells of the Five-cell Accumulator (see page 25).

(*c*) One, two, or three of the 7-L Accumulators (see page 26).

(*d*) Continuous Main Current **when used in conjunction with Wallis Regulator** (see page 29) or **Cuttriss Regulator** (see page 28).

(Alternating Main Currents cannot be made to work this Electric Mallet satisfactorily.)



THE BONWILL ELECTRIC MALLET

(*CONTINUED*).

PRICE:

	£	*s.*	*d.*
Mallet with Connecting Posts, 7 ft. of silk flexible wire, and one plugger, in leather case, ready for connecting to the source of supply	7	0	0

Notes on Operative Dentistry.

By MARSHALL H. WEBB, D.D.S.

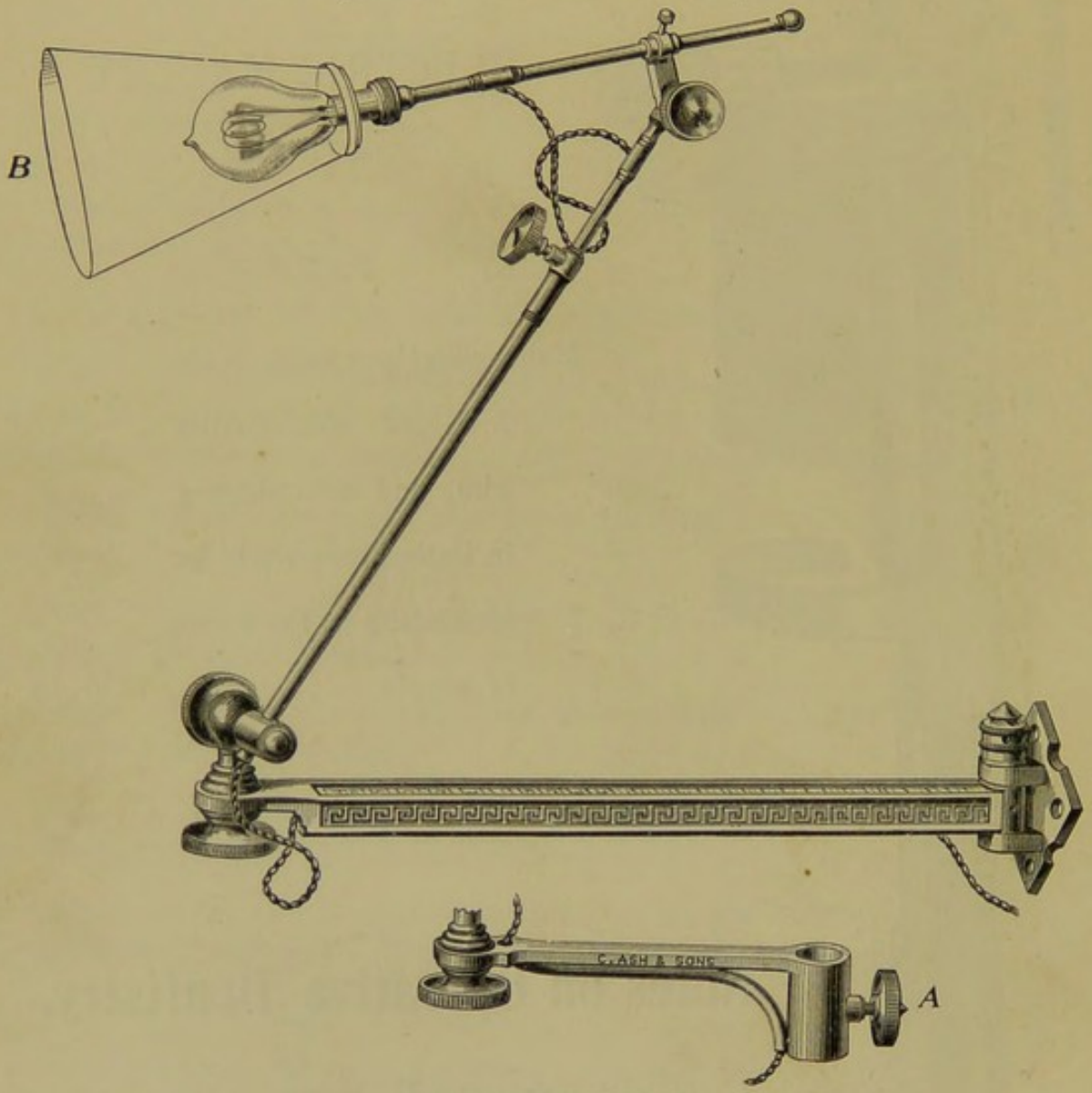
In 8vo. cloth, 175 pages. Second Edition.

Net, 9*s*.

This work, the profits on which are devoted to the benefit of the late Dr. Webb's family, also contains a full description of the Mallet, and the manner of using the instruments.

UNIVERSAL ELECTRIC REFLECTOR BRACKET

(Mr. LESLIE FRASER'S).



DESCRIPTION:

The complete illustration shows the Bracket with horizontal arm for attaching to wall.

The lower illustration shows arm with screw ***A*** for securing the Bracket to Chair Attachment. The socket to which this screw is fixed fits the Upright of our Chair Attachments, but it may be had to fit any other Chair Attachment Rod or Stand, if a plaster cast be sent to us showing the size of the Rod which it is required to fit.

B represents Green Shade, suggested by Mr. Claude Rogers, over the Electric Lamp.

UNIVERSAL ELECTRIC REFLECTOR BRACKET

(CONTINUED).

(Mr. LESLIE FRASER'S.)

This Bracket is nickel-plated throughout, and is attractive in appearance. It is now fitted with an improved lamp socket and locking device on the upper rod. The middle rod (shown upright in the illustration) is telescopic, and can be bent over to any position.

When once the set screws are adjusted, they do not require altering each time the position of the Bracket is changed.

Mr. LESLIE FRASER says of the Bracket:—"It will be found universal in its movements, at least so far as its surgical uses are concerned. It is impossible to place the patient's head in any workable position, and yet be unable to throw the light into the mouth. The Bracket is absolutely rigid in all its positions, and its parts are easily taken asunder if necessary. The light can be thrown straight down on the lower teeth by simply extending the telescopic tubes, and turning down the arm which carries the lamp to the desired angle. When directed into the mouth, the light never falls on the eyes of the patient or operator. The conducting wires are placed inside the tubes, so that there is no chance of their getting entangled with the patient's dress, with the arm of the chair, or any of the appliances usually at hand."

This Reflector can only be used where Street Main Currents are available.

PRICES:

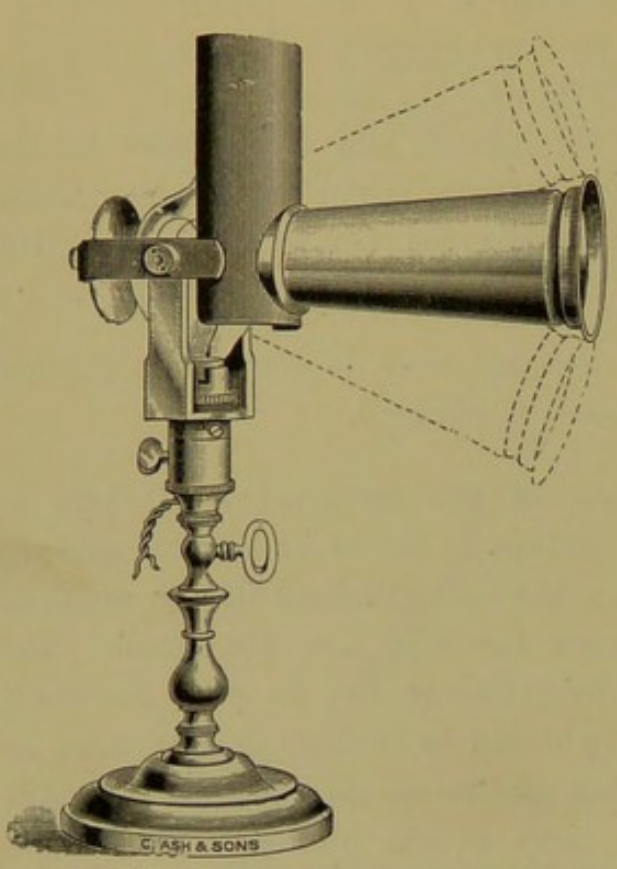
		£	*s.*	*d.*
Universal Reflector Bracket to fix on Wall, complete with Green Shade and Lamp, for any Main Current		4	3	0
Ditto, to fit on Chair Attachment		3	3	0
Extra Lamps for renewing	each	0	2	6
„ Green Shades and Fasteners without Mount .	„	0	0	6

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

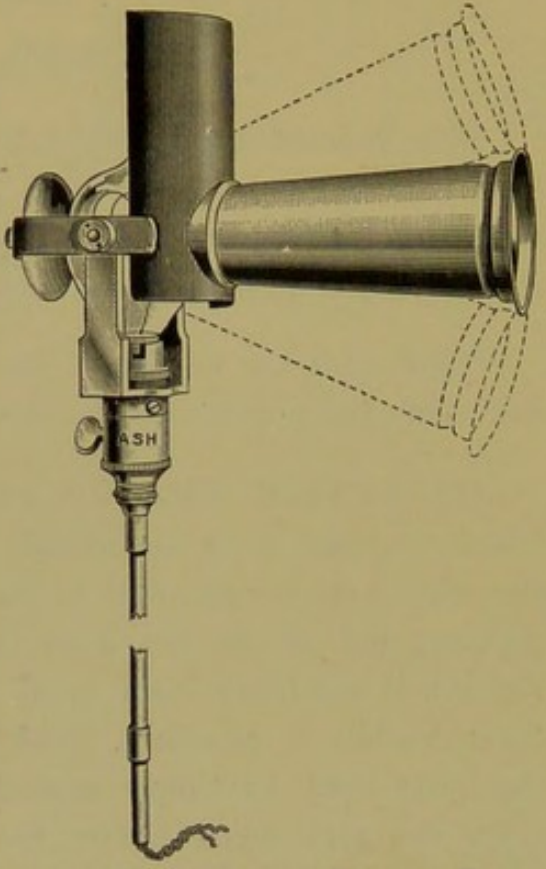
In ordering, please state the Voltage of the Current to be used.

ELECTRIC TELSCHOW REFLECTOR.

(Ash's English Manufacture.)



On Stand.



With Stem for going through Bracket Table.

This Reflector can only be used where Main Currents are available. Accumulators are not suitable for lighting it.

It is recommended to those Operators who require a Reflector placed at a distance from their work which will give long concentrated rays of light.

The best effect is produced when the curl in the filament is placed edgewise to the lens.

PRICES:

		£	*s.*	*d.*
Electric Telschow Reflector, on Stand		2	0	0
„ „ „ with stem for going through Bracket Table		2	0	0
Extra Lamps for renewing	each	0	3	0

Wire is charged extra, according to length required.

In ordering, please state Voltage of Current to be used.

SECTION II.

(*Pages* 22–26.)

PRIMARY BATTERIES AND ACCUMULATORS.

LECLANCHE PRIMARY BATTERY,

FOR WORKING MOUTH LAMP AND ELECTRIC MALLET.

This Battery, once charged, usually lasts about nine months without attention, except for the addition of pure water to make up for evaporation Each cell consists of an earthenware jar, zinc cylinder, and a set of agglomerate blocks with carbon centre, one liquid only being used, viz., solution of sal-ammoniac.

A set of six Cells will give all the necessary power for working the Electric Mallet (page 16) and Mouth Lamp (page 14). Sets are supplied in a box complete with switch as illustrated, and thus arranged the Mouth Lamp and Mallet may be used independently of each other. The upper pair of terminals are intended for the Mallet wires, and the lower pair for the Mouth Lamp wires. When using the Battery for the Mouth Lamp, care must be taken to increase the power gradually by turning the upper lever to the right and stopping when sufficient current is obtained. The lower lever is placed on the switch to supply or cut off the current from the Lamp terminals without affecting the Mallet terminals.

To charge the Battery, place eight ounces of sal-ammoniac dissolved in warm water in each jar. The temperature of the water should not exceed 90° Fahrenheit. When re-charging, clean the zincs and scrape the agglomerate blocks.

PRICES:

	£	*s.*	*d.*
Six-Cell Leclanche Battery	2	5	0
Black Box for „	0	15	0
Switch (as illustrated), minus wires	1	5	0
Terminal for Zinc A on the first jar	0	1	0
COMPLETE	4	6	0

Parts separately :—

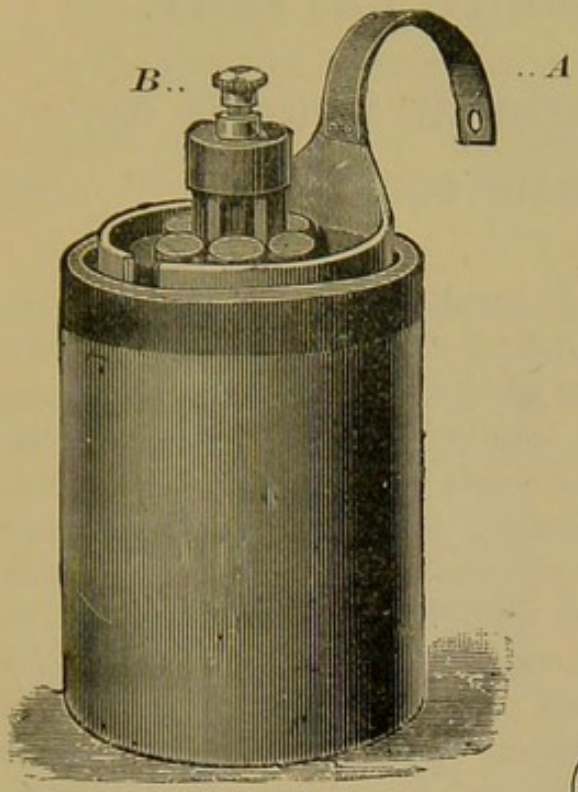
		s.	*d.*
Leclanche Cells complete	each	7	6
Jars	„	1	0
Fluted Carbon Rods	„	1	6
Zincs	„	1	6
Sets of 6 Agglomerate Blocks	„	4	0
Sal-Ammoniac (specially prepared)	per lb.	0	7

Full Instructions sent with each Battery.

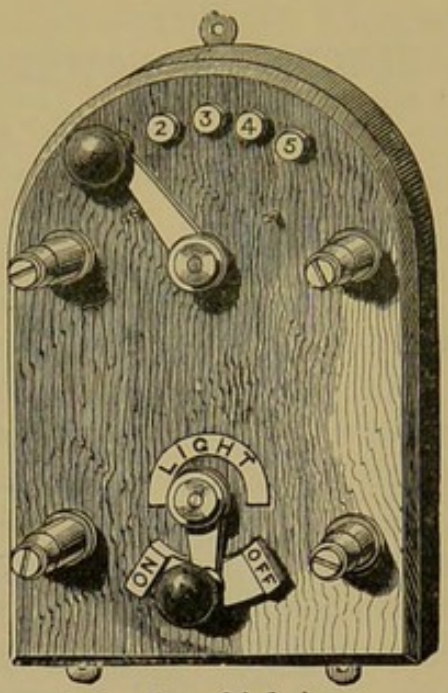
WIRES ARE CHARGED EXTRA, ACCORDING TO LENGTH.

LECLANCHE PRIMARY BATTERY

(CONTINUED).

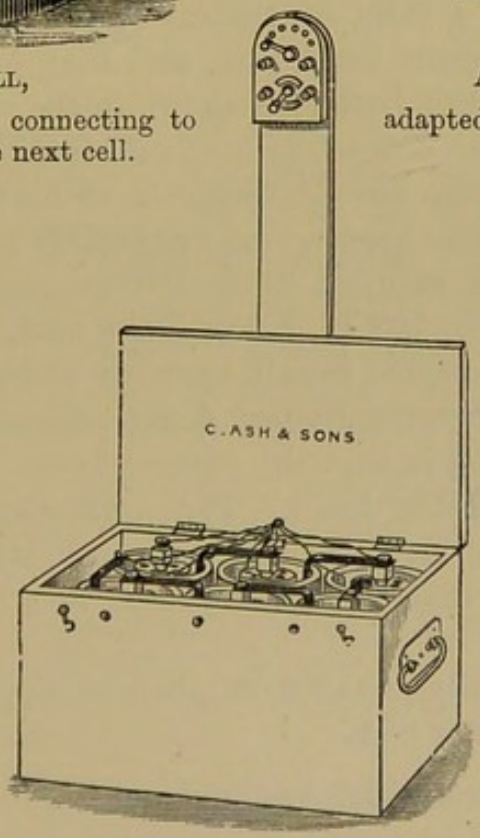


ONE CELL,
showing Zinc ***A*** for connecting to Carbon ***B*** of the next cell.



One-third size.

ASH'S BATTERY SWITCH,
adapted for Mouth Lamp and Electric Mallet.



BOX, WITH LID OPEN, CONTAINING SIX CELLS.

The Regulating Switch is here shown fixed on an upright board, which is secured to the box.

THE E.P.S. FIVE-CELL ACCUMULATOR AND "ELMWOOD" PRIMARY BATTERY.

ELECTRICAL POWER FOR DENTISTS WHO ARE NOT SUPPLIED WITH MAIN CURRENT.

Long experience has proved that Accumulators or Storage Cells are the best form of Batteries which can be relied on for working Electro-Motors for dental use, but, owing to the want of facilities for re-charging the cells, many dentists who would gladly avail themselves of the advantages of the Electro-Motor are at present unable to do so. Where a supply of gas is available, the Gardner Gas Engine and Dynamo Set meets this difficulty, and the large number which has been sold expressly for that purpose testifies to its utility. It is useless, however, to those country practitioners who have not gas at their command; they want a simple arrangement, independent of gas, that will yield reliable results. Several sets of a form of Battery which meets the want have been in regular use for some years past, and they have given complete satisfaction. One cell of this Battery is shown in the enlarged illustration.

The apparatus consists of a set of a special form of Primary Battery cells, which is used to charge the Accumulator at night while it is not in use. After the Battery has been set up (preferably in a cellar or other cool place), no attention is required until it is exhausted. One charging usually lasts for about six months. No acids are used, and the only point to be observed is that it should remain perfectly undisturbed. It may be asked, why not use the Primary Battery direct, and save the cost of the Accumulator? The reason is, that the current from the Primary Battery is too weak to work the Motor direct. The weak current is stored in the Accumulator at night, and keeps the latter in good working condition for use during the day. All that is necessary is to turn a small switch night and morning.

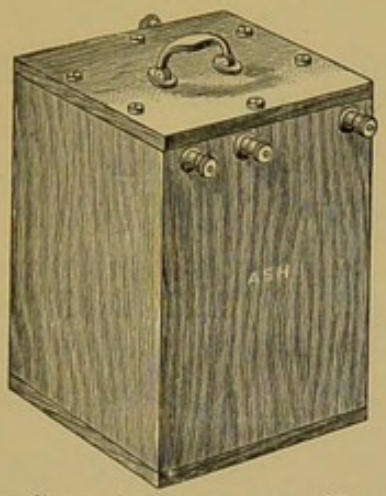
Two pounds of specially-prepared Sulphate of Copper are required for each of the eighteen primary cells.

N.B.—When sent abroad the Accumulator has to be packed dry, and must be **initially** charged by means of a suitable dynamo by a competent person. We cannot hold ourselves responsible for inefficient charging. When this initial charge has been made, the Battery will **keep** the Accumulator charged for daily use.

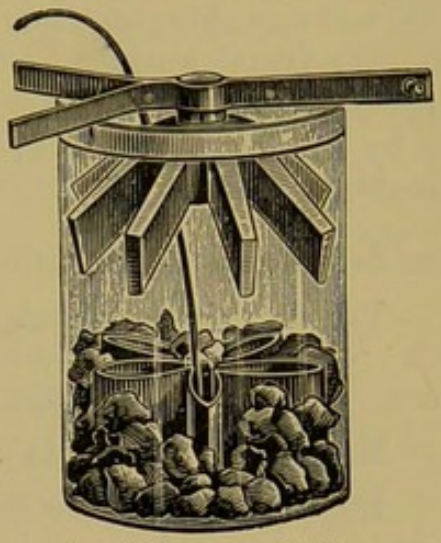
THE E.P.S. FIVE-CELL ACCUMULATOR AND "ELMWOOD" PRIMARY BATTERY

(CONTINUED).

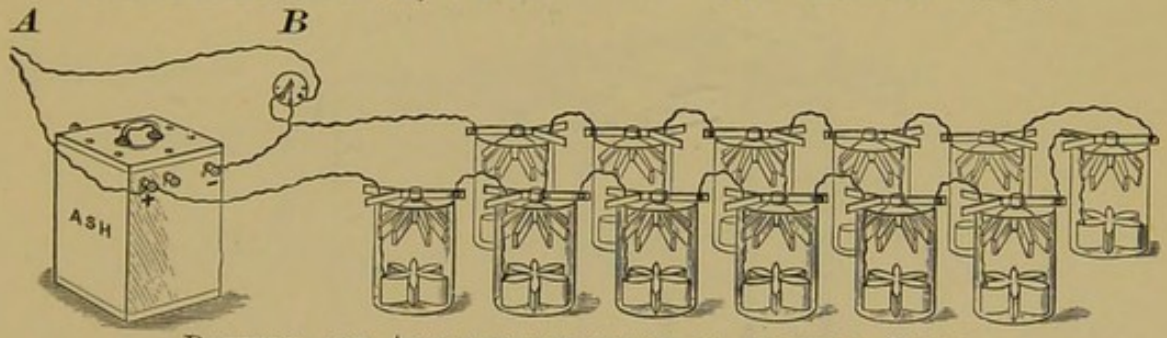
The Five-Cell Accumulator, if charged each night by the "Elmwood" Primary Battery, will work: The Cuttriss-Greenhalgh Motors (shown on pages 4 and 10), and the Routledge (shown on p. 2); Mouth Lamp (page 14); Electric Mallet (page 16).



FIVE-CELL ACCUMULATOR, V-TYPE.



AN "ELMWOOD" CELL.



BATTERY AND ACCUMULATOR FITTED UP TO WORK MOTOR.
A—Wires leading to Motor Apparatus. *B*—Two-way Switch.

The Accumulator is placed in the operating room and the primary battery in a cool cellar or below the floor of the house.

PRICES:	£	*s.*	*d.*
Five-Cell Accumulator in polished teak box . . .	3	5	0
Eighteen-Cell "Elmwood" Battery	7	4	0
36 lbs. Sulphate of Copper (specially prepared) . .	0	13	6
Two-way Switch	0	2	6
COMPLETE	11	5	0

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full Instructions sent with each Set.

Hydrometer for measuring acid strength when the Accumulator is initially charged abroad, extra, 3*s.* 6*d.*

ACCUMULATORS OR SECONDARY BATTERIES
(7-L TYPE).

These are recommended to those Dentists who have the Gas Engine and Dynamo, or who require portable Accumulators which they can have charged by means of a shunt-wound Continuous Current Dynamo at an electrical station within a convenient distance of their operating room.

They are much larger than the Five-cell Accumulator shown on page 25, and one charging from a Dynamo usually lasts about six weeks for ordinary dental work.

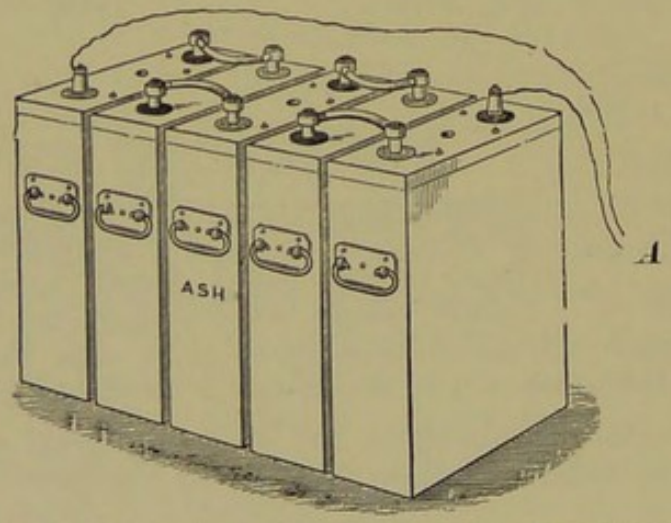
They are fitted in teak cases, the outside measurements of which are $5\frac{1}{4}$ ins. by $12\frac{1}{4}$ ins. by $17\frac{1}{4}$ ins., and the weight of each complete Accumulator is about 79 lbs.

The Set of Five Accumulators will work—

The Cuttriss-Greenhalgh Motors (shown on pages 4 and 10), or the Routledge (shown on page 2), or the Columbia (shown on page 9). This latter requires two Accumulators only.

Mouth Lamp (page 14).

Electric Mallet (page 16).



FIVE 7-L TYPE TEAK ACCUMULATORS COUPLED UP READY FOR USE.
A—Wires leading to Motor Apparatus.

Prices :

		£	*s.*	*d.*
Accumulators, 7-L Type	each	1	10	0
,, ,, ,, . . .	set of five	7	10	0

WIRE IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full instructions sent with the Accumulators.

SECTION III.

(*Pages* 28–40.)

REGULATING RESISTANCES,

ELECTRIC FURNACES,

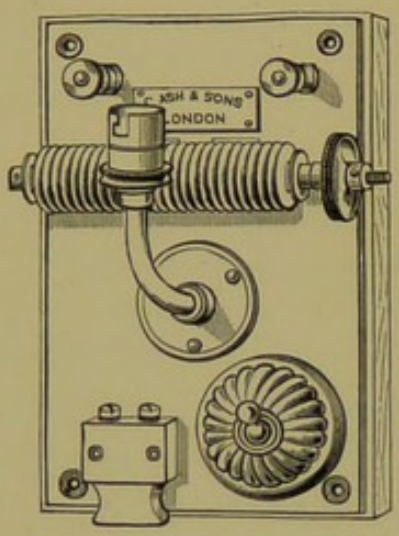
CATAPHORIC APPARATUS,

GAS-ENGINE AND DYNAMO,

GILDING APPARATUS AND INSULATED WIRE.

CUTTRISS SPECIAL REGULATOR

(PATENTED).



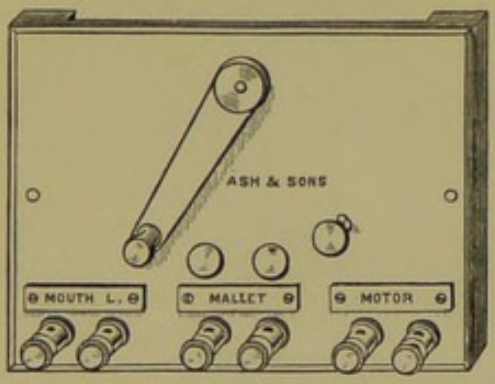
This is a handsome black polished slate Wall-switch and Regulator, designed for those dentists who have a Continuous Main Current supply, but no Wallis Regulator (page 29), who require to use the Electric Mallet (page 16) or small Mouth Lamp (page 14) direct from the street current instead of from a battery. It is 9¼ inches long by 6¼ inches broad.

	£	*s.*	*d.*
Price, complete with lamp	2	2	6

Full Instructions sent with each Regulator.

In ordering, please state Voltage of Current to be used.

ASH'S ACCUMULATOR SWITCH.



This Switch is intended for use with the 7-L type Accumulators (page 26) or the Five-Cell Accumulator (page 25). It is made of polished black vulcanite with nickel-plated fittings. The dimensions are 5 inches wide by 3¾ inches deep, and it can be fixed on the wall or in any place convenient to the operator.

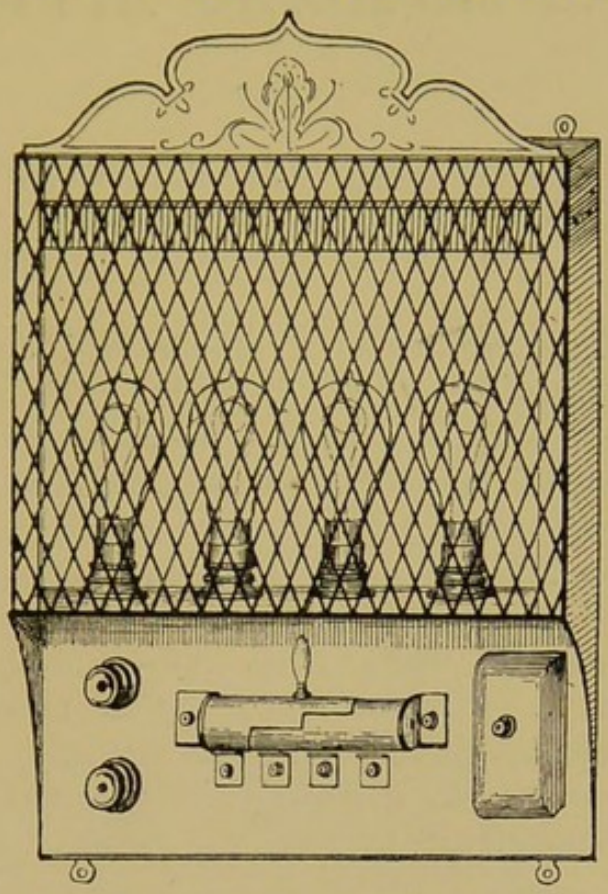
Currents of different strengths to suit a Motor, the Electric Mallet or small Mouth Lamp can be taken from the Accumulators through this Switch.

	s.	*d.*
Price.	18	0

WIRE FOR CONNECTING ACCUMULATORS TO SWITCH IS CHARGED EXTRA, ACCORDING TO LENGTH REQUIRED.

Full Instructions sent with each Switch.

THE WALLIS REGULATOR.



The Wallis Regulator has been designed for the use of those dentists who are supplied with continuous Main Current. It consists of a japanned metal case containing four lamps which act as resistances to reduce the Main Current, so that it may be used for delicate apparatus. The lower part is of polished teak with brass fittings. By changing the lamps for some of higher or lower candle-power, the range of the regulation can be greatly increased.

This Regulator reduces the Main Current sufficiently to work—

Motors—Cuttriss-Greenhalgh (shown on pp. 4 and 10), or Routledge (shown on page 2).

Electric Mallet (see page 16).

Mouth Lamp (see page 14).

PRICE:

	£	*s.*	*d.*
Wallis Regulator, with lamps and improved front . . .	4	8	6

When a Motor is used with the above Regulator, a special Foot-Press, price 15*s.*, is required, instead of the Foot-Press which is priced at 16*s.* 6*d.* with the Motors.

ASH'S CATAPHORIC APPARATUS.

CATAPHORESIS is principally used in the difficult work of anæsthetising sensitive dentine and living pulps. It has proved very successful for these purposes and is at present unequalled by any other method of treatment.

Further, by the employment of cataphoresis, the gums can be so thoroughly anæsthetised as to render it possible for them to be subjected to the severest operations without shock to the patient; antiseptic solutions, etc., can be effectually applied to the tissues, and in cases of more prolonged application than usual, teeth can be extracted without pain.

It is not an infallible system of treatment, even when the apparatus is faultless, and the greatest care is taken in using it, but the percentage of failures under it is small. Speaking generally, a favourable condition for successful treatment, or for the performance of an operation, can be secured by a few minutes' application of the electric current.

The set of apparatus here illustrated and described is very efficient in action, and well adapted for its purpose in every detail.

The Battery (Fig. 1) consists of eighteen best quality dry cells, fitted in a well-finished wooden box. The absence of liquid renders the Battery very portable and convenient. With ordinary use, it will last from about eighteen months to two years without recharging.

A Regulator, Galvanometer, and Switch are fitted on the top of the box, all of which are covered by the lid when it is closed.

The Regulator is so arranged that the current in use can be increased or decreased very gradually—a point of great importance in cataphoric medication. It is worked by simply sliding a knob from one end towards the other, to obtain the desired strength of current, and increases or decreases the pressure by *less than one-tenth of a volt at a time;* it thus enables the operator to exercise a much more delicate control over the current than it is possible for him to exercise with an ordinary rheostat.

The Galvanometer accurately measures very delicate currents, from one-tenth of a milliampere to six milliamperes. The amount of current actually passing through the patient is shown on the scale, which thus assists the operator very materially in adjusting the strength of the current to suit the work in hand, and at the same time shows him that the connections are properly made.

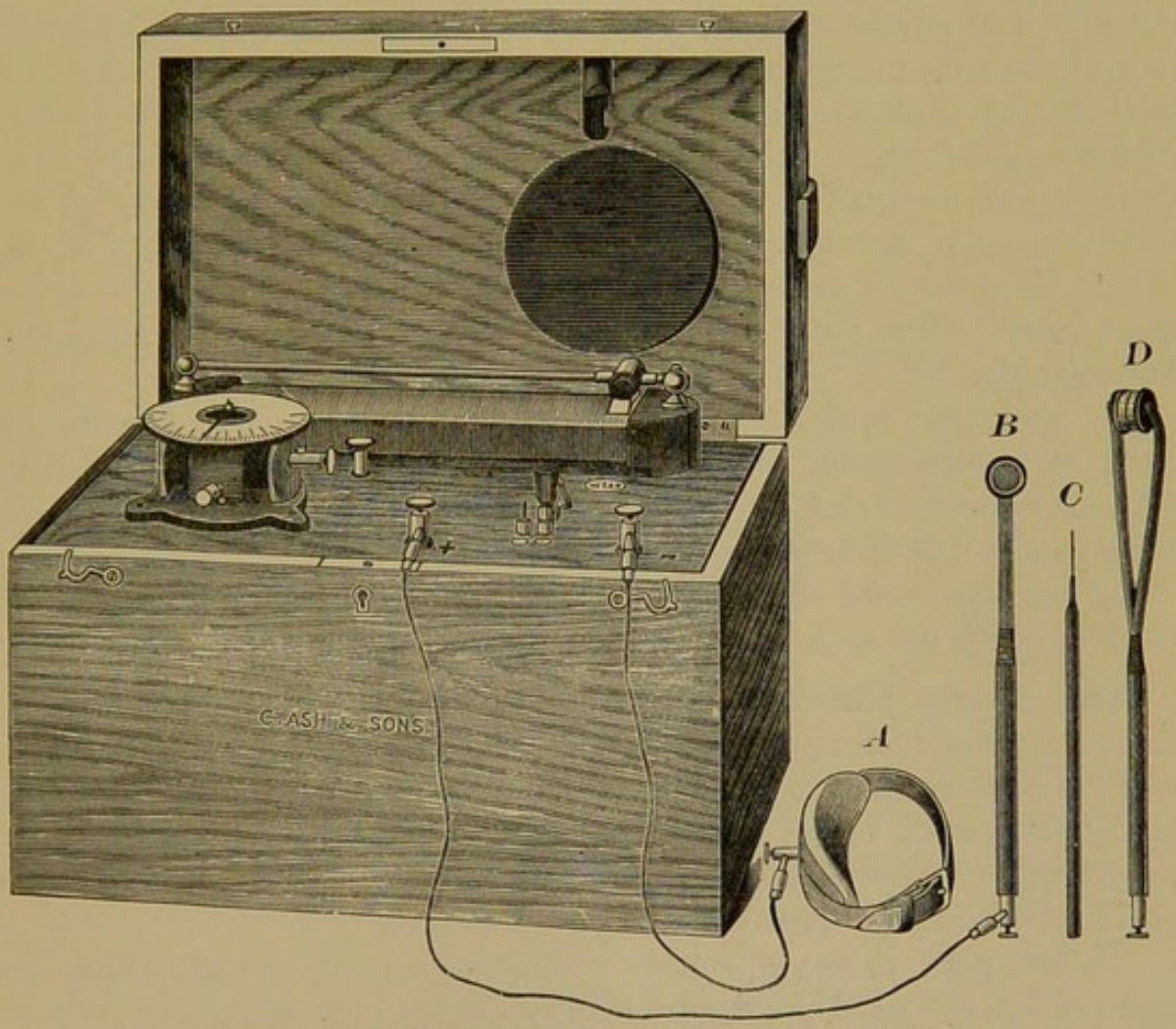
The Switch should be turned *off* immediately after an operation is

ASH'S CATAPHORIC APPARATUS

(*CONTINUED*).

finished, otherwise the current will be wasted, and the battery will be quickly and unnecessarily exhausted. To prevent the Switch being left *on* accidentally, for any length of time, and thereby running down the strength of the battery, an ingenious arrangement is fitted in the lid of the box, which, upon being closed, *automatically* turns off the Switch.

Fig. 1.



Battery with Regulator, Galvanometer, and Switch.

THE ELECTRODES.

The Negative Electrode *A* is used in all operations to complete the circuit from the patient back to the battery. It consists of a flannel-covered concave metal plate, on which a terminal and strap are fixed. This Electrode is strapped on the patient's arm or wrist, and the terminal on it is connected to the negative (−) terminal of the battery.

This arrangement will be found much more convenient than the ordinary metal tube, which is usually held by the patient in the palm of the hand. Good and reliable contact can be made by soaking the flannel in

ASH'S CATAPHORIC APPARATUS

(CONTINUED).

salt water before the Electrode is strapped on the patient's arm or wrist. The Electrode is found very comfortable in use owing to the absence of that pricking sensation which is sometimes experienced with other forms of Electrodes.

The Double Electrode *D* is well adapted for all ordinary requirements. The cups on it are thin enough to be placed between the cheek and gum without discomfort to the patient. A ball and socket joint at the back of the cups gives each cup independent action, and causes it to adjust itself to any angle of gum surface on which it is placed, while the soft rubber circular edge offers a comfortable and water-tight fit, and thus prevents the medicament escaping and spreading to other parts of the mouth where it is not wanted. To further facilitate the placing of the Double Electrode in any part of the mouth, joints are added to the spring stems about half an inch from each cup, to permit of their being set at any desired angle.

By prolonged application it will simultaneously produce a sufficient depth of anæsthesia on both sides of the gum to eliminate pain during teeth extractions, or for the dentist to perform other operations for which nitrous oxide gas is usually employed.

To use the Double Electrode, place a wad of cotton-wool, or a piece of amadou, which has been soaked in guaiacol solution, in each cup.

The Single Electrode *B* is simpler than, but in other respects similar in construction to, the Double Electrode. It has only one cup, which is fixed on the end of a spring stem. It can easily be adapted to any part of the mouth, and is very useful where the treatment of cavities at the cervical edge necessitates depressing the gum; also in many other cases where anæsthesia is required at any particular spot.

To use, place a wad of cotton-wool, or a piece of amadou, which has been previously soaked in guaiacol solution, in the cup.

The Electrode *C* consists of a short platinum wire fixed on the end of a vulcanite stem. It can be bent to any angle, and, owing to its thinness and shape, is easily placed in any cavity. It is intended for use in all cases where anæsthesia is required in the cavities of teeth. Cavities of all kinds can be treated with it, and, by very gentle application and gradual increase of the current, the most sensitive pulps can be operated upon without discomfort to the patient.

In using this Electrode a pellet of cotton-wool, soaked in guaiacol solution, is first placed on the part to be treated, and the platinum wire is then pressed upon the cotton-wool. As much of the wire surface as possible

ASH'S CATAPHORIC APPARATUS

(*CONTINUED*).

should be pressed upon the wool. If preferred, the cotton-wool may be wrapped round the wire and thus applied.

B, C, D are known as positive (+) Electrodes. They are always attached to the positive (+) terminal of the battery, as shown in the illustration.

The whole of the apparatus is extremely simple and effective.

To work it, the Galvanometer Dial is turned round until the zero point comes under the indicator when it is at rest; the positive Electrode is applied to the patient's mouth, the negative to the patient's arm or wrist; the current is turned on with the switch, and increased as desired by means of the regulator. As already mentioned, the switch should be turned off immediately after an operation.

Instructions for Use are sent with each Set of Apparatus.

PRICES, BATTERY OUTFIT:

	£	*s.*	*d.*
Eighteen-cell Dry Battery, with Regulator, Galvanometer, and Switch in Box, complete with Wires	8	8	0
Double Electrode (Fig. ***D***)	0	16	0
Single „ („ ***B***)	0	11	0
Platinum Point Electrode („ ***C***)	0	10	0
Negative Wrist „ („ ***A***)	0	5	0
COMPLETE	**£10**	**10**	**0**

For the convenience of those who have *continuous* main currents at their command, we have designed a special apparatus in place of the above battery. (*Alternating* main currents are useless for Cataphoresis Apparatus.)

This outfit is only obtained to special order.

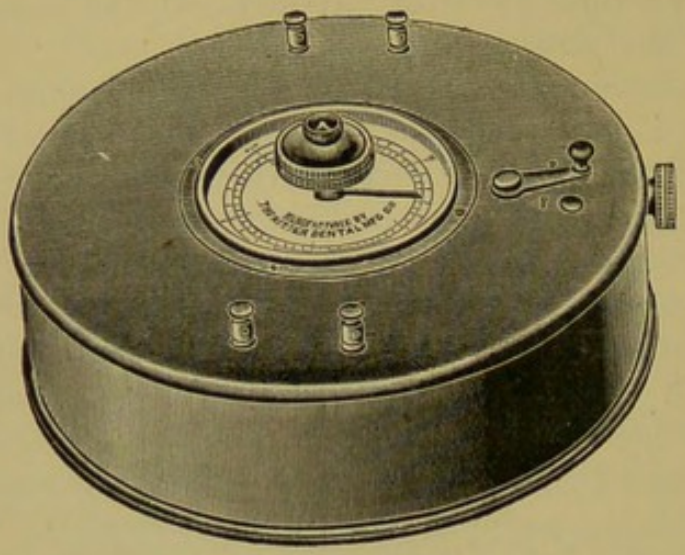
PRICES, MAIN CURRENT OUTFIT:

	£	*s.*	*d.*
Main Current Regulator, with Galvanometer, Switch and Wires, complete	6	8	0
Double Electrode (Fig. ***D***)	0	16	0
Single „ („ ***B***)	0	11	0
Platinum Point Electrode („ ***C***)	0	10	0
Negative Wrist „ („ ***A***)	0	5	0
COMPLETE	**£8**	**10**	**0**

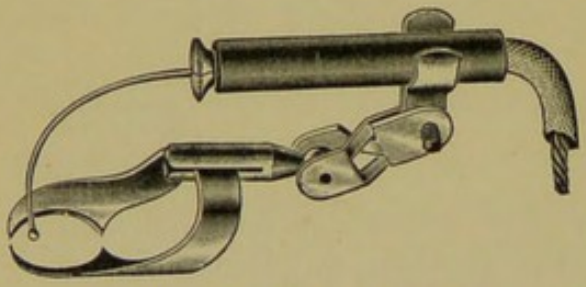
In ordering, please state the Voltage of the Current supply.

	s.	*d.*
Guaiacocaine per bottle	2	1

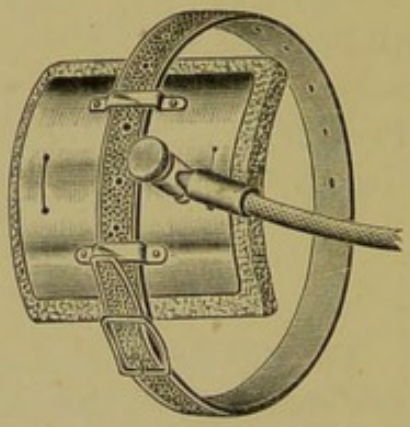
COLUMBIA CATAPHORIC APPARATUS.



Regulating Resistance.



Self-Holding Tooth Electrode.



Wrist Electrode.

This apparatus can be had for use on continuous main currents, or with the dry battery specially made for it.

An alternating current cannot be used for cataphoresis.

The regulating resistance is about 9 inches in diameter and 2½ inches high, with finely finished metal side and handsomely polished hard rubber top. A pointer and scale on the top indicate the position of the inside revolving lever; thus, if the pointer stands at ½, it indicates that it has been passed over one half of the resistance. This scale is not intended to show volts or milliamperes.

The small knob on the side of the instrument is for attaining a very delicate regulation; when a more rapid rate is desirable the large button on the top is employed. The same button is used when turning the current off rapidly.

COLUMBIA CATAPHORIC APPARATUS

(CONTINUED).

The usual binding-posts and switch are conveniently arranged on the face of the instrument.

The appliance does not require any particular skill to operate or manipulate or any knowledge of the laws of electricity.

It can be placed in the patient's lap, and the patient can turn on the current slowly or rapidly as each particular case will permit, while the clamp electrode relieves the operator of the necessity of holding it.

The resistance inside the case consists of a ring partly of metal and partly of insulating material, divided into over four hundred sections, with the resistance wire wound between them. In its completed form there are no wires visible, the whole presenting almost a solid metal surface, and where the contact lever rubs it is accurately ground.

In the manner in which this is made it presents an immense radiating surface, consequently there is absolutely no heating, no matter how long the instrument is left in circuit. It is not a frail, delicate, flimsily thrown together resistance, but a solid, substantial, and durable one of constant and unvarying quantity, very much unlike the usual uncertain graphite rheostat.

The graphite makeshift would never have made its appearance had it been only an ordinary undertaking to devise a metallic resistance of sufficient magnitude, divided into a large number of sections, so arranged that the jump from one to another is imperceptibly small.

The electrical connections are on the so-called shunt principle, involving no secrets, the current passing through the resistance independently of the current through the patient.

When used on the 110-volt current the range of voltage on the patient current can be made almost anything from 0 to 80 or 90 volts, but ordinarily, owing to the way in which the connections are constructed, the patient current does not exceed about 40 volts. When used with a battery the voltage will depend on the number of cells.

Prices obtained to order:—

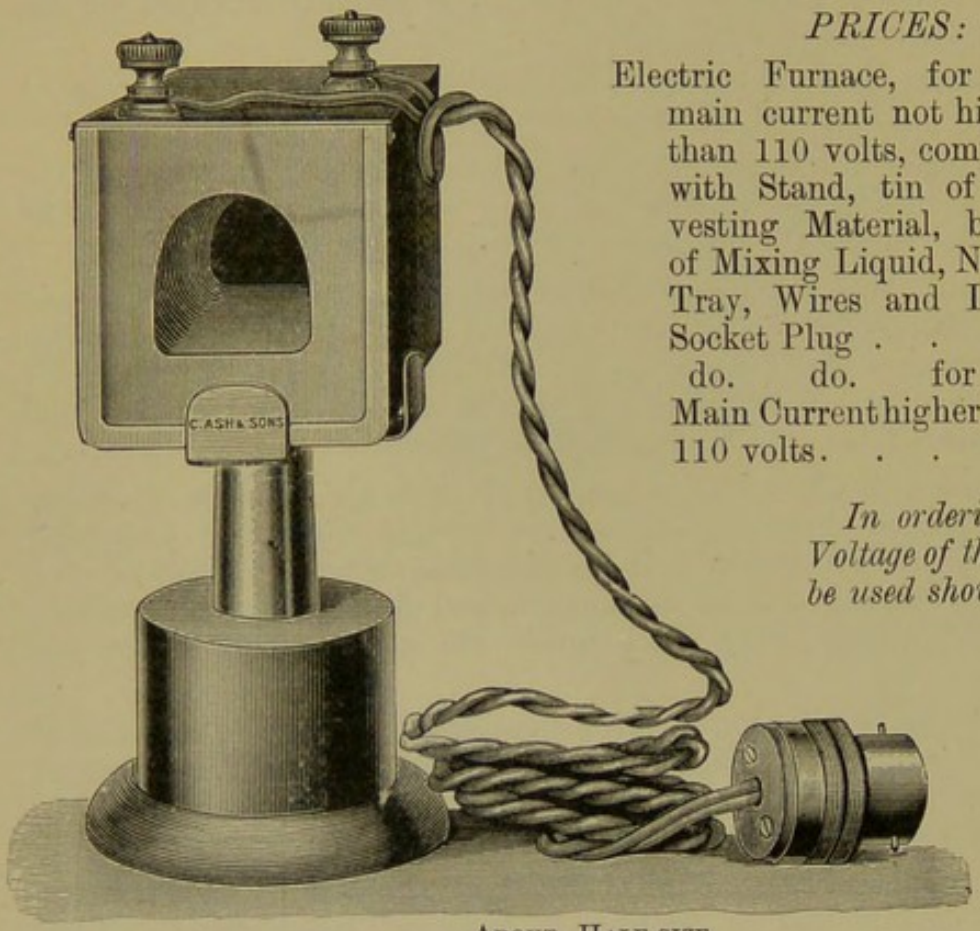
	£	*s.*	*d.*
Columbia Cataphoric Apparatus, including long plain pencil Electrode, sponge Electrode for wrist or hand, a short self-holding tooth Electrode to be fastened to Rubber-dam Clamp, and a 20-cell Dry Battery in Walnut box with Binding Posts complete	7	4	0
Columbia Cataphoric Apparatus with Electrodes, arranged for 110-volt direct current	5	16	0
Double Cap Electrode for use in Dental Extractions . extra	0	12	0

Less 10 per cent. for Cash.

ELECTRIC FURNACE

FOR FIRING MINERAL INLAYS AND CROWNS

(Mr. S. MITCHELL'S).



About Half-size.

PRICES:

	s.	d.
Electric Furnace, for any main current not higher than 110 volts, complete with Stand, tin of Investing Material, bottle of Mixing Liquid, Nickel Tray, Wires and Lamp		
Socket Plug	40	0
do. do. for any Main Current higher than 110 volts.	50	0

In ordering, the exact Voltage of the Current to be used should be stated.

FURNACE.—The Furnace consists of a metal-cased body, 2½ inches long, 2 inches wide, and 2 inches deep, mounted on a neat japanned stand with heavy base.

MUFFLE.—The Muffle is roomy enough to accommodate two or three Crowns at a time, without being overcrowded, its inside measurements being : 2¼ inches long, ⅞ inch wide, and ⅞ inch deep.

FITTINGS.—The small amount of current required for working the Furnace can be obtained from **any existing lamp socket,** by simply fitting the plug, shown in the illustration, into the socket and attaching the free ends of the supply wires to the two terminals on the top of the Furnace ; there is consequently no need for a purchaser to go to the trouble and expense of having special fittings and wiring installed for working the Furnace.

POWER.—Some idea of the power of the Furnace may be gained when it is stated that, after being warmed up, it will fuse our **high-fusing** Mineral Bodies and Enamels in about six minutes and our **low-fusing** in less time than this.

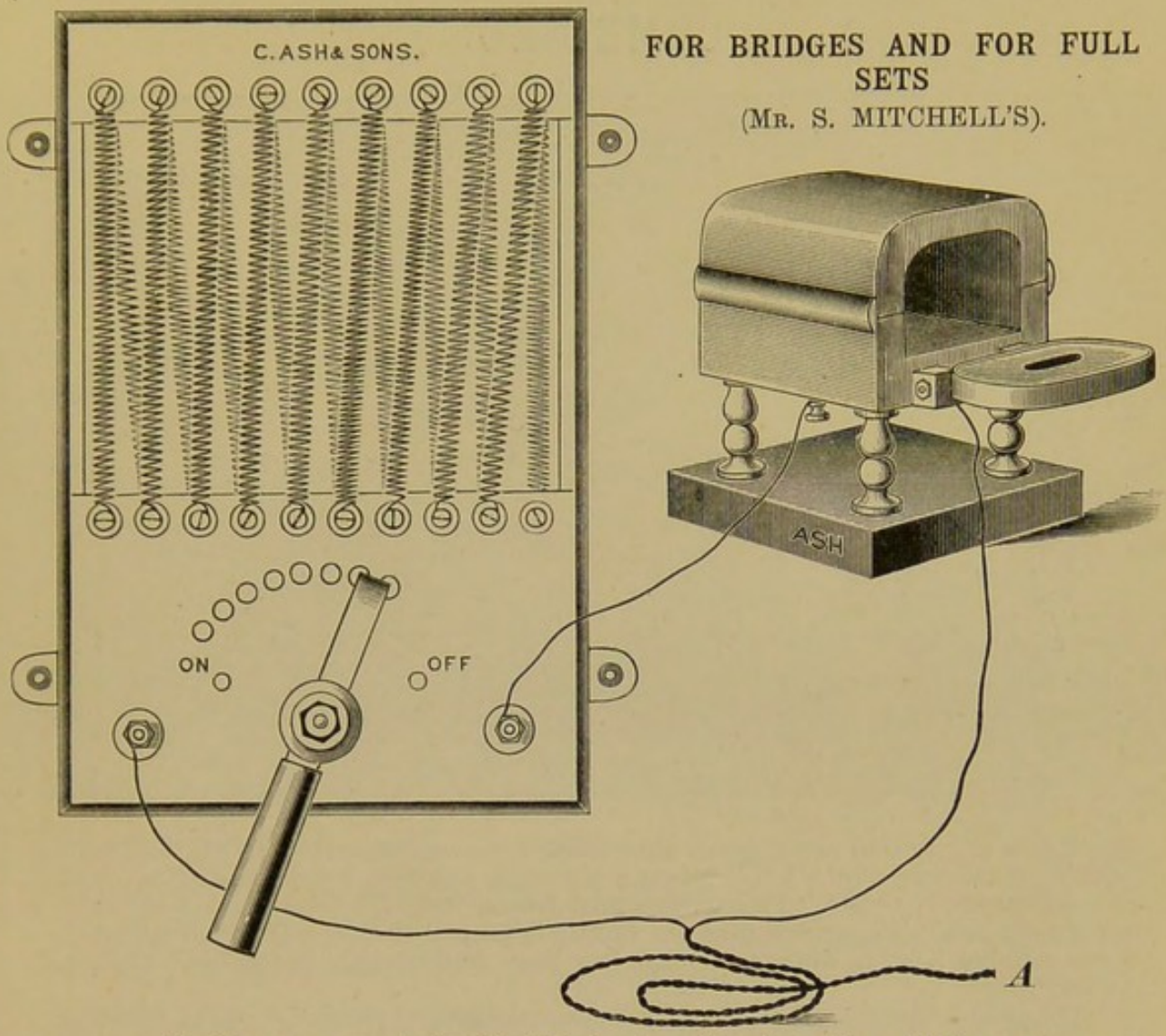
ADVANTAGES.—The Furnace is absolutely noiseless in action, and can, therefore, be used in the Operating Room, if desired, without causing either annoyance or inconvenience. It is so easily managed that any one can attend to it. There is no danger in using it the current being under such complete control that it can be switched on or off in a moment.

Any main current—continuous or alternating—is suitable for working the Furnace.

ELECTRIC CONTINUOUS-GUM FURNACE,

FOR BRIDGES AND FOR FULL SETS

(MR. S. MITCHELL'S).



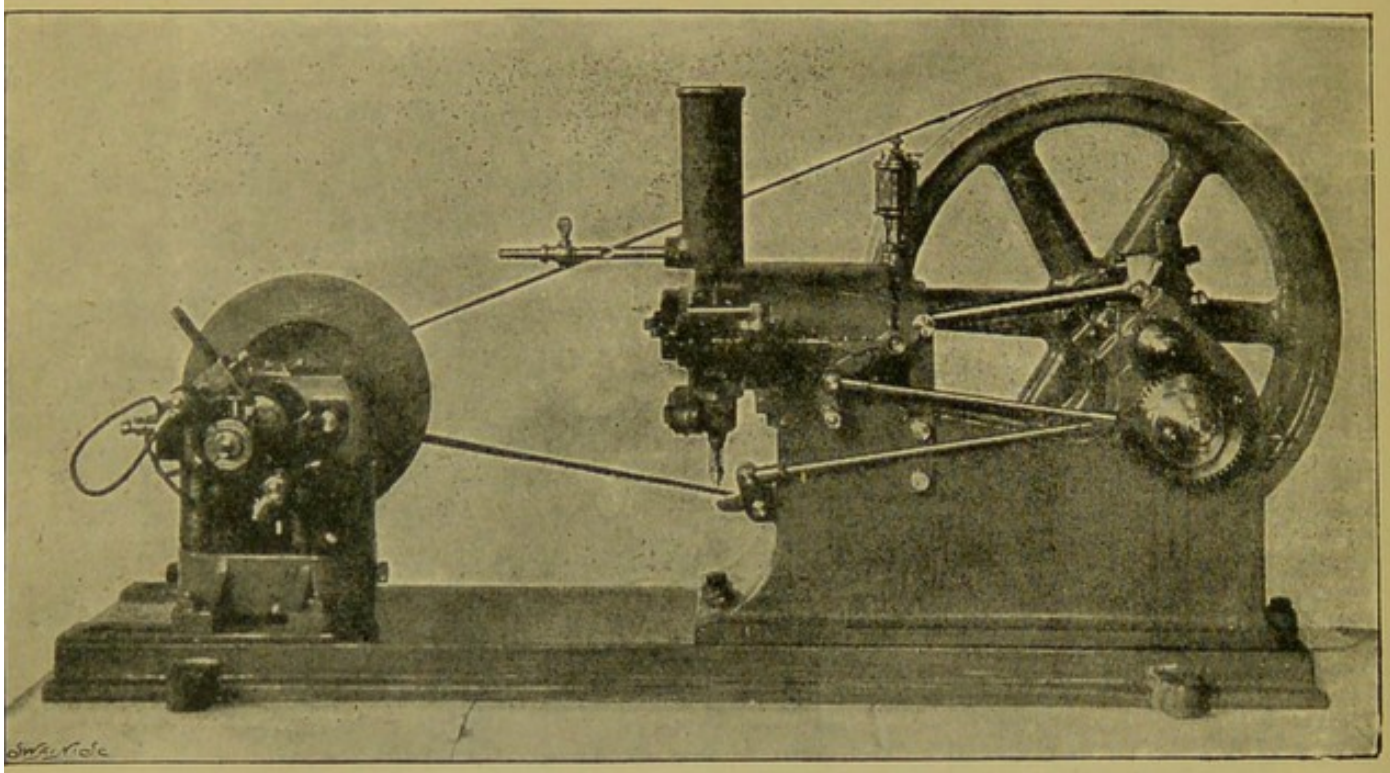
Inside measurement of muffle 3¾ inches long, 3½ inches wide and 1¼ deep.
A.—Wires leading to source of supply.

Each coating of our High-Fusing Mineral Body or Gum Enamel which is used for an upper or lower denture can be fused in this Furnace in about fifteen minutes. The Furnace is provided with an air-jacket which materially conserves the heat produced, and there is a small slot in the hinged lid through which every part of the work in the muffle can be seen. Uniform heat is produced all over the muffle; the possibility of fusing one part of the work before another is thus avoided. Further, the heat can always be got-up at a fixed uniform rate; the time required for any particular class of work can therefore be very accurately gauged. The resistance supplied with the furnace permits of the heat being varied as desired, for drying the work, or for warming-up metal plates ready for soldering, etc. After using the furnace, the Switch Lever should be placed on the last contact for a few minutes before it is finally switched off. This will allow the furnace to cool down gradually. If the current is suddenly switched off from full power, the sudden contraction through cooling too quickly may cause breakage of the platinum wires or other parts.

	£	*s.*	*d.*
Price of Furnace, wound for any voltage current, complete with Resistance and Wires	8	0	0

The furnace is suitable for any main supply current—continuous or alternating; in ordering please state voltage for which it is required.

THE GARDNER GAS ENGINE AND DYNAMO COMBINED.



This is an electrical power plant, known as No. 0 size, designed for use in the Dental Profession, and consists of a ½ B.H.P. gas engine with a 10-volt, 10-ampere dynamo, both mounted on one bed-plate. Both engine and dynamo are in accordance with the most modern practice. The engine uses gas exactly in proportion to the load taken from it. When running light it consumes 8 c. ft. per hour, and running at full load 23 c. ft. per hour.

The plant is designed :—(1) To replace accumulators as at present in use for supplying current in the operating room direct from the dynamo, without the intervention of accumulators. As the engine is run at so very low a cost, it is intended that the plant should run *continuously* during operating hours, supplying current for motor, mouth lamp, reflector, cautery, and mallet—any of them, or all together. (2) To drive the workroom or operating-room lathe. The engine is sufficiently powerful to drive all the above together.

The plant is also used for charging accumulators.

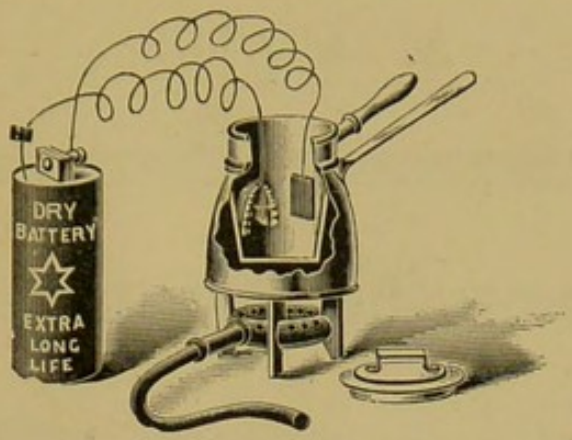
Full directions for fitting up and working the plant sent with each outfit.

TABLE OF PRICES, ETC.

Electrical Output.												
Watts.	8-c.p. Lamps.	Engine.			Dynamo with Fly-wheel Pulley.			Bed-plate.			Complete Plant.		
		£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
180	6	15	10	0	10	6	0	1	10	0	27	6	0*

* This price includes gas bag, exhaust silencer, water tank, set of spanners, and various sundries.

GARTRELL'S GILDING APPARATUS.



The engraving represents a gilding apparatus which is recommended for simplicity and efficiency. Very little trouble is required to prepare it for gilding and to keep it in order. The principal features about it are the dry cell and the ease with which the gilding solution is made.

The dry cell as supplied is quite ready for use; it does not give any trouble, and will last for years.

The solution is made by pouring a pint of water into the porcelain pan, adding to it one ounce of cyanide of potassium, heating together, and placing the pure gold anode in it as shown in the illustration. The bath thus prepared will be ready for use in ten minutes.

The plate to be gilded is then lowered into the solution, a few minutes' immersion being sufficient for a rich coating of gold to be deposited on it.

Gold plate work—especially where solder, which is liable to tarnish, is exposed on it—is much improved in appearance by being gilded, while a gilded platinum or dental alloy plate has a richness of colour imparted to it which is pleasing to the patient who has to wear it. The gold surface is liked, although the patient is told that the plate is only gilded.

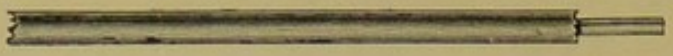
The apparatus will be found useful in many ways in the dental workroom.

Printed directions for use are given on each cell.

PRICES:

	£	*s.*	*d.*
Gilding apparatus as illustrated, including one dry cell, insulated wire conductors, gas burner, 2-oz. cyanide of potassium, porcelain bath and heating pan	0	17	6
Pure gold anode with platinum wire connection	1	15	0
Extra cells with insulated wire conductors . . . . each	0	5	6

INSULATED WIRE FOR ELECTRICAL APPARATUS.

1. 

2.

3.

4.

PRICES:

No. 1.

	s.	*d.*
Insulated Copper Wire for connecting Primary Batteries to Accumulators, etc. . . . . per yard	0	2

No. 2.

Thin Twin Flexible Wire, silk covered, for small Electric Furnaces, Fraser Electric Bracket, Telschow Electric Reflectors, etc.

per yard	0	4

No. 3.

Thick Twin Flexible Wire, silk covered, for Motors, etc. per yard	0	7

No. 4.

Extra Thick Twin Flexible Wire, cotton covered, for large Electric Furnaces . . . . . per yard	0	9

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ASH'S DENTAL RUBBERS

FOR COATING.

	Colour.		s.	d.
Improved Pink, Shade No. 1 ..	Medium	per lb.	25	0
„ „ „ No. 2 ..	Light	„	25	0
N.V., without Vermilion	„	„	21	0
New Pink	Medium	„	21	0
No. 1x „	„	„	21	0
No. 1 „	Light	„	21	0
Gum-Pink	Medium	„	21	0
„ „	Light	„	21	0
No. 2x Pink	Medium	„	18	0

FOR BASE.

	Colour.		s.	d.
S. P.	Deep Pink	per lb.	16	0
White, for Side Blocks, &c.	Bone	„	16	0
Child's G...	Bright Red	„	16	0
A. E. Elastic	Dark Brown	„	16	0
W. Elastic	„ „	„	16	0
Whalebone, No. 1	„ „	„	16	0
„ No. 2	Light „	„	14	0
Solid Base	Pink-Brown	„	14	0
Dark Red	—	„	12	0
Flexible Base	Light Brown	„	12	0
Dark Elastic	Brownish Black ..	„	12	0
Red	—	„	10	0
Orange	—	„	10	0
Black	—	„	10	0
Dark Brown	—	„	10	0
Brown	—	„	10	0
Improved Black	Jet Black	„	10	0

SPECIAL.—FOR TENDER GUMS, &c.

	Degrees Fahrenheit.	Time H.	Time M.		s.	d.
Soft Pink, for lining Palates	315	1	15	per lb.	21	0
Soft Dark Red „ „	315	1	15	„	12	0
Vela, for making artificial Palates ..	270	6	0	„	21	0

Sample Sheet of any kind free on application.

A discount of ten per cent. is allowed when 5 lbs. of Rubber are purchased at one time. This quantity may consist of several kinds.

American and other Rubbers kept in Stock.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

HAND INSTRUMENTS

SCALERS, ENAMEL CUTTERS, EXCAVATORS,
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NERVE EXTRACTORS, PROBES, PLUGGERS,
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PLASTIC INSTRUMENTS, BURNISHERS, TWEEZERS,
SPATULAS, MOUTH FILES, PLUG TRIMMERS,
ETC.

CLAUDIUS ASH & SONS, LTD.,

5, 6, 7, 8 and 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

ADDRESS FOR TELEGRAMS:—FRENES, LONDON.
TELEPHONE NUMBER, GERRARD 5,258.

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LIVERPOOL	78, MOUNT PLEASANT.
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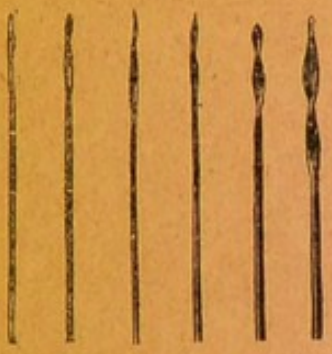
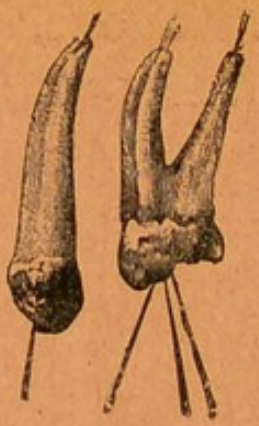
NEW YORK	EAST FOURTEENTH STREET.

BEUTELROCK'S

NERVE-CANAL INSTRUMENTS.

(Patented in Germany, England, America, France, Austria, Switzerland and Italy.)





Since their introduction these instruments have found much favour with operators all over Europe.

They are made of a new kind of steel, which is treated in a special manner to ensure the greatest possible amount of flexibility and toughness; there is thus very little danger of their breaking in root-canals.

The blades are so formed as to be self-clearing, and with ordinary care have no tendency to become jammed in use.

Owing to the fineness, high finish and flexibility of the instruments, they can be employed with confidence in small and in tortuous root-canals without fear of penetrating the walls.

They cut rapidly, without generating sufficient heat to give pain to the patient, and thus enable the operator to work quickly with comfort and freedom from anxiety.

Supplied in case as under :—

For use in Dental Engine: 6 Drills for No. 4, No. 7 or No. 8 Handpiece; 6 Drills for Right-Angle Attachment.

In ordering it should be stated for which Right-Angle Attachment these Right-Angle Drills are required.

For Hand use, in Celluloid Handles: 3 Drills; 2 Nerve-Canal Cleansers; 1 Probe.

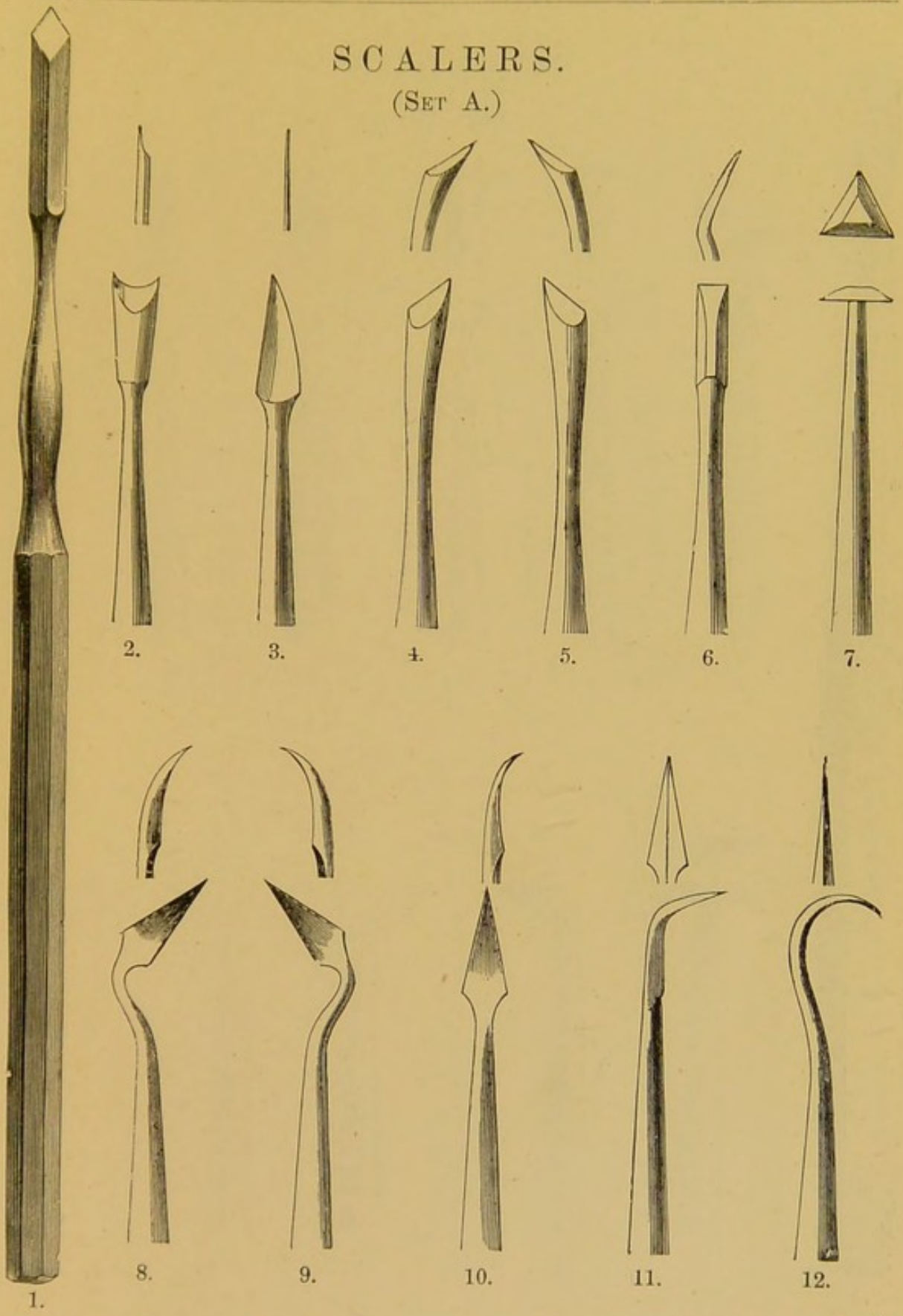
PRICES:

	£	*s.*	*d.*
The set of 18 Instruments complete in Case, with directions for use	1	2	6
Instruments separately, any kind as above . . . . each	0	1	6

Descriptive circular sent post free on application.

SCALERS.

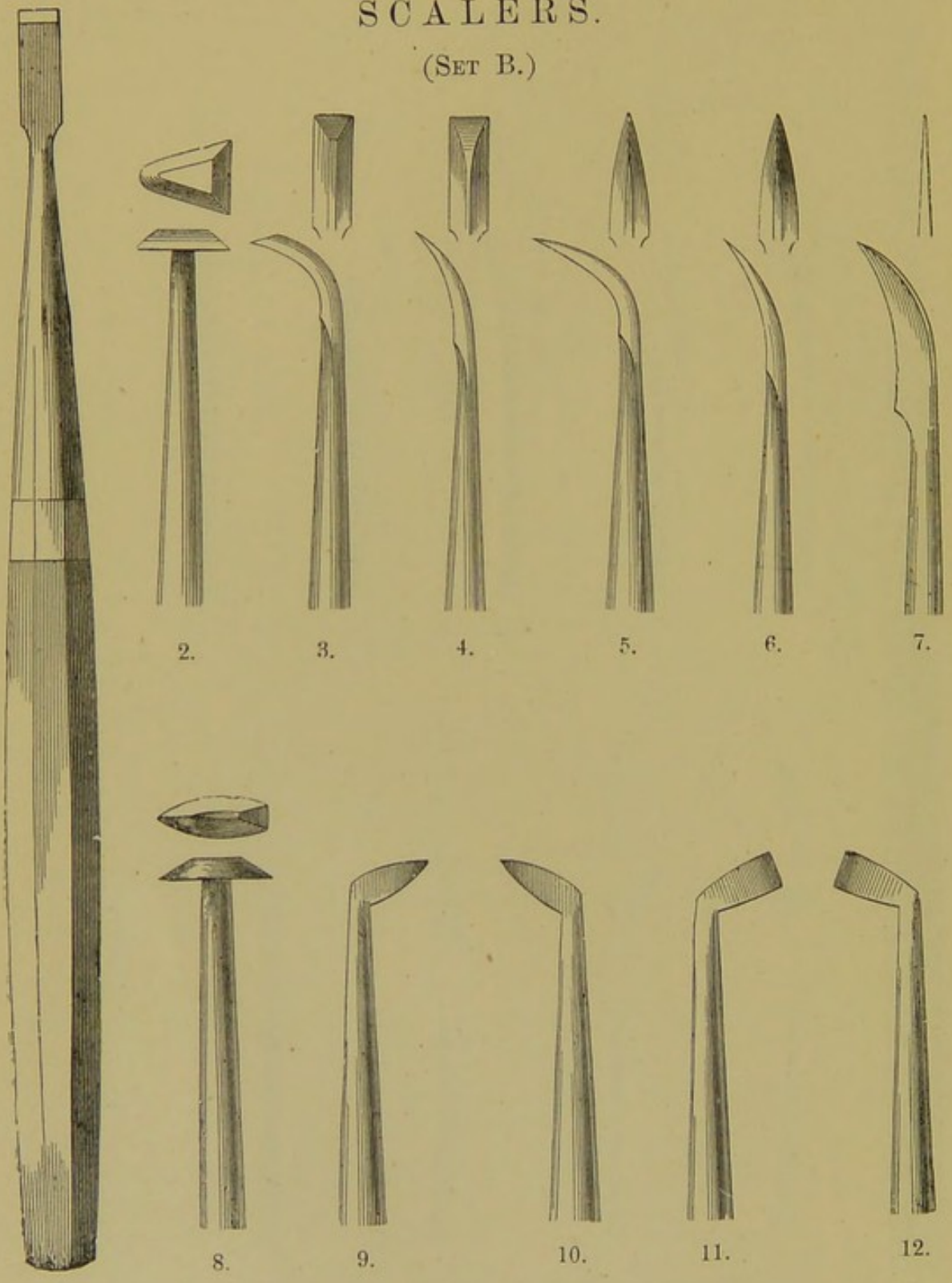
(Set A.)



		s.	d.
In Steel octagon handles, blued	(Figs. 1–12) each	1	2
,, ,, Nickel-plated ..	(,, ,,) ,,	1	6
In Ebony handles, like Fig. 1. Set B, to order	(,, ,,) ,,	3	0

SCALERS.

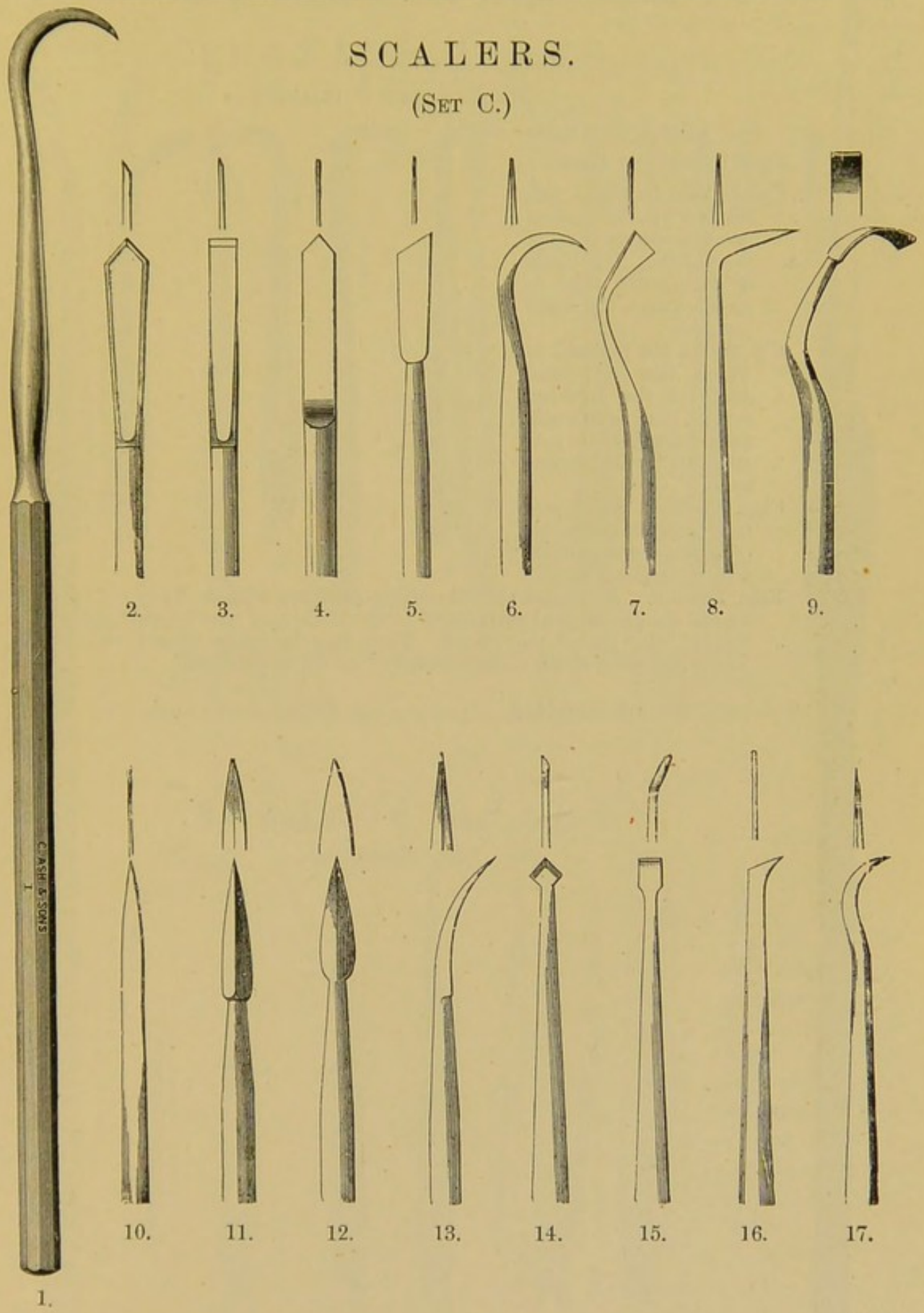
(Set B.)



		s.	d.
In Steel octagon handles, blued, like Fig. 1, Set A (Figs. 1–12)	each	1	2
,, ,, Nickel-plated .. (,, ,,)	,,	1	6
In Ebony octagon handles, like Fig. 1, to order (,, ,,)	,,	3	0

SCALERS.

(Set C.)



1.

				s.	d.
In Steel octagon handles, blued	..	..	(Figs. 1–17) each	1	0
„ „	Nickel-plated	..	(„ „) „	1	4

1.

SMALL SCALERS.

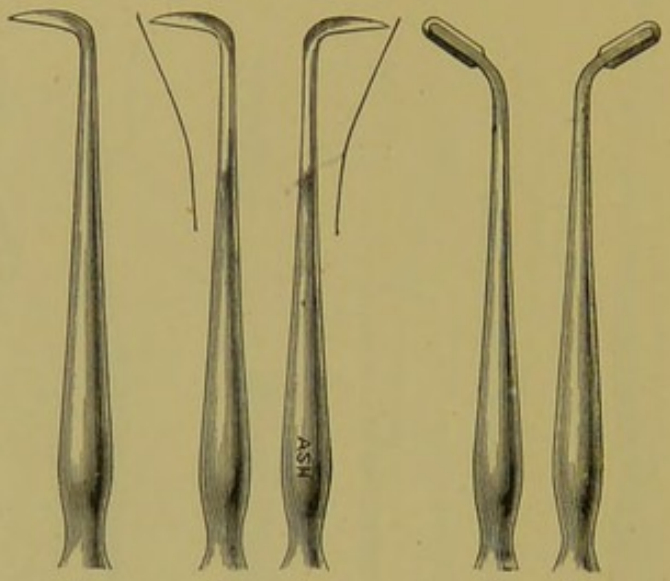
(Mr. E. Lloyd Williams'.)

Mr. Lloyd Williams thus describes them:

Fig. 1. Will be found useful as a "push" instrument in various parts of the mouth. The blade is sufficiently thin to pass between the lower incisors.

Fig. 2. An old pattern, in which the bulk and angle of the working surface have been made as serviceable as possible for "pull" movement.

Figs. 3 and 4. Right and left "pull" instruments of a favourite pattern, with extra long reach.



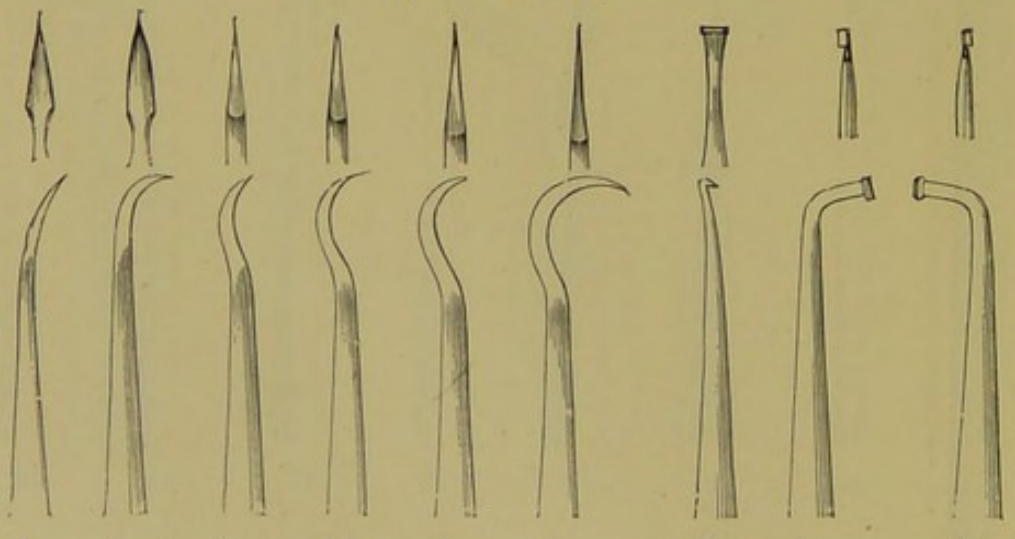
2. 3. 4. 5. 6.

Figs. 5 and 6. Are spoon chisels cutting on three edges. They are specially useful for the lingual surfaces of lower teeth, and may be used either with "pull" or "push" movement. They may be easily stoned when blunt, and when worn down make excellent "spoon excavators."

			s.	*d.*
In Ebony handles	(Figs. 1–6)	each	1	9

SMALL SCALERS.

(Dr. Abbott's.)



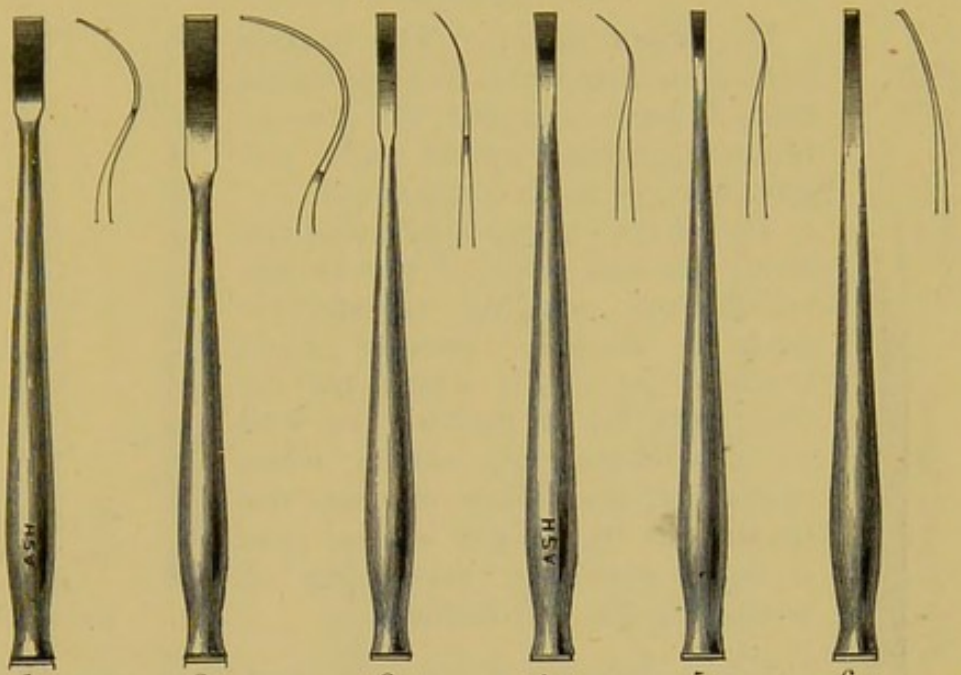
1. 2. 3. 4. 5. 6. 7. 8. 9.

		s.	*d.*
Set of 9 in Steel octagon handles, blued	each	1	2
" " " Nickel-plated ..	"	1	6

Dr. Harlan's.

FINE SCALERS.

(Dr. CUSHING'S.)

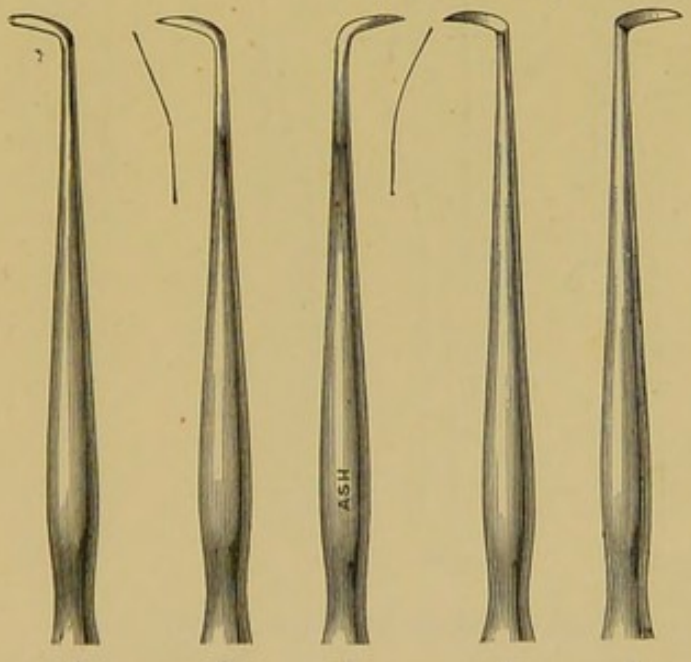


		s.	*d.*
Dr. Harlan's, in blued octagon handles (Figs. 1, 2)	each	1	2
Dr. Cushing's „ „ „ (Figs. 1–6)	„	1	6

Any of the above Nickel-plated, extra, each 4*d.*

FINE SCALERS.

(Dr. HOWE'S.)



A set of five very fine Scalers, consisting of two pairs curved Right and Left and one Straight, for getting into very narrow spaces and between irregular teeth.

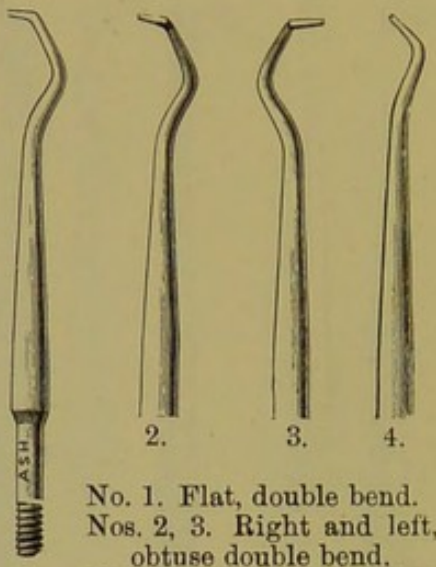
	s.	*d.*		*s*	*d.*
In Small Steel octagon handles, blued, set of 5	4	6	each	1	0
„ „ Nickel-plated „	6	0	„	1	4

FINE SCALERS.

(Mr. W. Hern's.)

Mr. Hern says: "The Scalers here illustrated are from patterns that I have adapted for use in removing tartar deposit under the gum margin in Pyorrhœa, etc.

The shapes of the shafts and the small *size* and *shape* of the blades, which are roughly rectangular with a slightly broader facet towards the shaft, adapt the instruments for a pushing as well as a withdrawing action when operating, and allow of their use under the free edges of the gum without seriously stretching or wounding the soft tissues."

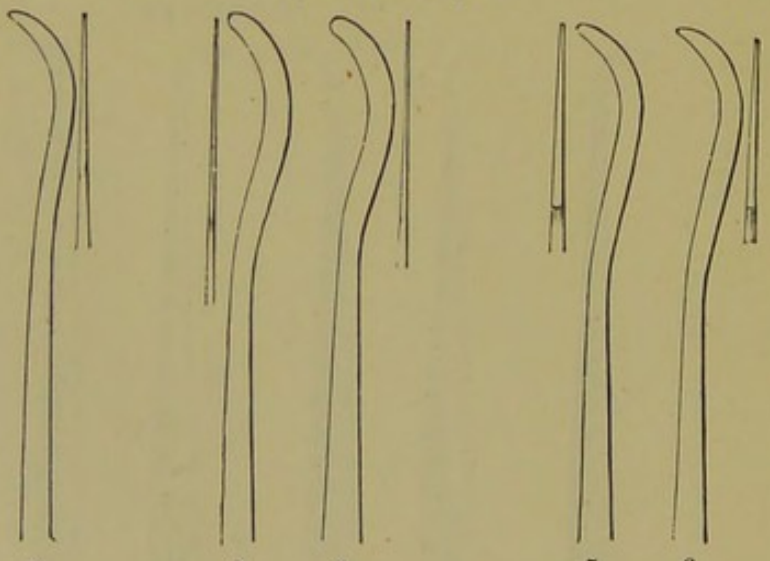


No. 1. Flat, double bend.
Nos. 2, 3. Right and left, obtuse double bend.
No. 4. Flat, single bend.

	s.	d.
Price as illustrated for Cone-Socket Handle (Figs. 1–4) each	1	0
Cone-Socket Handles for carrying them, various knurles each	0	6

SICKLE SCALERS.

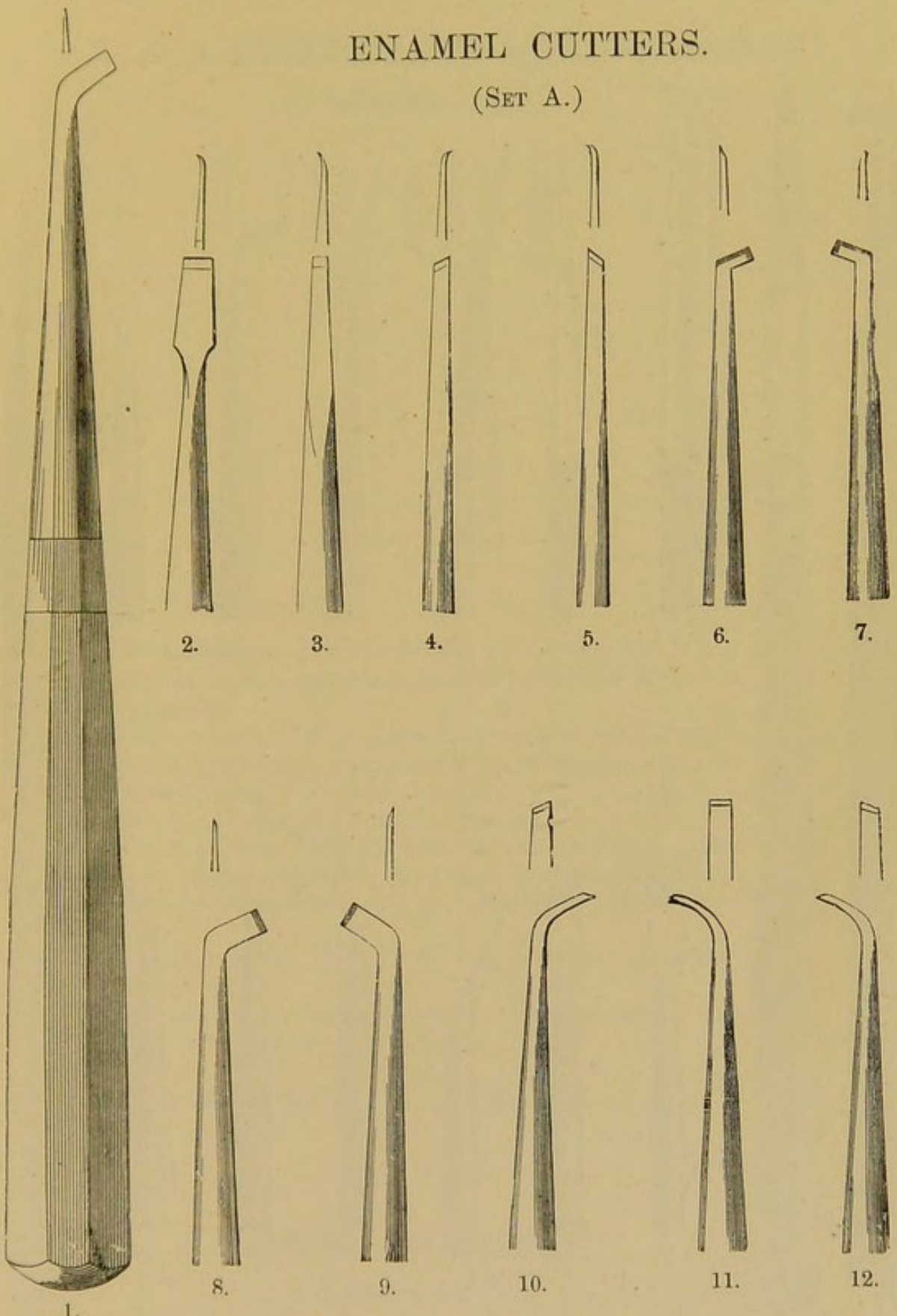
(Dr. Lord's.)



		s.	d.
Set of 6 in Steel octagon handles, blued ..	each	1	2
" " " Nickel-plated	"	1	6
Cone-Socket Scalers, with X or Y shank ..	each	1	0
Handles for Scalers, with X shank	"	0	6
" " " Y "	"	0	8

ENAMEL CUTTERS.

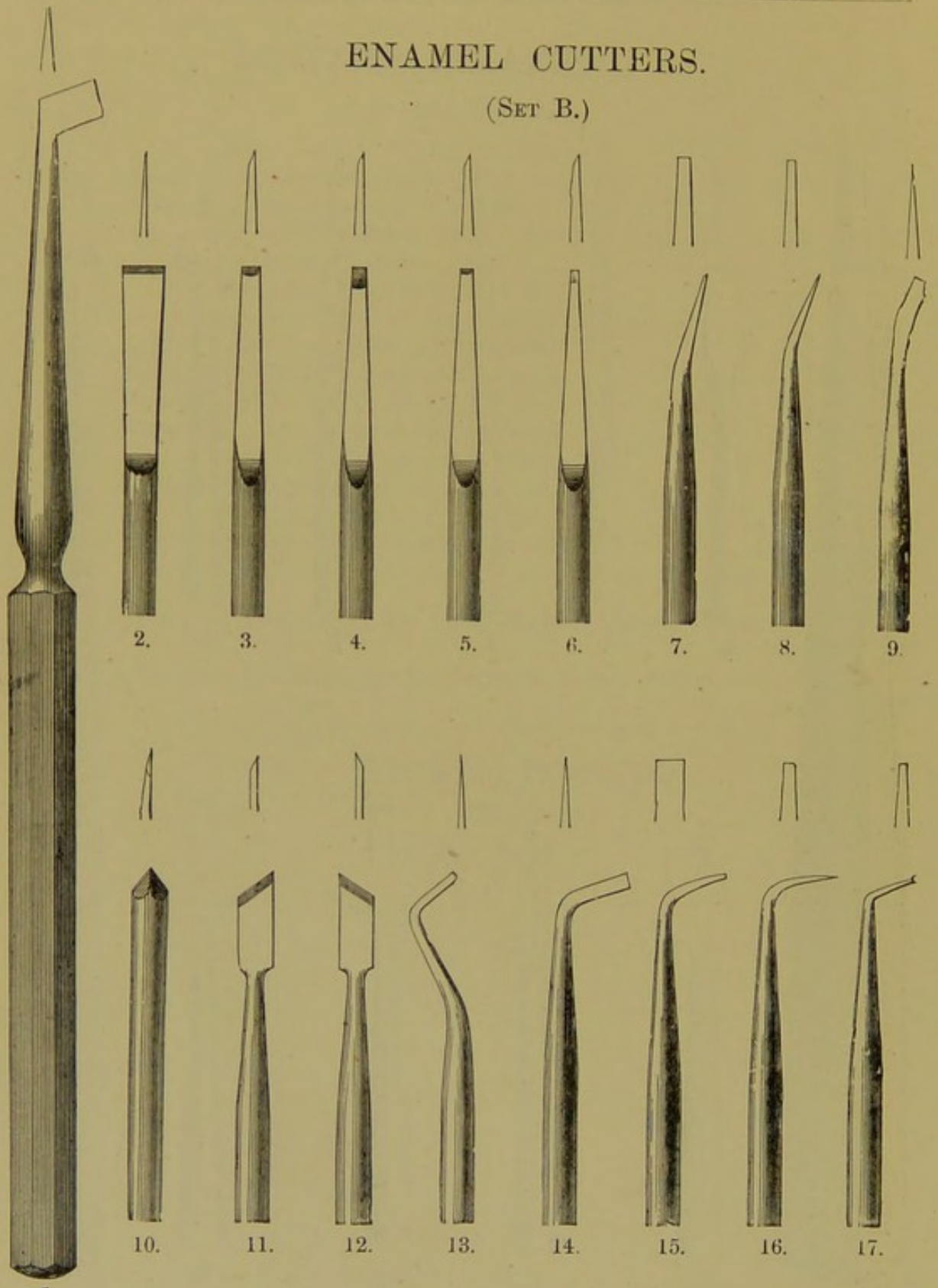
(Set A.)



			s.	d.
In Steel octagon handles, blued	(Figs. 1–12)	each	1	2
„ „ „ Nickel-plated ..	(„ „)	„	1	6
In Ebony octagon handles, to order, like Fig. 1	(„ „)	„	3	0

ENAMEL CUTTERS.

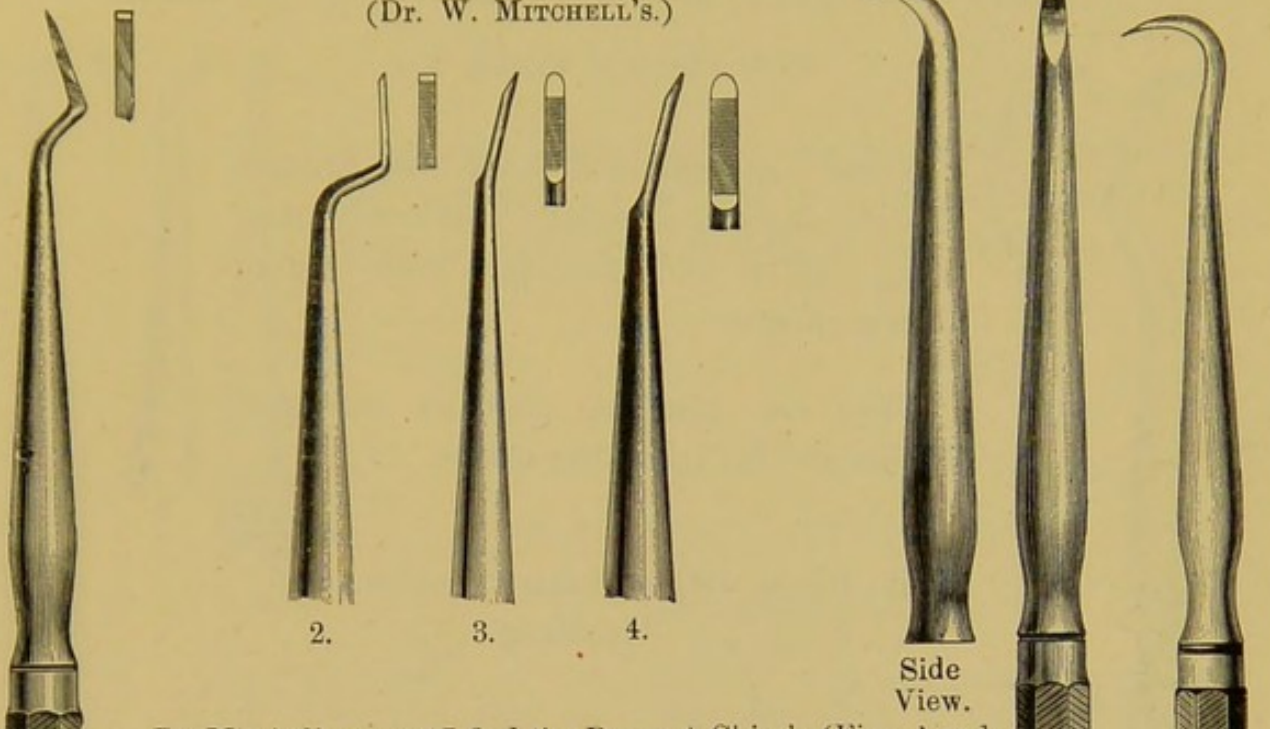
(Set B.)



			s.	d.
In Steel octagon handles, blued	(Figs. 1–17)	each	1	2
„ „ Nickel-plated ..	(„ „)	„	1	6
In Ebony handles, like Fig. 1, Set A, to order	(„ „)	„	3	0

ENAMEL CHISELS AND ROOT TRIMMERS.

(Dr. W. Mitchell's.)



1. 2. 3. 4. Side View. 5. 6.

Dr. Mitchell says: "I find the Bayonet Chisels (Figs. 1 and 2) of great value in preparing approximal superior bicuspid and molar cavities.

Fig. 1 is used for shaping the buccal wall of the cavity; it can also be employed to great advantage as a scraper along the cervical margins of this class of cavities.

Fig. 2 is for making the palatine wall parallel.

The small gouge, Fig. 3, I find very useful wherever enamel is to be cut away, especially in opening up approximal cavities in bicuspids and molars; also for the same purpose in crown cavities.

The large gouge, Fig. 4, is for places where heavy cuts may be necessary."

The points of these instruments are so shaped that the most delicate cuts can be made with them.

		s.	*d.*
In file-cut handles	(Figs. 1–4) each	1	9

ROOT TRIMMERS.

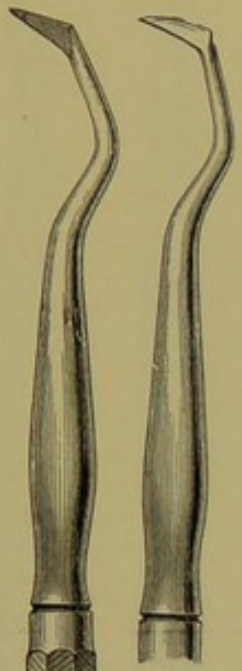
(Figs. 5 and 6.)

For removing all remaining portions of enamel from the cervical margin after a tooth or root has been properly coned.

		s.	*d.*
In file-cut handles ..	(Figs. 5 and 6) each	1	9

DOUBLE-ANGLE TRIMMERS AND SCALERS,

FOR CROWN WORK, ETC.

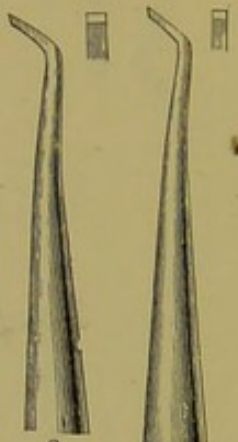


2.

1.

These are tempered hard like Enamel Chisels, and are especially useful for trimming molar and bicuspid roots before fitting crowns.

They can also be used as universal scalers and for trimming osteos.



2.

Fig. 1 cuts with a pushing motion ; and
„ 2 „ pulling „

		s.	d.
Price in file-cut handles ..	each	1	9

1.

ENAMEL CHISELS,

WITH REVERSE BEVEL.

Designed for use on the anterior side of distal walls, as well as for all other places where such a bevel will answer better than the usual one on existing Enamel Chisels.

Made in two sizes as illustrated. Larger or smaller sizes supplied to order.

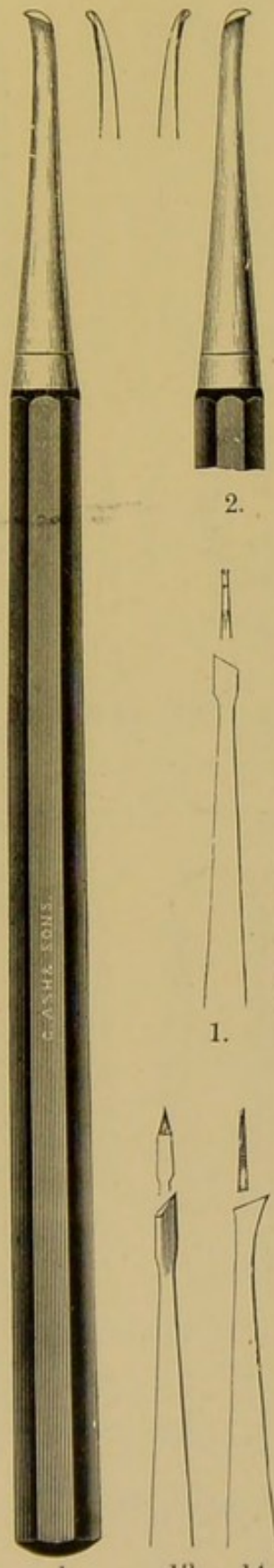
		s.	d.
Price in file-cut handles ..	(Figs. 1 & 2) each	1	9

All forms of Enamel Cutters for Cone-Socket Handle with X or Y shank each 1 0

For Plug Trimmers see pages 88 to 90.

ENAMEL CLEAVERS.

(Dr. C. S. CASE'S.)



2.

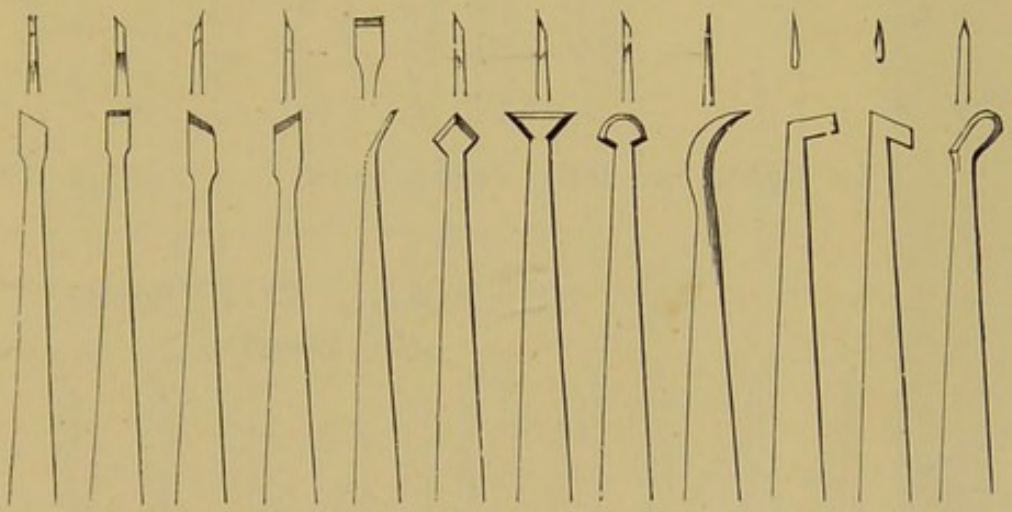
1.

Suitably shaped for forcing under the gum without injuring it; worked with a pulling motion. Made in right and left sides in ebony handles.

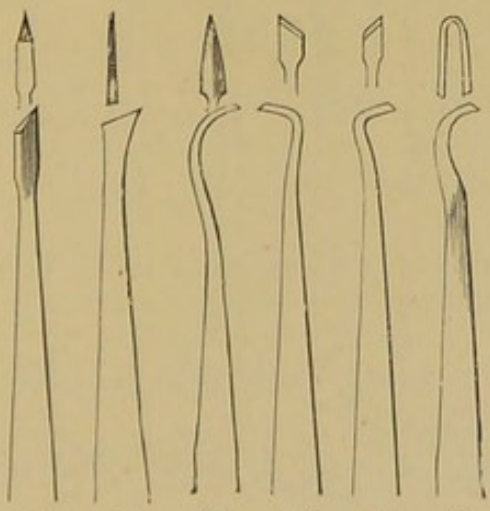
		s.	*d.*
Price	each	2	6

ENAMEL CUTTERS.

(Dr. ARRINGTON'S.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.



13. 14. 15. 16. 17. 18.

A useful set of instruments, designed to give every form and angle required.

They are also very useful as small scalers.

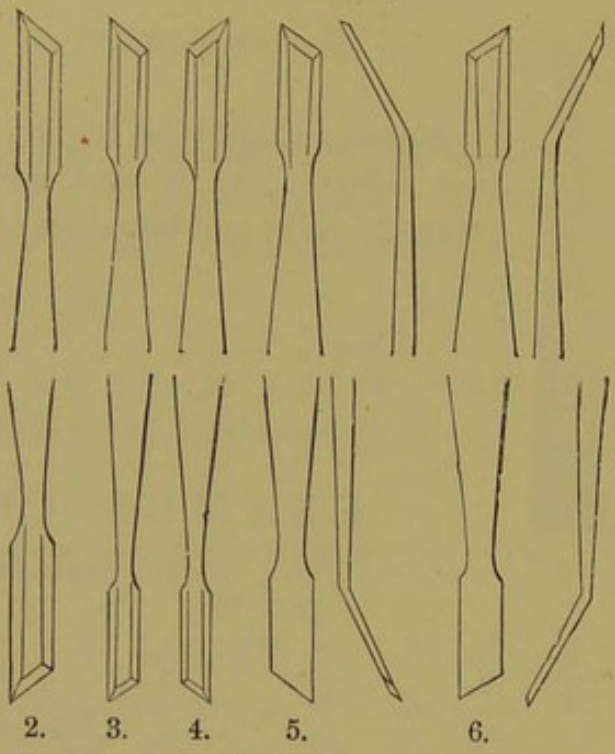
Figs. 1–18 in steel octagon handles:—

		s.	*d.*
Blued . .	each	1	2
Nickel-plated	,,	1	6

1.

ENAMEL CUTTERS.

(Dr. JACK'S.)

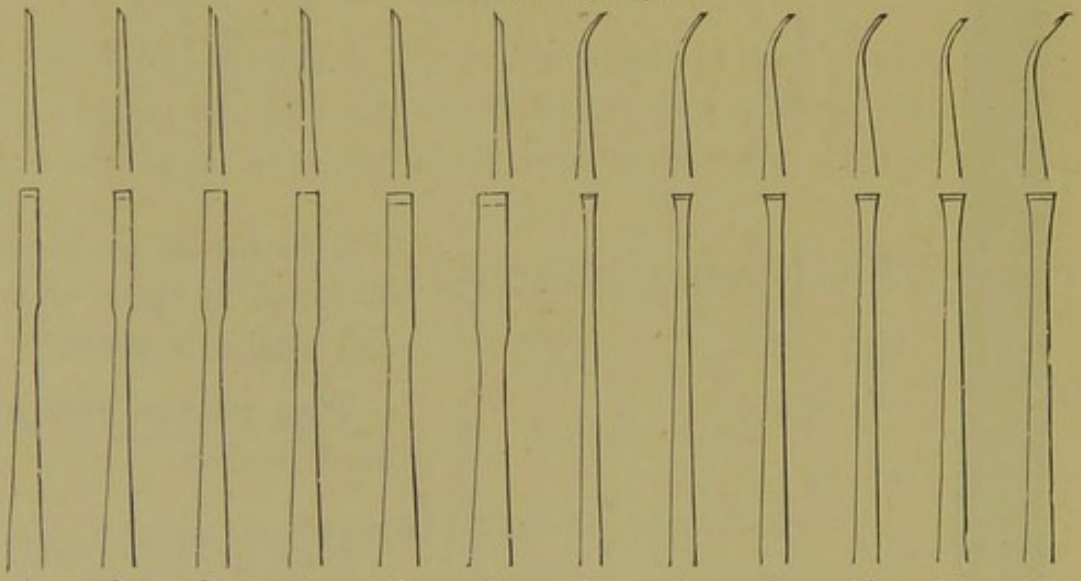


2. 3. 4. 5. 6.

			s.	d.
In rights and lefts, double-ended ..	(Figs. 1–6)	each	6	0

ENAMEL CUTTERS.

(Dr. ABBOTT'S.)

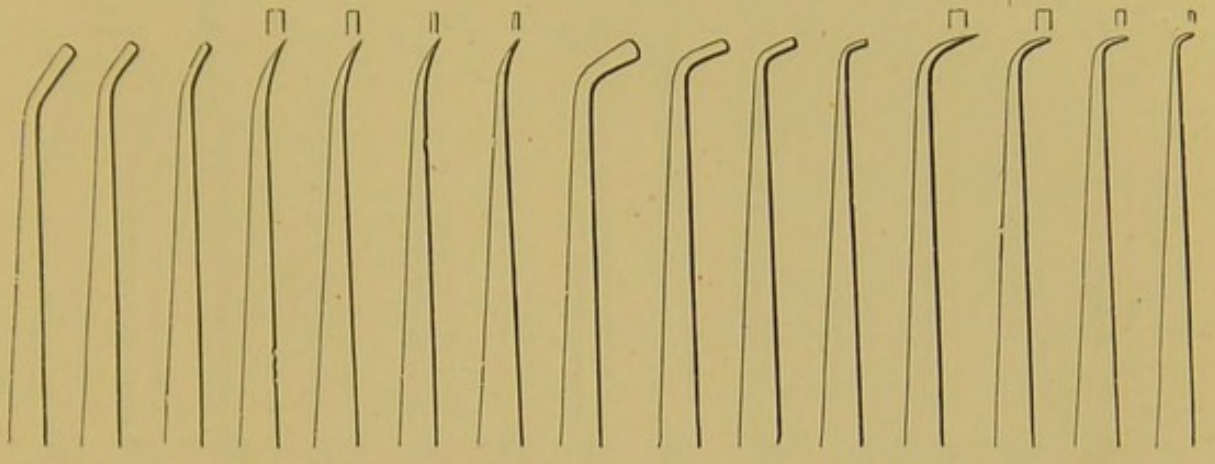


1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

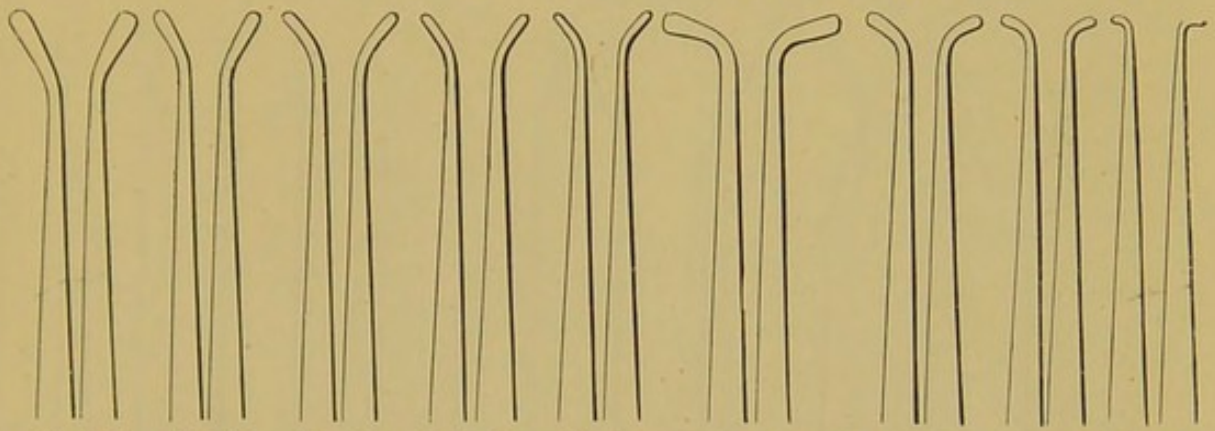
			s.	d.
In Steel octagon handles, blued ..	(Figs. 1–12)	each	1	2
,, ,, Nickel-plated	(,, ,,)	,,	1	6
,, File-cut ,, ...	(,, ,,)	,,	1	9

EXCAVATORS.

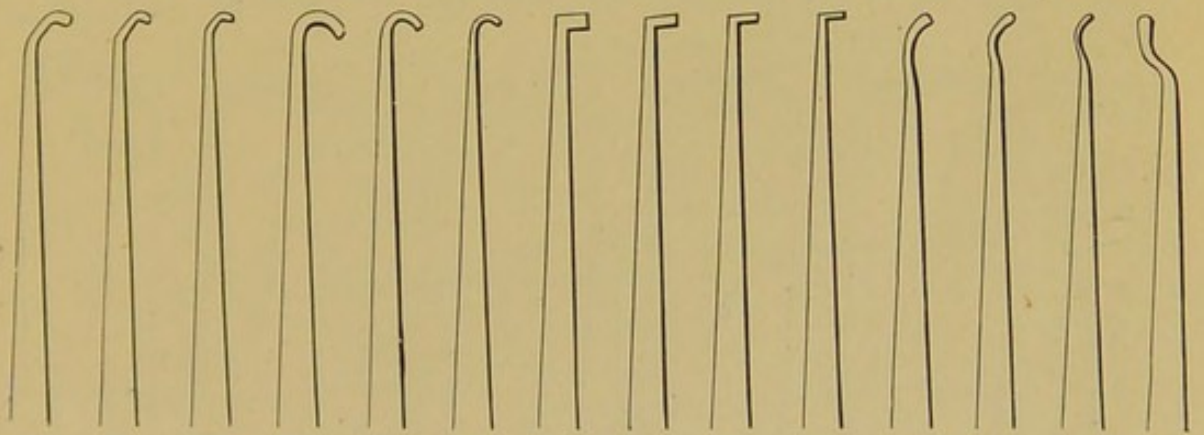
1.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.



16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33.

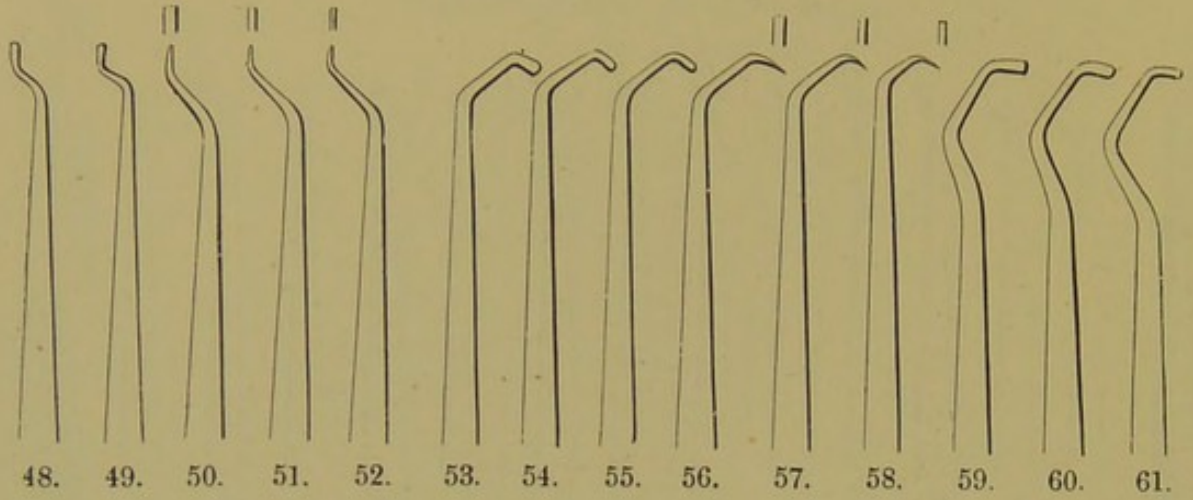


34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47.

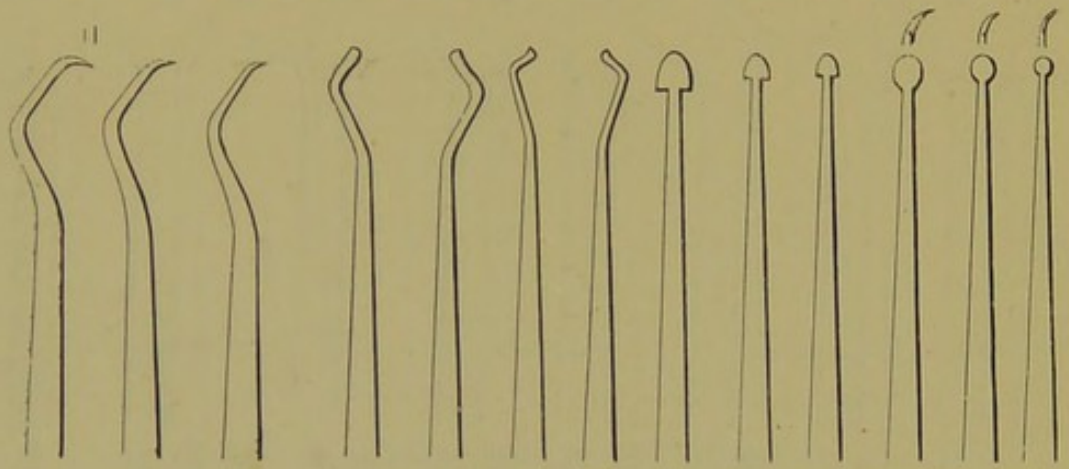
Nos. 1—15 are all flat and cut either way. Nos. 16–33 are curved right and left.
Nos. 34–47 are all flat and cut either way.

			s.	*d.*
In Steel octagon handles, blued	.. ..	(Figs. 1–47) each	0	8
,, ,, Nickel-plated	..	(,, ,,) ,,	0	11
In blued Steel handles, tapered like Fig. 87	..	(,, ,,) ,,	1	0

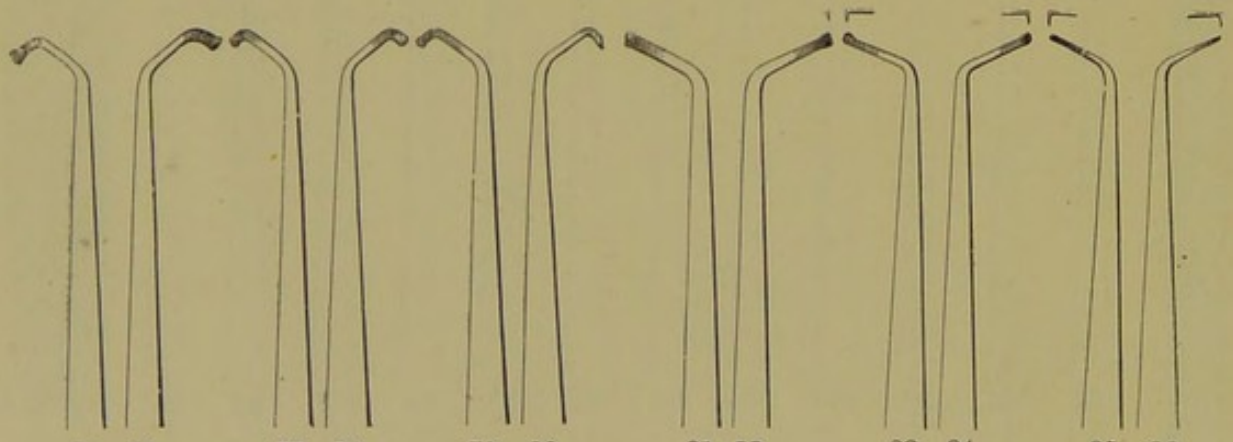
EXCAVATORS—*continued.*



48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61.



62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74.

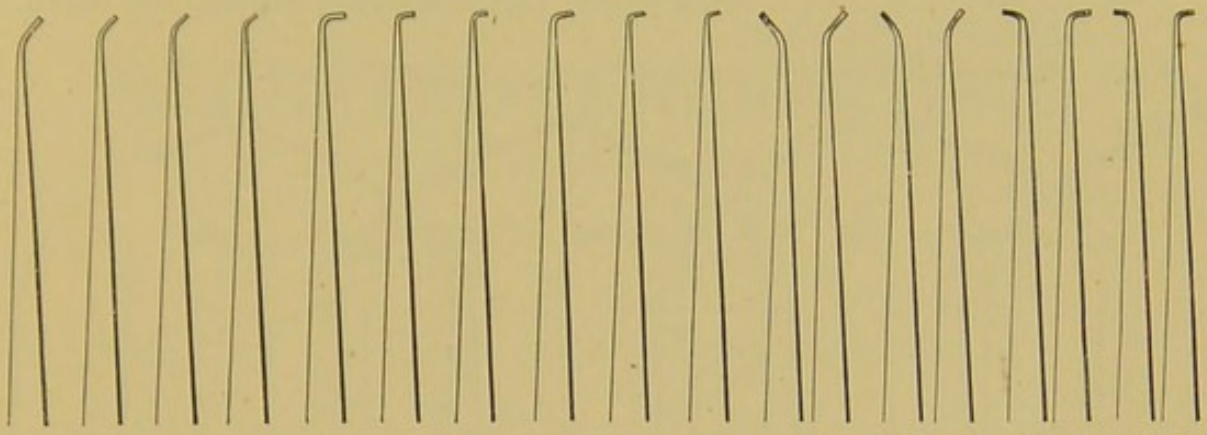


75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

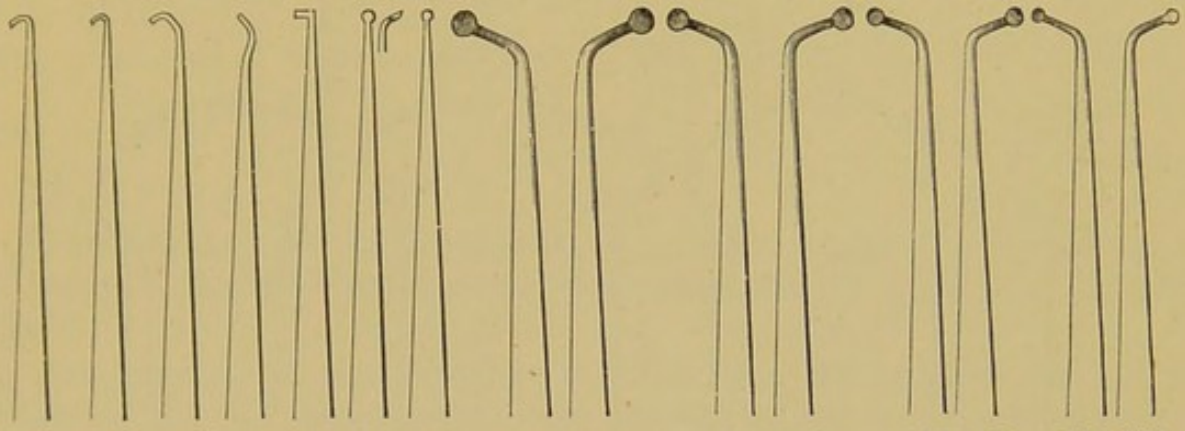
Nos. 48–64 are flat and cut either way.
„ 65–68 are curved right and left.
Nos. 69–74 are flat and cut either way.
„ 75–86 are double-curved right and left.

			s.	*d.*
In Steel octagon handles, blued	(Figs. 48–86)	each	0	8
„ „ Nickel-plated ..	(„ „)	„	0	11
In blued Steel handles, tapered like Fig. 87	(„ „)	„	1	0

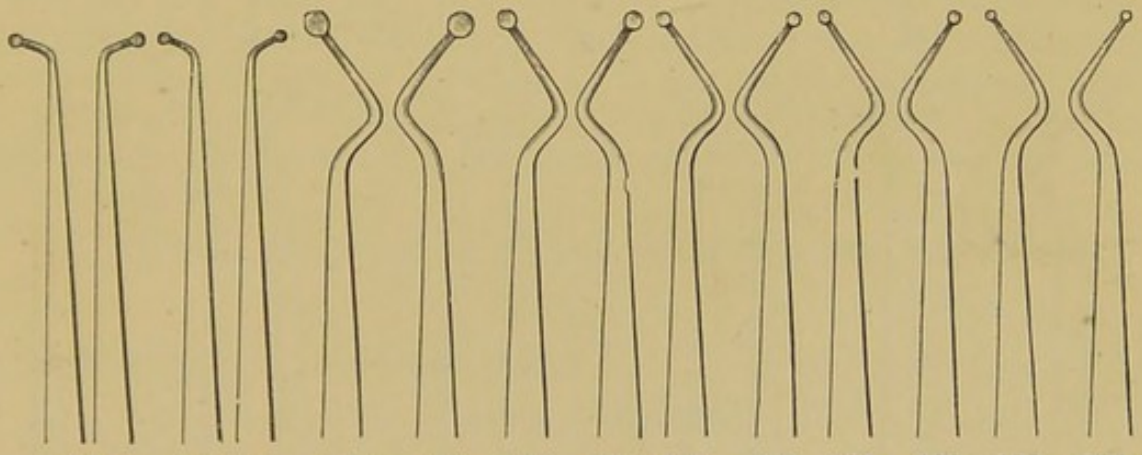
EXCAVATORS—*continued.*



88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.101. 102.103.104.105



106. 107. 108. 109. 110.111. 112. 113.114. 115.116. 117.118. 119.120



121.122. 123.124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134.

Nos. 87 – 97 are straight, and cut either way.
„ 98–105 are curved right and left.
„ 106–112 are straight, and cut either way.
„ 113–134 spoon-shape, curved right and left.

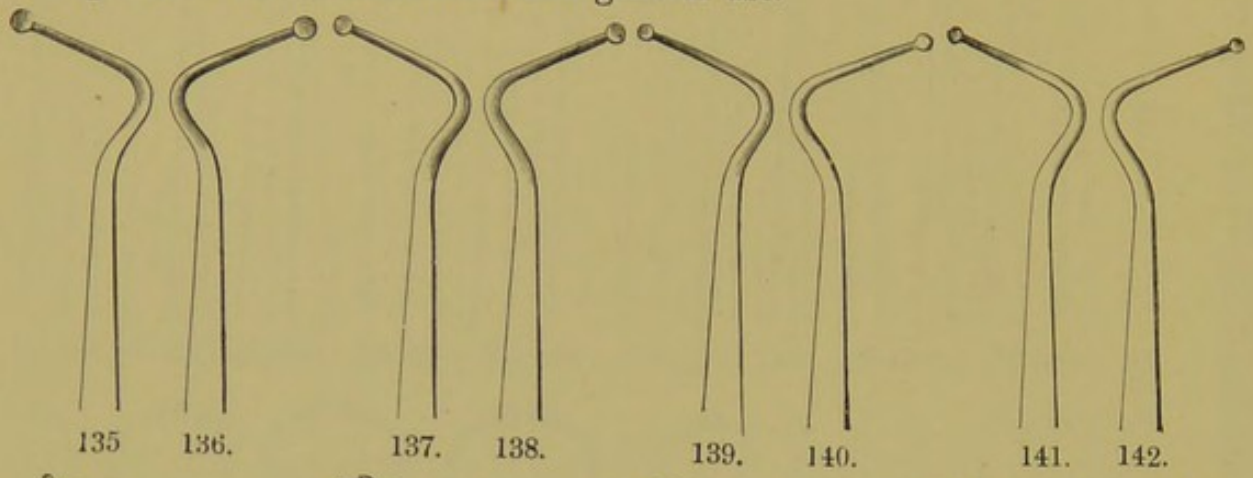
			s.	*d.*
In blued Steel handles, tapered like Fig. 87	(Figs. 87–134)	each	1	0
In Steel octagon handles, blued like Fig. 1	(„ „)	„	0	8
„ „ Nickel-plated ..	(„ „)	„	0	11

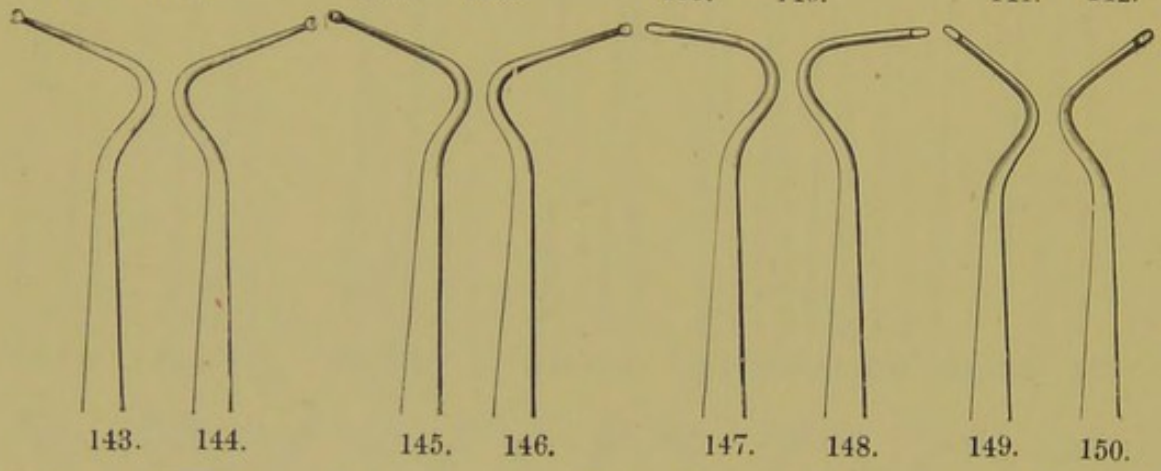
87.

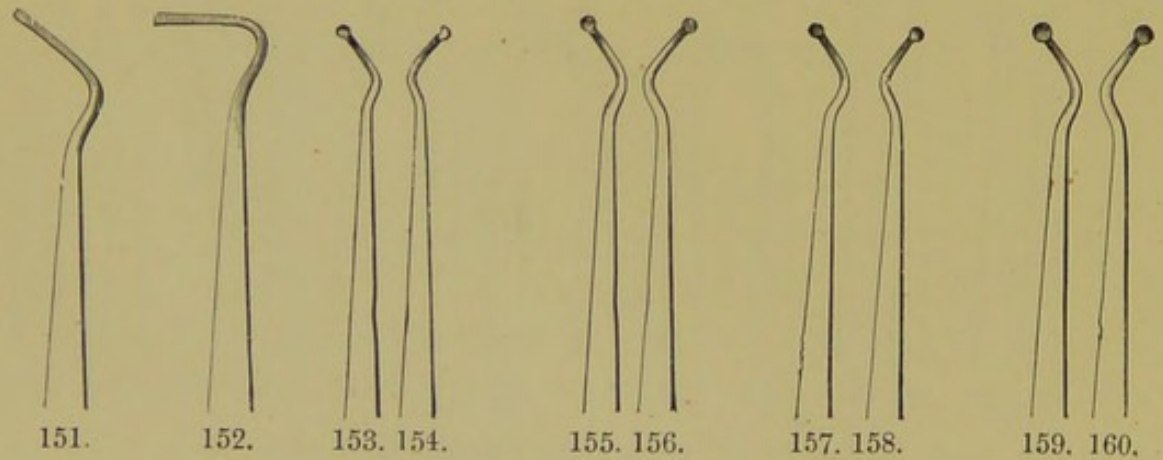
EXCAVATORS—*continued.*

Figs. 135–152 for deep cavities, will be found very useful for reaching far back in the mouth.

Figs. 153–160 for front teeth and general use.





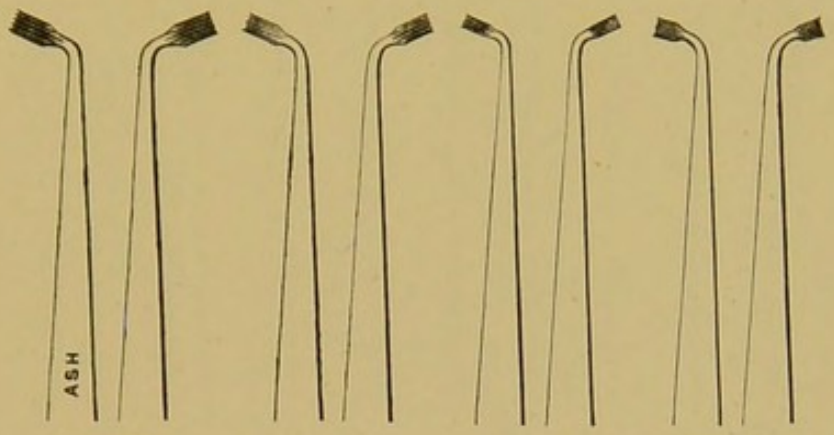


135–146, flat spoon shape, curved right and left.
147–150, with oval tapered points, curved right and left.
151, for upper cavities, flat pointed. It cuts either way.
152, ,, lower ,, ,, ,, ,,
153–160, flat spoon shape, curved right and left.

			s.	d.
In Steel octagon handles, blued	(Figs. 135–160)	each	0	8
,, ,, ,, Nickel-plated ..	(,, ,,)	,,	0	11
In blued Steel handles, tapered like Fig. 87	(,, ,,)	,,	1	0

SERRATED EXCAVATORS.

(Mr. H. BALDWIN'S.)



These Excavators are finely grooved on their concave-cutting side, and are intended for removing dentine, especially softened dentine, easily and rapidly.

The principle of the serrations is taken from the cross-cut bur ; but unlike the bur, the edge is sharp from one end to the other, and may be compared to a linear series of tiny spoon excavators fused together. An edge of this kind when kept very sharp enters the dentine most readily. By slightly varying the direction in which the instrument is made to work a very complete removal of the affected dentine can be easily accomplished. The finely-grooved dentinal surface which they produce is specially favourable for the retention of every kind of filling. For cervical edges they are very handy.

They are easily sharpened by rubbing the back of the blade on an oil stone.

		s.	*d.*
In Steel octagon handles, blued . . .	(Figs. 1–8) each	1	0
„ „ „ **nickel-plated**	„ „ „	1	4

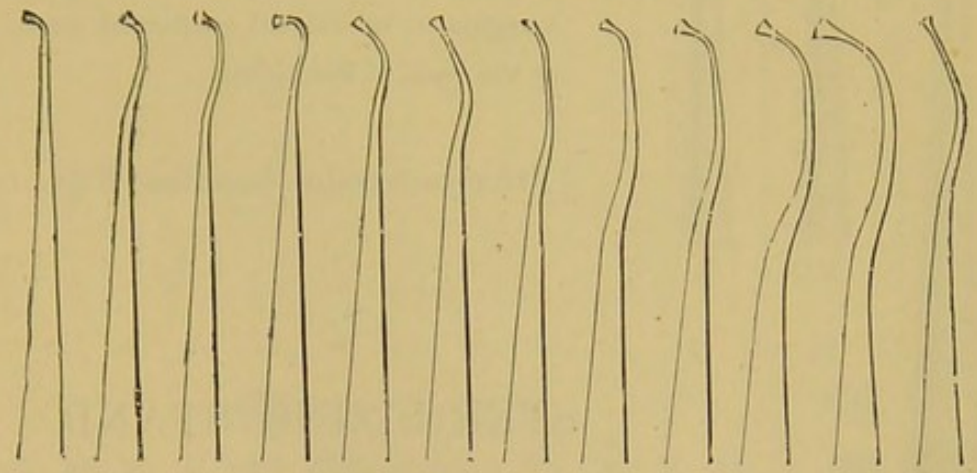
---

	s.	*d.*
Cone-Socket Excavators, Figs. 1–160 shown on pages G13–16 each	0	6

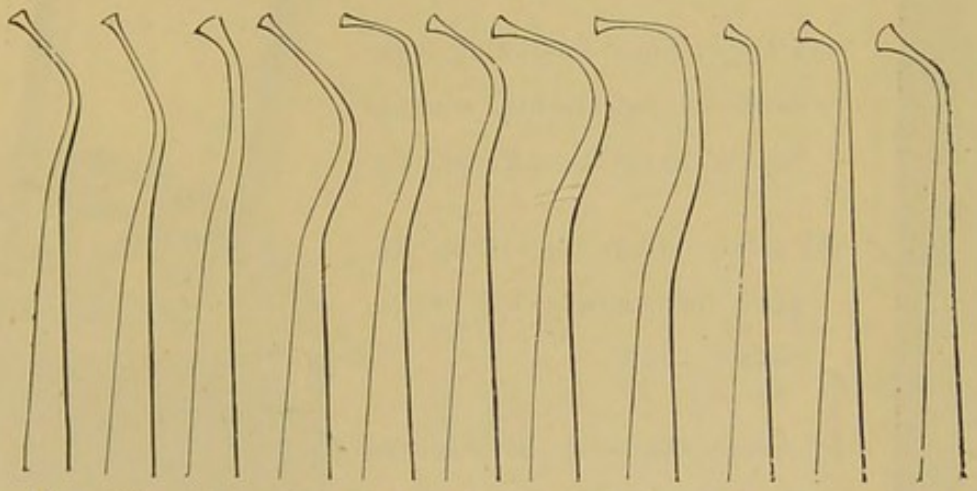
BATTLE-AXE EXCAVATORS.

(Dr. S. G. PERRY'S.)

1



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.

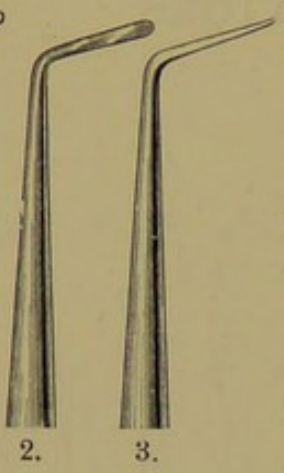


14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24.

In presenting these Excavators to the Profession, Dr. Perry said: The blades are made somewhat like a battle-axe in shape. One distinguishing feature about them is the great slenderness of the shank, while the round cutting-edge is intended to fit into the contour of cavities. Another advantage of the round cutting-edge is that it "bites" only in one place, and where it bites it takes hold.

The excavators vary in size from very fine and delicate ones to larger sizes, the idea of the round face and cutting-edge being carried out in all. There are twenty-four in the set, running from the smallest to the largest size needed; the largest ones being for opening into cavities and cutting down crown surfaces, and the others for work in the interior of all cavities.

			s.	d.
In Steel octagon handles, blued ..	.. (Figs. 1–24)	each	1	0
,, ,, Nickel-plated	(,, ,,)	,,	1	4



2. 3.

1.

EXCAVATORS.

(Mr. R. H. Woodhouse's.)

Hatchet and hoe-shaped for reaching the cervical margins in interstitial cavities of teeth, more especially at the back of the mouth.

	s.	*d.*
Price in wooden handles (Figs. 1–3) each	1	9

STERILIZING STAND.

(Mr. H. C. Carter's.)

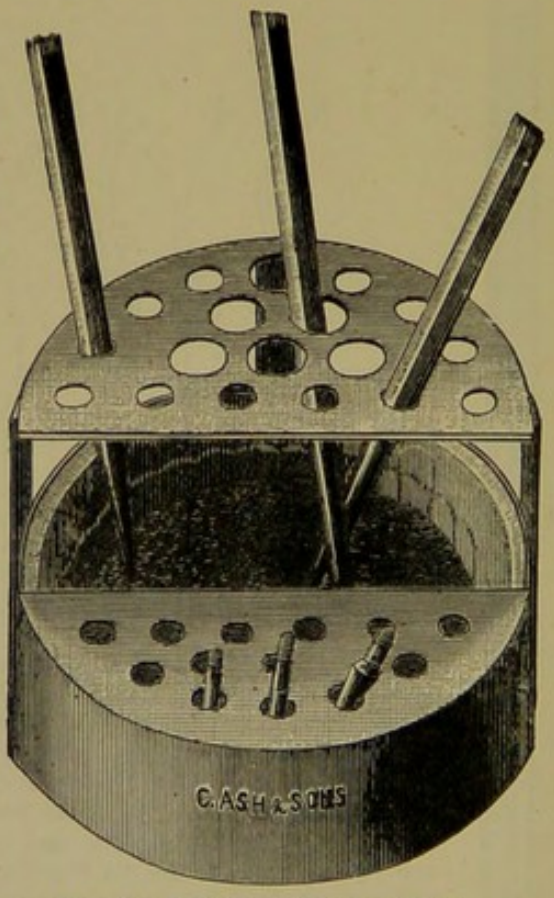
Consisting of :—

(*a*) Upper Stage for taking long-handled instruments, such as Scalers, Excavators, Probes, etc.

(*b*) Lower Stage for taking Engine instruments and Cone-Socket points.

(*c*) Glass Dish for holding the sterilizing fluid, with pad of Amadou or other suitable material on the bottom.

The Stand is strongly made, well finished, and nickel-plated.

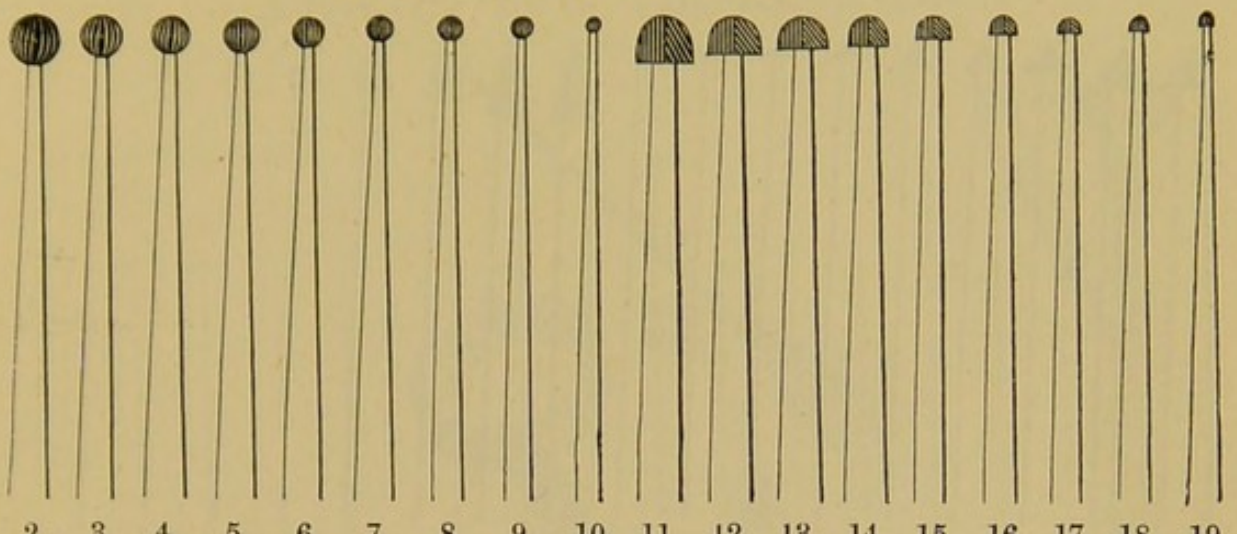


Height, 2¾ in.; diameter, 3⅜ in.

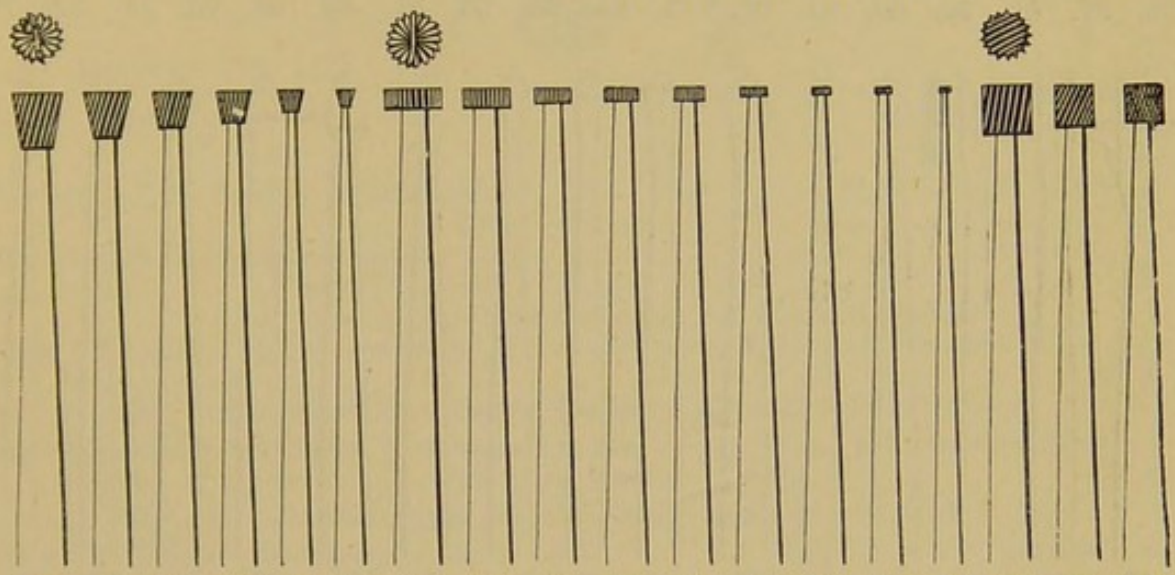
	s.	*d.*
Price, without the instruments shown in the engraving	7	6

BURS AND DRILLS.

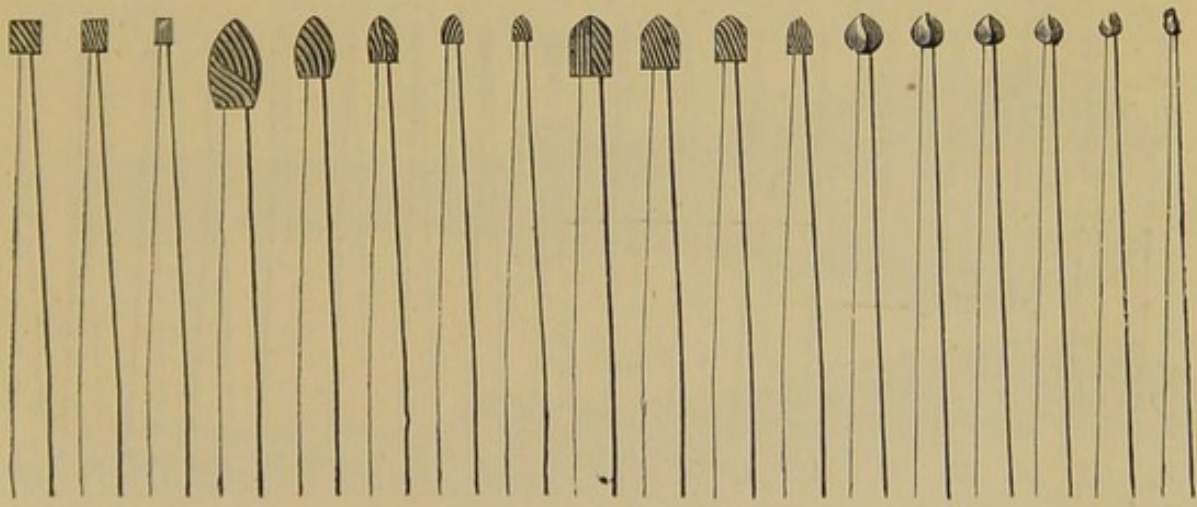
1.



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19.



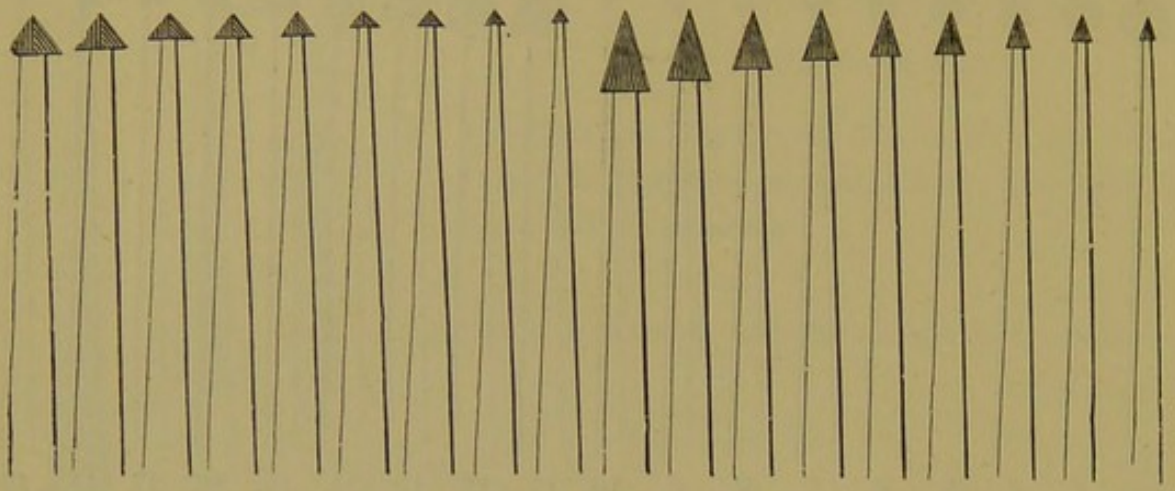
20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37.



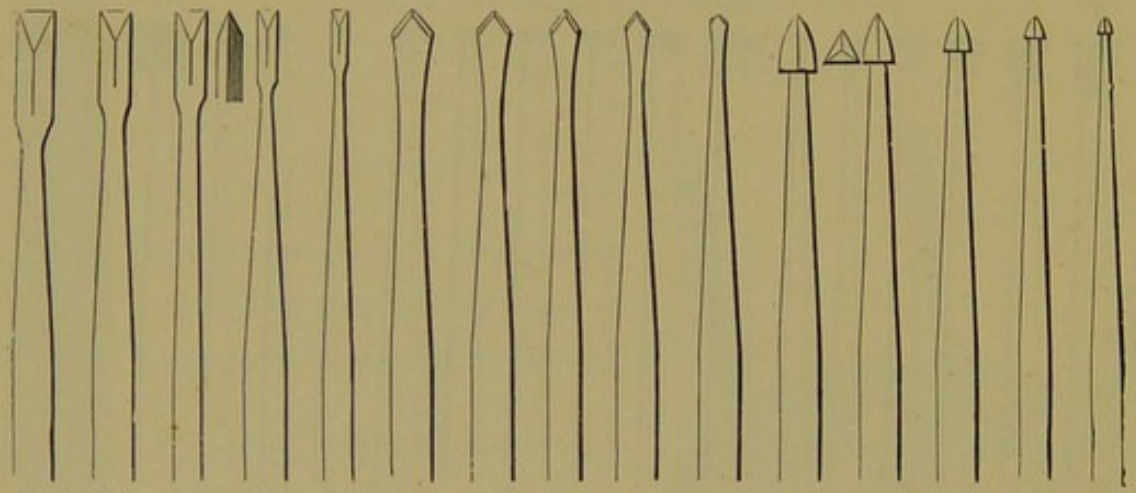
38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55

		s.	d.
In Steel octagon handles, blued	(Figs. 1–55) each	0	9
,, ,, Nickel-plated ..	(,, ,,) ,,	1	0

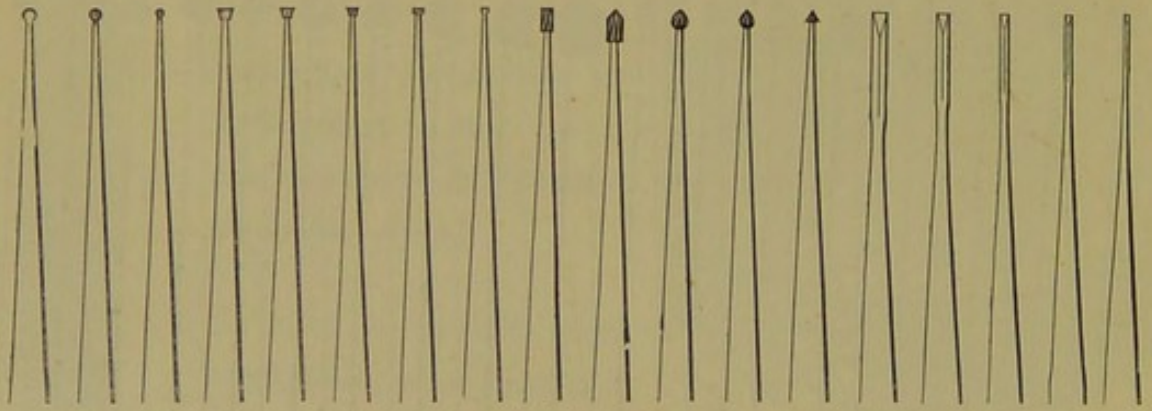
BURS AND DRILLS.



56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73.



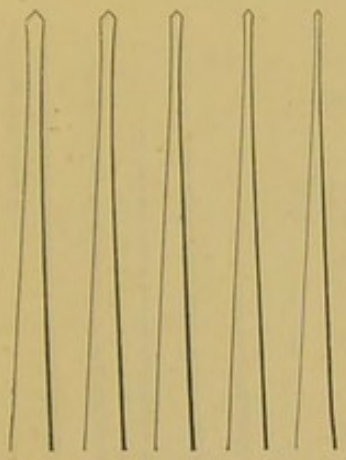
74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88.



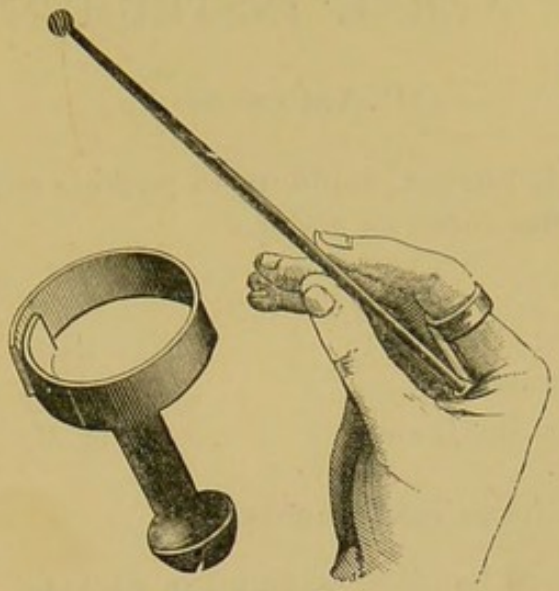
89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106.

				s.	*d.*
In Steel octagon handles, blued	(Figs. 56–106)	each		0	9
,, ,, Nickel-plated ..	(,, ,,)	,,		1	0

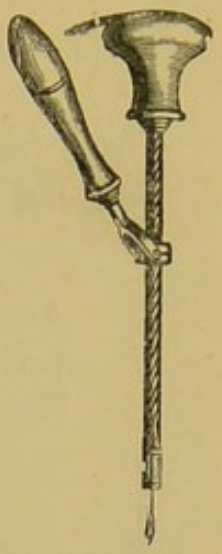
DRILLS, BUR THIMBLE, ETC.



107. 108. 109. 110. 111.



Bur Thimble.



A

Archimedian Drilling Instrument.

		s.	d.
Drills in Steel octagon handles, blued	(Figs. 107–111) each	0	9
„ „ „ „ Nickel-plated	(„ „) „	1	0
Burs and Drills re-cut and re-pointed	per doz.	4	0
„ „ Nickel-plated	„	3	0

Other forms of Burs and Drills made or obtained to order.

Bur Thimble, hinged, for use with Hand Burs and Drills. In German silver, Nickel-plated 2 0

The illustration does not show the hinge in the Bur Thimble.

Archimedian Drilling Instrument, five inches long, with tapered Steel socket. In Ebony handle, with three Burs and Drills 9 0

The extra Burs or Drills are usually put in the handle at A.

Burs and Drills, with tapered ends for ditto .. .. .. per doz. 9 0

BRUSHES, FOR CLEANING BURS, STOPPERS, ETC.

Fig. 1.

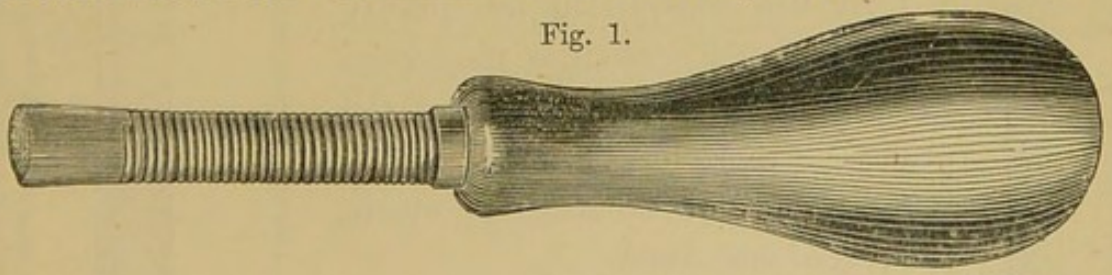
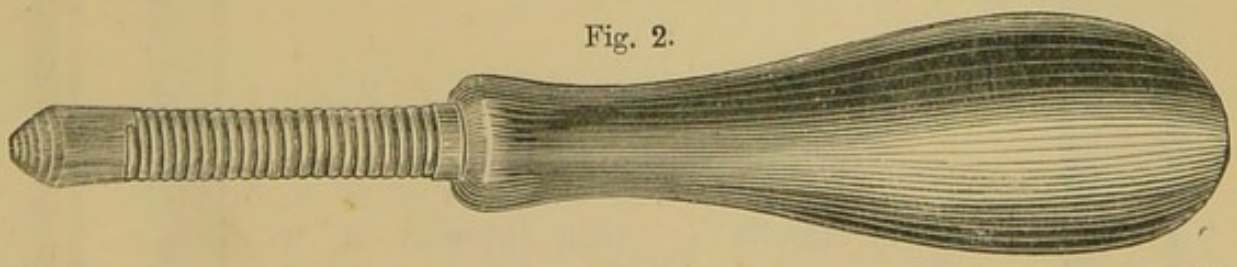


Fig. 2.



	s.	d.
Fig. 1, in brass wire	2	0
„ 2 (American), in steel wire	2	9

NERVE INSTRUMENTS.

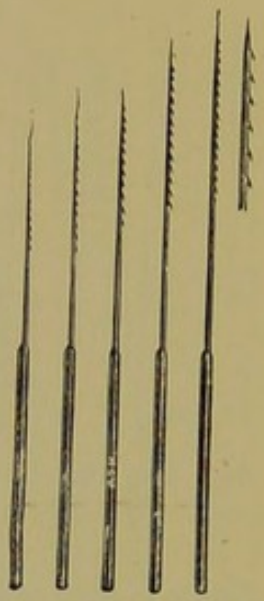
(C. Ash and Sons'.)

Soft temper, made up in packets containing one dozen as under :

		per pkt. s.	d.
Assorted	(Figs. 2–6)	2	1
Small size	(„ 4–5)	2	1
Extra Small size ..	(Fig. 6)	2	1

Nerve Instruments :—

	s.	d.
In Steel handles, made up in packets of one dozen, soft temper (Fig. 14)	3	6



6. 5. 4. 3. 2.

NERVE INSTRUMENTS.

Fig. 1.—Extra Fine.
(C. Ash and Sons'.)

As specially made for Dr. Jenkins of Dresden. Used by many eminent practitioners, who speak of them in the highest terms.

They are unequalled for quality and finish, and ever since they were first brought to the notice of the profession there has been an increasing demand for them. Put up in packets of one dozen.

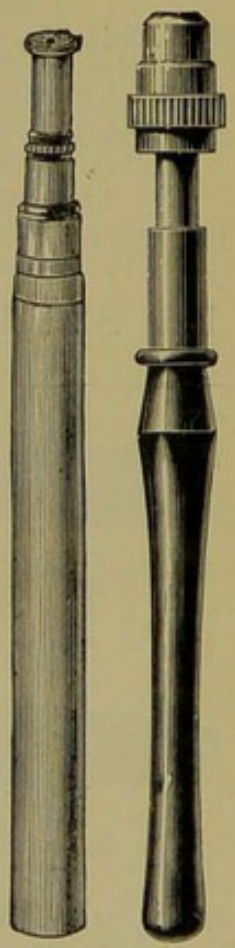
1.

		s.	d.
Price	per packet	3	0

Nerve Instrument Holders :—

		s.	d.
In Ivory Handle ..	(Fig. 15) each	3	0
„ Bone „ ..	(„ 16) „	0	4
„ Ebony	(„ 17) „	1	6

14. 15.



16. 17.

NERVE INSTRUMENTS.

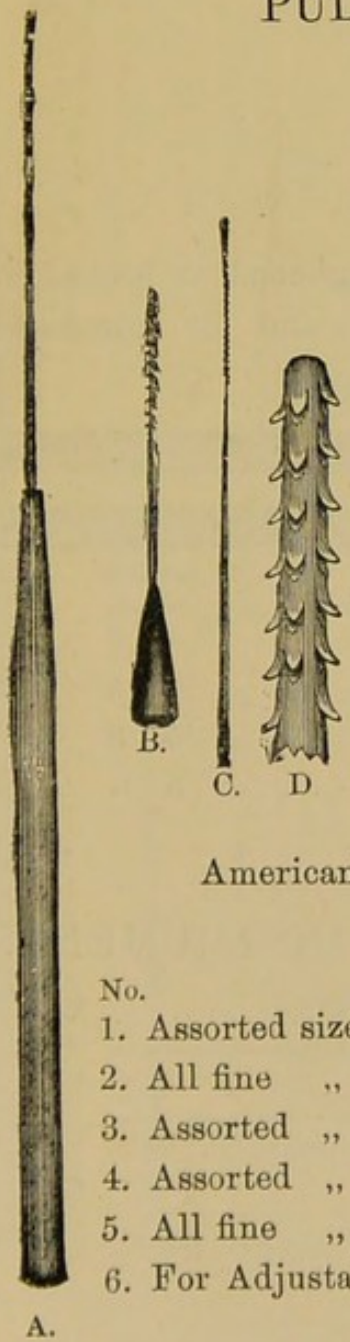
(American.)

	per pkt. s.	d.
Soft and half soft, assorted forms, in packets of one dozen ..	2	1
,, ,, small size ,, ,, ..	2	1
,, ,, extra small size ,, ,, ..	2	1

These will fit Holders (Figs. 15, 16, 17) on opposite page.

PULP-CANAL CLEANSERS.

(Dr. Donaldson's.)



The points of these Pulp-Canal Cleansers are reduced so as to enter the canal readily, and the barbs, which are cut of just sufficient depth to accomplish their work, are arranged spirally around the shaft, in effect forming a screw, so that no two cuts are exactly opposite each other (see enlarged view D). With ordinarily careful usage these Cleansers will remove the pulp-substance perfectly, without liability to be broken or to become fastened in the canal. If at any time the instrument does not withdraw readily from the root, a turn or two to the left (unscrewing) will at once release it.

American make, put up in boxes containing half-dozen.

No.		per box. s.	d.	each. s.	d.
1.	Assorted sizes, with long handles .. .. (Fig. A.)	7	3	1	3
2.	All fine ,, ,, ,, ... (,, A.)	7	3	1	3
3.	Assorted ,, with short ,, ... (,, B.)	7	3	1	3
4.	Assorted ,, without ,, ... (,, C.)	5	3	1	0
5.	All fine ,, ,, ,, ... (,, C.)	5	3	1	0
6.	For Adjustable Holder .. .. .. (,, C.)	5	3	1	0

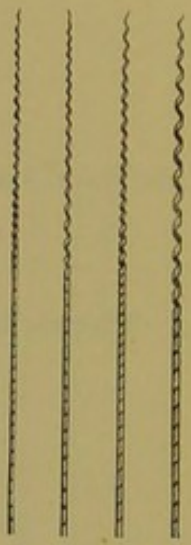
SPIRAL NERVE EXTRACTORS.

(IVORY'S.)

Used with a twisting motion.

In extracting a nerve, the instrument should be turned to the right until a firm hold is obtained. It can then be drawn out, and usually brings away the nerve entire.

When employed for treating root-canals, if a shred of cotton-wool is wound round the point of the instrument, the medicament can be carried to the apex of the root.

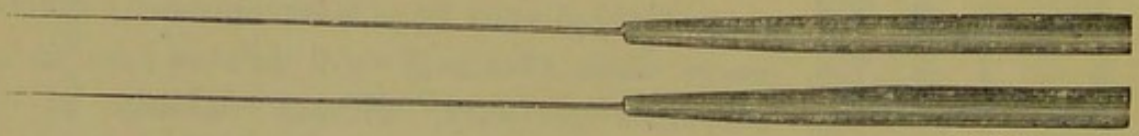


		s.	d.
Price, assorted	per doz.	3	0

NERVE BRISTLES.

(Dr. DONALDSON'S.)

In hard rubber handles, spring tempered, roughened or hooked, for removing the nerve, clearing the nerve cavity, and for introducing medicaments in the treatment of abscesses, &c.



	per box.		each.	
	s.	d.	s.	d.
In boxes, containing ½-doz. assorted sizes	4	6	0	10
„ „ „ all hooked	4	6	0	10
American make „ „ assorted	5	3	1	0
„ „ „ „ all hooked	5	3	1	0

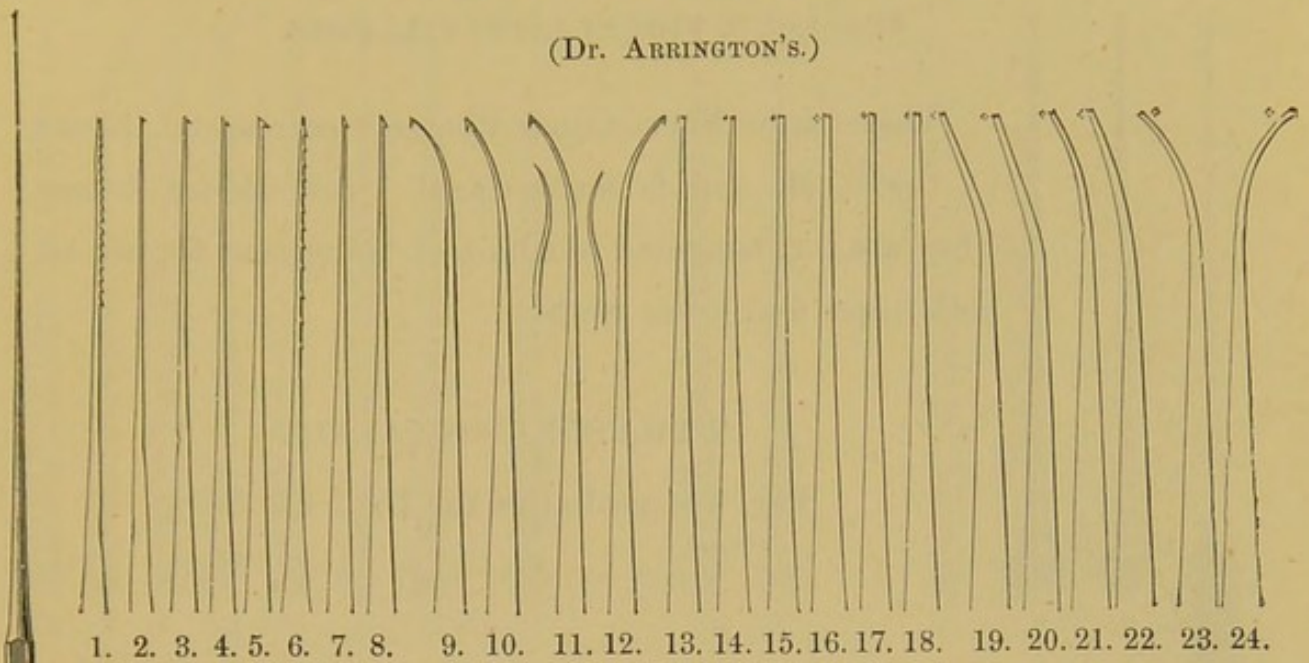
PLATINUM AND IRIDIUM NERVE INSTRUMENTS.

(AMERICAN.)

		s.	d.
Put up in packages as follows:—			
Quarter-dozen, barbed or hooked	per packet	3	2
Half- „ „ „		6	3

NERVE INSTRUMENTS.

(Dr. Arrington's.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24.

Nerve Extractors .. Figs. 1–5, soft temper.
„ „ .. Figs. 6–12, spring temper.
Nerve Canal Pluggers, Figs. 13–16, soft temper.
„ „ „ Figs 17–24, spring temper.

		s.	*d.*
In Steel octagon handles, blued	per set of 24	17	6
„ „ „ „	each	0	10

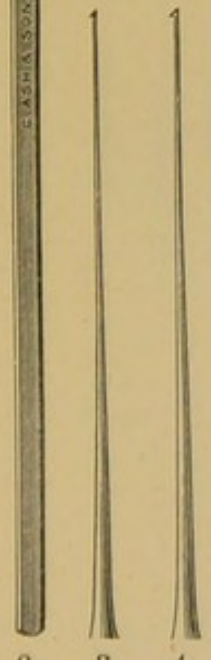
NERVE INSTRUMENTS.

(Soft Tempered, Hooked.)

In small square, blued steel handles; much liked on account of their lightness and long reach.

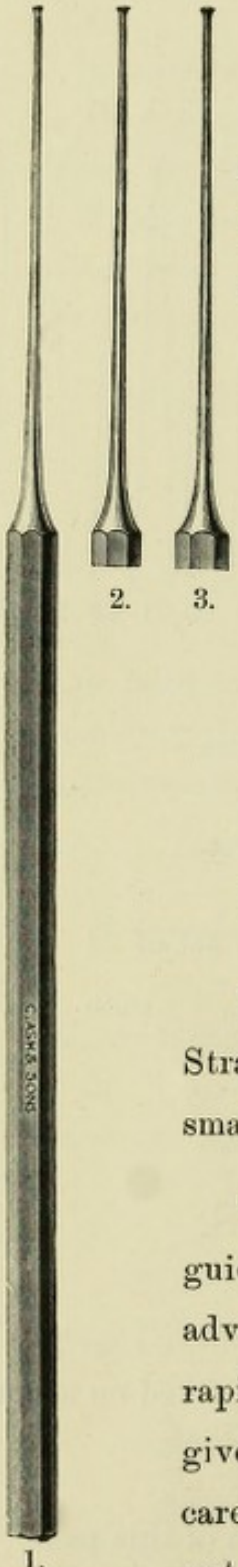
Figs. 2, 3, 4, as shown on the left-hand side of this page.

Price .. .. each 9*d.*; per doz. 8*s.* 6*d.*



2. 3. 4.

NERVE-CANAL PLUGGERS.



2. 3.

1.

FIGS. 1, 2, 3, FOR PLASTIC FILLINGS.

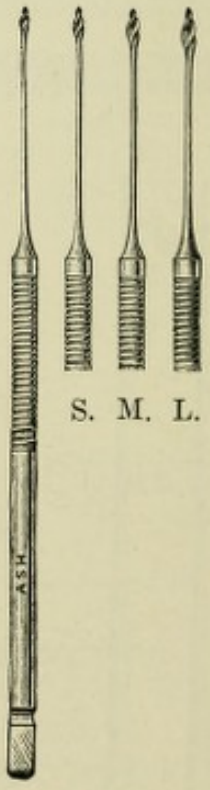
These three Nerve-Canal Pluggers correspond in size to the S, M, and L Nerve-Canal Drills shown below. They are soft tempered to admit of being bent for use on both upper and lower teeth.

IN FILLING ROOT-CANALS,

Fig. 1 is used after the Drill size S
„ 2 „ „ „ M
„ 3 „ „ „ L

	s.	*d.*
Price, in blued handles (Figs. 1, 2, 3) each	1	0

NERVE-CANAL DRILLS.



S. M. L.

Ex. S.

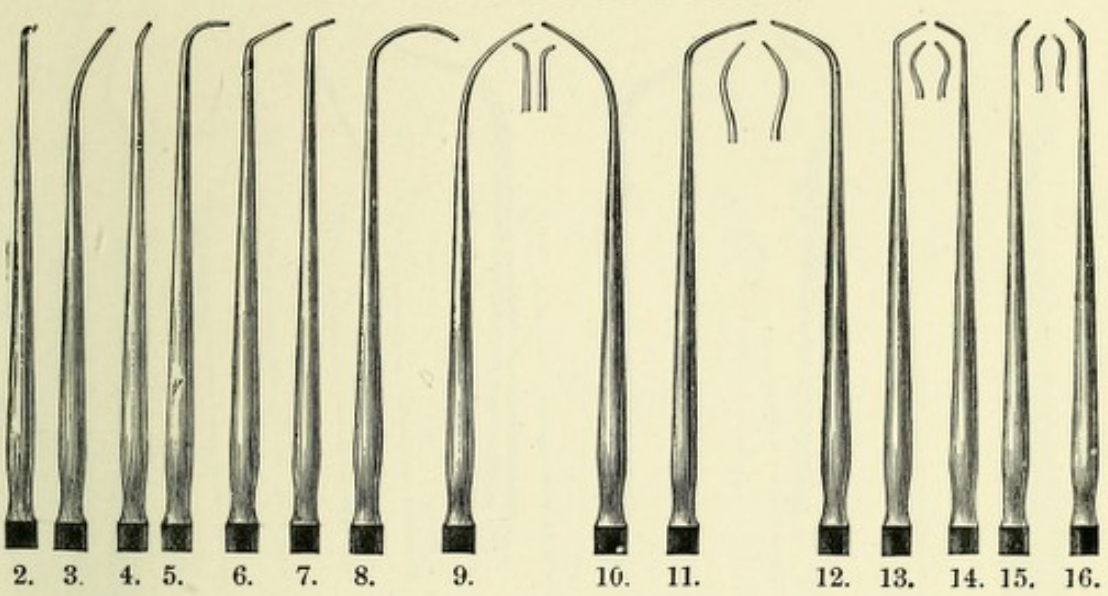
Made with Springs in Stems, for Straight Handpiece, in sizes extra-small, small, medium, and large, as here illustrated.

The cutting edges are carried up to the guide point, which is found to be a decided advantage, as the drills cut much more rapidly than they otherwise would, and give less pain to the patient. Being carefully tempered, they are tough and not easily broken.

	s.	*d.*
Price .. (Ex. S, S, M, and L) each	1	6

PROBES,

WITH VERY FINE POINTS.

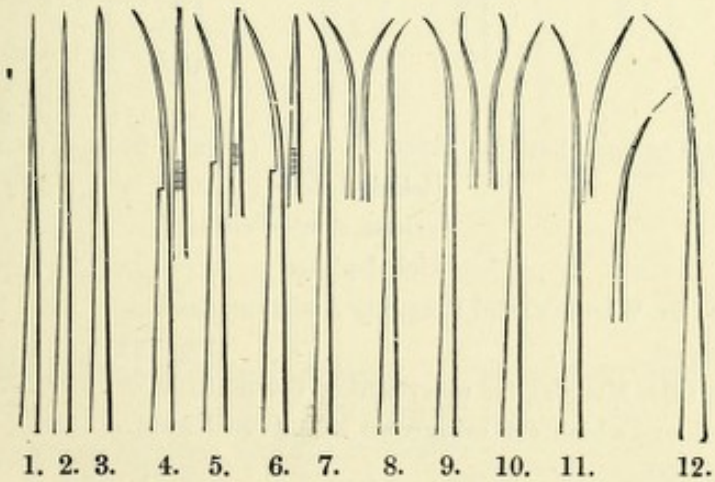


In small round blued-steel handles with turned ends. They form a very useful set, but the points are too fine to admit of the instruments being nickel-plated.

		s.	d.
Price	(Figs. 1–16) each	0	9

NERVE-CANAL STOPPERS.

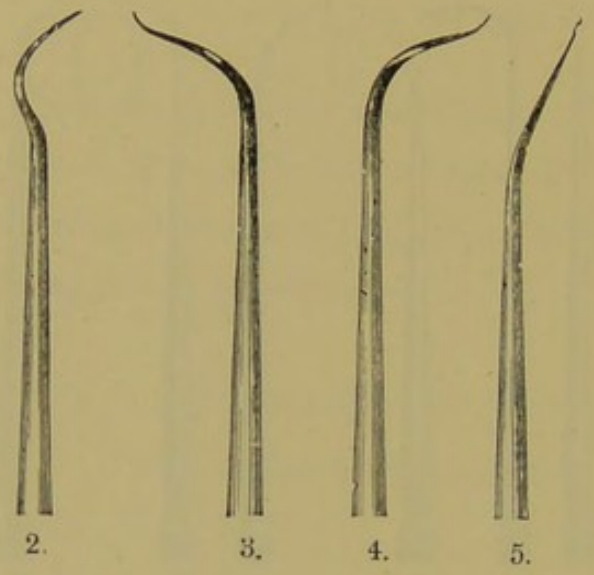
(Dr. Hunter's.)



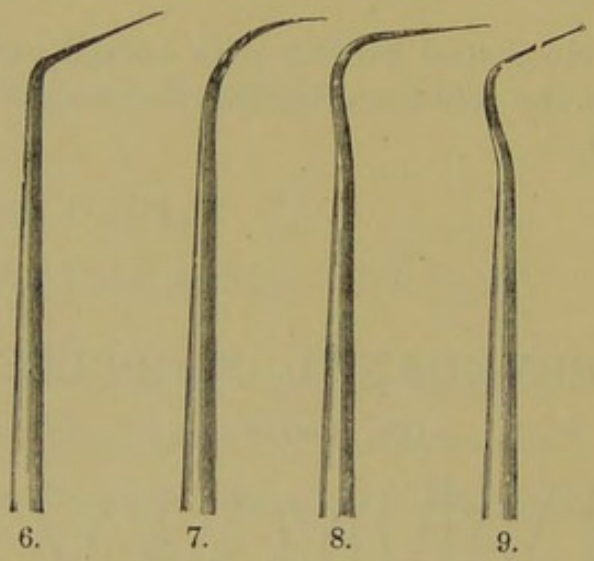
			s.	d.
In Steel octagon handles, blued ..	(Figs. 1–12)	each	1	0
1. „ „ „ ..	(„ „)	per set	11	0

PROBES.

1.



2. 3. 4. 5.



6. 7. 8. 9.

			s.	*d.*
In Steel octagon handles, blued	..	(Figs. 1–9) each	0	8
„ „	Nickel-plated	(„ „) „	0	11
„ „	various, double-ended	.. „	1	2
„ „	Nickel-plated	.. .. „	1	6
Probe (Dr. Weston's) and Plugging Assistant, double-ended	.. ..	(Fig. 12) „	1	6
Probe (Mr. Moon's), for ascertaining the position of stumps which are overgrown with gum, Nickel-plated	.. ..	(Fig. 13) „	2	0

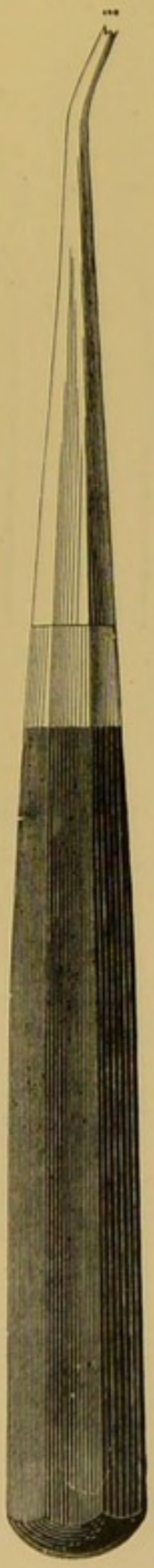
Other Probes made or obtained to order.

12.

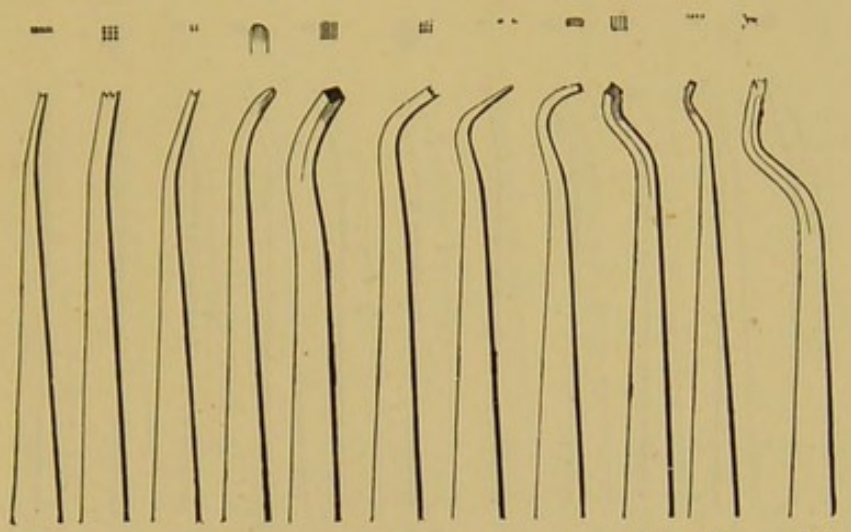
13.

HAND STOPPERS.

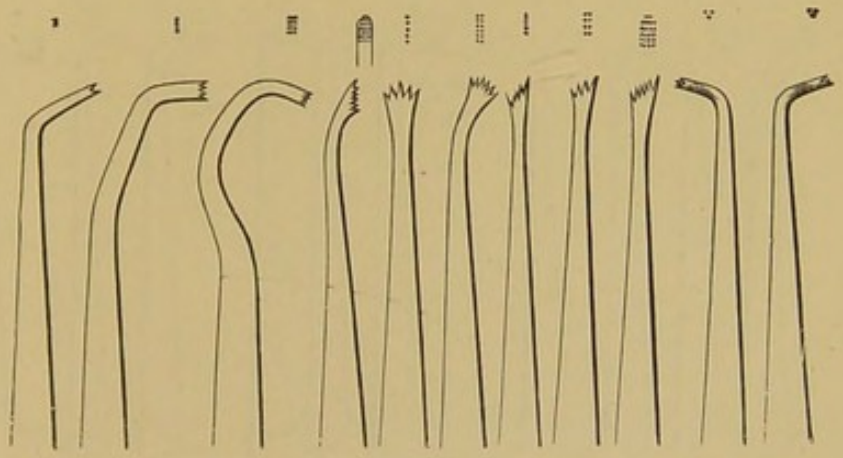
(Set C.)



1.



2. 3. 4 5. 6. 7. 8. 9 10 11. 12.



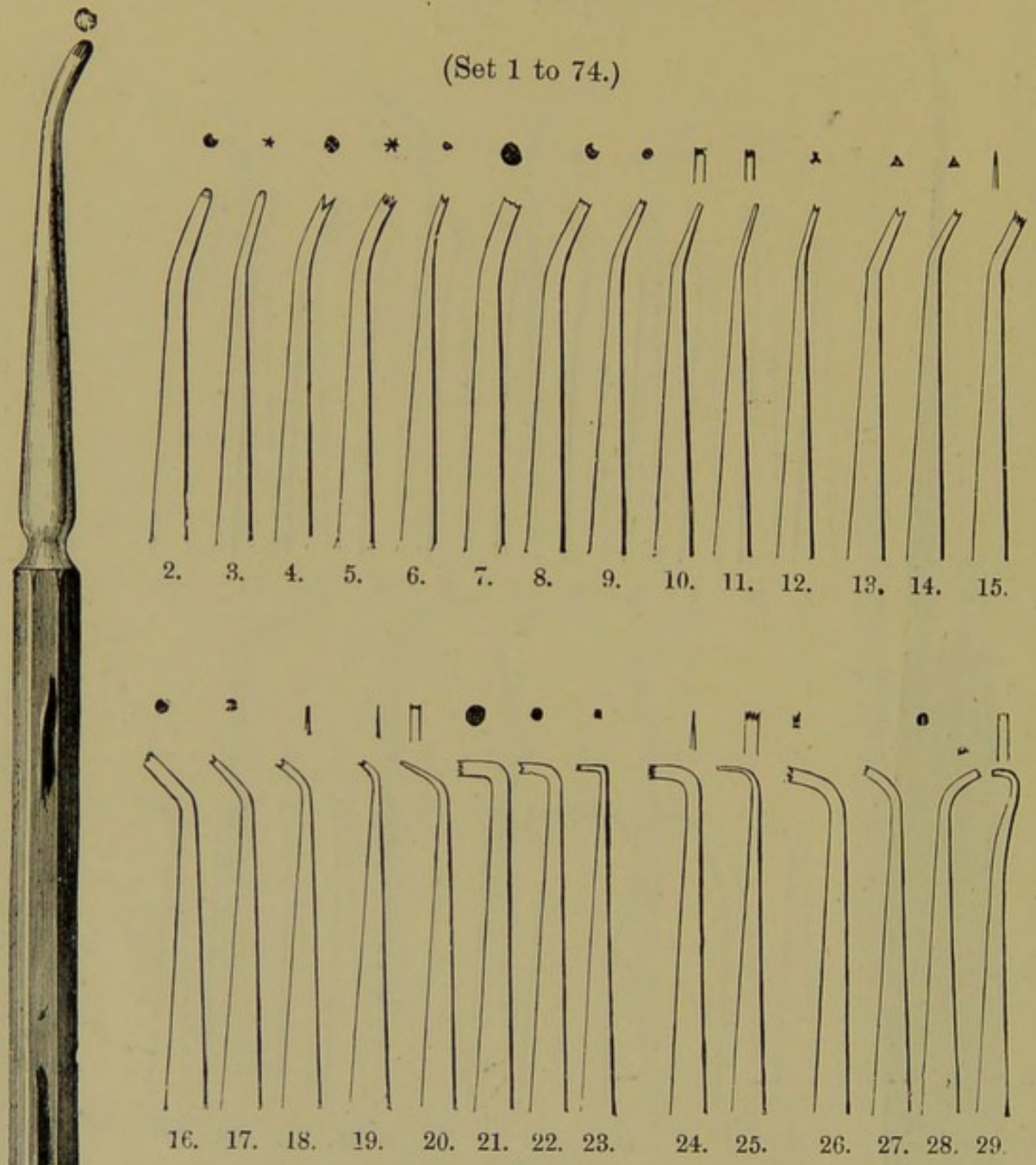
13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23.

24.

			s.	d.
In Steel Octagon Handles, blued	..	(Figs. 1–24) each	1	2
„ „ „ nickel-plated	(„	..) „	1	6
In Ebony Handles, like Fig. 1, to order	(„	„) „	3	0
„ „ 24, „	(„	..) „	3	0

HAND STOPPERS—*continued.*

(Set 1 to 74.)

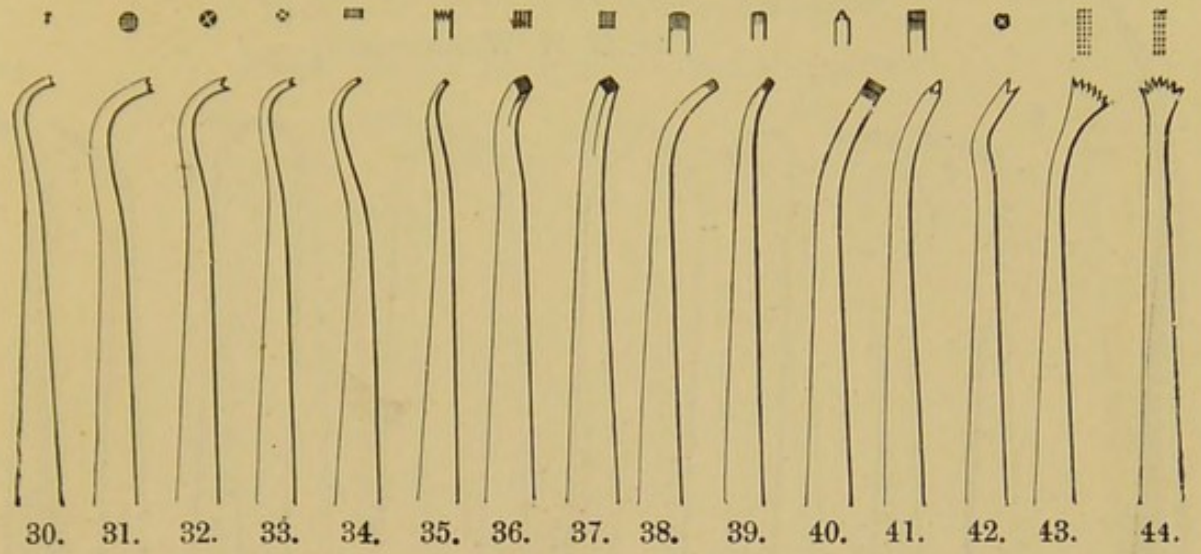


1.

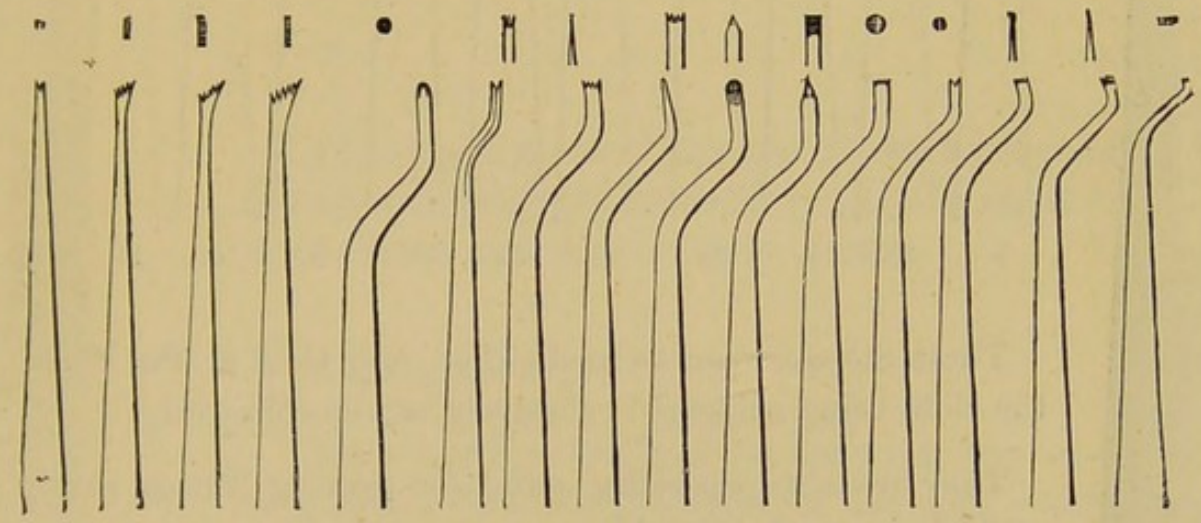
			s	d.
In Steel octagon handles, blued ..	(Figs. 1–74)	each	1	2
„ „	Nickel-plated („ 1–74)	„	1	6

Stoppers re-pointed at moderate charges.

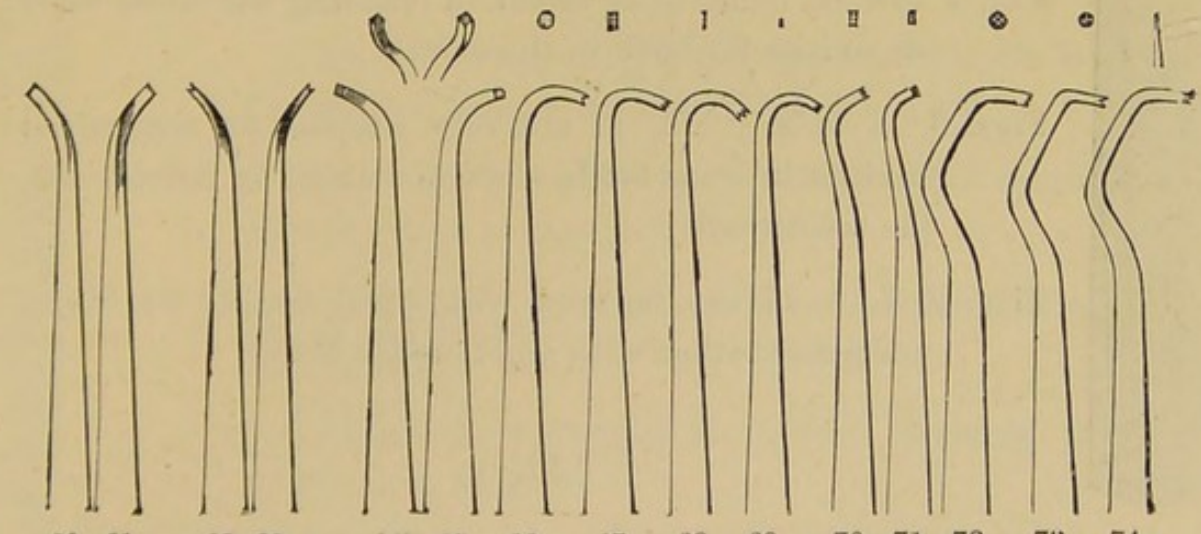
HAND STOPPERS—*continued.*



30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44.



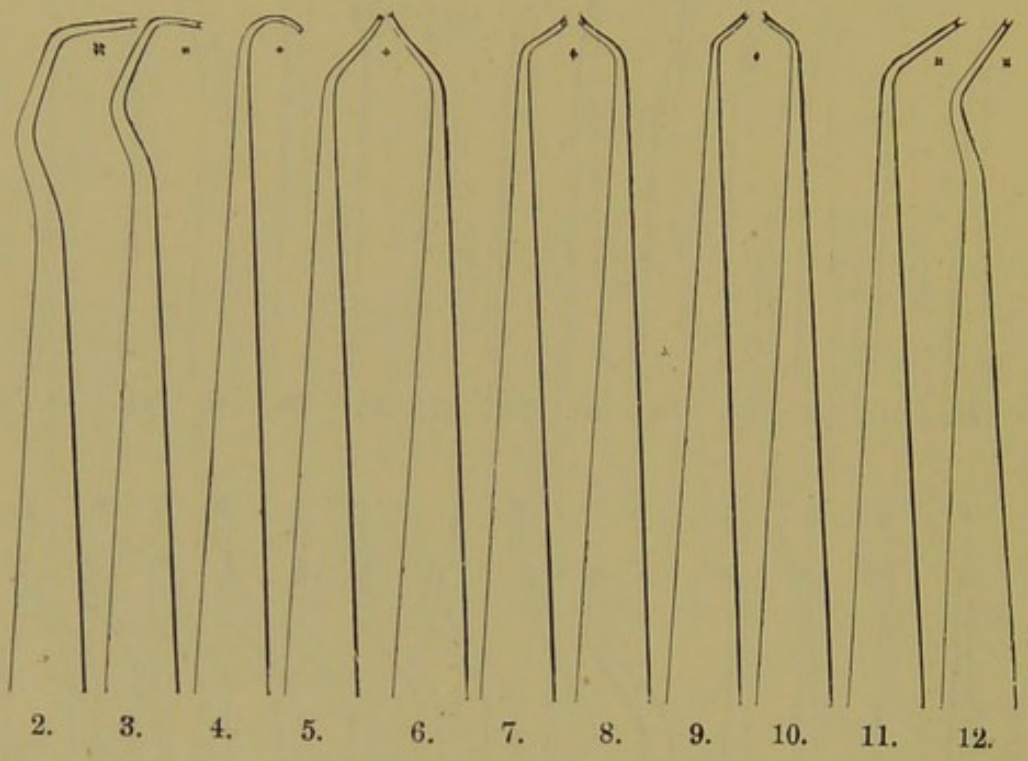
45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59



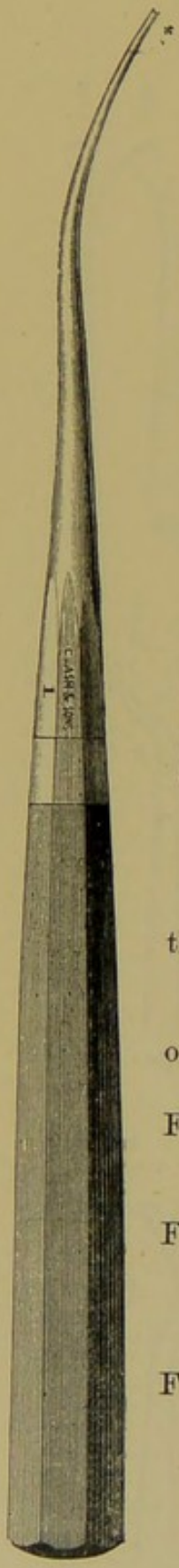
60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74.

HAND STOPPERS—*continued.*

(Mr. R. H. Woodhouse's.)



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.



1.

These Stoppers can be used either with Gold or Tin Foils; the Gold being employed cohesively or non-cohesively.

They are also especially useful for making fillings partly of Tin and partly of Gold.

Fig. 1 will be found most useful in reaching the distal walls of cavities far back in the mouth.

Figs. 3, 4, 5, 6, 9, 10, 12 are very suitable for interstitial cavities in front teeth, when operating by reflection in the mouth mirror.

Figs. 2, 7, 8, 11 can be used with equal facility for filling undercuts either with Gold or Tin Foil.

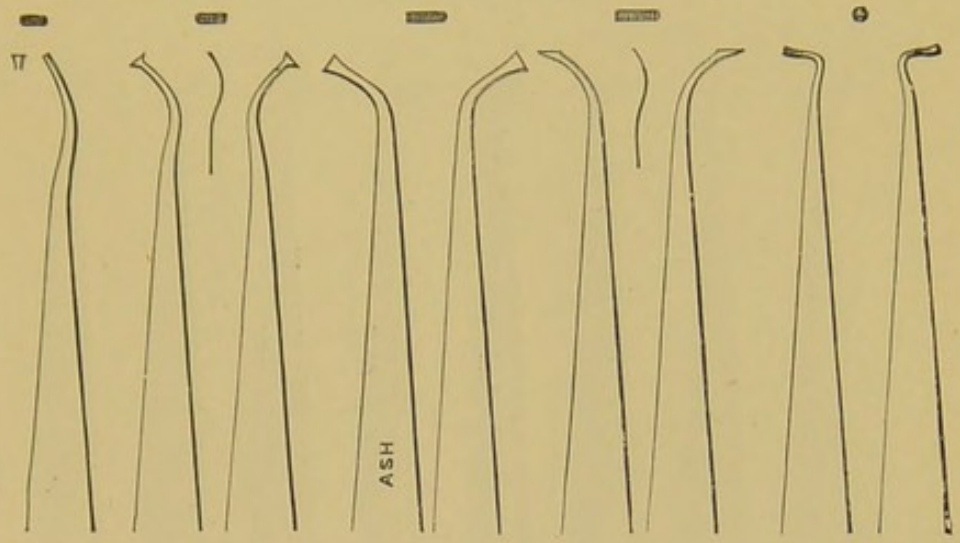
Price :

		s.	*d.*
In Ebony handles	(Figs. 1–12) each	3	0

HAND STOPPERS—*continued.*

(From patterns furnished by Mr. MATHESON.)

1.



2. 3. 4. 5. 6. 7. 8. 9. 10.

The serrations over the top of the instruments are shown enlarged in order to give a clear idea of the form and style of each point.

Mr. Matheson says :—

"Figs. 1 and 2 are used in the same way as foot-pluggers, principally for packing the gold over the cervical edge, and building up the main body of the filling from the neck of the tooth crownwards.

Figs. 3 and 4 are used, principally with the mirror, for packing against labial and lingual walls.

Figs. 5 and 6 are for large disto-coronal cavities in bicuspids and molars.

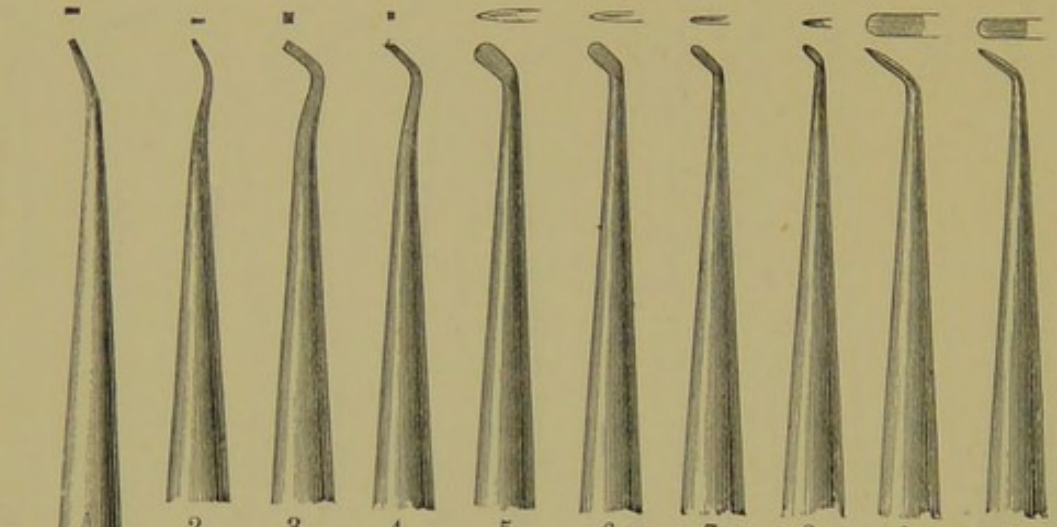
Figs. 7 and 8 are useful in cavities difficult of access, for reaching labial and lingual grooves.

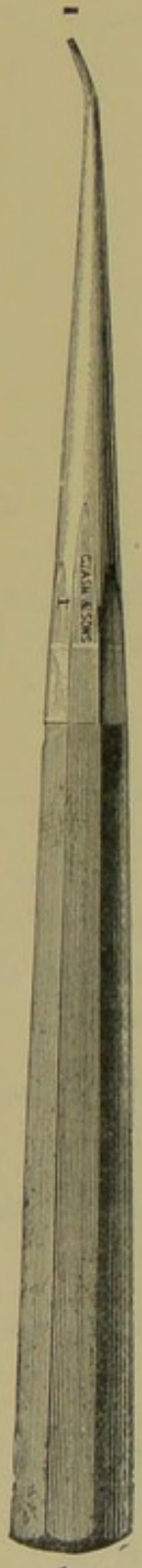
Figs. 9 and 10 are used for filling 'opposing points' in incisor cavities."

			s.	d.
Price in Ebony handles ..	(Figs. 1–10)	each	3	0

HAND STOPPERS—*continued.*

(HOSPITAL PATTERNS.)





1.

Figs. 1 and 2, with flat points, are suitable for use with cohesive foil.

Figs. 3 and 4, with square points, are used as condensers in crown cavities.

Figs. 5, 6, 7, 8, serrated both sides, and wedge shaped, are useful in all fairly superficial cavities with non-cohesive foil.

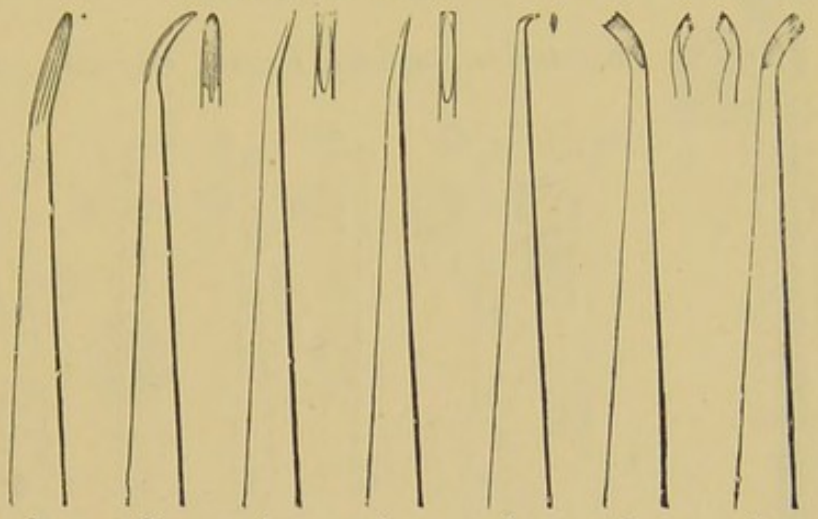
Figs. 9 and 10, serrated top and bottom, are designed for introducing non-cohesive foil in interstitial cavities of Bicuspids and Molars; also in large crown cavities.

Figs. 11 and 12 are Upper and Lower Condensers.

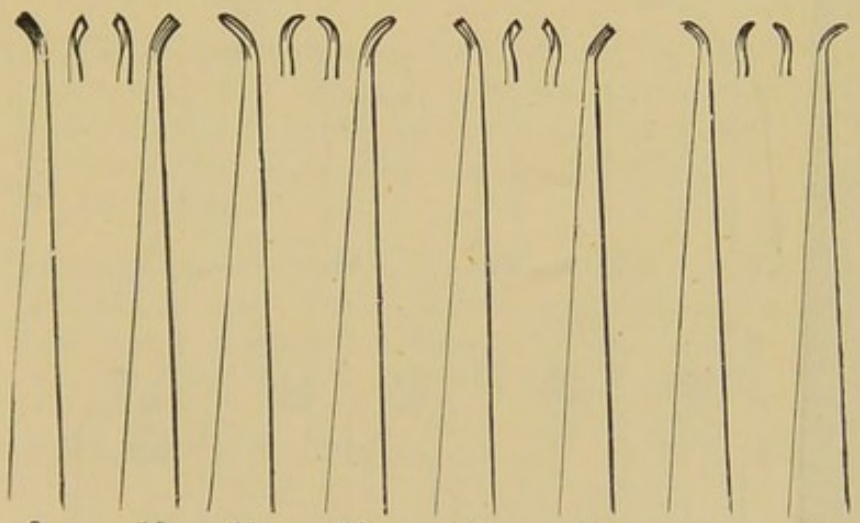
			s.	*d.*
In Ebony handles	..	(Figs. 1–12) each	3	0

HAND STOPPERS—*continued.*

(Dr. Bing's.)



2. 3. 4. 5. 6. 7. 8.



9. 10. 11. 12. 13. 14. 15. 16.

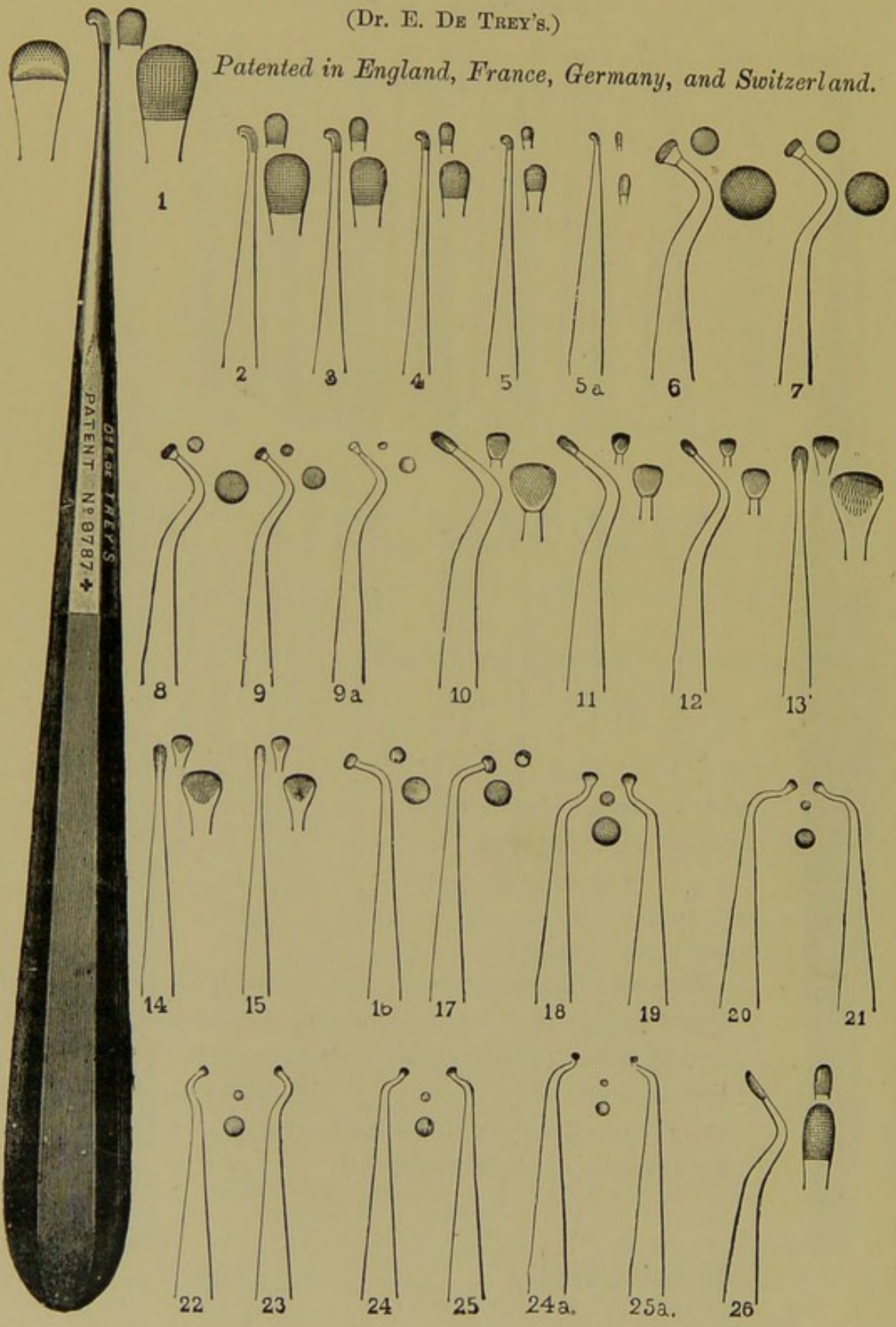
This set of Pluggers is used on the wedging principle, with Nos. 4 and 5, Soft or Non-cohesive Gold Foil folded in the form of tape. When either Pellets or Cylinders of gold are used they should be forced into the cavity with the ordinary foot pluggers, and then keyed up with gold tape by means of the Instruments here illustrated.

			s.	d.
1.	In Ebony handles	(Figs. 1–16) each	3	0

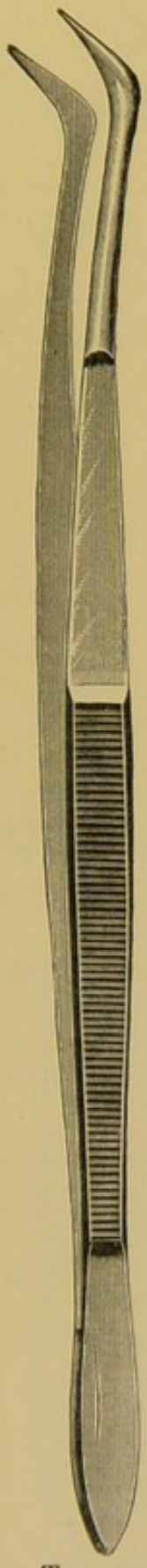
STOPPERS FOR "SOLILA" GOLD.

(Dr. E. De Trey's.)

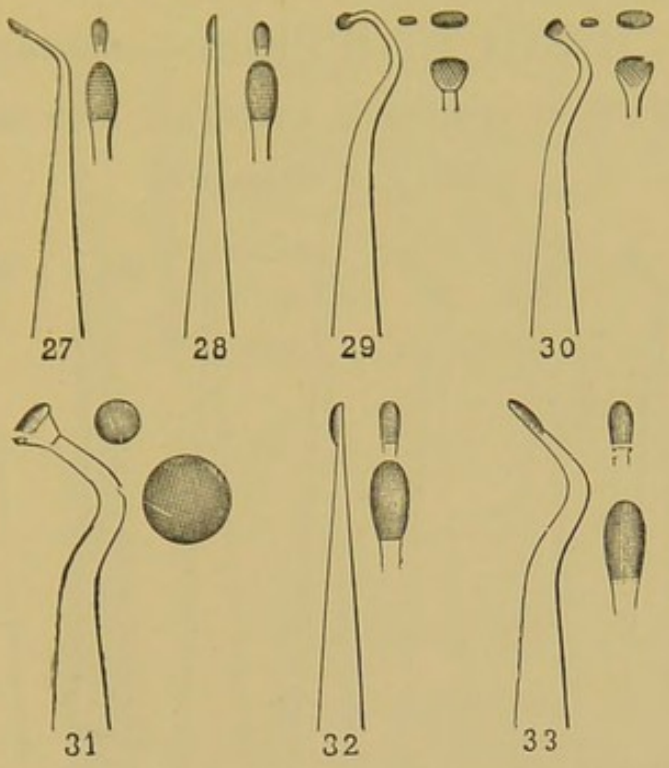
Patented in England, France, Germany, and Switzerland.



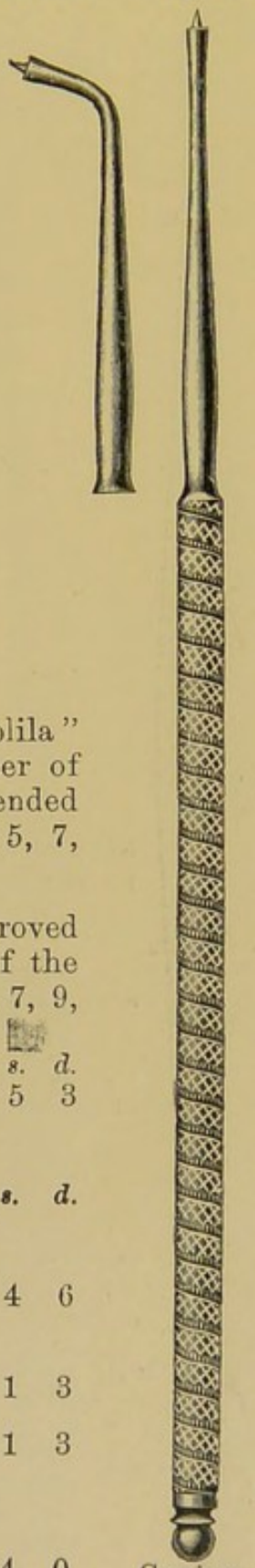
PLUGGERS FOR "SOLILA" GOLD—*continued.*



Tweezers.



Lower. Upper.



Carriers.

Those operators who desire to try "Solila" Gold with the smallest possible number of instruments to begin with are recommended to have the following six:—Figs. 3, 5, 7, 9, 26, and 28.

A fuller set, which experience has proved to be the most useful forms, consists of the following thirteen:—Figs. 3, 5, 5A, 6, 7, 9, 9A, 24A, 25A, 26, 26A, 28, and 30.

		s.	*d.*
Price, in Ebony handles ..	each	5	3

---

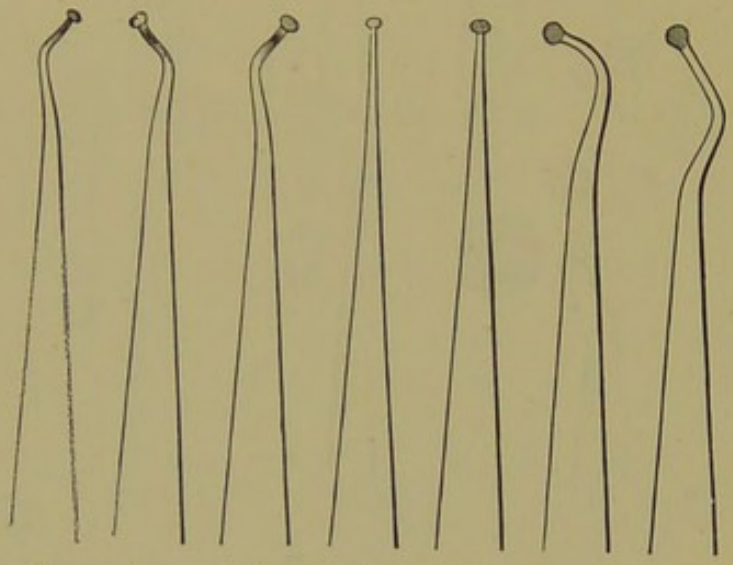
		s.	*d.*
Tweezers, specially adapted for lifting "Solila" Gold, as illustrated, Nickel-plated	each	4	6
Carrier for conveying "Solila" Gold to cavities in lower teeth ..	each	1	3
Ditto, in upper teeth ..	„	1	3
Scissors, specially adapted for cutting "Solila" Gold without crushing it	each	4	0

1.

HAND STOPPERS—*continued.*

FOR USE WITH COHESIVE, CRYSTAL, AND MAT GOLD.

(Mr. J. E. Husband's.)



2. 3. 4. 5. 6. 7. 8.

The following are some of the advantages claimed for these Stoppers, which are all made with highly-finished stoned serrations :—

a. They can be employed in any cavity where hand-pressure is used.

b. They are very useful in interstitial cavities, especially where the teeth are crowded and irregular, and

c. For filling distal and labial cavities in molars and bicuspids.

d. Being finely serrated all over, they work equally well with a pushing or pulling motion.

e. They do not cause the gold to "ball."

f. They do not "chop up" the gold.

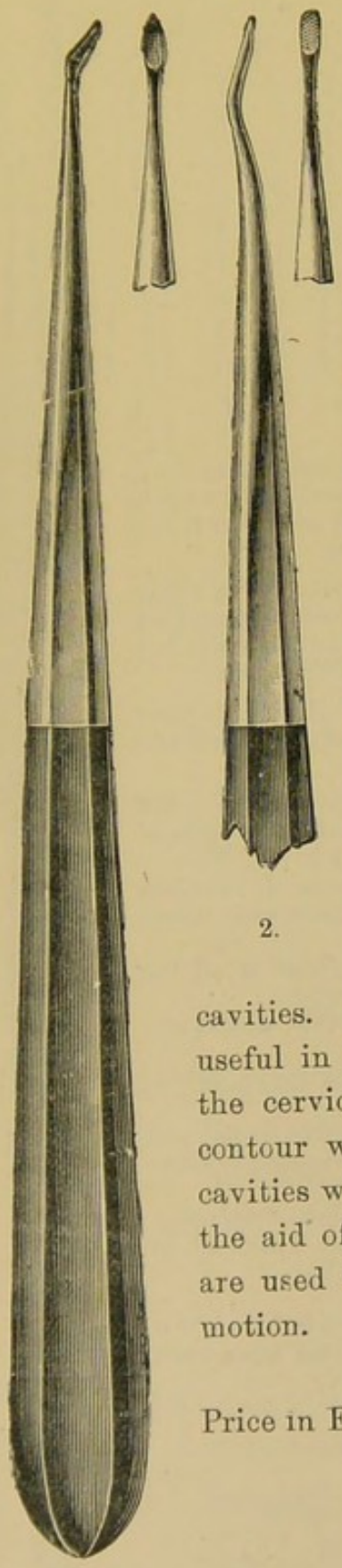
g. They are most effective when used with a slight lateral or rocking motion.

h. Rapid work can be done with them, and they are specially adapted for condensing gold about the margins of cavities.

Figs. 1–4, egg-shaped, right and left, small and large.
,, 5–6, ,, straight ,,
,, 7, lower condenser.
,, 8, upper ,,

		s.	d.
In Ebony handles	(Figs. 1–8) each	4	6

HAND STOPPERS—*continued*



1.
FACKLAM'S.

(Mr. F. FACKLAM'S.)

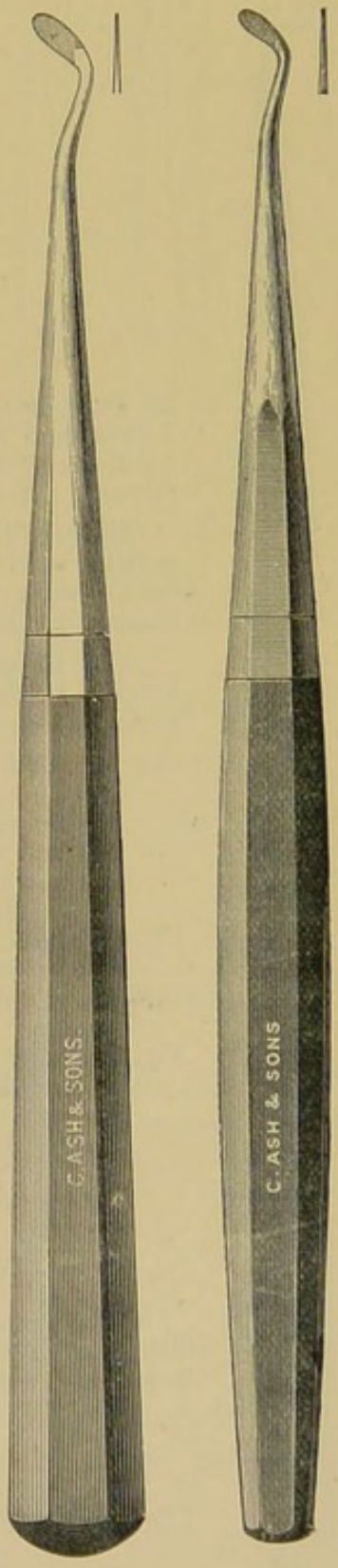
Designed for use with Ash's Fibrous Blocks, "Solila" gold, or with any other Sponge or Mat gold.

		s.	*d.*
Price ..	each	4	6

(Mr. F. MORDAUNT'S.)

Mr. Mordaunt says. I find these Pluggers most useful in the manipulation of Solila gold, for helping the introduction of gold to the cavity and for finishing contour fillings in interstitial cavities. They are particularly useful in compressing the gold to the cervical edge and in general contour work. I often fill front cavities without a separation with the aid of these Pluggers. They are used with the usual rocking motion.

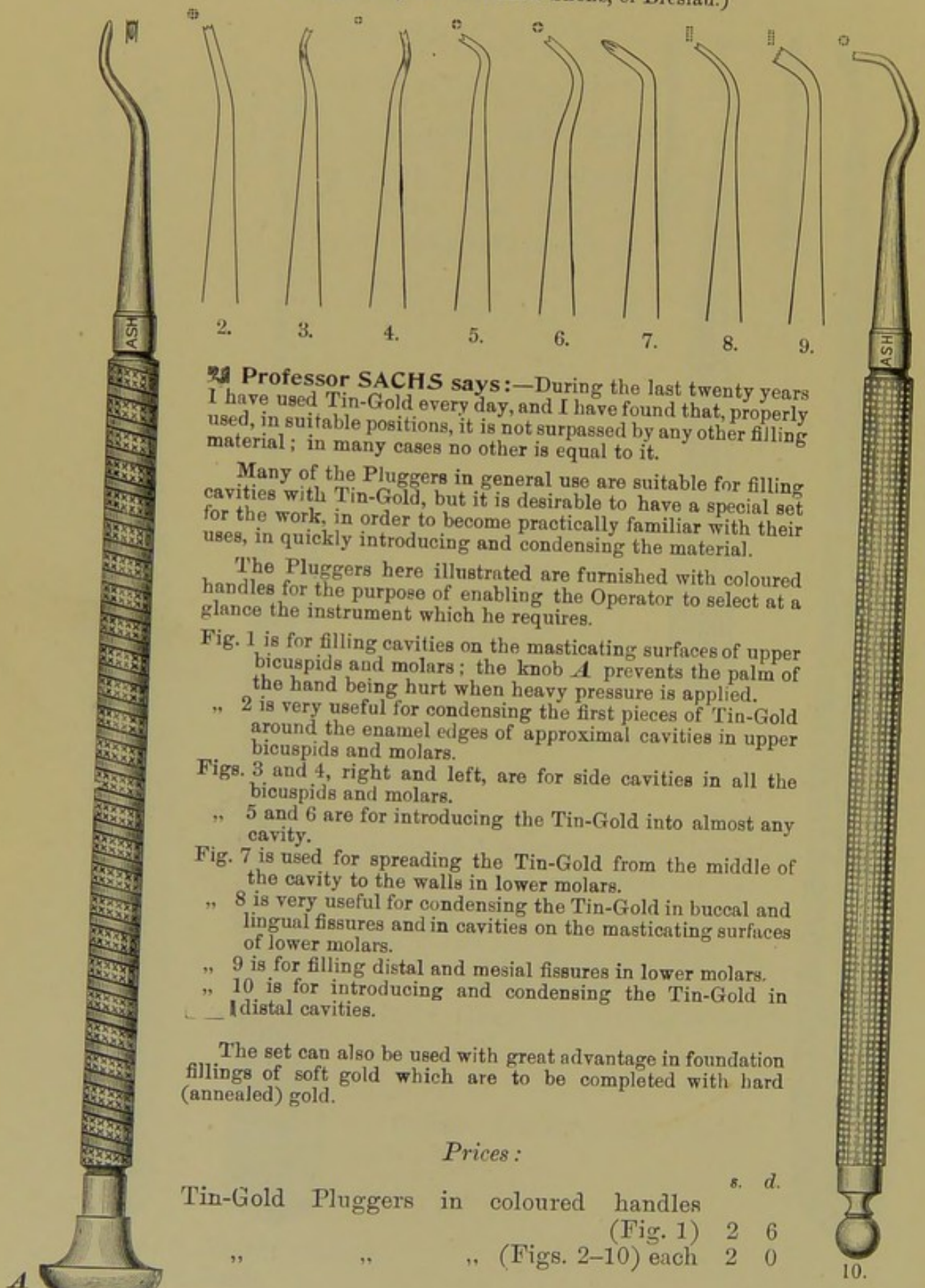
		s.	*d.*
Price in Ebony handle	each	4	0



1. 2.
MORDAUNT'S.

TIN-GOLD PLUGGERS.

(Designed by Dr. WILHELM SACHS, of Breslau.)



Professor SACHS says:—During the last twenty years I have used Tin-Gold every day, and I have found that, properly used, in suitable positions, it is not surpassed by any other filling material; in many cases no other is equal to it.

Many of the Pluggers in general use are suitable for filling cavities with Tin-Gold, but it is desirable to have a special set for the work, in order to become practically familiar with their uses, in quickly introducing and condensing the material.

The Pluggers here illustrated are furnished with coloured handles for the purpose of enabling the Operator to select at a glance the instrument which he requires.

Fig. 1 is for filling cavities on the masticating surfaces of upper bicuspids and molars; the knob *A* prevents the palm of the hand being hurt when heavy pressure is applied.

„ 2 is very useful for condensing the first pieces of Tin-Gold around the enamel edges of approximal cavities in upper bicuspids and molars.

Figs. 3 and 4, right and left, are for side cavities in all the bicuspids and molars.

„ 5 and 6 are for introducing the Tin-Gold into almost any cavity.

Fig. 7 is used for spreading the Tin-Gold from the middle of the cavity to the walls in lower molars.

„ 8 is very useful for condensing the Tin-Gold in buccal and lingual fissures and in cavities on the masticating surfaces of lower molars.

„ 9 is for filling distal and mesial fissures in lower molars.

„ 10 is for introducing and condensing the Tin-Gold in distal cavities.

The set can also be used with great advantage in foundation fillings of soft gold which are to be completed with hard (annealed) gold.

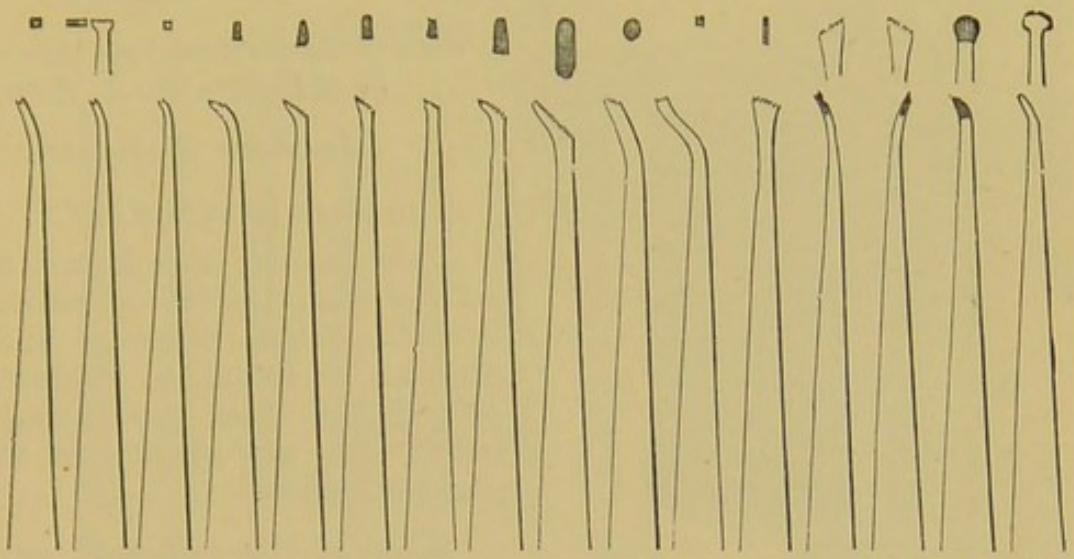
Prices:

	s.	*d.*
Tin-Gold Pluggers in coloured handles (Fig. 1)	2	6
„ „ „ (Figs. 2–10) each	2	0

1.

MALLET PLUGGERS.

(Dr. Butler's.)



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17.

Consisting of 16 Pluggers and 1 Burnisher.

		s.	d.
In Steel handles with polished ends	(Figs. 1–17) each	3	0
„ „ Nickel-plated ..	(„ „) „	3	4

OTTOLENGUI'S METHODS OF FILLING TEETH.

An Exposition of Practical Methods which will enable the Student and Practitioner of Dentistry successfully to prepare and fill all cavities in human teeth.

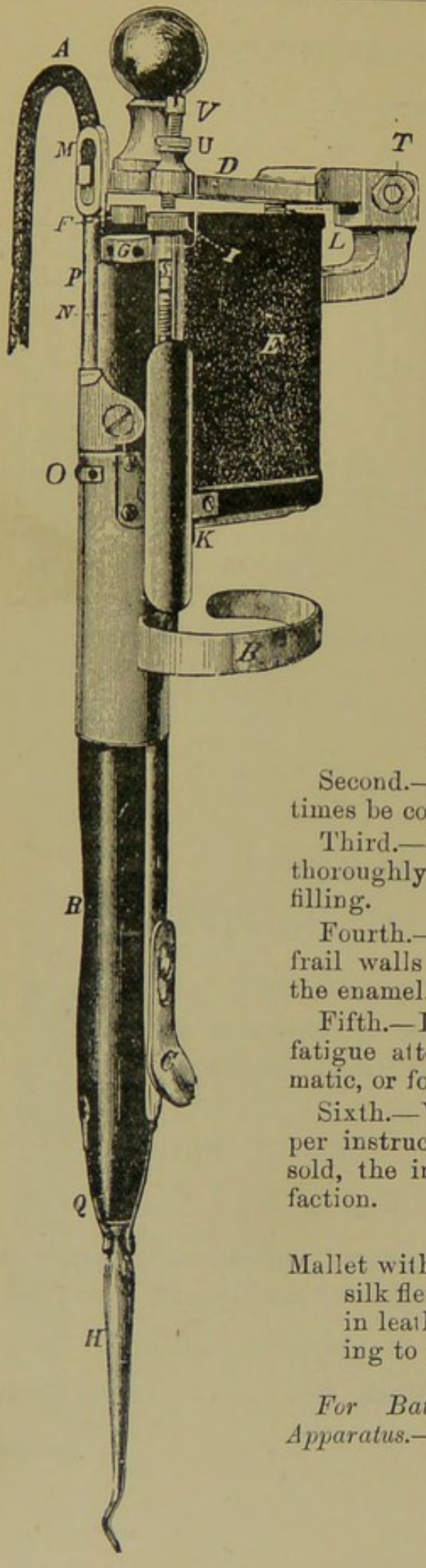
BY

RODRIGUES OTTOLENGUI, M.D.S.

Second Edition.

With two hundred and seventy-three illustrations, giving exact representations of all classes of cavities and their management.

	s.	d.
215 pp. and Index, cloth, 8vo. .. net	8	6



THE BONWILL ELECTRIC MALLET,

WITH MODIFICATIONS AND IMPROVEMENTS BY MARSHALL H. WEBB.

(*American Manufacture.*)

The Manufacturers say:

This Mallet is endorsed by many of the most skilful operators in the world. When properly understood, it will be found to approach more nearly the ideal condensing instrument than any other ever offered to the profession.

Some of the principal advantages are:

First.—The blow is delivered upon the packing-instrument just when its force is greatest, because the attraction of the magnets increases constantly as the hammer approaches them until the circuit is broken.

Second.—The force of the blow can at all times be controlled by the Operator.

Third.—Properly used, it condenses the gold thoroughly and evenly throughout the entire filling.

Fourth.—Gold may be impacted against thin, frail walls with ease, and without fracturing the enamel.

Fifth.—It saves the Operator time and the fatigue attendant upon the use of a hand, automatic, or foot-power mallet.

Sixth.—When its operation is understood, as per instructions which accompany each Mallet sold, the instrument cannot fail to give satisfaction.

Price:

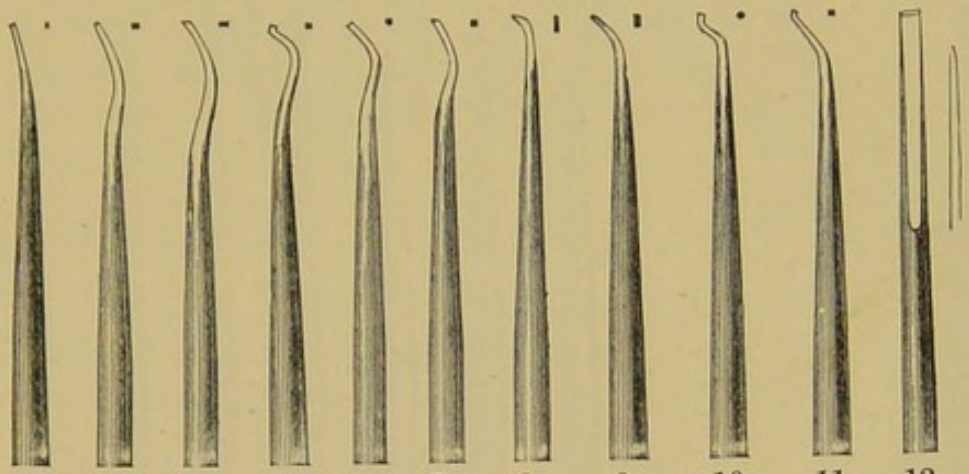
	£	s.	d.
Mallet with Connecting Posts, 7 ft. of silk flexible wire, and one plugger, in leather case, ready for connecting to the source of supply ..	7	0	0

For Batteries, see our List of Electrical Apparatus.—C. A. & S.

MALLET PLUGGERS,

FOR THE ELECTRIC MALLET.

(Dr. MARSHALL H. WEBB'S.)



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

			s.	d.
In Steel handles, Nickel-plated	..	(Figs. 1–12) each	4	0

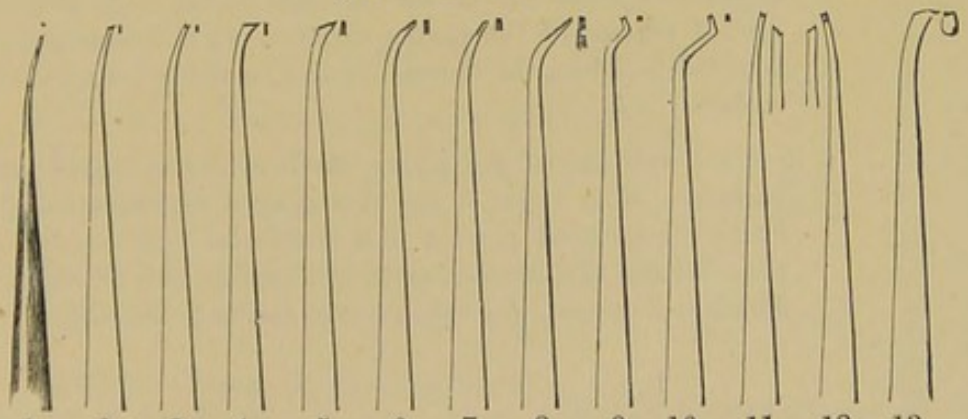
All forms of Pluggers for the Electro-Magnetic Mallet made or obtained to order.

The Electric Mallet is also supplied to order with Socket Handle to hold Points such as are used with existing Automatic Mallets, but only those points with very fine and shallow serrations should be employed, because the coarser kinds are liable to chop up the gold.

1.

MALLET PLUGGERS.

(Dr. VARNEY'S.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.

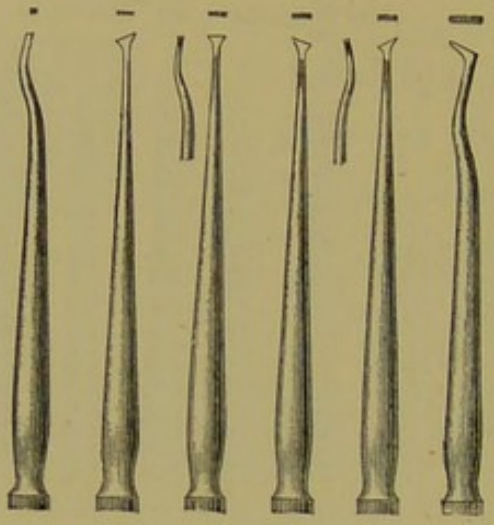
Consisting of 12 Pluggers and 1 Burnisher.

			s.	d.
In Steel handles, Nickel-plated	..	(Figs. 1–13) each	4	0

1.

MALLET PLUGGERS—*continued.*

(Dr. W. Finley Thompson's.)



2. 3. 4. 5. 6. 7.

In his third lecture on "Operative Dental Surgery and Therapeutics," delivered at the National Dental Hospital, 1879, Dr. Thompson said: "These instruments fulfil the requirements of all my ordinary work, and much that is more difficult."

He thus describes them:—

Fig. 1, round pointed and bayonet shaped, gives an unobstructed view while working, and is used as an anchorage instrument.

,, 2, similar in all respects, but that its point is square, which permits it to come in close contact with flat surfaces, and is used in connection with the foot-shaped instruments in approximal and crown cavities.

,, 3 is well adapted for filling fine fissures which, occurring in the bicuspids, sometimes unite the caries existing in the ante-medial and post-medial regions of the crown surface. It is an instrument also well adapted to filling the crucial fissures on the grinding surface of lower molars.

,, 4 to 7 are well suited for filling cavities on the approximal and labial surfaces. The angle of the foot-shaped instruments, Figs. 5, 6, 7, keeps the serrated portion in a horizontal position, and at the same time throws the handle quite out of the line of sight."—See *The Monthly Review of Dental Surgery*, January 15, 1880.

	s.	*d.*
In tapered Steel handles .. .. .. (Figs. 1–7) each	4	0
,, ,, like Fig. 1, page 43, for use with the Electric Mallet, Nickel-plated .. .. ,,	4	0

HAND MALLETS.

8 inches long.
Hand Mallet.

Hand Mallet used with Plugging Instruments shown on pages 41–44. The head of this Mallet is made of Nickel-plated brass filled with lead, and is 1 inch long and ¾ of an inch in diameter.

		s.	*d.*
Price, as illustrated, with wood handle,	each	3	6
Hand Mallet, Student's, with head of Nickel-plated brass filled with lead, and wood handle	,,	1	6
Hand Mallet, with tin head, in wood handle	,,	2	6

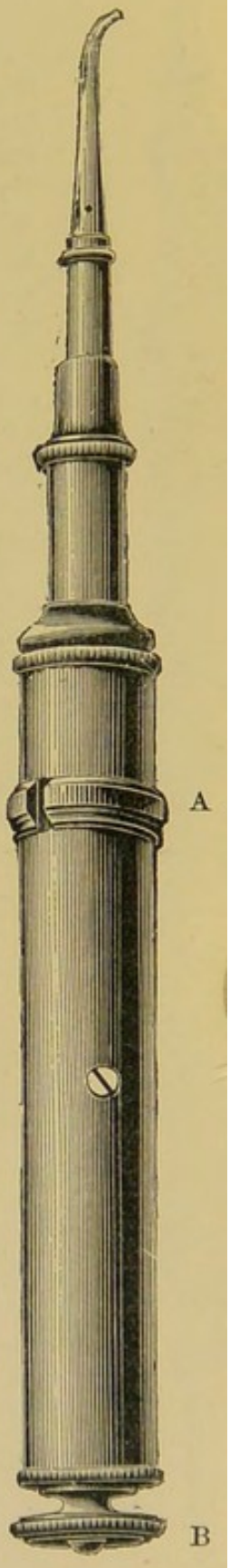
Hand Mallets of other descriptions made or obtained to order.

AUTOMATIC MALLETS.

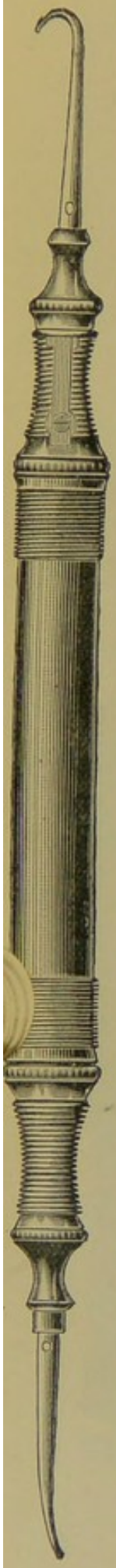
(Snow & Lewis's.)

Aatomatic Mallet, which gives light or heavy blows and is regulated by means of the milled head B at the end. The point can be fixed by means of the ring A, when the Mallet is required for hand pressure plugging.

		s.	*d.*
In German Silver, Nickel-plated, and checkered on case to give a firm hold	each	30	0
Mallet points, as illustrated on pages 49–58, with screw ends	,,	1	6
Leather Cases, 6½ inches by 3 inches and 1 inch deep, to hold Mallet and 24 Points, lined with Silk Velvet ..	,,	8	0
Automatic Mallet (American make), as above	,,	30	0



Automatic
Mallet.



AUTOMATIC MALLET.

(Dr. Abbott's.)

PATENTED IN ENGLAND AND AMERICA.

Two of the most valuable features of the Abbott Mallet are: 1. The blow is always uniformly dead. 2. The force necessary to produce the blow is very little. Consequently the strength and time of the operator are conserved by its use.

It was designed especially to avoid the defects of other appliances of its class. It is simple in construction, and combines with the usual direct blow, a back-action movement, actuated by the same mechanism, so that with it gold can be packed into cavities in almost any position in the mouth.

The working parts—pivotal latch, tripping mechanism, hammer, and spring—are entirely free from the case, being carried upon a spindle which passes centrally through it. This plan of construction avoids friction. Each end of the spindle is socketed for the reception of the plugger points, one end giving the direct push or thrust-blow, the other the pull or back-blow.

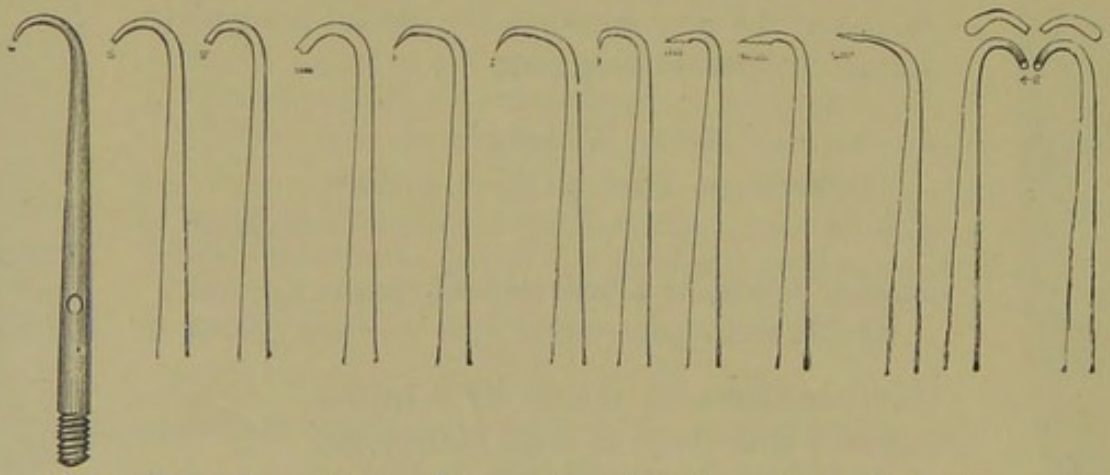
The Mallet combines simplicity of construction with easy, effective operation.

All the parts liable to wear are made of hardened steel, and the instrument throughout is constructed in the best manner.

For the direct blow the Cone-socket or Snow & Lewis' points, either of which will fit the socket, may be used. For the back-action blow, Dr. Abbott has devised the set of points shown herewith. It is believed they will cover all requirements.

	s.	*d.*
Price of Mallet	34	0

BACK-ACTION MALLET POINTS.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

	s.	*d.*
Price, with screw ends .. .. (Figs. 1–12) each	1	6

PNEUMATIC MALLETS.

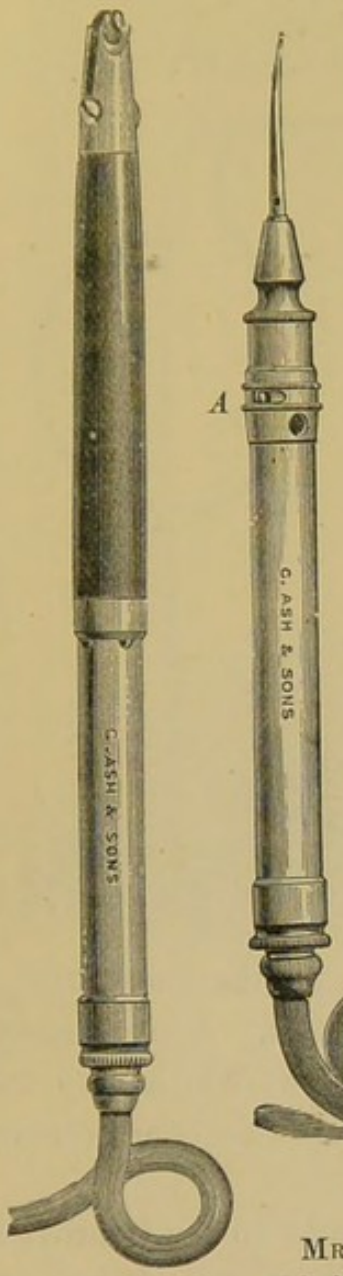


Fig. 1.

Fig. 1, introduced by Mr. Claude Rogers, consists of an oval India-rubber Bulb, five feet of black India-rubber Tubing, and Handpiece to take the Electric Mallet Pluggers.

Fig. 2 shows the ordinary form of Pneumatic Mallet Handpiece, which carries Points with screw ends, attached to the same Tubing and Bulb.

Apart from the Handpiece the contrivance is exceedingly simple. The Mallet can be worked by placing the bulb anywhere on the floor within reach of the foot. The force of the blow in Fig. 2 is regulated by means of the sliding collar *A* on the Handpiece and the amount of pressure which is applied to the bulb. To obtain a full blow the collar should be turned so as to open the holes to the fullest extent; the force is diminished by making the holes smaller. In Fig. 1 the force of the blow is entirely regulated by the foot, there being no sliding collar on the Handpiece.

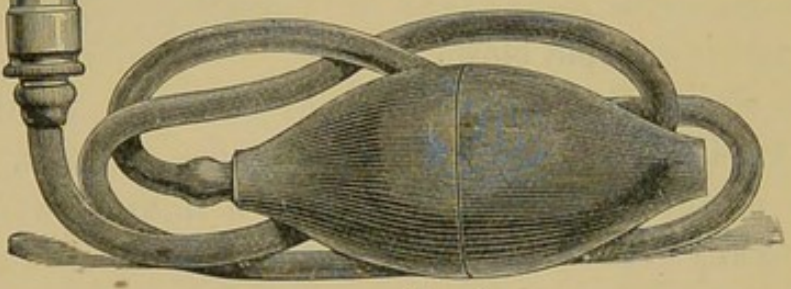


Fig. 2.

Mr. Rogers says: "For those who use the Bonwill Electric Mallet this is particularly useful, as the same Pluggers fit both instruments and can be changed with equal facility; the air-ball and tubing, though small and light, are large enough for the purpose required.

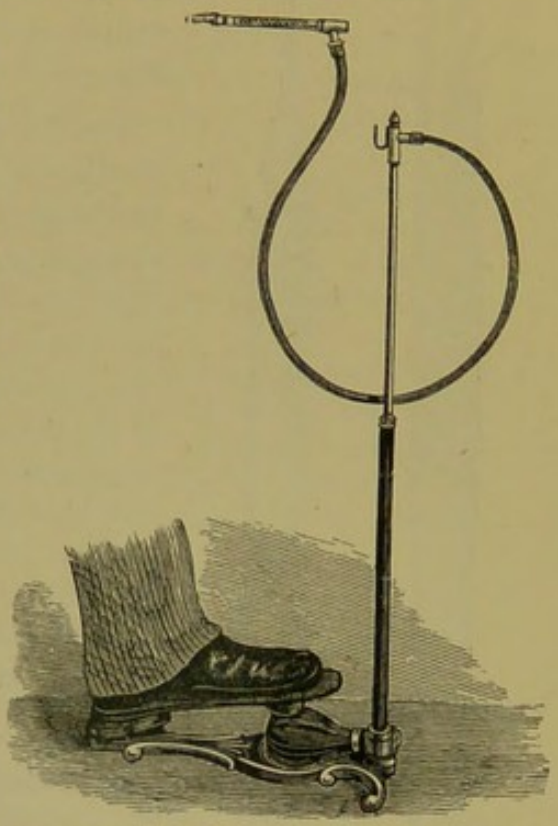
The Pneumatic Mallet is specially useful for condensing heavy cylinders, either of soft or hard gold; for filling retaining points in cohesive gold fillings; also for chipping down overhanging portions of enamel with a chisel; and for many patients it is less jarring and painful than the Electric Mallet, while it can be worked with an equal amount of delicacy of touch."

Prices:

		s.	d.
Pneumatic Mallet (Mr. Rogers'), consisting of Handpiece to carry Electric Mallet Pluggers, India-rubber Bulb and Tubing, complete	(Fig. 1)	35	0
Pneumatic Mallet, ordinary form, with Handpiece to carry Points with screw ends, India-rubber Bulb and Tubing, complete ..	(„ 2)	30	0
Extra Bulbs	each	1	6
India-Rubber Tubing	per foot	0	6

MR. S. A. KIRBY'S

IMPROVED PNEUMATIC MALLET.



This Instrument answers all the purposes of an ordinary Hand Mallet without the aid of an assistant.

Each blow is given with the exact force and at the precise moment desired by the Operator, and power enough may be obtained, if required, for welding unannealed, non-cohesive gold with the smallest possible amount of concussion or jarring to the tooth. Several blows may be given in rapid succession, but the Instrument is intended to produce a decided effect on the exact spot required, rather than to afford a number of rapid blows.

The heel should be placed firmly, but not stiffly, on the back of the pedal, so that it carries the weight of the leg and foot. A very slight movement of the toe will then produce a light blow, which may be increased to any desired extent by using more force. No considerable motion of the foot is at any time necessary.

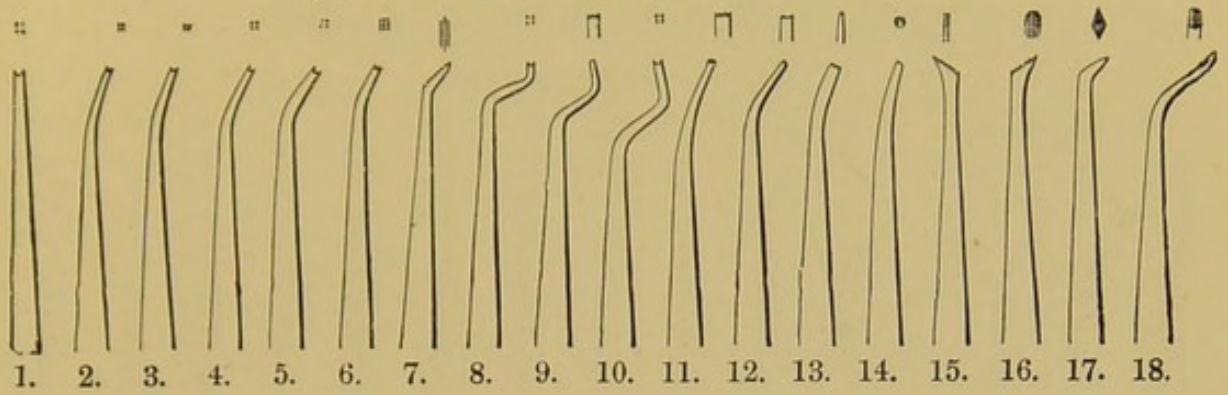
The force of the blow is also regulated by the collar on the improved Handpiece. To obtain a full blow the collar should be turned so as to open the holes to the fullest extent; the force is diminished by making the holes smaller.

		s.	*d.*
Mallet, with Ornamented Iron Stand, Nickel-plated Tube and Improved Handpiece, complete		80	0
Points for ditto, with Screw Ends, all forms	each	1	6
Cover		1	6
Extra parts separately :			
Improved Handpiece		30	0
India-rubber Bulb		3	6
„ Tubing	per foot	0	9

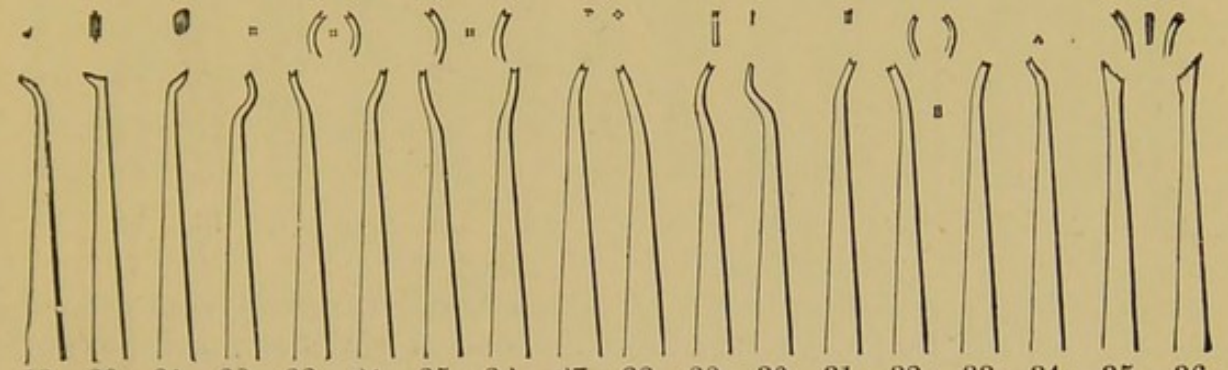
Any of the Mallet Points shown on pages G49–58 can be had to order for Cone-Socket Handle at the same prices.

POINTS FOR AUTOMATIC MALLETS.

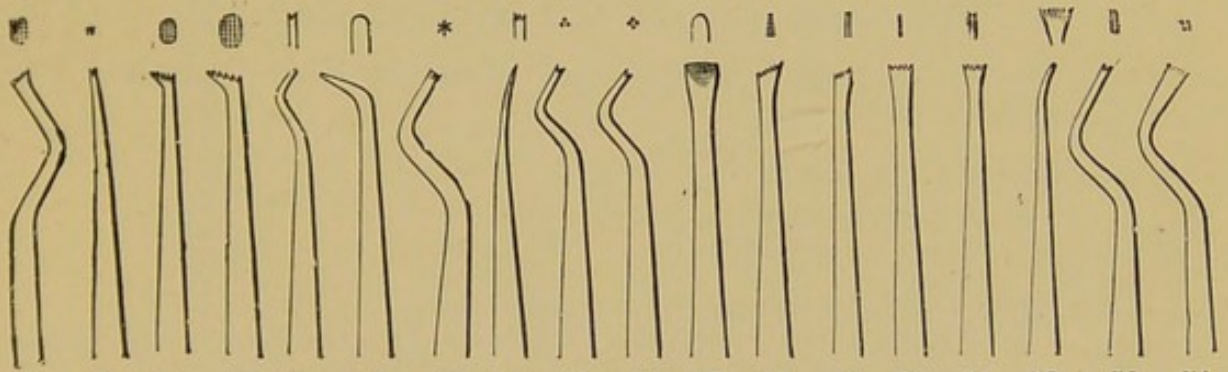
(Snow and Lewis' and Abbott's Forms.)



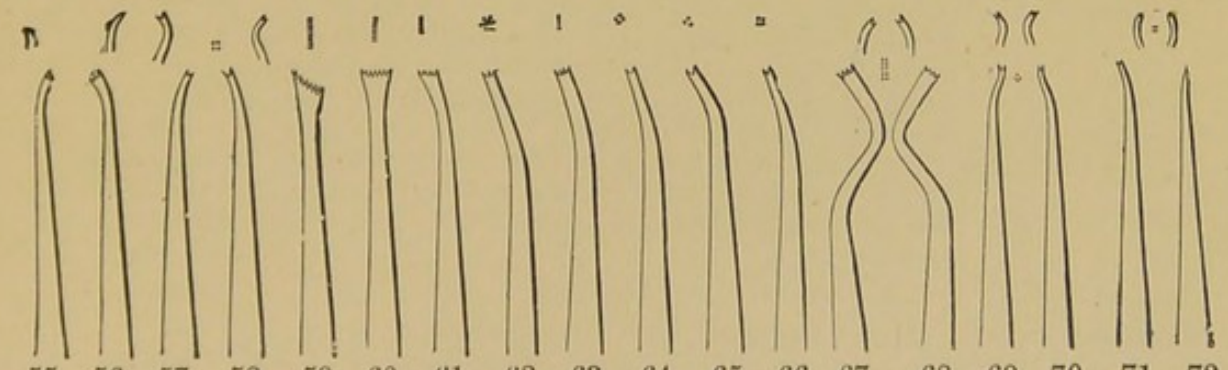
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18.



19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35 36.



37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54.



55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72.

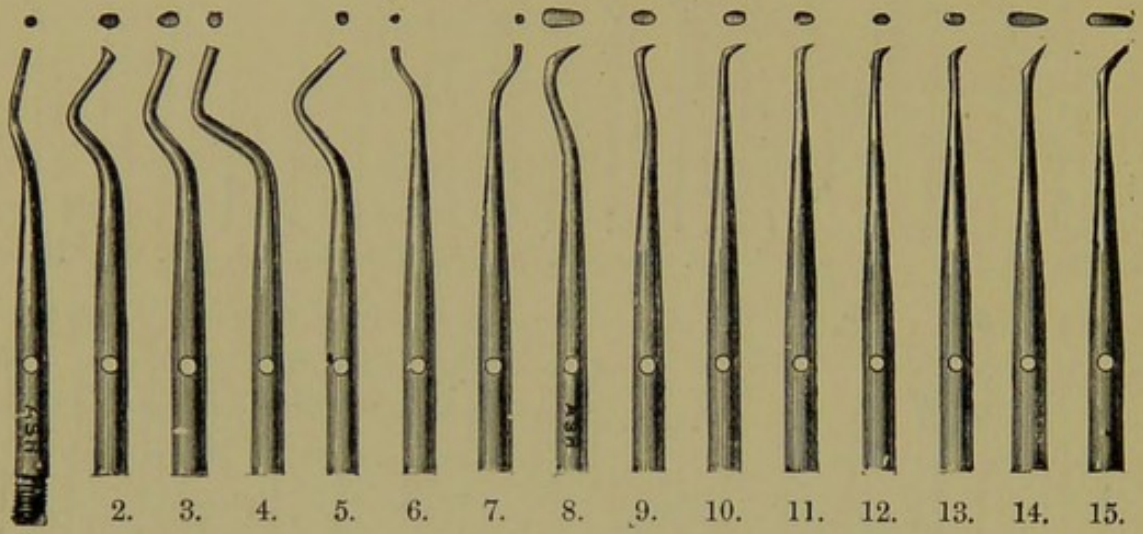
	s.	*d.*
Mallet Points, finely serrated, with screw ends (Figs. 1–72) each	1	6

All other forms of Mallet Points made or obtained to order.

MALLET POINTS,

WITH CONVEX STONED FACES.

(Dr. Prosper Ladmore's.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.

These Pluggers are very finely serrated, and carefully made to patterns approved by Dr. Prosper Ladmore, and it gives us much pleasure to state that he says of their manufacture:—

"They are perfect and without fault."

Much praise has been bestowed upon them by those Operators who have seen and used them.

Dr. Ladmore thus describes them:—

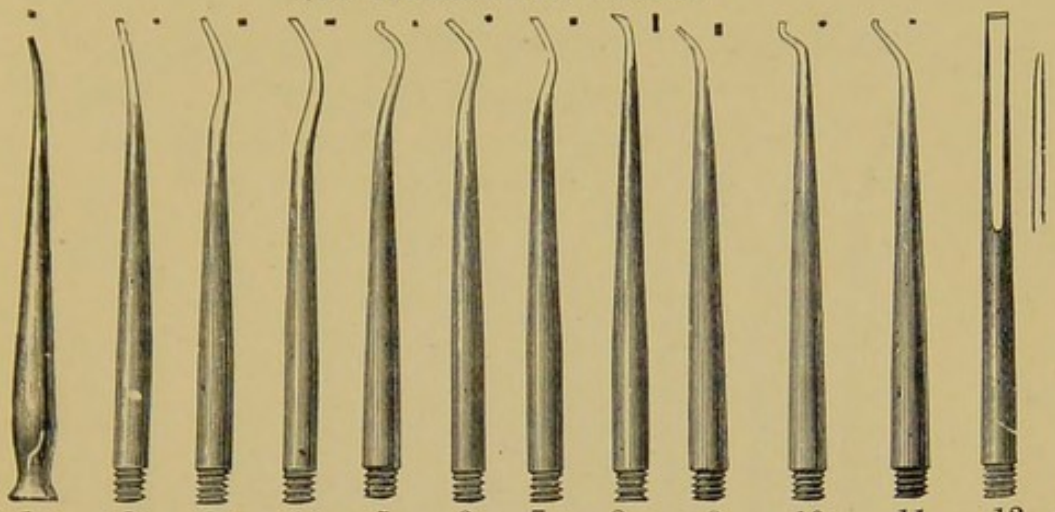
Fig. 1. "For retaining points and all fine work.
„ 2 & 5. „ lower cavities at the back of the mouth.
„ 3 & 4. „ upper „ „ „
„ 6 & 7. Fine corkscrew twists for interstitial cavities.
„ 8. Foot Plugger, with large flat surface for condensing approximal fillings. This instrument is thinner than usual, to permit its use where there is only a slight space.
„ 9 to 13. Foot Pluggers of different sizes, the convexed surfaces of which will be found to adapt themselves more readily to the cervical margins than ordinary flat-faced points would do; also they get over the work quicker, and counteract the tendency of the gold to 'ball up,' driving it toward the cavity walls.
„ 14 & 15. Are Foot Pluggers of an obtuse angle, for condensing interstitial fillings. These are also serrated at the points, thus enabling the Operator to use them on the foot surface or at the point, to save time in changing instruments."

Prices:

			s.	*d.*
Ladmore's Convex Stoned Pluggers, with screw ends, like Fig. 1, for Engine, Automatic and Pneumatic Mallets ..	(Figs. 1—15)	each	2	0
Socket Handle, Knurled, for holding Points with screw ends		„	1	0
Mallet Pluggers in long tapered steel handles, with blued centres, for use with the Hand Mallet	(Figs. 1—15)	„	4	0
Mallet Pluggers in steel handles, Nickel-plated, to fit Bonwill's Electric and Rogers' Pneumatic Mallets, ...	(Figs. 1—15)	„	4	0

MALLET POINTS.

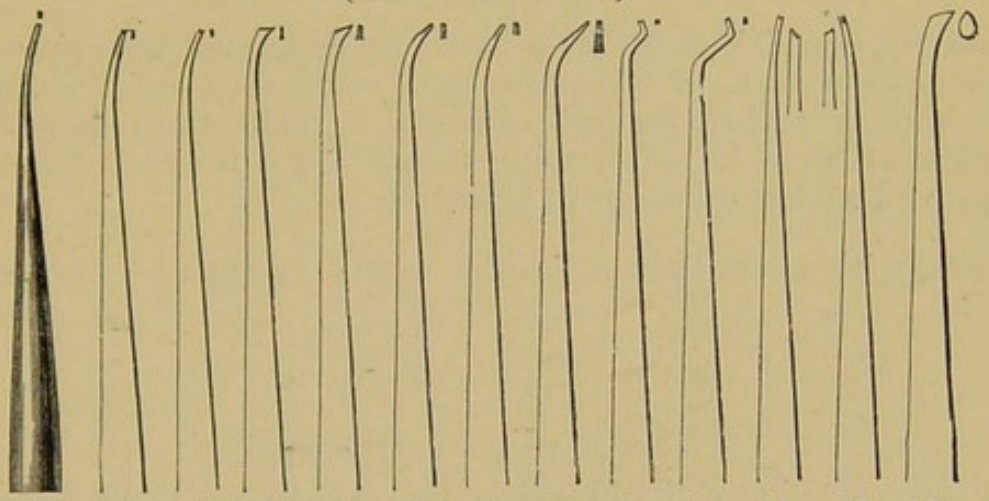
(Dr. MARSHALL H. WEBB'S.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. *s.* *d.*

Price, as illustrated, with screw ends .. each 1 6

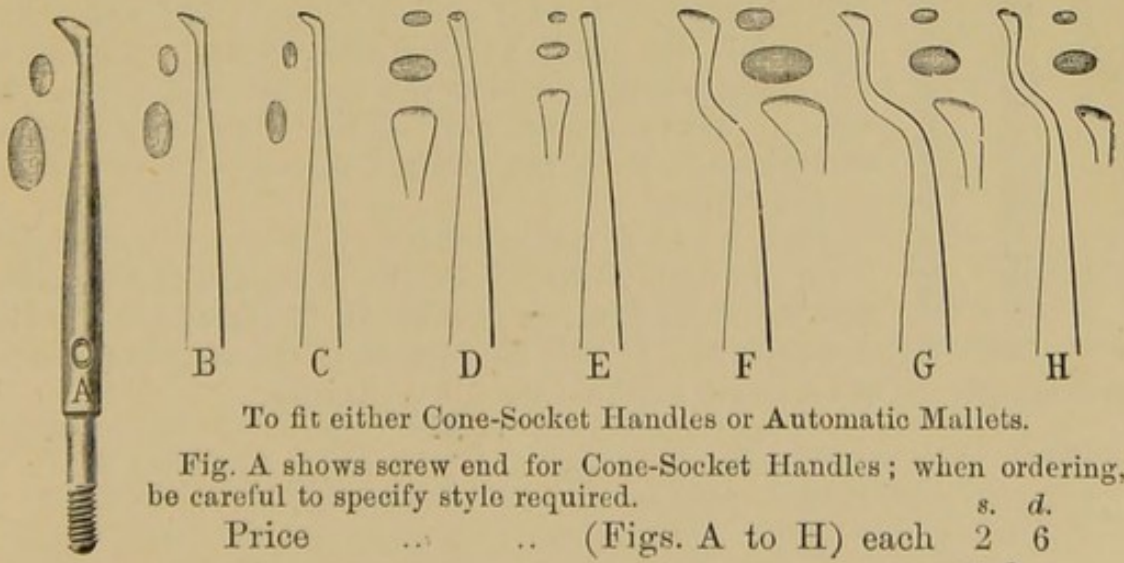
(Dr. VARNEY'S Set.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. *s.* *d.*

Price, with screw ends .. .. .. (Figs. 1–13) each 1 6

DR. DE TREY'S SET FOR "SOLILA" GOLD.



To fit either Cone-Socket Handles or Automatic Mallets.

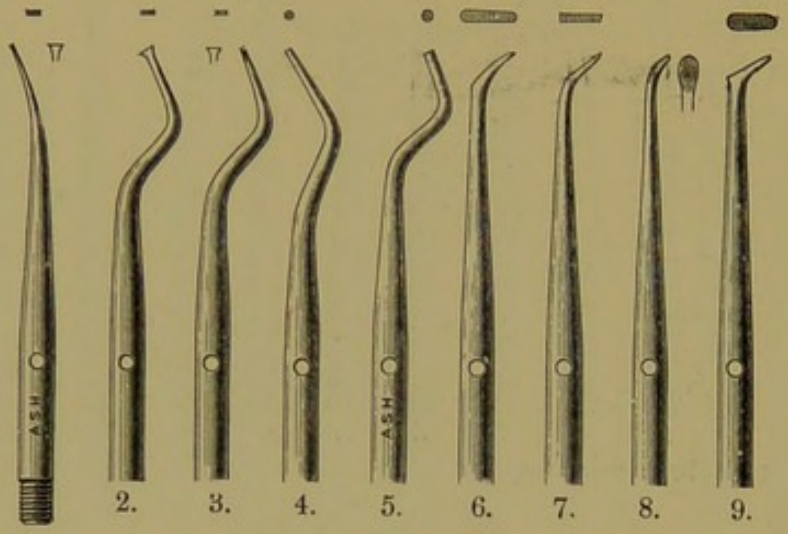
Fig. A shows screw end for Cone-Socket Handles; when ordering, be careful to specify style required.

s. *d.*

Price .. .. (Figs. A to H) each 2 6

MALLET POINTS.

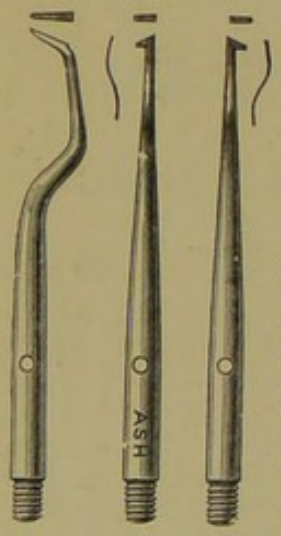
"Special" Forms.



These "Special" Mallet Points have been suggested from time to time by various Operators, for whom we have made them, and, as they have met with much favour, we have decided to make them known to the Profession at large by illustrating them. Figs. 6 and 8 have convex surfaces, and all the others have flat surfaces.

		s.	d.
Price, with screw ends	(Figs. 1–5) each	1	6
" " "	(" 6–9) "	2	0

(Mr. A. H. Farebrother's.)



Mr. Farebrother has introduced these three Pluggers as suitable for cohesive gold filling.

Fig. 1 is intended, when working with the mirror, for building up the lingual and mesial surfaces of approximal cavities in the upper front teeth.

The special advantage of this Plugger is in the shape of the bend, as it will be found to clear the adjoining tooth, and also the separator (Perry's, when used). The serrated part of the Plugger being in a straight line with the shaft, a direct blow is obtained on the filling.

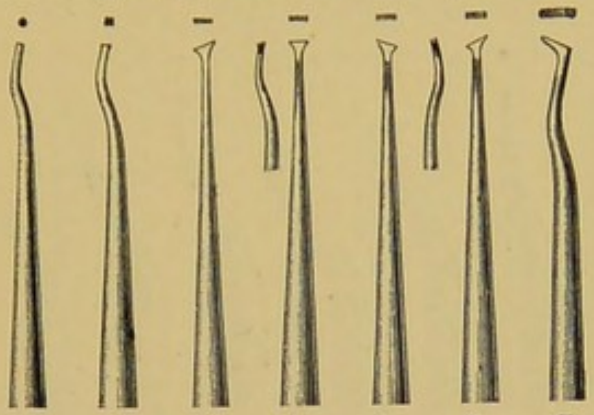
Figs. 2 and 3, right and left, will be found useful for building up interstitial cavities in molars and bicuspids, and in distal cavities in canines, in either the upper or lower jaw. It will be seen from the shape of the foot that it is inclined at an angle suitable for these cavities.

		s.	d.
Price, with screw ends	(Fig. 1) each	2	0
" " "	..(Figs. 2, 3) "	1	6

MALLET POINTS,

FOR ENGINE AND AUTOMATIC MALLETS.

(Dr. F. Thompson's Set.)



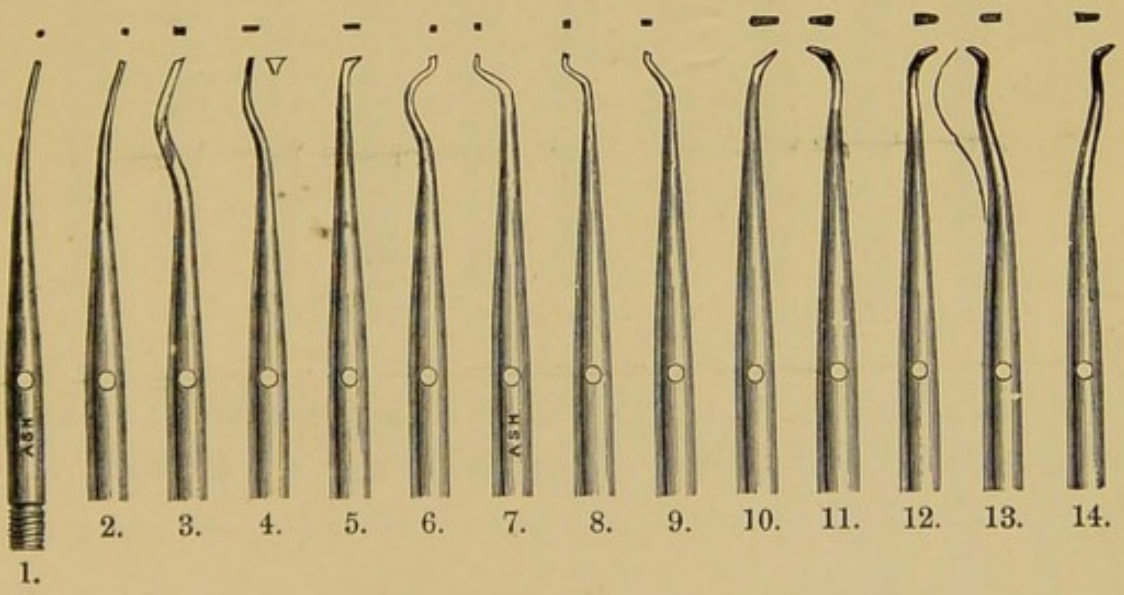
1. 2. 3. 4. 5. 6. 7.

For description see page 44.

	s.	*d.*
Price, with screw ends .. .. each	1	6

FOR FINE COHESIVE GOLD WORK.

(Set of 14, selected by Mr. Claude Rogers.)



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.

Mr. Rogers finds these instruments so useful in practice that we have obtained his permission to offer them to the profession as a set selected by him. Several have been modified to his directions, and all of them as now illustrated meet with his approval.

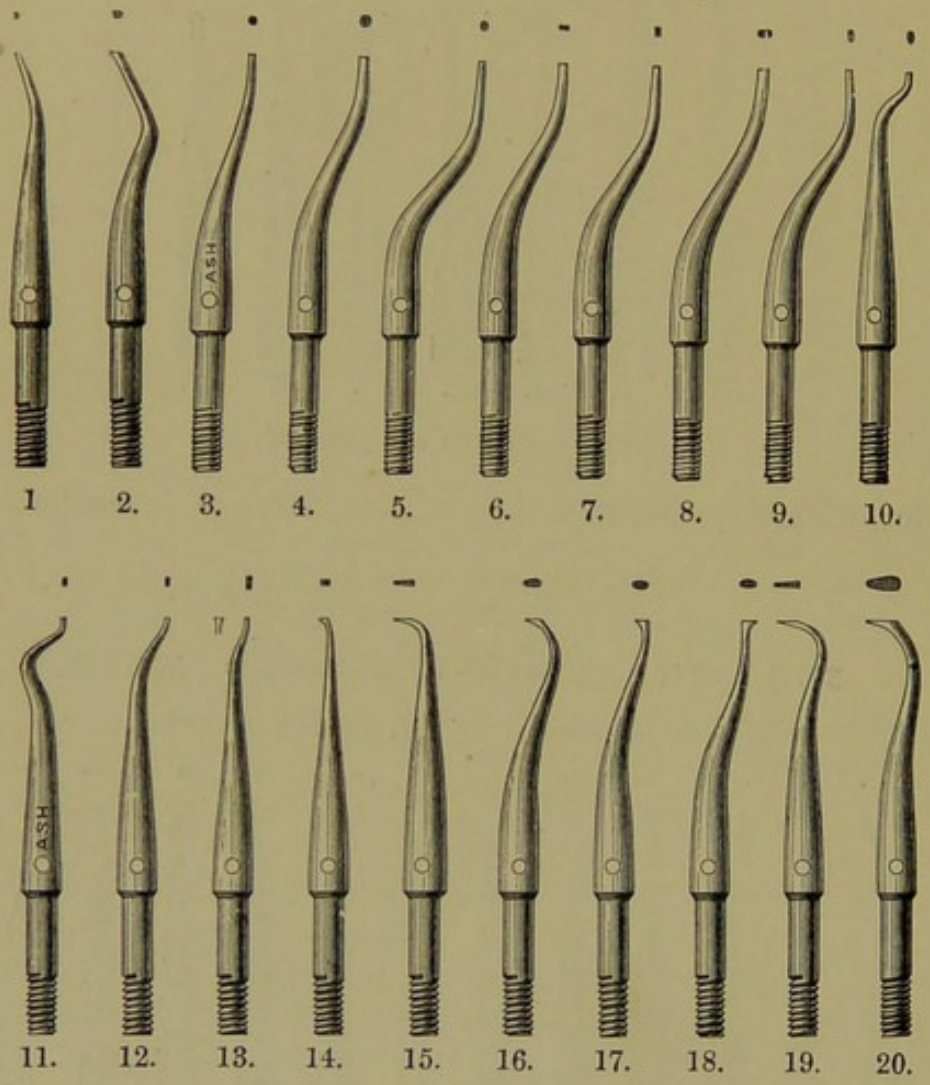
They are made with highly finished stoned serrations.

	s.	*d.*
Price, with screw ends .. (Figs. 1–14) each	1	6

MALLET POINTS,

FOR ENGINE AND AUTOMATIC MALLETS.

(Dr. J. Leon Williams' Set of 20.)



The faces of these Mallet Points are all set exactly at a right angle to the shaft. *For description of their advantages see Quarterly Circular for September*, 1892.

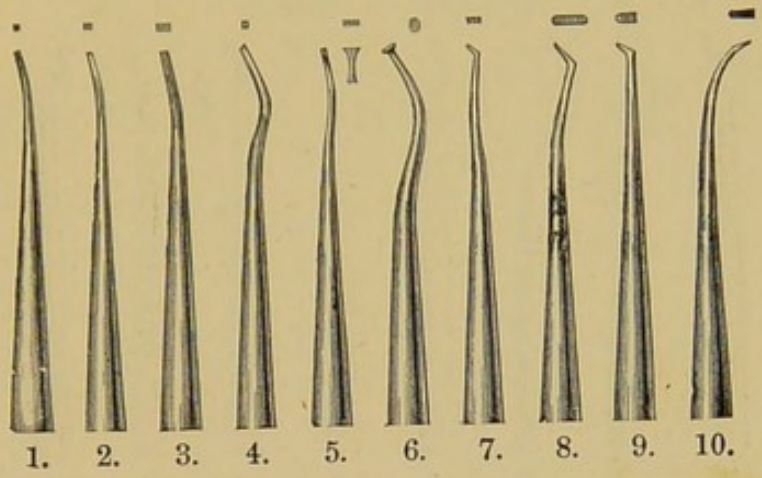
			s.	d.
Points with Screw ends for Automatic or Engine Mallets	(Figs. 1–20)	each	1	9
Points with Screw ends as shown for Cone-Socket Handles	(Figs. 1–20)	,,	1	9

When ordering state which style of screw end is wanted.

MALLET POINTS,

FOR ENGINE AND AUTOMATIC MALLETS.

(Mr. E. Lloyd Williams' Set.)



Mr. Lloyd Williams thus describes them :—

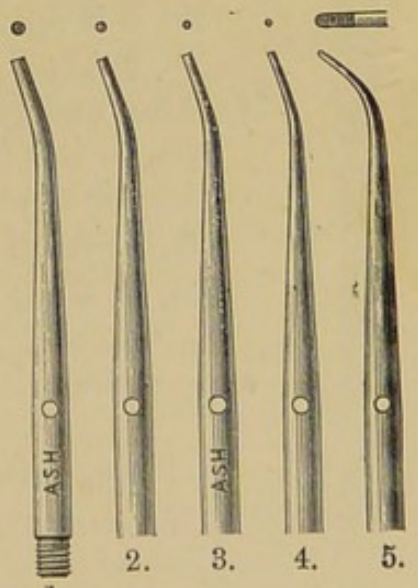
Fig. 1. For anchorage, and working in very small cavities.
„ 2. Will be found useful for packing the bulk of simple fillings of ordinary size.
„ 3. For large fillings of easy access.
„ 4. A bayonet-shaped plugger reaching well forward, for use at the back of the mouth and in cavities which are difficult of access.
„ 5. Is for fissures and narrow cavities.
„ 6. Is useful in condensing the gold well under the overhanging edges of crown cavities.
„ 7. This is a *very fine* half-bayonet foot plugger, especially useful in *wiping over* contours in interstitial fillings.
„ 8 and 9. Are well-known patterns, being however rather thinner in the neck than usually made.
„ 10. A long, lean foot plugger, made as fine as is possible consistent with working strength ; will be found useful for difficult lingual surfaces.

		s.	d.
Price, with screw ends	(Figs. 1–10) each	1	6

(Mr. Mansbridge's.)

Mr. Mansbridge says :—"The length of the shaft, together with the curve of these pluggers, enables the operator to reach cavities far back in the mouth with great ease; and interstitial, mesial, or distal and other cavities in front of the mouth are also readily filled by them."

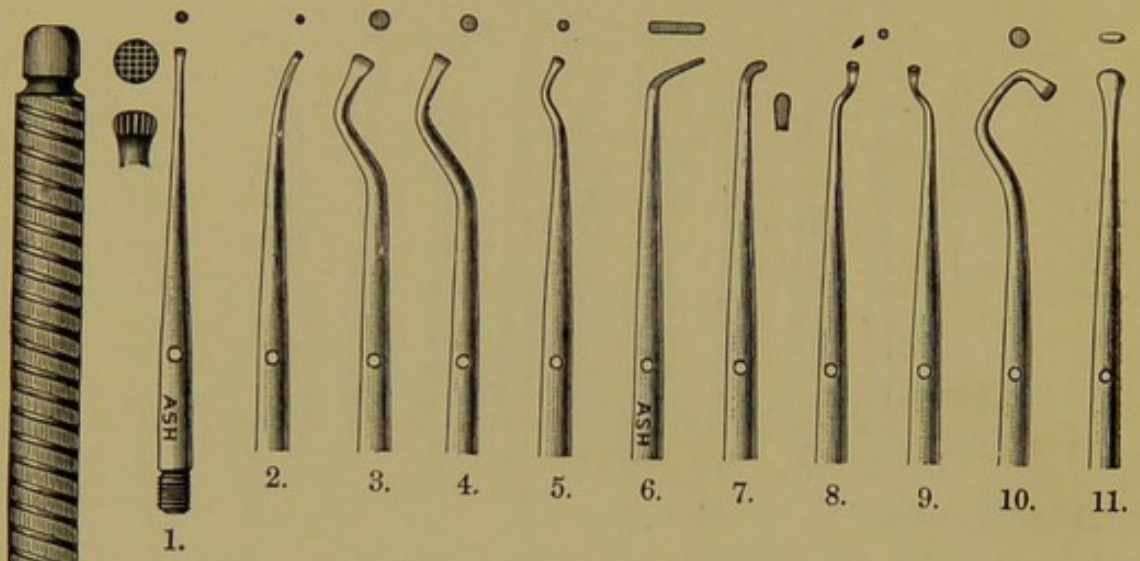
Figs. 1 and 2 are for the body of fillings.
Fig. 3 is for filling grooves.
„ 4 is for filling retaining points.
„ 5 is for wrapping gold round edges.



		s.	d.
Price, with screw ends	(Figs. 1–5) each	1	6

PLUGGERS FOR CRYSTAL GOLD.

(Designed by Dr. Fielden Briggs, of Clifton.)



Dr. Fielden Briggs says:

In addition to being used in socket handles for hand pressure, these points may be used with the automatic or hand mallet where convenience calls for it. In very extensive contours the last third of the filling may be made with heavy cohesive foil or cylinders, in which case these same points can be used with the mallet. The use of each point is as follows:—

No. 1 is for cavities of direct access.

No. 2 is for use where access is almost direct.

Nos. 3, 4 and 5 are for cavities in posterior teeth and posterior surfaces of anterior teeth.

No. 6 is for finishing approximal surfaces.

No. 7 being serrated all over is good for spreading gold and packing undercuts.

Nos. 8 and 9 are corkscrew in shape for close approximal cavities difficult of access.

No. 10 is for posterior cavities in molars and bicuspids.

No. 11 is for burnishing.

In practice I find these pluggers fulfil my most sanguine expectations.

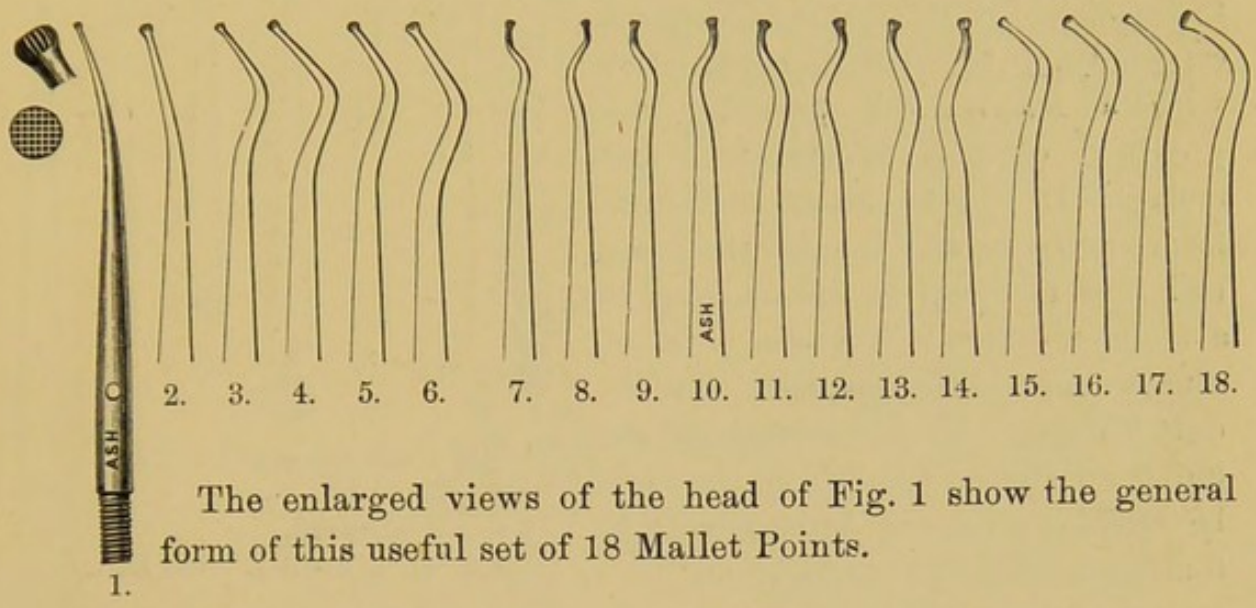
			s.	*d.*
Price, with screw ends	each		2	0
Socket handle as illustrated (Fig. 8A)	„		1	0

8A.

All forms of Mallet Points made or obtained to order.

MALLET POINTS WITH SCREW ENDS.

(Dr. E. A. Royce's.)



1.

The enlarged views of the head of Fig. 1 show the general form of this useful set of 18 Mallet Points.

They are adapted for use in the Cone-Socket Handle No. 8A, illustrated on p. 56, also in Snow and Lewis's or Abbott's Automatic Mallet, and in Bonwill's or Power's Engine Mallet.

The special advantage claimed by Dr. Royce for this form of point is that—

"the force is delivered to the gold in a manner which causes it to spread on the surface instead of deep in the filling, as with a flat point, thus spreading the gold during condensation, and making a better and easier adaptation to the walls of the cavity. It also reduces to the minimum the liability of checking the enamel by excessive malleting or of fracturing enamel margins. Lateral force can be exerted without changing the position of the hand.

"Figs. 1–14 inclusive are for hand or rapid malleting or for hand-pressure. With a rapid mallet gold can be literally wiped into the cavity, the gold working more evenly and condensing more readily than with any other shaped point.

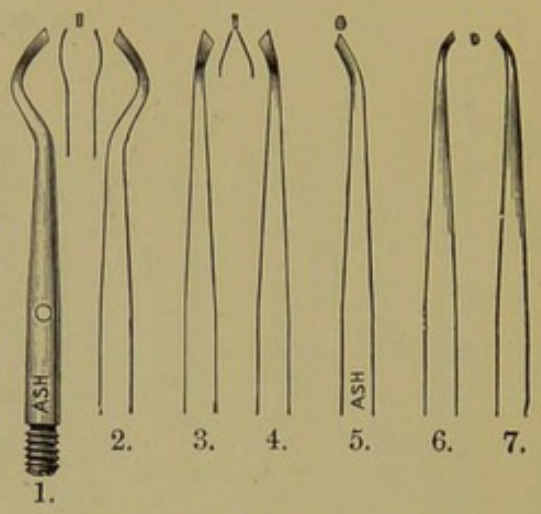
"Figs. 15–18 are better adapted for hand-work, not only for condensing gold in places difficult of access, but they are particularly useful in kneading gold to place, as advised in the directions for working Crystal Mat Gold."

		s.	*d.*
Price	(Figs. 1–18) each	2	0
Socket Handle—see opposite page, Fig. 8A		1	0

MATRIX PLUGGER POINTS.

(Suggested by Dr. G. C. Daboll, Paris.)

Dr. Daboll says: "The Plugger Points, which you have made from the models I furnished, are designed especially to be used in conjunction with a matrix, for posterior approximal cavities in bicuspids and molars. It will be found that their form facilitates and ensures the adaptation of the gold to the margins in a manner difficult to attain with ordinary shaped Pluggers, with or without matrix. If the serrations are found too sharp or too deep, they can be readily corrected by a few light touches with an Arkansas stone."



Nos. 1 and 2.—Right and Left.
„ 3 „ 4.— „ „
No. 5.—Curved.
Nos. 6 and 7.—Right and Left.

		s.	d.
Price	(Figs. 1–7) each	1	6

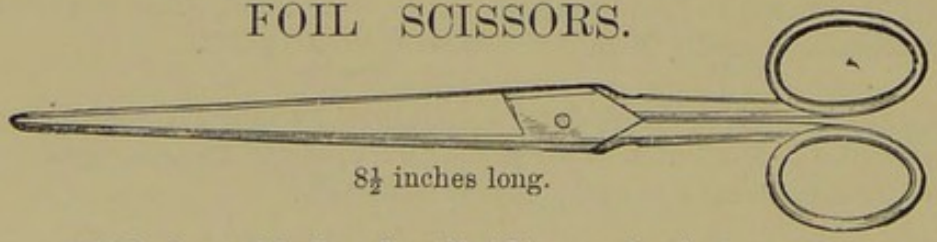
FOIL MANIPULATORS.

10½ inches long.

For folding and pressing Foils ready for Stoppings

		s.	d.
With long Steel blade, Nickel-plated, and checkered Ebony handle	each	3	0
Foil Knife, Hospital pattern	„	1	0

FOIL SCISSORS.

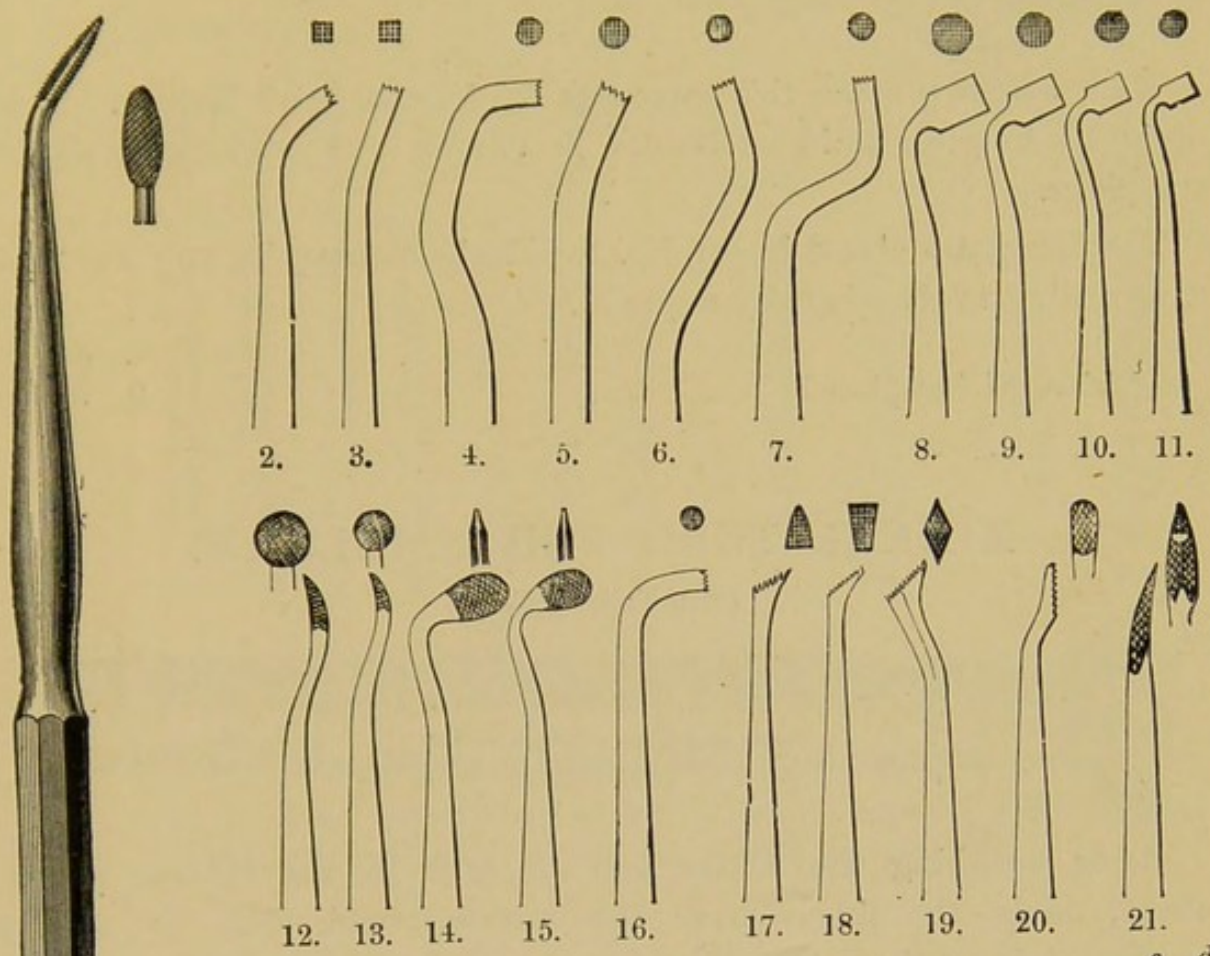


8½ inches long.

With long blades for dividing a leaf at one cut.

		s.	d.
In Steel, highly polished	each	4	6
„ Nickel-plated	„	6	0

AMALGAM STOPPERS.



		s.	d.
In Steel octagon handles ..	(Figs. 1–21) each	1	2
„ „ Nickel-plated	(„ „) „	1	6

Amalgam Stoppers of all forms made or obtained to order.

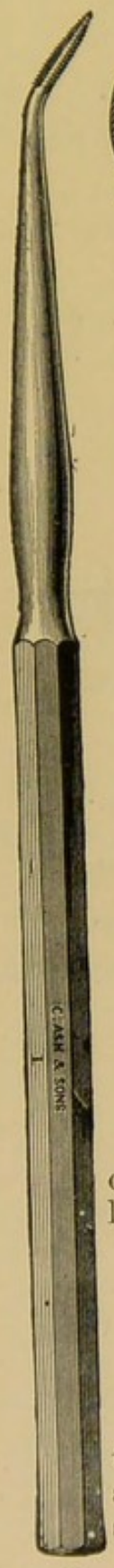
GOLD FOIL CASE.

In Leather, with spring snap. The inside of the Case consists of a pocket, large enough to take a book of foil, and a chamois leather pad for holding the pieces which are in use.

	s.	d.
Size, outside measurement, $5\frac{1}{8} \times 5\frac{1}{8} \times 1\frac{1}{8}$ inches, each	3	6

GOLD CYLINDER CASE.

In Leather, with spring snap. There are four divisions inside the Case for holding cylinders or pellets of different sizes; they are thus kept distinct and handy for use; moreover the case preserves them from dust and other impurities.



		s.	d.
1.	Size, outside measurement, $4\frac{3}{4} \times 3\frac{7}{8} \times 1$ inches .. each	3	6

AMALGAM BALANCE.

(Mr. Fletcher's.)

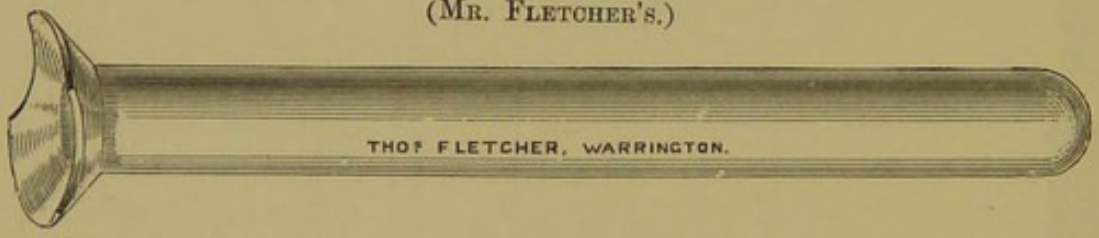
With a little practice this apparatus can be used with facility. It is designed to yield uniform results in mixing and working amalgam stoppings.

The filings are placed in cup No. 1, and the mercury in cup No. 2 or 3, according to the quantity required.

	s.	d.
Price, Nickel-plated	2	6

MIXING TUBE FOR AMALGAM.

(Mr. Fletcher's.)



After weighing the filings and mercury in the balance shown above, place the finger over the mercury and pour the filings in the mixing tube; then pour in the mercury and shake briskly together for a few seconds, covering the open end of the tube with the finger. The resulting mass is the best possible form for working into discs with the Cylinder Mould shown below.

		s.	d.
Price, in glass	each	0	6

CYLINDER MOULD.

(Mr. Fletcher's.)

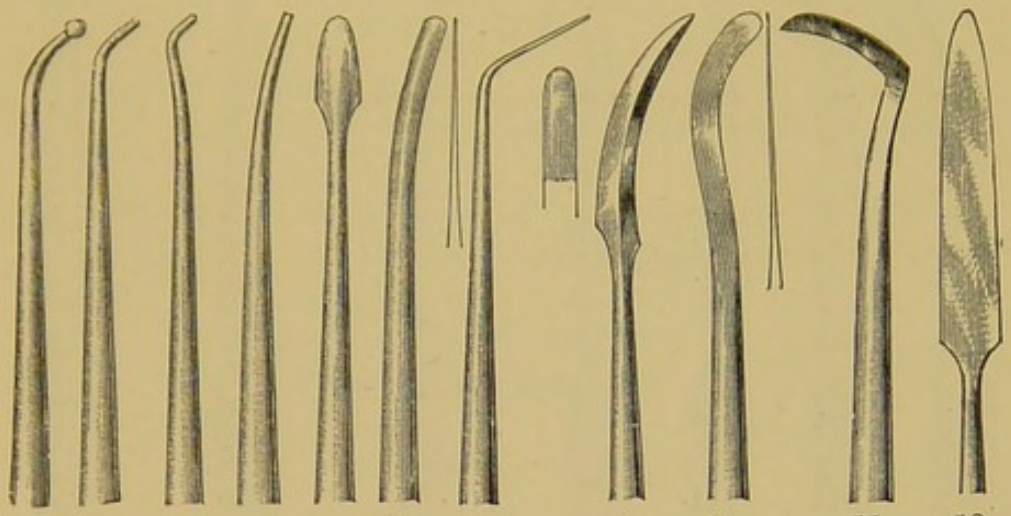
For moulding amalgam into discs, consisting of a Mortar $\frac{7}{8}$ inch in diameter, with hole in the centre into which the amalgam is pressed and forced through by means of the plunger shown in the illustration.

		s.	d.
Complete in Walnut	each	0	9

1.

PLASTIC FILLING INSTRUMENTS.

(Dr. Foster Flagg's.)



2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

In Article X. of his work on "Plastics and Plastic Filling," Dr. Flagg gives a full account of the shapes and uses of these instruments. He says that "numbers 1, 2, 3, 4, 5, 6, 7, 8, 10, and 11 are especially adapted to Amalgam work, and 2, 3, 5, 6, 7, 8, 9, 10 are subservient to incidental and special requirements in plastic filling." He divides and names them thus:

Figs.	1 to 5.	Round ends.
„	6, 7, 8.	Flat „
„	9, 10, 11.	Trimmers or Separators.
„	12.	Spatula.

Figs. 1 to 5 are used for crushing and packing the Amalgam in cavities of nearly every description.

Figs. 6, 7, 8 for fillings between the teeth (Figs. 7 and 8 are also used as Trimmers).

„ 9 is useful for removing surplus material.

„ 10 and 11 are intended for making very thin separations between the teeth.

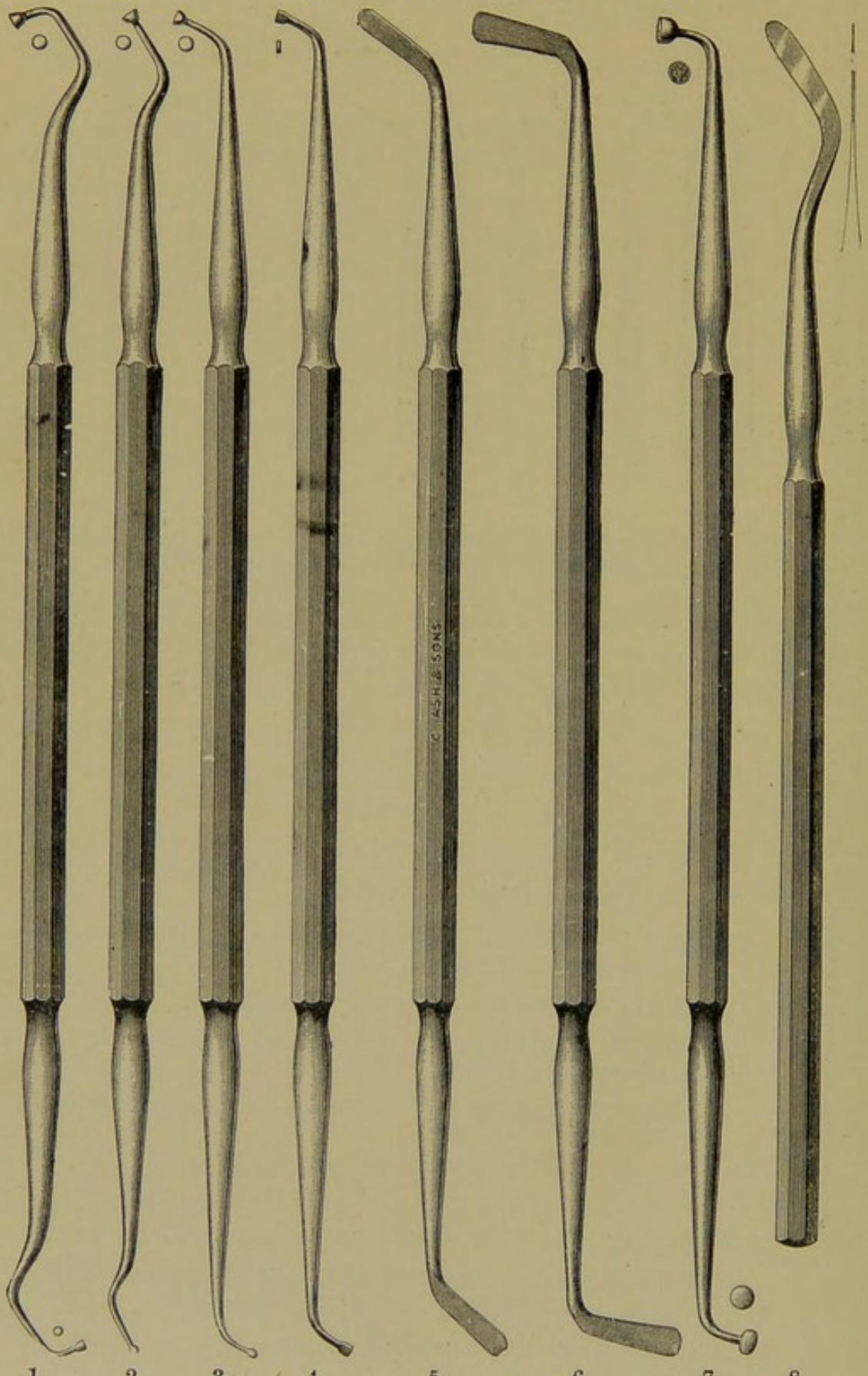
„ 12 can be employed for smoothing fillings where space is limited.

Prices:

			s.	*d.*
In Steel octagon handles, blued ..	(Figs. 1–12)	per set	14	0
„ „ „ „ ..	(„ 1–12)	each	1	3
Flagg's work on "Plastics and Plastic Filling," in cloth, 8vo., illustrated, 3rd edition		net	13	6

PLASTIC FILLING INSTRUMENTS.

(Mr. E. J. Ladmore's.)



1. 2. 3. 4 5. 6. 7. 8.

PLASTIC FILLING INSTRUMENTS—*continued.*

(Mr. E. J. Ladmore's.)

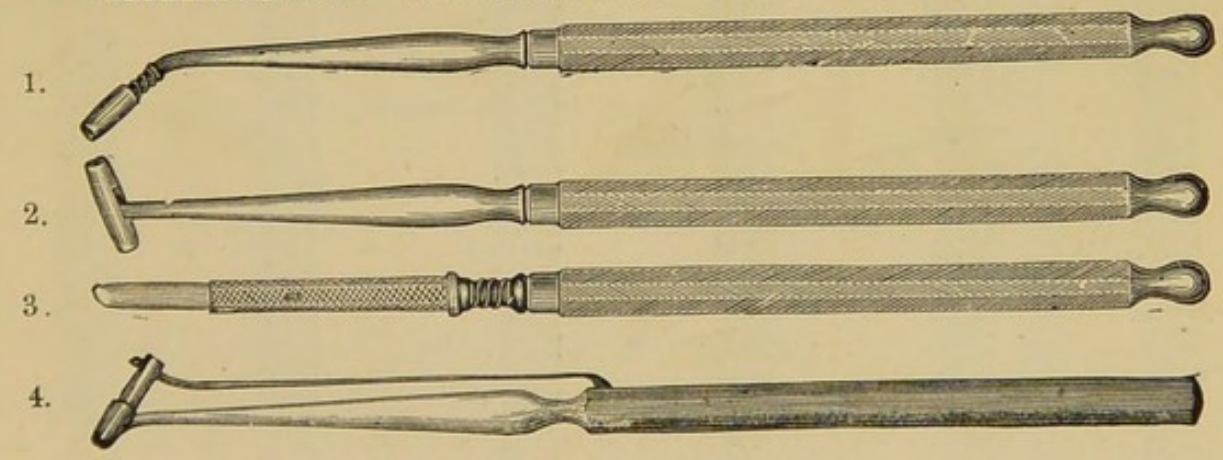
FOR INTRODUCING AMALGAM, GUTTA-PERCHA AND CEMENT STOPPINGS.

Fig. 1 is for filling distal cavities.
„ 2, 3 will be found useful in all parts of the mouth. The shapes speak for themselves.
„ 4 is for filling fissures in any part of the mouth.
„ 5, 6 are for filling cavities between teeth. They will also be found useful as Spatulas and Trimmers.
„ 7 Loadstone Plugger and Burnisher combined.
„ 8 Spatula for mixing and smoothing fillings. It will also serve as a Trimmer.

Prices:

			s.	d.
In Steel octagon handles, Nickel-plated ..	(Figs. 1–7) each		2	3
„ „ „ ..	(Fig. 8) „		1	6
„ „ „ ..	per set of 8,		15	0

AMALGAM CARRIERS AND STOPPERS.



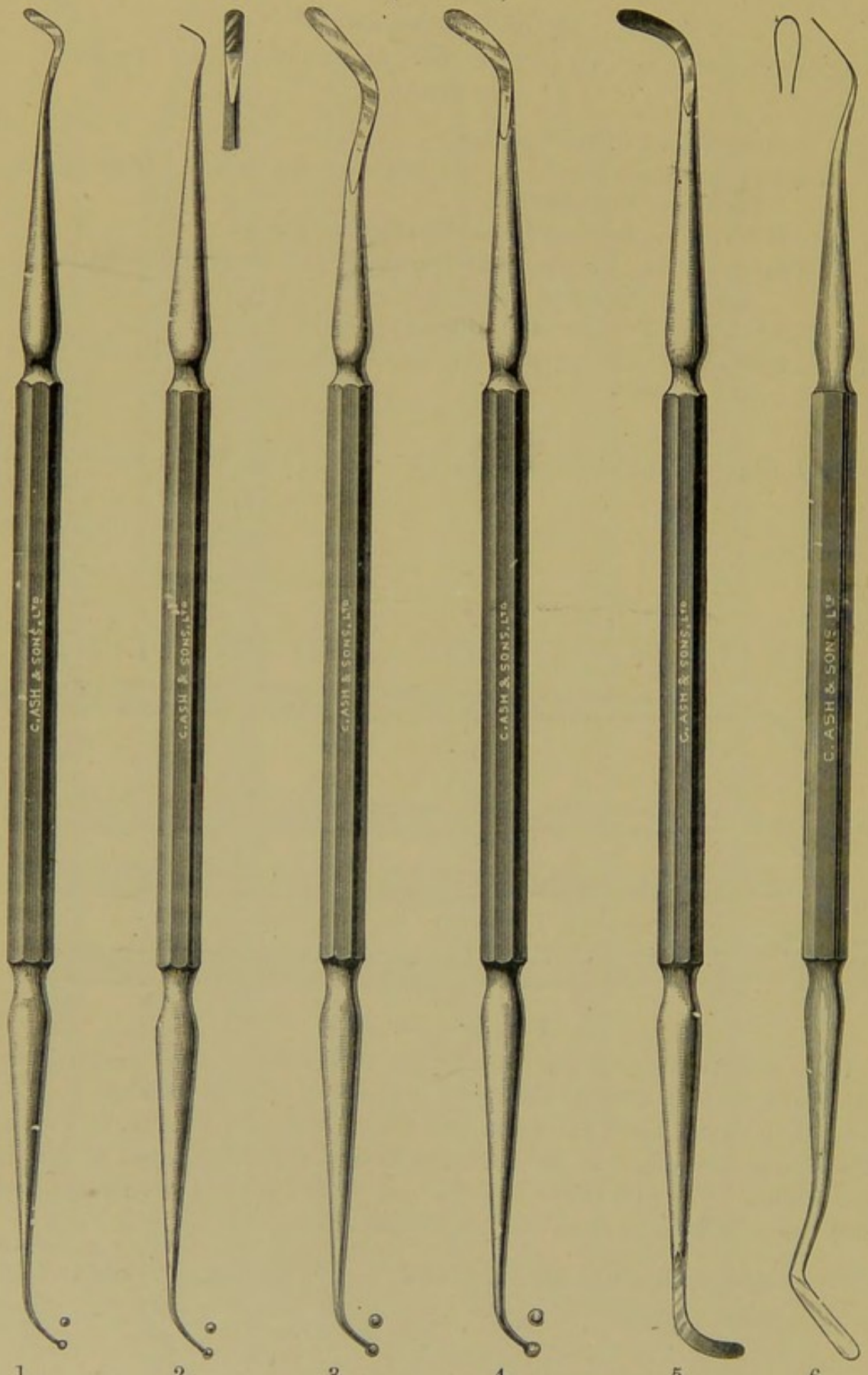
Directions for Use.

Place the Amalgam in the tube which covers the point of each instrument, and force it into the cavity by a pushing motion in Figs. 1, 2, 3; press it in by means of the spring connected with the plunger in Fig. 4. The plunger in Fig. 2 is so arranged that the Amalgam can be put in either end. The first three illustrations show file-cut instruments, but they are only kept in steel octagon, Nickel-plated.

		s.	d.
In Steel octagon handles, Nickel-plated ..	(Figs. 1 and 2) each	4	3
„ „ „ „ ..	(„ 3 and 4) „	5	0

"SPECIAL" PLASTIC FILLING INSTRUMENTS.

(Set of 6.)



1. 2. 3. 4. 5. 6.

"SPECIAL" PLASTIC FILLING INSTRUMENTS—
continued.

These instruments are modifications of well-known shapes which we have made from time to time for various operators, and from the reports we have had of their general usefulness, we have every reason to believe that they will form an acceptable addition to the many favourite sets now before the profession.

Figs. 1 and 2 are small Spatulas and Burnishers for filling small cavities in all parts of the mouth. The blades of the Spatulas are so thin that they can easily be inserted between the teeth.

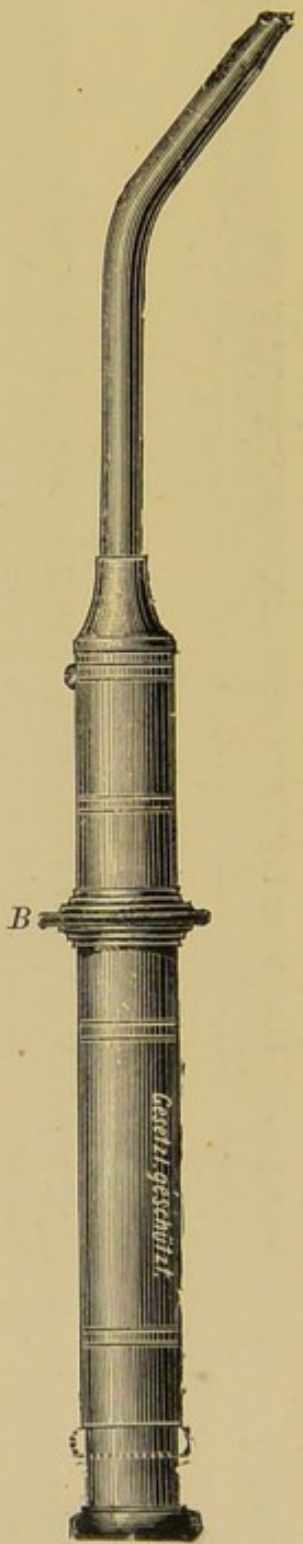
Figs. 3 and 4 are Spatulas and Burnishers. These are useful for general plastic filling. The blades of the Spatulas are much liked on account of their thinness and flexibility. The Burnishers are larger than Figs. 1 and 2, the four thus forming a convenient set.

Fig. 5 is a right and left Packer and Trimmer. The peculiar curve of the blades renders this instrument particularly useful for filling distal cavities in bicuspids and molars. It will also be found to adapt itself readily to many cavities which are difficult of access with the ordinary flat-bladed instrument.

Fig. 6 is a double-ended Spatula with thin blades set at very useful angles.

Prices:

	s.	d.
In blued steel octagon handles (Figs. 1–6) per set	9	6
" " " (" 1–6) each	1	9



FULL SIZE.

F

HAMPEL'S AMALGAM CARRIER.

This is a most useful instrument for carrying Amalgam to and discharging it in the cavity.

To take up the Amalgam it is only necessary to press the tubular end of the Carrier into it a few times until the tube is filled.

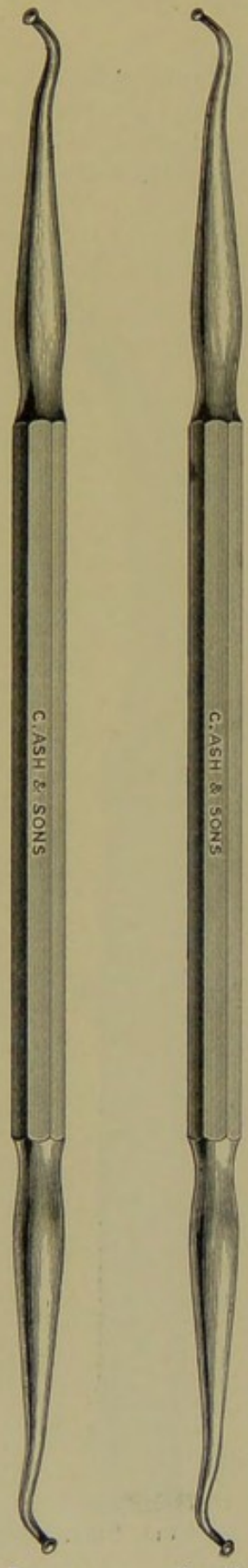
The Amalgam is discharged by taking part *B* between the first and second fingers and pressing with the thumb on the end *A*.

By means of the long bent nozzle, the Operator is enabled to reach with comparative ease cavities difficult of access without obstructing his view of them.

	s.	d.
Price, Nickel-plated	4	6

G

PLASTIC FILLING INSTRUMENTS.



Large. Small.

Set of 2, Large and Small, with egg-shaped ball-ends; useful for lining the bottom of cavities with Amalgam, etc.

		s.	*d.*
In Steel octagon handles, Nickel-plated	each	2	3

VAJNA'S "QUADRUPLEX" INSTRUMENTS.

FOR PLASTIC FILLINGS.

In this set of seven instruments there are twenty-eight shapes and sizes of Stoppers and Burnishers, which Dr. Vajna has found very useful in practice. He claims that by using the Quadruplex set the frequent changing of instruments is done away with—a point of some importance in the rapid insertion of plastic fillings.

Figs. 1 and 2 are chiefly intended for cement fillings and for finishing and smoothing fillings in front teeth.

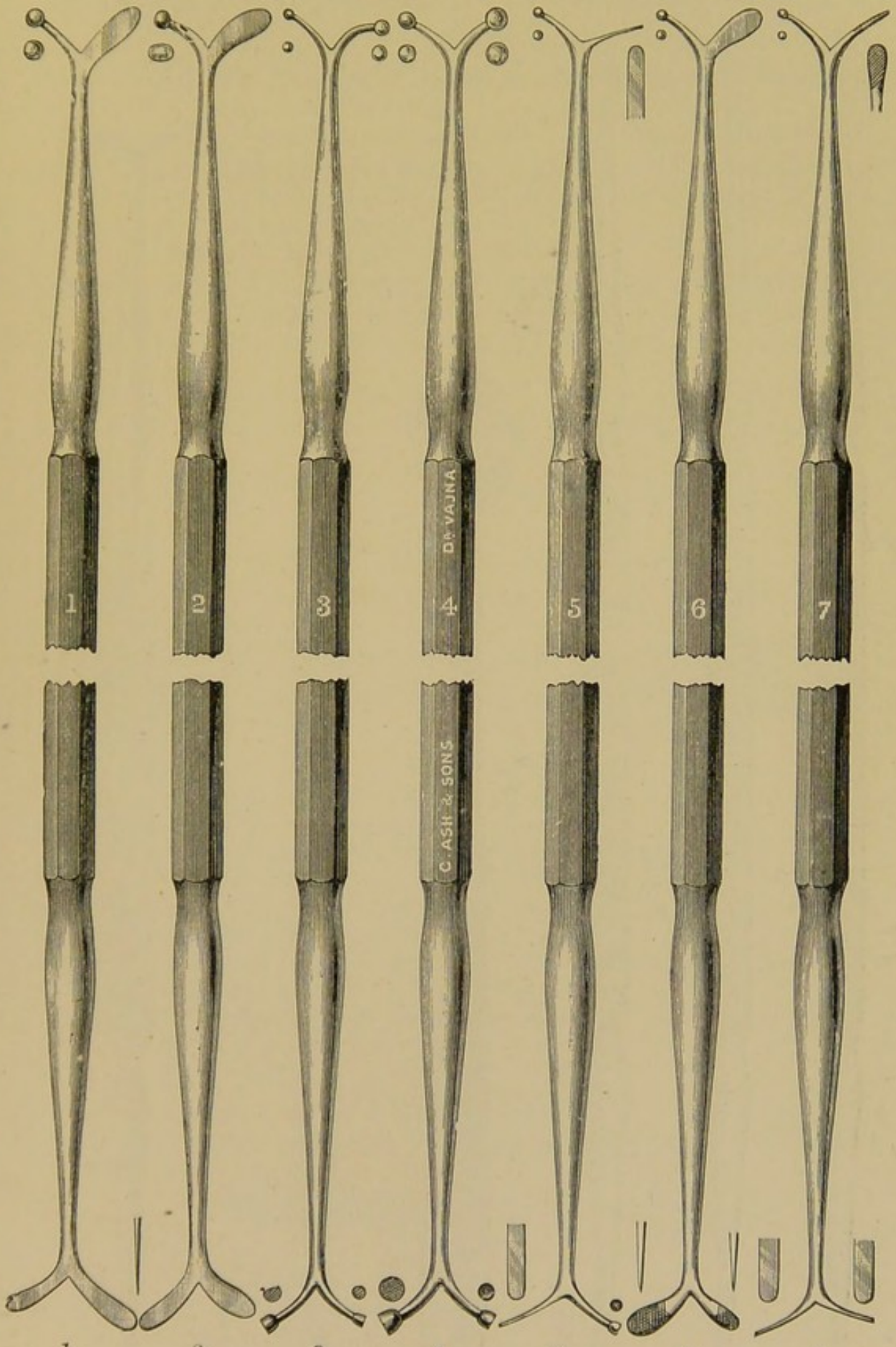
Figs. 3 and 4 are specially useful for amalgam fillings in central cavities situated on the masticating surfaces of molars and bicuspids.

Fig. 5 serves for amalgam, cement or gutta-percha fillings in approximal cavities situated on the masticating surfaces of molars and bicuspids.

Fig. 6 is of great value in filling buccal cavities in molars.

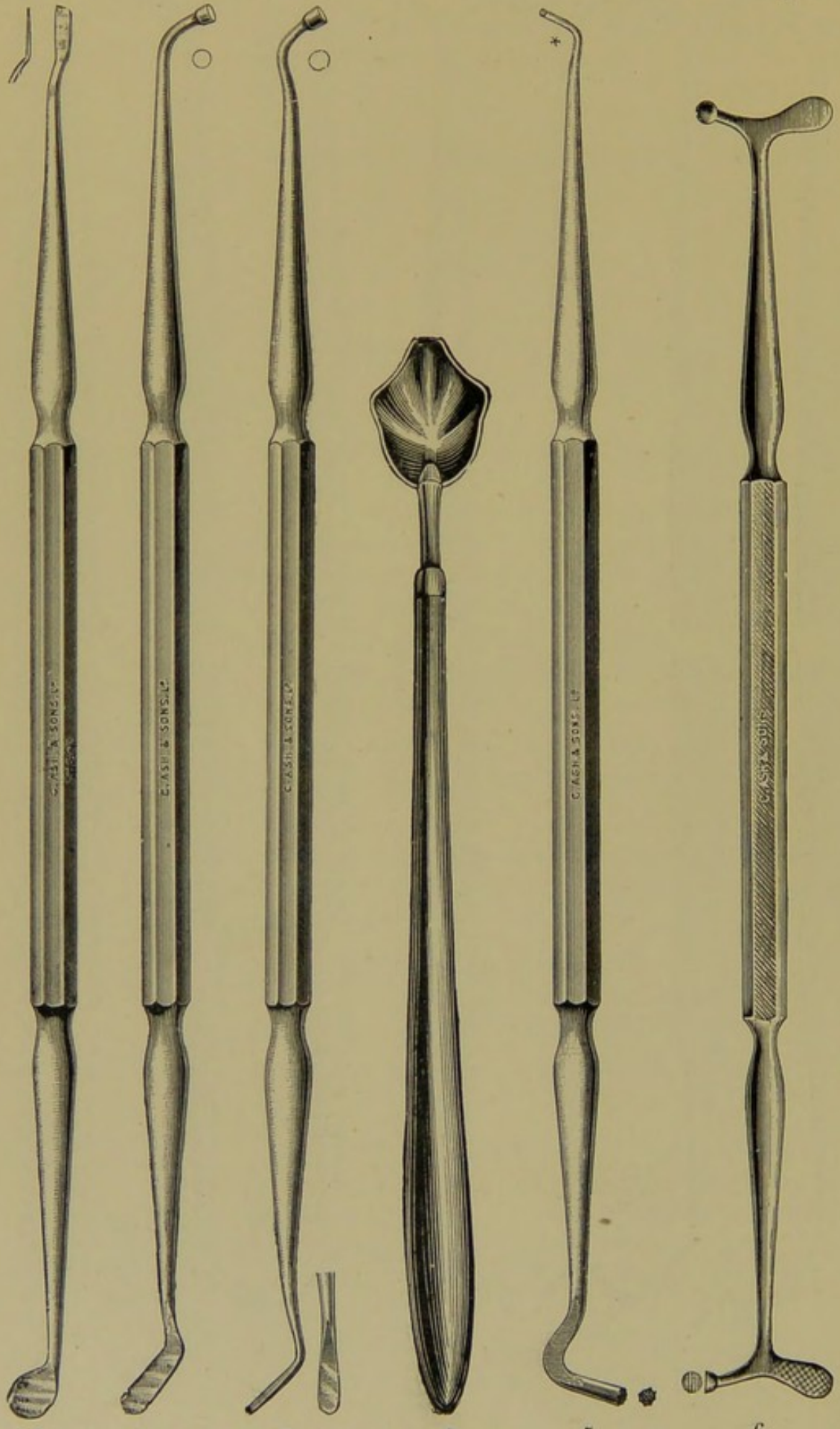
Fig. 7 is for filling deeply-seated approximal cavities in bicuspids and molars. The lower end with its fine blades of peculiar bend is particularly useful for inserting fillings in distal cavities.

			s.	*d.*
Price, Nickel-plated	..	(Figs. 1–7) each	4	0



F 2

AMALGAM AND GUTTA-PERCHA STOPPERS, &c.



1. 2. 3. 4. 5. 6.

AMALGAM AND GUTTA-PERCHA STOPPERS, &c.—

continued.

STOPPERS (Dr. Woodson's), double-ended, for use with Amalgam or Gutta-Percha.

		s.	d.
In steel octagon handles, nickel-plated	(Figs. 1, 2, 3) each	3	0

AMALGAM SPOON (Dr. Mullett's), for conveying amalgams to the cavity. It is held in the left hand, and enables the operator to fill a tooth without handling the material.

		s.	d.
In wooden handle, spoon nickel-plated ..	(Fig. 4) each	3	3

LOADSTONE AMALGAM CARRIER AND STOPPER.—The large end of this instrument is so arranged that it attracts the Amalgam and carries it to the cavity; the small end is the stopper.

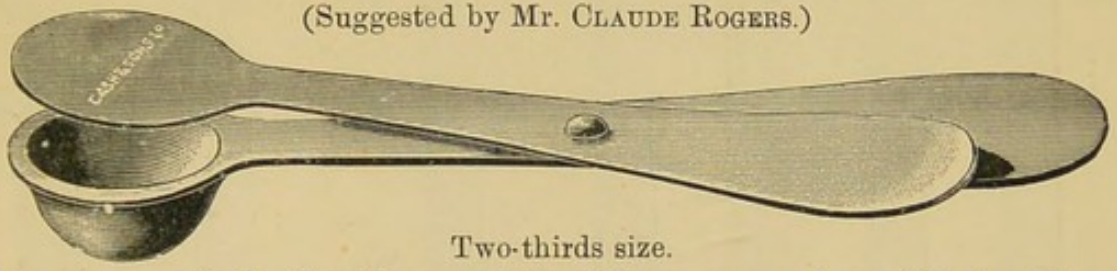
		s.	d.
In steel octagon handle, nickel-plated	(Fig. 5) each	3	3

AMALGAM STOPPER AND BURNISHER (Dr. Abonyi's).

		s.	d.
In steel octagon file-cut handle, nickel-plated ..	(Fig. 6) each	4	0

AMALGAM SPOON.

(Suggested by Mr. CLAUDE ROGERS.)



Two-thirds size.

Mr. Rogers finds the Spoon, with sliding cover, here illustrated, very useful for heating Copper Amalgam.

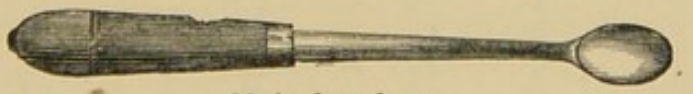
If the Amalgam be placed in the Spoon, held over the flame of a spirit lamp until beads of mercury appear, and then removed, the heating can be completed by sliding the cover over it and shaking briskly for a few moments in the hot Spoon.

By adopting this method the danger of overheating or burning the Amalgam is avoided.

	s.	d.
Spoon, with sliding cover, Nickel-plated	3	9

AMALGAM SPOON,

FOR HEATING COPPER AMALGAMS.

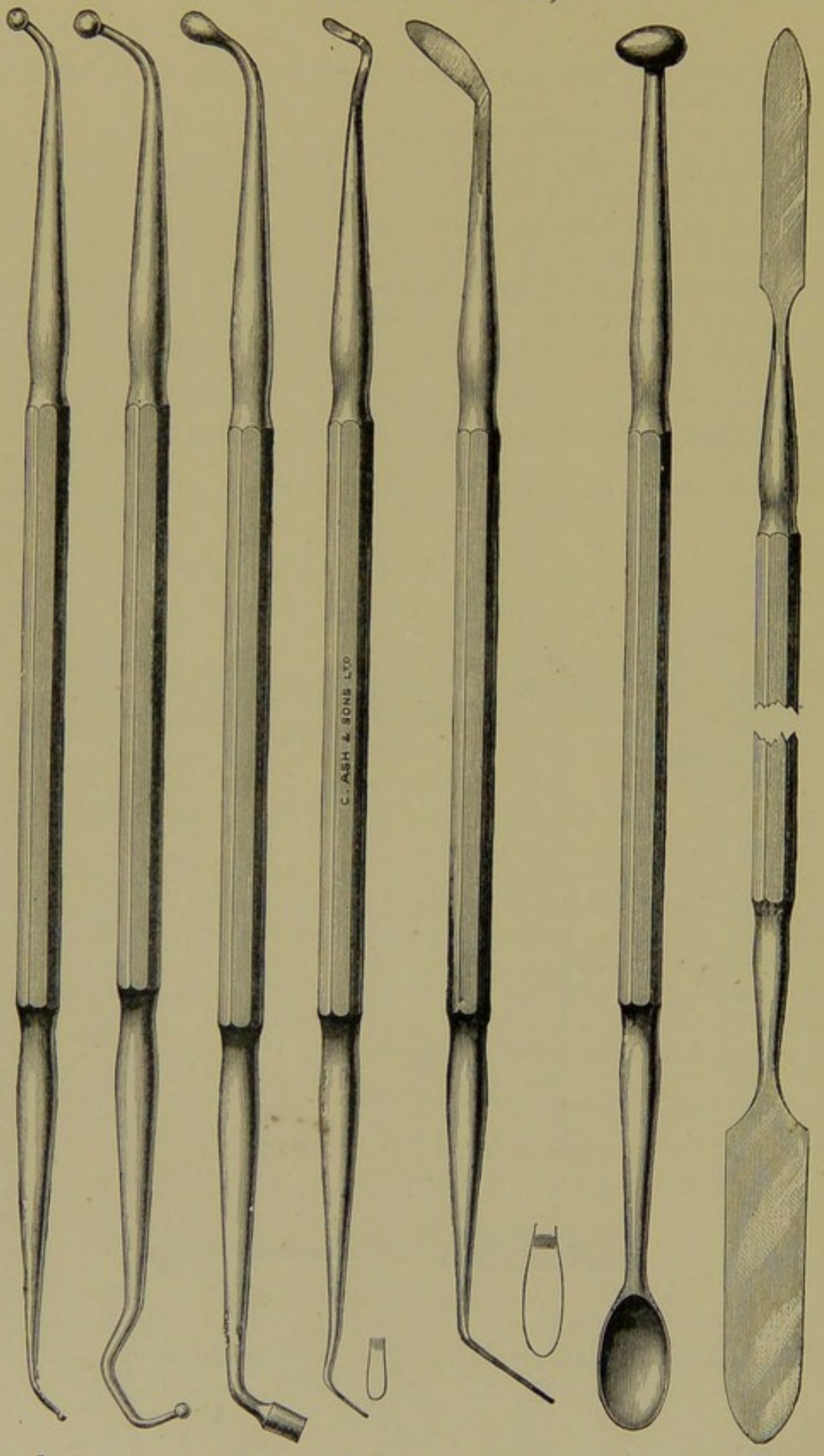


6¾ inches long.

	s.	d.
In wooden handle	2	9
AMALGAM SPOON in steel handle, with round bowl ..	1	9

PLASTIC FILLING INSTRUMENTS.

(Mr. C. J. Boyd Wallis's.)



1. 2. 3. 4. 5. 6. 7.

PLASTIC FILLING INSTRUMENTS

(Mr. C. J. Boyd Wallis's)—*continued.*

Mr. Boyd Wallis says: "I do not know that the illustrations need much description. There is little that is strictly original in them. I have had single-ended instruments of a like character in use for some fifteen or twenty years, and a long experience has led me to pronounce them the most convenient and useful forms for cement or amalgam filling. Of the scores of instruments of different forms which I have employed for plastic filling, I find that I use these, here illustrated, a hundred times more often than those of any other form; in fact of late years I have entirely discarded the use of other forms.

Figs. 1, 2, and 3 are different forms of Amalgam Pluggers or Burnishers.

Figs. 4 and 5 are Finishers or Burnishers, flat-ended.

Fig. 6 has at one end a Finisher or Burnisher which may also be used as a pestle for breaking up and preparing copper amalgams; and at the other end a ladle for heating copper amalgams or for conveying amalgam to the cavity, and recovering pieces of waste amalgam from the mouth.

Fig. 7 is a double-ended Spatula suitable for mixing cement fillings, or for waxing-up cases."

Prices:

		s.	d.
Plastic Filling Instruments, Nickel-plated	(Figs. 1–5, 7) each	2	3
,, ,, ,, ,, ..	(Fig. 6) ,,	3	0
,, ,, ,, ,, ..	(Figs. 1–7) per set	15	0

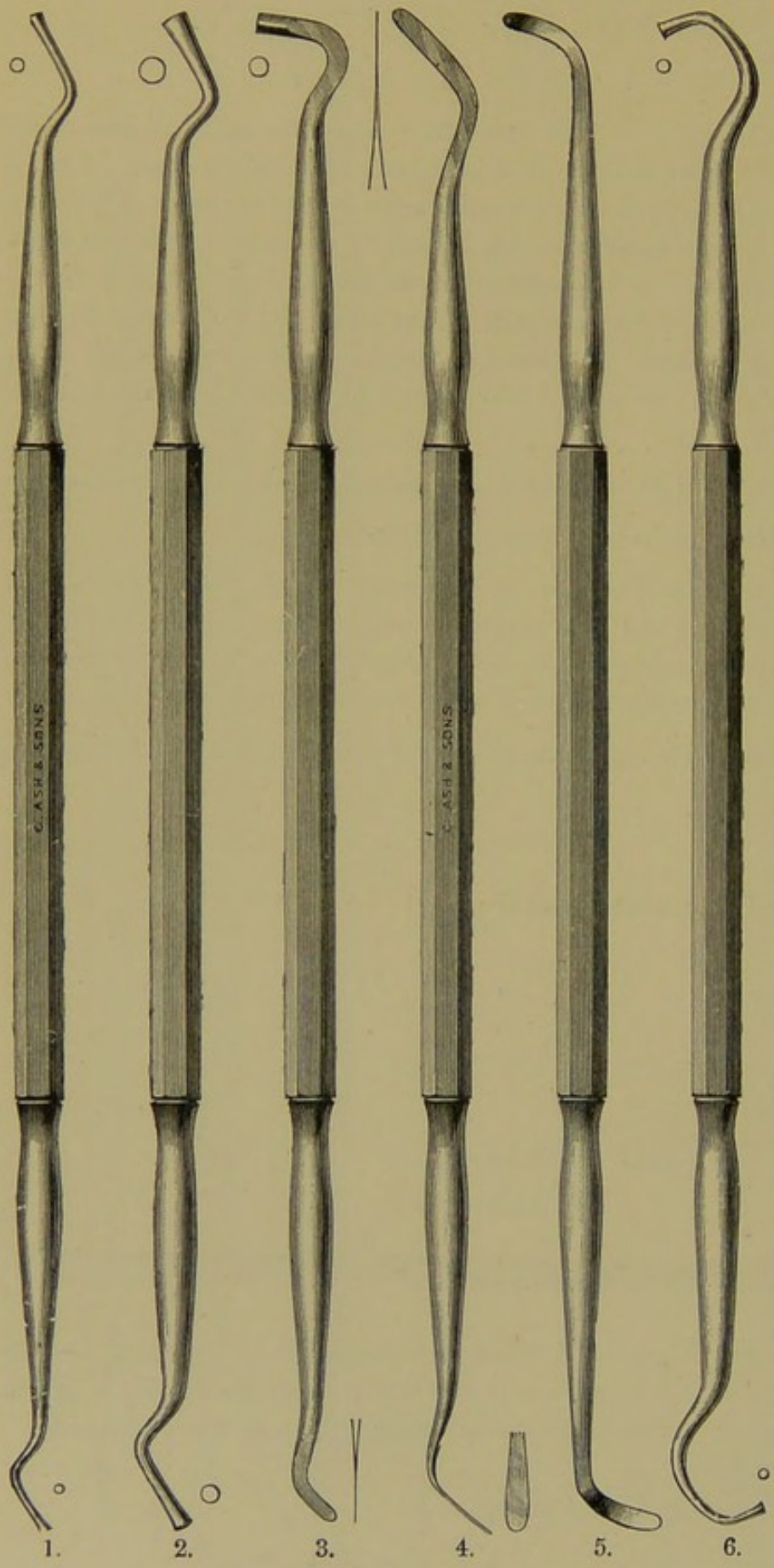
IMPROVED AMALGAM CARRIER.

(Dr. Albrecht's.)

After the holder B is filled with the prepared Amalgam, simple pressure on the handle A is sufficient to force it into the cavity. Made in two sizes, large and small, the small being shown in the illustration.

	s.	d.
Price, either size, Nickel-plated	5	0

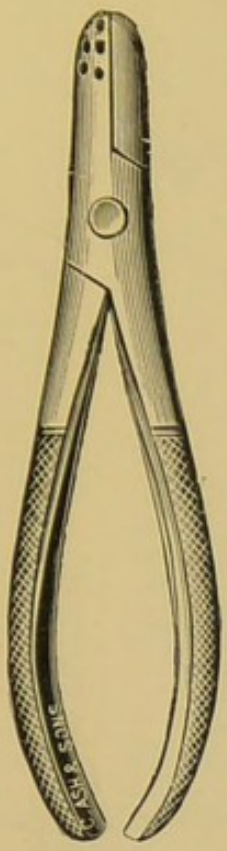
WILLIAMS' DIRIGO PLASTIC INSTRUMENTS.



SELECTED FORMS—Set of 6.

Figs. 1, 2, 6 in Nickel. Figs. 3, 4, 5, in Steel, heavily Nickel-plated.

	s.	d.
Price	each 2	6

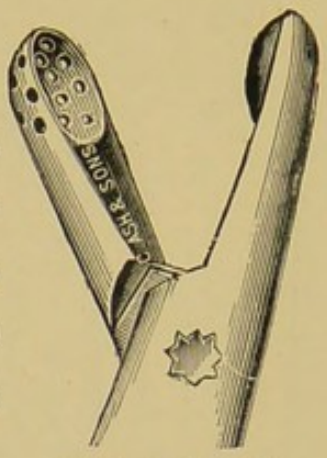


Pliers.

AMALGAM SQUEEZING PLIERS.

For removing the surplus mercury from amalgam fillings.

One chop is made in the form of a perforated spoon, in which the amalgam is placed; the other chop is bulbous, and, on being pressed into the spoon, ejects the mercury through the perforations and from the sides.

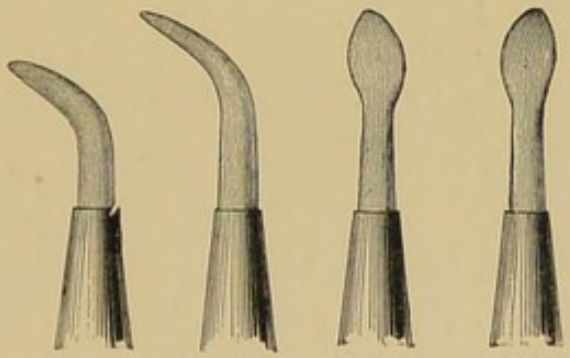


Enlarged view of jaws.

	s.	d.
In black handles, 6 inches long	5	0

AGATE BURNISHERS.

1.

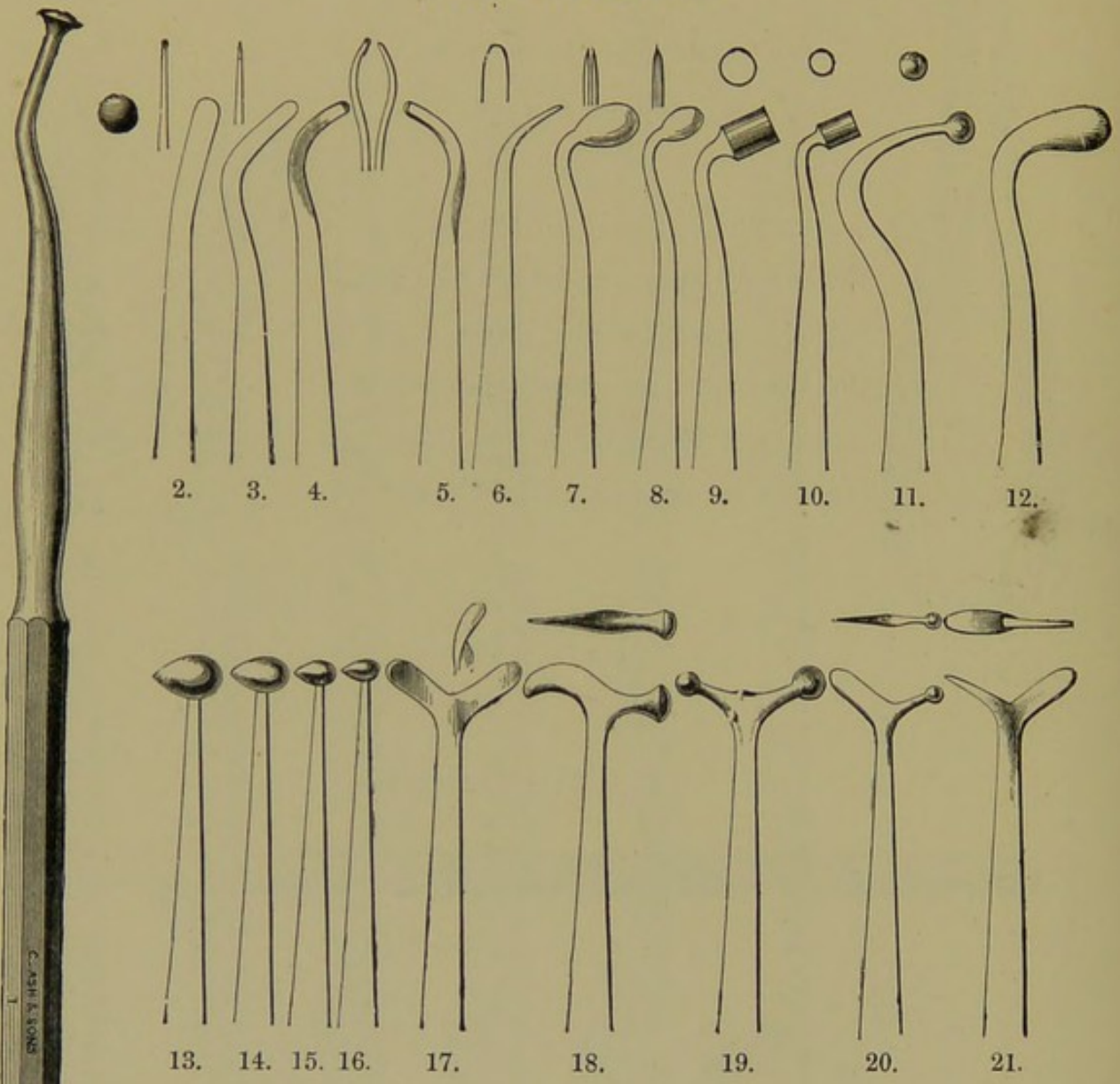


2. 3. 4. 5

For polishing stoppings. The set consists of five forms—Figs. 1–5, carefully selected, and designed to meet all requirements. They are made with Ebony handles like Fig. 1.

	s.	d.
Price .. .. (Figs. 1–5) each	2	9

BURNISHERS.



1.

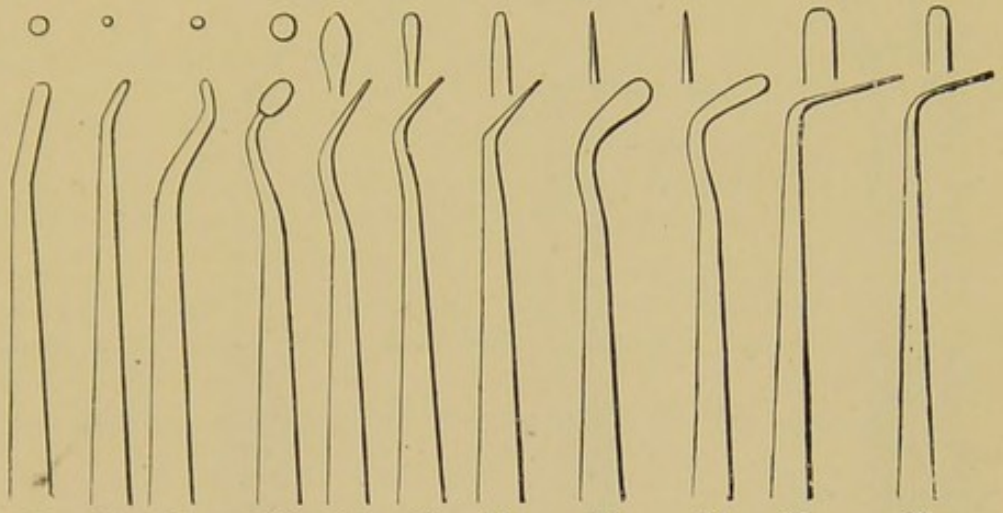
			s.	d.
In Steel octagon handles, blued ..	..	(Figs. 1–16) each	1	2
„ „ „ ..	..	(„ 17–21) „	1	5
The same, Nickel-plated	..	.. extra „	0	4
In Ebony handles, tapered, to order	..	(Figs. 1-21) „	3	0

Fig. 20 Burnisher is also made in two sizes smaller than illustrated, known as small and extra small. For the form of the Ebony tapered handles, see Fig. 24, page 29.

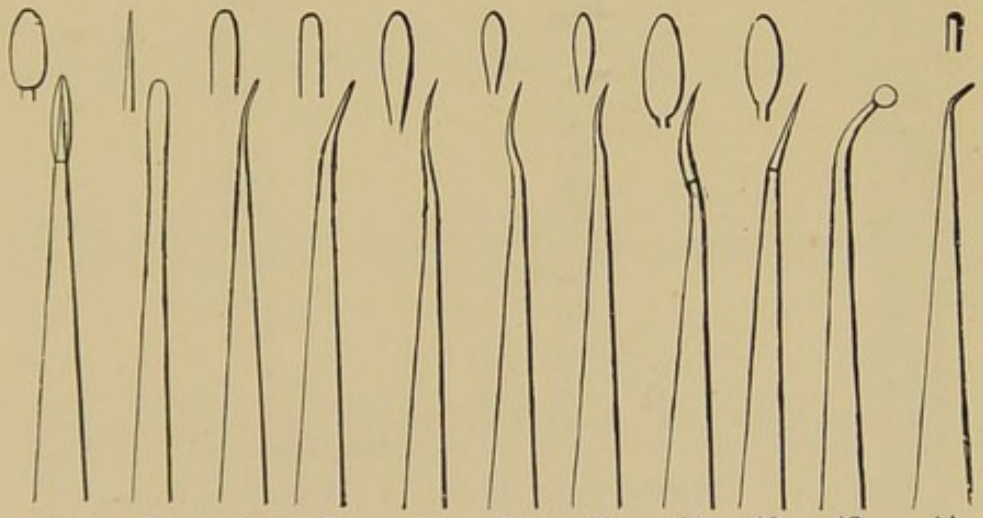
BURNISHERS—*continued.*

22.

With round and slightly-rounded surfaces, highly polished.



23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33.



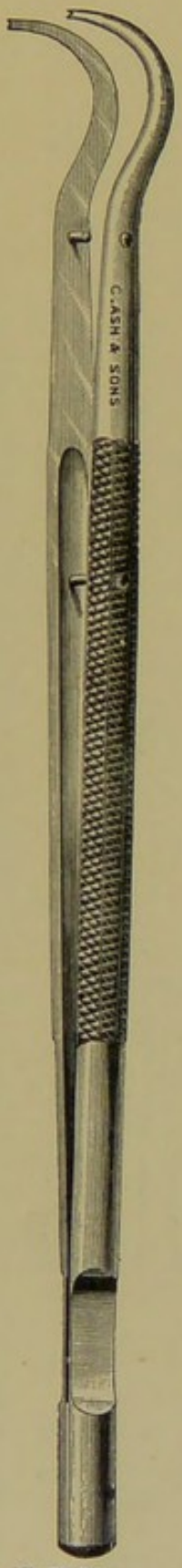
34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44.

			s.	*d.*
In Steel octagon handles, blued ..	(Figs. 22–44)	each	1	0
„ „ Nickel-plated	(„ 22–44)	„	1	4

Burnishers of other forms made or obtained to order.

For Distal Cavities.

PLUGGING TWEEZERS.



Full Size.

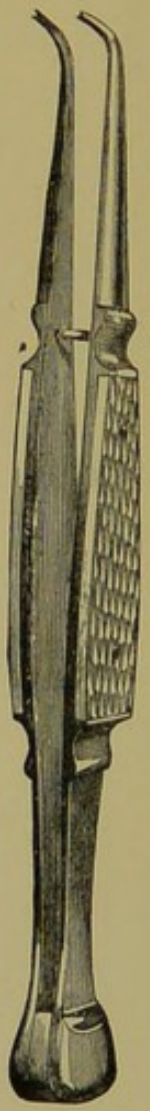
Rich's.

Length, 7¾ ins.

Fig. 11.

6 ins.

Connor's.



5½ ins.

Tweezers for distal cavities, as illustrated, with points serrated and curved in the form of a sickle, for filling roots and deep cavities in molars and bicuspids.

	s.	d.
In Steel octagon handles	6	6
,, ,, ,, Nickel-plated ..	7	6

PLUGGING TWEEZERS—*continued.*

(THE POINTS OF ALL ARE SERRATED.)

Prices:		*s.*	*d.*
Dr. Rich's, with holes in handles to make them light	each	6	6
" " " " Nickel-plated ..	"	7	6
Fig. 11, in Steel octagon handles, points set at various angles		6	6
" " " " " Nickel-plated	"	7	6
Dr. Connor's, made with large rounded steel ends to prevent the pressure hurting the hand. In Steel handles with checkered Ivory scales	"	9	0
" " " " " Nickel-plated	"	10	0
Mr. E. J. Ladmore's, in Steel octagon handles, Nickel-plated, with points set at the same angle as the top end of instrument Fig. 1 on page 62, for filling distal cavities	"	7	6

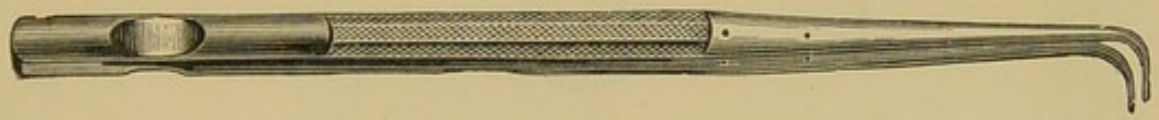
Other forms of Plugging Tweezers made to order.

DRESSING TWEEZERS.

(Dr. WITZEL'S.)

1.

2.



3.

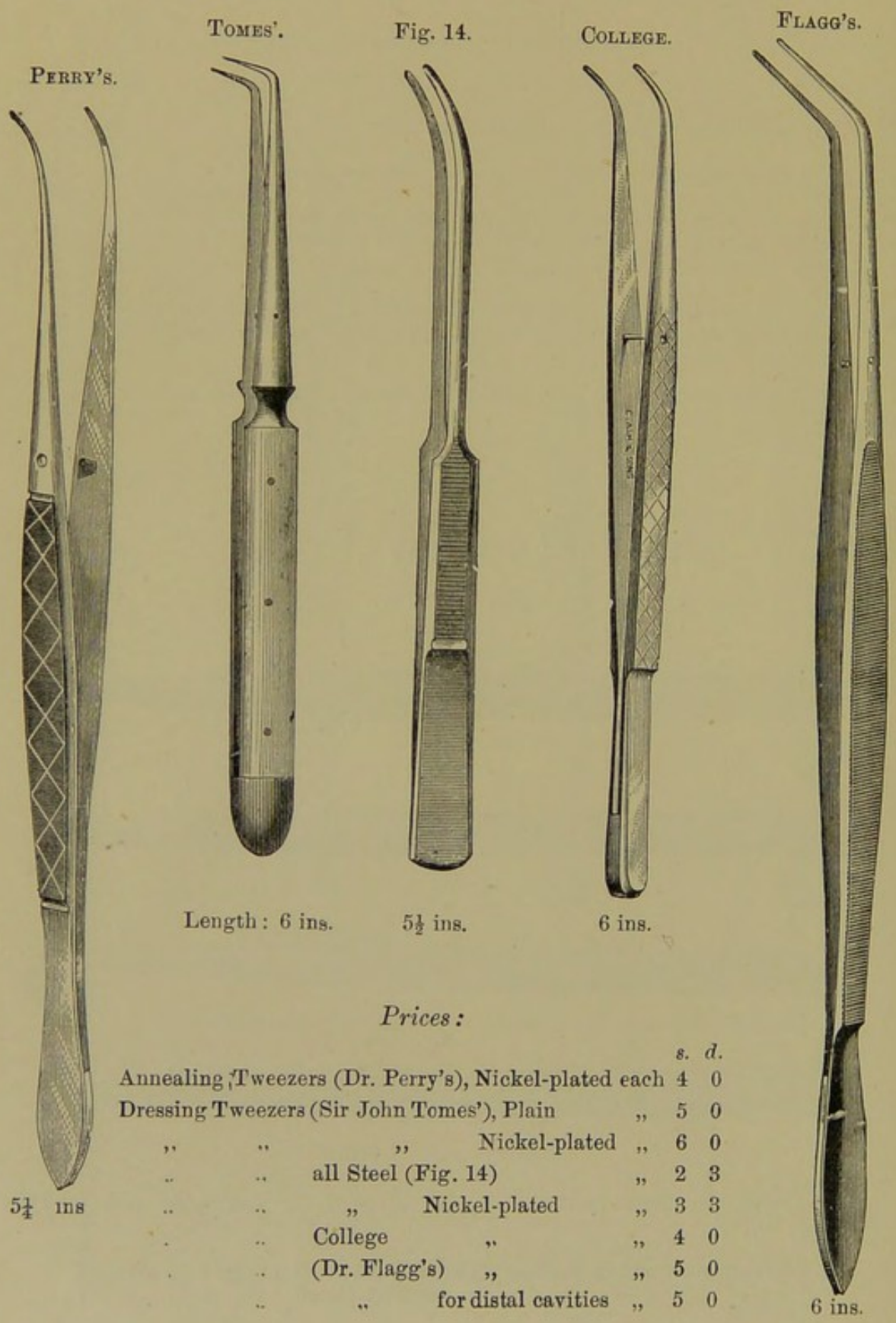
4.

Length of each 6 inches.

These have all smooth points, and are intended for conveying and applying dressings, &c.

		s.	*d.*
In Steel octagon handles, various angles, as illustrated (Figs. 1–4)	each	6	6
" " " Nickel-plated (" 1–4)	"	7	6

ANNEALING AND DRESSING TWEEZERS.



Prices:

		s.	d.
Annealing Tweezers (Dr. Perry's), Nickel-plated	each	4	0
Dressing Tweezers (Sir John Tomes'), Plain	„	5	0
„ „ „ Nickel-plated	„	6	0
„ „ all Steel (Fig. 14)	„	2	3
„ „ „ Nickel-plated	„	3	3
„ „ College „	„	4	0
„ „ (Dr. Flagg's) „	„	5	0
„ „ for distal cavities	„	5	0

DERENBERG'S TWEEZERS.

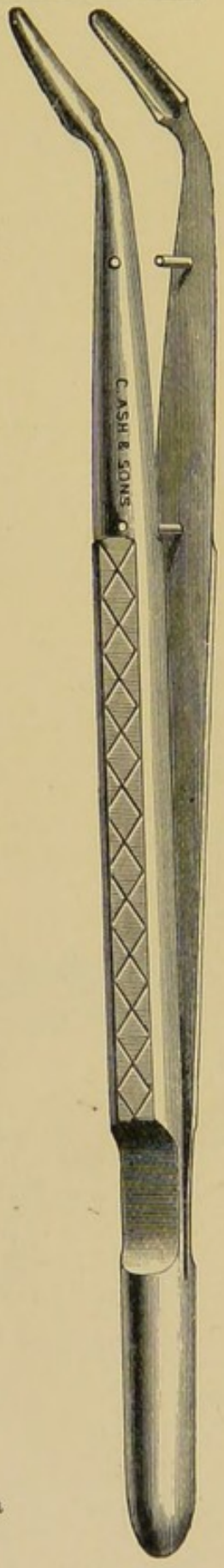
FOR REMOVING LOOSE AND TEMPORARY TEETH, DRESSINGS, ETC.

The appearance of this instrument serves to disarm the fears of the patient. To ensure a firm grip being obtained, the beaks are hollowed out and serrated inside.

It is a combination of the usual extracting Forceps and existing forms of Tweezers, the latter of which are usually so light and made with points much too fine and small to possess the needful strength for doing the work for which this instrument is intended.

Mr. Derenberg finds it very useful for removing loose and temporary teeth, dressings, etc

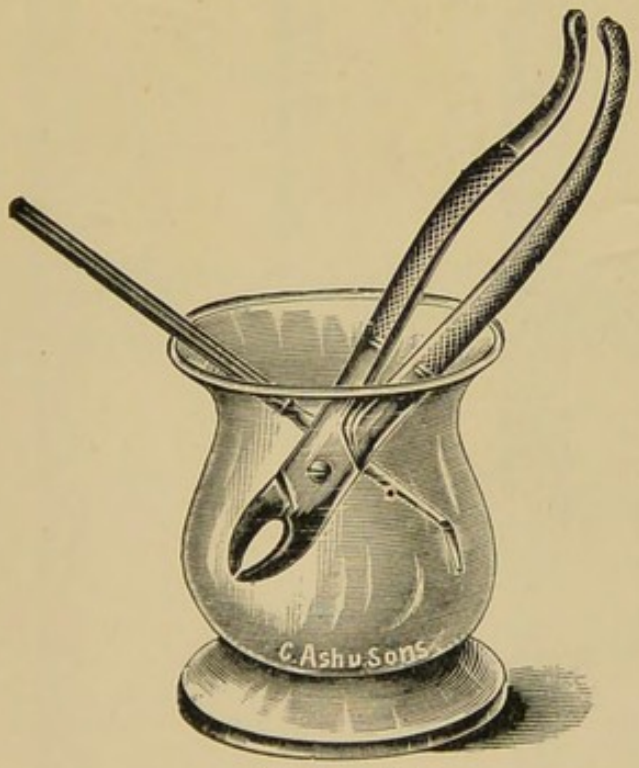
	s.	*d.*
Price, Nickel-plated.	8	6



Full size.

STERILIZING VASE.

(Suggested by Mr. J. DENNANT.)



4 inches high.

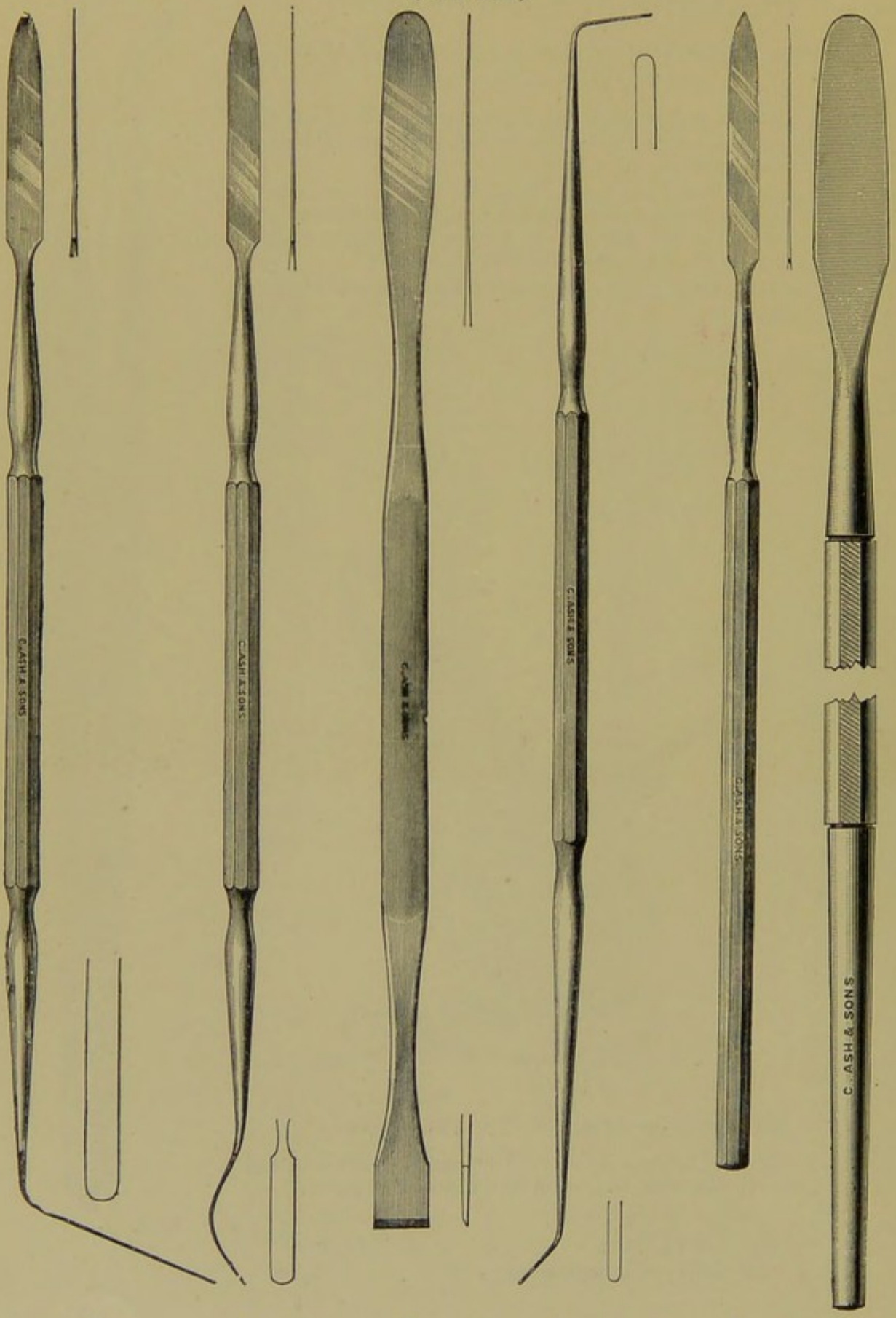
FOR USE IN THE OPERATING ROOM.

It is made of thick glass, which will not easily break, and has a base 3⅜ inches in diameter, to prevent its being readily upset.

	s.	*d.*
Price, in clear glass.	1	0
„ in claret-coloured glass	1	6

SPATULAS.

(FULL SIZE.)



1. 2. 3. 4. 5. 5A.

SPATULAS—*continued.*

		s.	d.
Fig. 1 (Dr. Houghton's), suitable for mixing Oxychloride Cements.			
In Steel octagon handle	each	1	9
„ „ „ Nickel-plated	„	2	1
Figs. 2 and 4 (Mr. Rowney's), suitable for Oxychloride Cements.			
In Steel octagon handles	„	1	9
„ „ „ Nickel-plated	„	2	1
Fig. 3 (Dr. Weston's), designed for mixing Oxyphosphate Cements. The chisel end of this Spatula is intended for cleaning the mixing slab.			
In thin oval Steel handle	„	1	9
„ „ „ Nickel-plated	„	2	1
Spatula (Dr. Weston's), 7¾ inches long, extra strong, with blades like Fig. 3, and Steel octagon centre. Nickel-plated	„	3	0
Fig. 5, Single-ended, suitable for Oxychloride Cements.			
In Steel octagon handle	„	1	0
„ „ „ Nickel-plated	„	1	4
Fig. 5A, Strong and stiff Spatula, 6¾ inches long, for mixing Oxyphosphate Cements	„	3	0

PLATINUM CAVITY CAPS,

FOR PROTECTING EXPOSED PULPS, &c.

(Dr. WITZEL'S.)

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16.

The following description of these caps, which are made in platinum, but which can, of course, be made also in gold, dental alloy, or other suitable metal, is translated from the German edition of Dr. Witzel's Compendium:—No. 1 is used for capping the pulps of incisors; No. 10 is used for capping the pulps of bicuspids; Nos. 2 and 6 are for exposed pulps in side cavities of molars.

The larger caps are used for covering pulps in cavities that are filled with cement, viz.:—Nos. 11 and 12 in bicuspids; Nos. 13 and 14 in the sides of molars; Nos. 7, 8, 9, 15, and 16 are for covering pulps in the crown cavities of molars.

For capping exposed pulps, the *concave* side of the cap is charged with cement paste and placed over the pulp; for capping filled pulp cavities the *convex* side of the cap is placed downwards with the rim resting on the edges of the pulp cavity. To make the cap adhere to the sides of the tooth, the rim should be painted or smeared with rather thick cement paste. In cases where the pulp cavity is not filled, but treated with sublimate lotion or other disinfectant, the cap should be covered with a thin layer of chlora-percha. It is important that, when the cavity is prepared, the cap should fit well, or it may be forced into the pulp cavity while the tooth is being stopped. To avoid this, a bur of the right size for the cap should be employed, with which the approach to the pulp canal should be shaped somewhat cup form.

		s.	d.
Price, in Platinum, assorted	per box of 25	2	0

SPATULAS—*continued.*

7.

Fig. 8.—6 inches long.

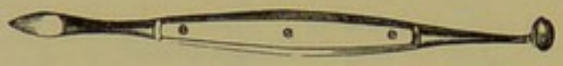


Fig. 10.—Full size.

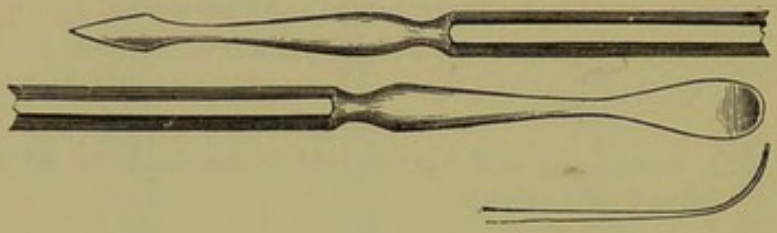


Fig. 11.—Half size.

Fig. 12.—6¾ inches long.

Fig. 13.—6¾ inches long.

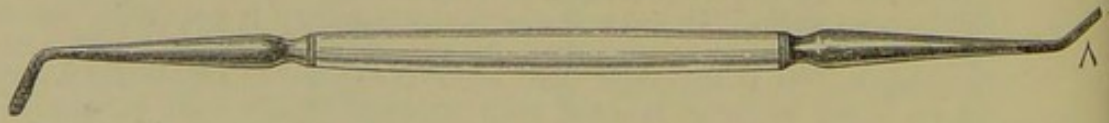


Fig. 6.

Spatulas of other forms made or obtained to order.

SPATULAS—*continued.*

Figs. 6 and 7 (Dr. Witzel's) are suitable for cement filling. They form a useful pair for upper and lower cavities. Fig. 6 is shown full size.

		s.	d.
In Steel octagon handles	(Figs. 6 and 7) each	1	0
„ „ Nickel-plated	(„ „) „	1	4

Fig. 8 (double ended) is suitable for mixing and working Poulson's Mineral Plombe, or any of the Amalgam Stoppings.

		s.	d.
In Steel, with Ivory scales	(Fig. 8) each	3	0
In plain Steel handle	(„) „	1	9
„ „ Nickel-plated	(„) „	2	1

Fig. 10 (Dr. Taylor's), for mixing and working Oxychloride Cement fillings.

		s.	d.
In Steel octagon handles	(Fig. 10) each	1	9
„ „ Nickel-plated	(„) „	2	1

Fig. 11 (Mr. T. Fletcher's), very stiff, intended for use with his Porcelain and all kinds of Oxyphosphate Cements. To ensure success with this class of Stoppings it is very necessary to mix them thoroughly, and this can only be done with a stiff Spatula.

		s.	d.
In Steel octagon handle, Nickel-plated	(Fig. 11) each	3	0

Figs. 12 and 13 (Mr. Rowney's), for mixing and applying Oxychloride Cement fillings.

		s.	d.
In Ivory handles	(Figs. 12 and 13) each	3	3

STEEL CAVITY CAPS FOR TEMPORARY USE.

(Introduced by Mr. SHEFFORD, of London.)

Same forms as Figs. 1 to 9 shown on page 81. They are made from telephone plate or thin steel, and are intended for covering nerve-destroying pastes, and for protecting the pulp under dressings and temporary stoppings.

For conveying a cap to the cavity Mr. Shefford uses a magnetised carrier, from which he disengages the cap, when it is placed in position, by means of a fine-pointed instrument.

Supplied in boxes containing 25 assorted sizes.		s.	d.
Price	per box	1	0
Magnetised Carrier for conveying them		2	0

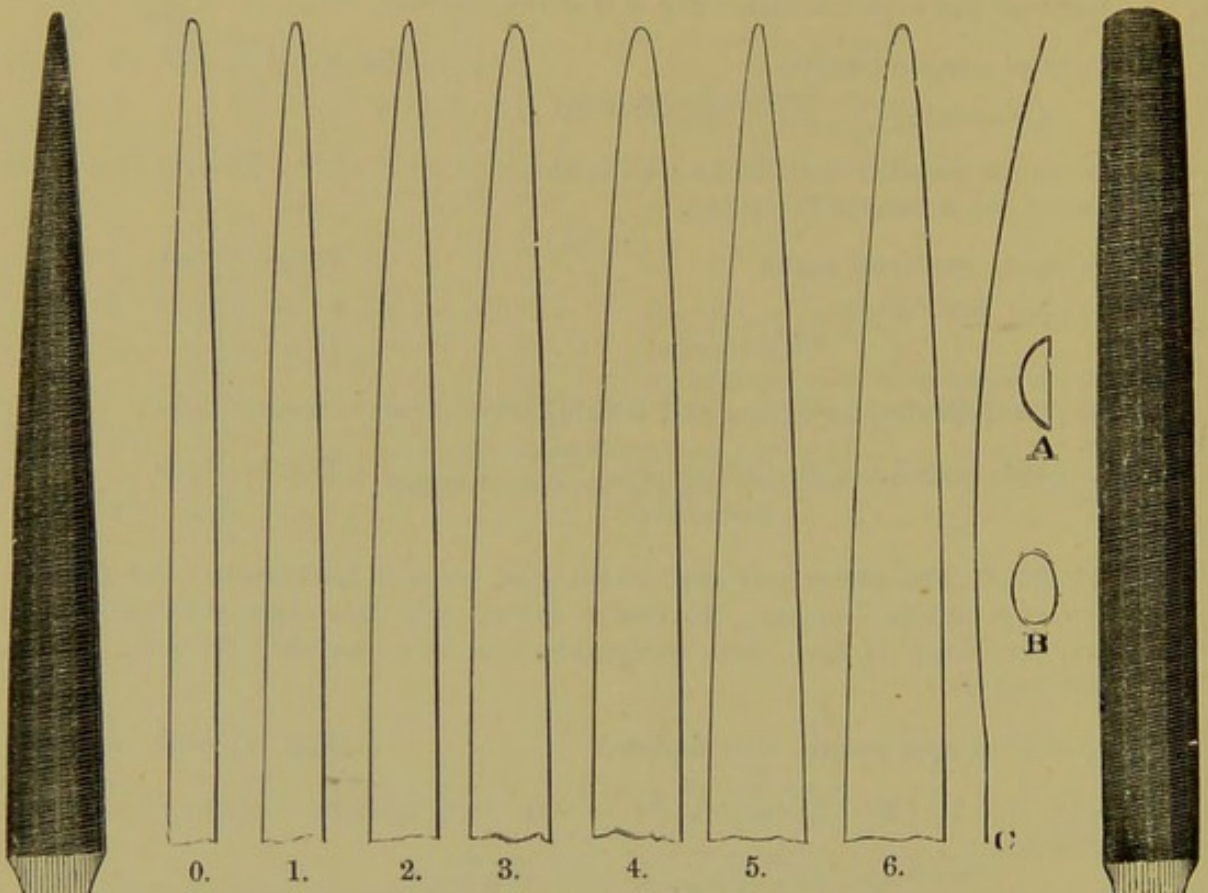
TELEPHONE PLATE,

FOR CAPPING EXPOSED PULPS AND FOR MATRICES.

Supplied in pieces, for cutting up as required, 5 by 4½ inches.		s.	d.
Price	per piece	0	4

STUMP FILES.

(Stubs'.)



A, section of half-round File.
B, section of oval ,,
C, bend of curved ,,

Pointed.

Blunt.

The Half-round are made in sizes 1 to 6.

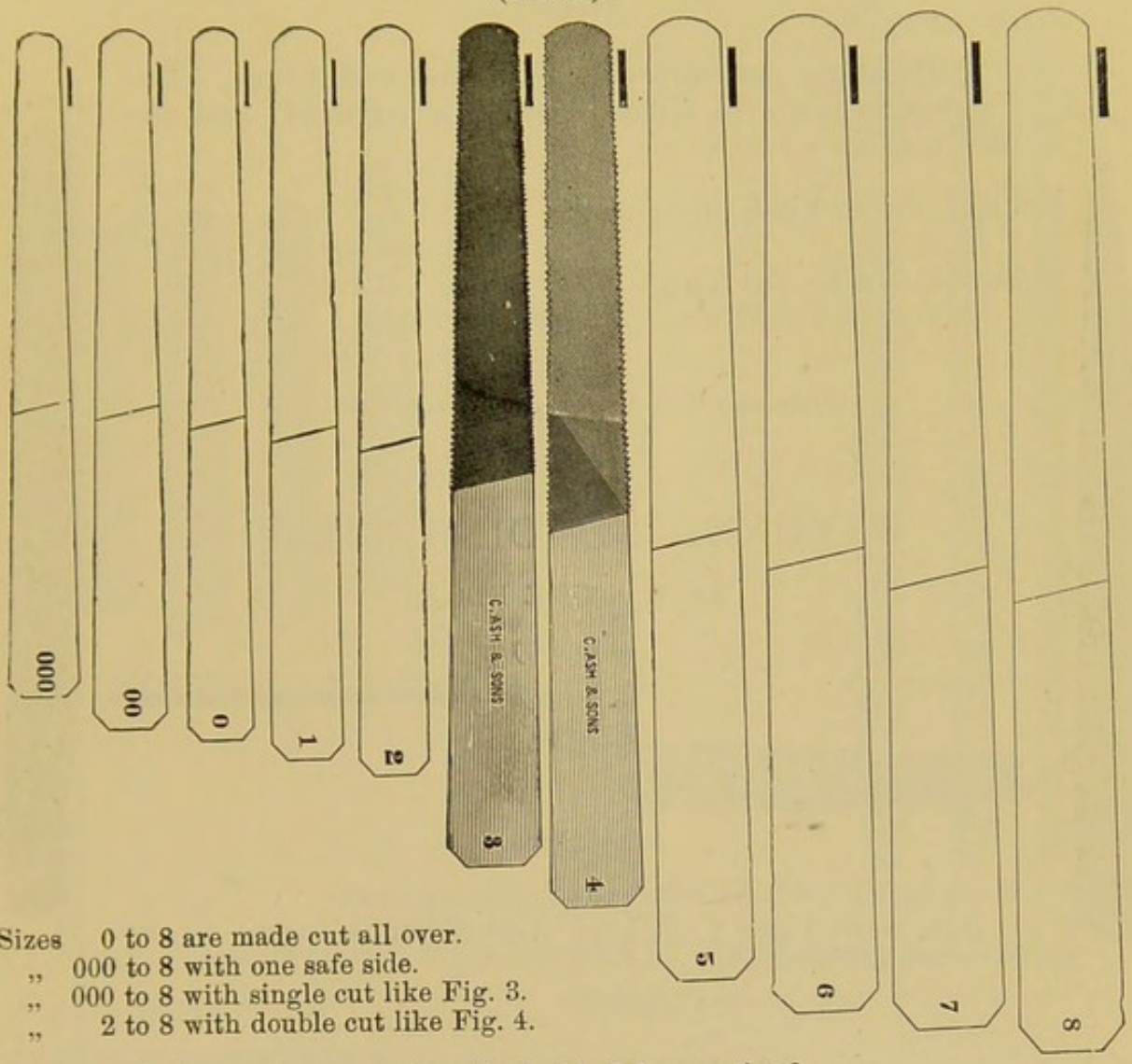
	per doz. s.	d.	each. s.	d.
Straight or Curved, Pointed	6	0	0	6½
,, ,, Blunt	6	0	0	6½
,, double-ended, one end pointed, the other blunt	7	6	0	8

The Oval are made in sizes 0 to 3.

	per doz. s.	d.	each. s.	d.
Straight or Curved, Pointed	6	0	0	6½
,, ,, Blunt	6	0	0	6½
,, double-ended, one end pointed, the other blunt	7	6	0	8

DIVIDING FILES

(STUBS').



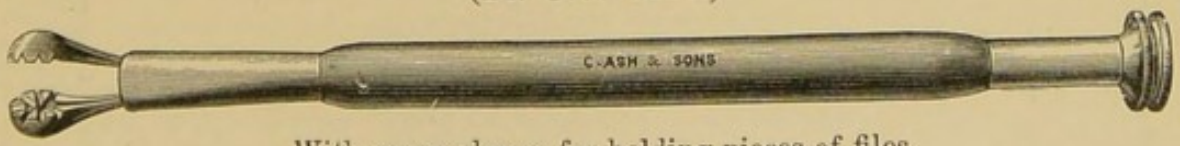
Sizes 0 to 8 are made cut all over.
„ 000 to 8 with one safe side.
„ 000 to 8 with single cut like Fig. 3.
„ 2 to 8 with double cut like Fig. 4.

When ordering, please state which kind is required.

	s.	*d.*
Price, any size or kind .. .. per doz.	3	3

FILE CARRIER.

(Dr. COGSWELL'S.)



With screw clamp, for holding pieces of files.

By means of the slots in the head of the Carrier the files can be fixed at various angles.

	s.	*d.*
Price, in Ebony handle, as illustrated	6	6

DIVIDING FILES—*continued.*

(STUBS'.)

Knife edge, one safe side. Pointed and Blunt. The Pointed is made in sizes 3 to 6 (see page 84), and the Blunt in sizes 1 to 4.

		s.	d.
Price, either kind, any size	each	0	6½
,, ,, ,, ...	per doz.	6	0
Double-Knife Dividing File, blunt (Mr. J. B. Fletcher's), with one safe side	each	0	8½
,, ,, ,, ,, ,,	per doz.	8	0

Fletcher's File is a most convenient tool.

Pointed. Blunt.

BAYONET DIVIDING FILES.

WITH KNIFE EDGE.

(STUBS'.)

5 inches long.

	s.	d.
Made in rights and lefts, cut inside and outside, with Tang to fit into wooden handle each	0	8½

DIVIDING FILES.

(STUBS'.)

SICKLE SHAPE.

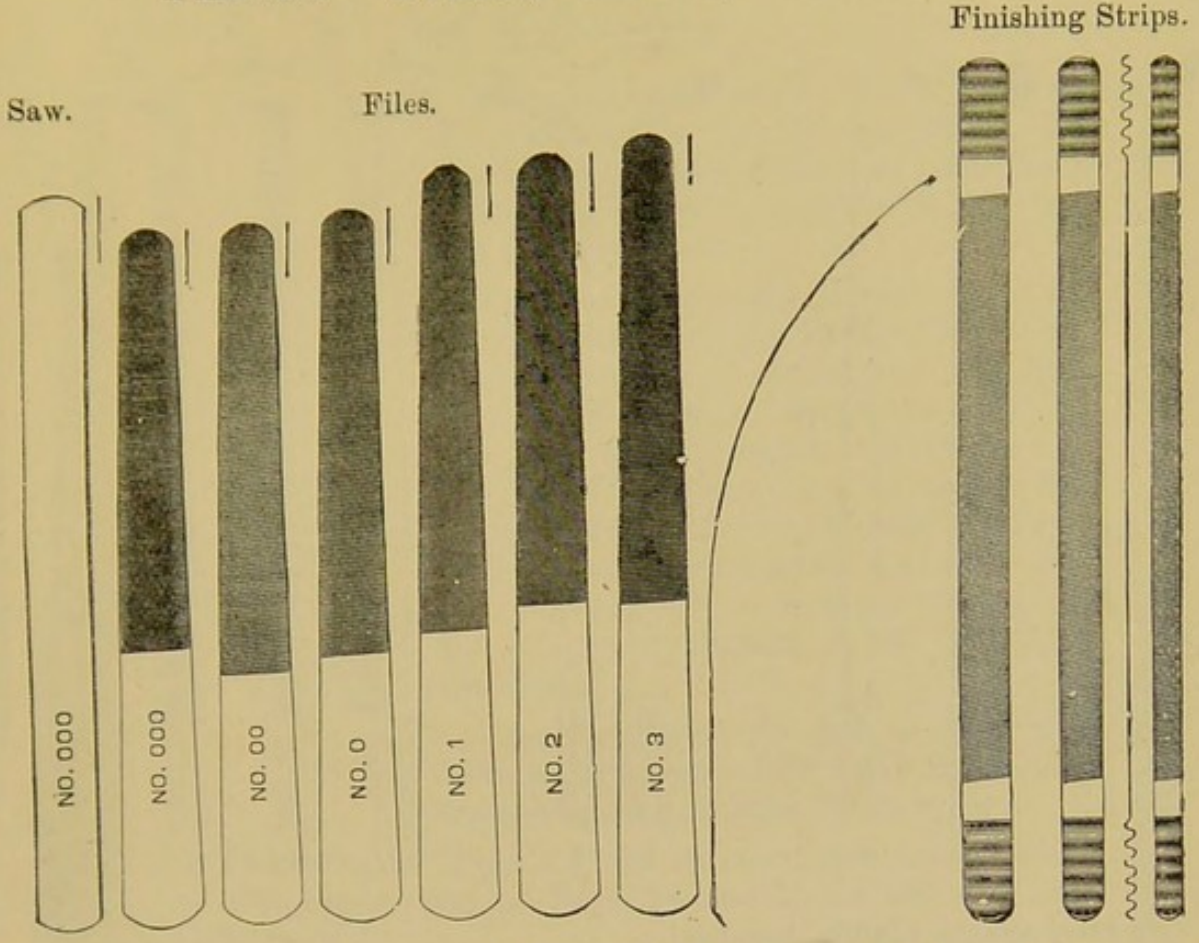
For sizes see previous page.

Made in Nos. 0 to 4, one safe side.
,, ,, 0 to 4, cut all over.
,, ,, 2 to 4, *double* cut.

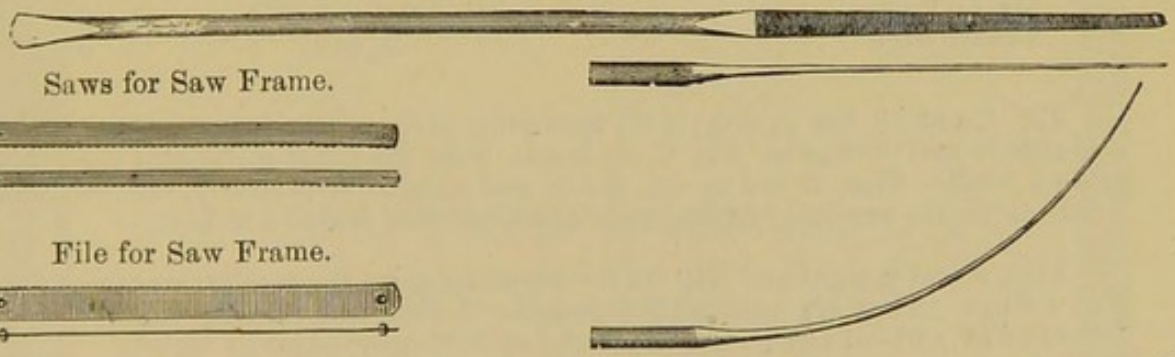
	s.	d.
Price, all kinds and sizes .. .. .. per doz.	3	3

Other forms of Stump or Dividing Files obtained to order.

"FLEXO" FILES, SAWS, AND STRIPS.



Plug Finishing File.



Saws for Saw Frame.

File for Saw Frame.

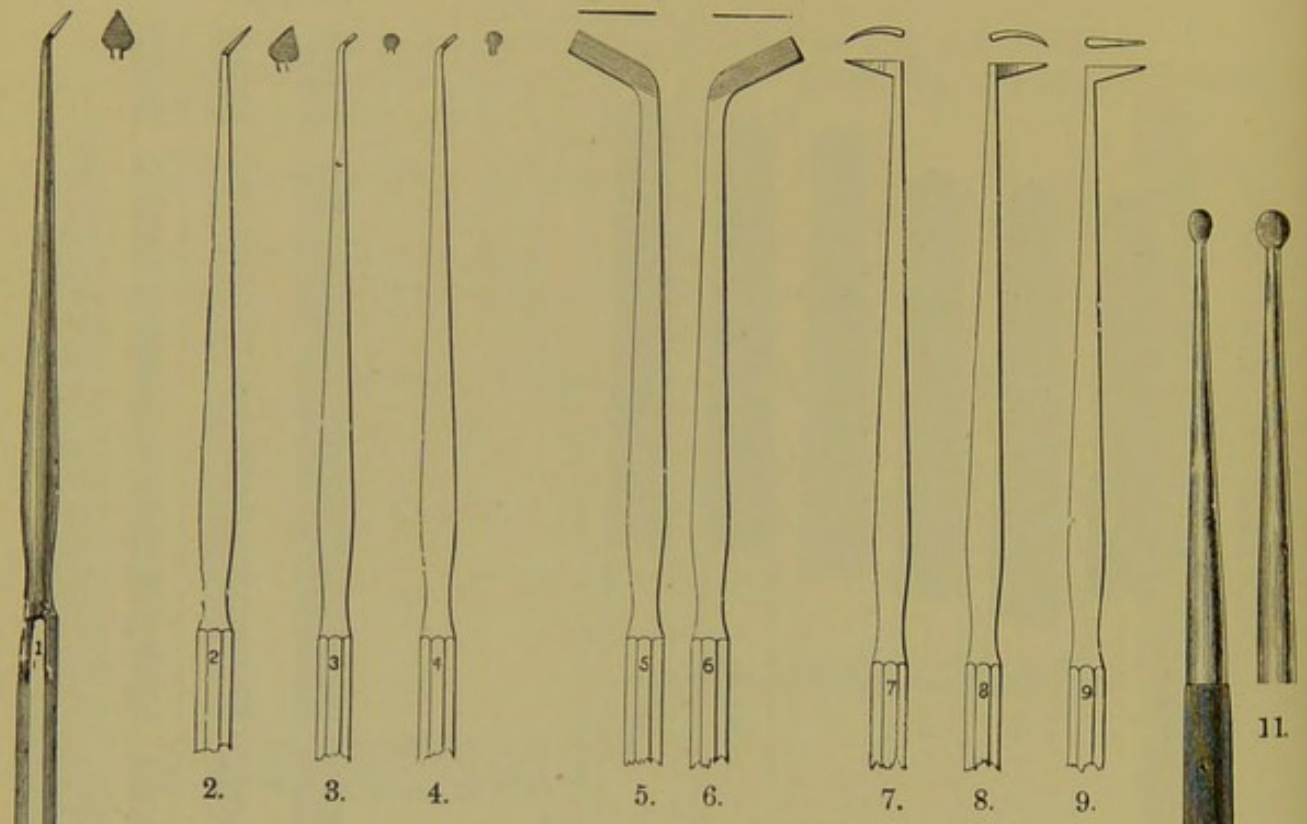
		s.	d.
Separating Files, push cut, in six sizes, 000 to 3	per doz.	5	3
,, ,, draw cut, in four sizes, 000 to 1	,,	5	3
,, Saws, size 000, cut on edges only	,,	4	2
Plug Finishing Files, one size, thin, narrow and tapering	,,	8	4
Finishing Strips, in three sizes, broad, medium, and narrow	,,	4	2
Saw Blades for the Kaeber Frame, two sizes, broad and narrow		1	0
Files for Saw Frames	,,	4	2

The Files cut on both edges and one side; the other side is smooth.
The Saws cut on both edges; the two sides are smooth or safe.

A variety of Froid's Dividing Files kept in stock.

Other Dividing Files supplied to order.

PLUG TRIMMERS.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.

In Steel octagon handles, blued :—

			s.	d.
Dr. Redman's	(Figs. 1, 2, 3, 4)	each	1	0
Mr. C. Rogers'	(„ 5 and 6)	„	1	3
Square edge	(„ 7, 8, 9)	„	1	0

Fig. 1, cut on the outside, is for trimming plugs in the mesial surfaces of molars and bicuspids ; Fig. 2, cut inside, is for the distal surfaces of the same teeth. Figs. 3 and 4, cut inside and outside respectively, are for smoothing the cervical edges of approximal cavities previous to filling.

Figs. 5 and 6, right and left, are for trimming down the cervical margins of fillings. They are used with a pushing motion, and literally cut the gold away without any chance of tearing or fraying its edges or surface.

Figs. 7, 8, and 9, straight, right and left, are applicable to any angle or curve of any tooth, and can be used with a thrusting or drawing motion ; they will also be found very useful as small scalers.

Figs. 10 and 11—SERRATED AND STONED.

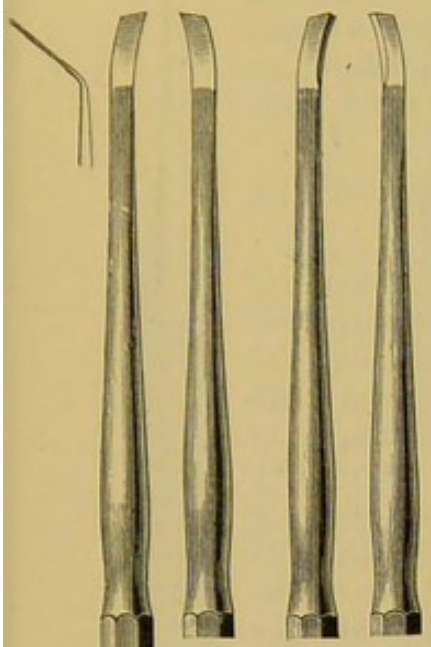
Fig. 10. Oval, coarse cut, cut on one side only.
„ 11. Round, fine cut, cut on both sides. One side of this Trimmer is used with a pushing motion, and the other with a pulling motion.

Prices :

		s.	d.
In Ebony or blued Steel handles	(Fig. 10)	1	9
„ „	(„ 11)	2	0

SET OF FOUR ANGLE KNIVES.

(Mr. H. Baldwin's.)



13. 14. 15.

Mr. Baldwin says: These Angle Knives are for neatly trimming off the bulge of interstitial and posterior fillings generally, especially where the space is small.

They are specially useful for old bulged gutta-percha fillings, tin and gold fillings, and amalgam fillings while still unset. Sweeping round the tooth in a direction transverse to its long axis, they can be made to "hug" the tooth very closely, and so trim off any excrescence right up to the cervical edge, without injuring the filling in respect to its rounded contour.

They are made in sets of four to give a right and left knife for both anterior and posterior fillings.

The bevel of Figs. 12 and 13 is on the under side of the blade, and of Figs. 14 and 15 on the top as illustrated.

	s.	*d.*
In blued octagon handles (Figs. 12–15) each	1	3

12.

UNIVERSAL TRIMMER.

(Mr. T. H. Clarence's.)

Mr. Clarence says: "This instrument will be found most useful in excavating interstitial front cavities, especially the cervical margin; it will also be found handy in removing sensitive soft dentine, obstinate ledges of tartar, in trimming up the walls of cavities previous to the insertion of the filling, and in many other ways which the operator will find out by experience."

	s.	*d.*
Price in blued steel octagon handle	1	0

Clarence's Trimmer.

PLUG TRIMMERS.

(Mr. H. Baldwin's.)

Figs. 1 and 2 are intended for trimming gold fillings and tin fillings, and are so constructed that they cut either by pushing or pulling; moreover, each is at the same time a right and left instrument.

They are made to patterns approved by Mr. Baldwin.

Fig. 3 is a good useful trimmer for general use. Mr. Baldwin also claims that it surpasses any other kind of instrument used for the purpose of breaking up a cement filling. He says: "There is not the slightest danger of breaking the tooth when using it. It readily digs into a cement filling, even on a sloping surface, and raises large flakes from it. The instrument should be pushed in at an angle. It is also useful for scratching the surface of a cement filling which has become hollowed out by wear, so as to obtain a rough surface to which fresh cement will adhere."

Prices:

		s.	d.
Plug Trimmers in Ebony handles	(Figs. 1, 2) each	2	3
Plug Trimmer, etc., for Cone-Socket Handle	(Fig. 3) ,,	0	9
Cone-Socket Handle for ditto ..	,,	0	6

OSTEO TRIMMER.

(Dr. W. Mitchell's.)

Dr. Mitchell says: "The advantage claimed for the Osteo Trimmer is that the ends as shaped make it the most facile instrument of any with which I am acquainted for finishing, *i.e.*, shaping up cement fillings. The angle of one end and the curve of the other render it possible to reach any place in the mouth.

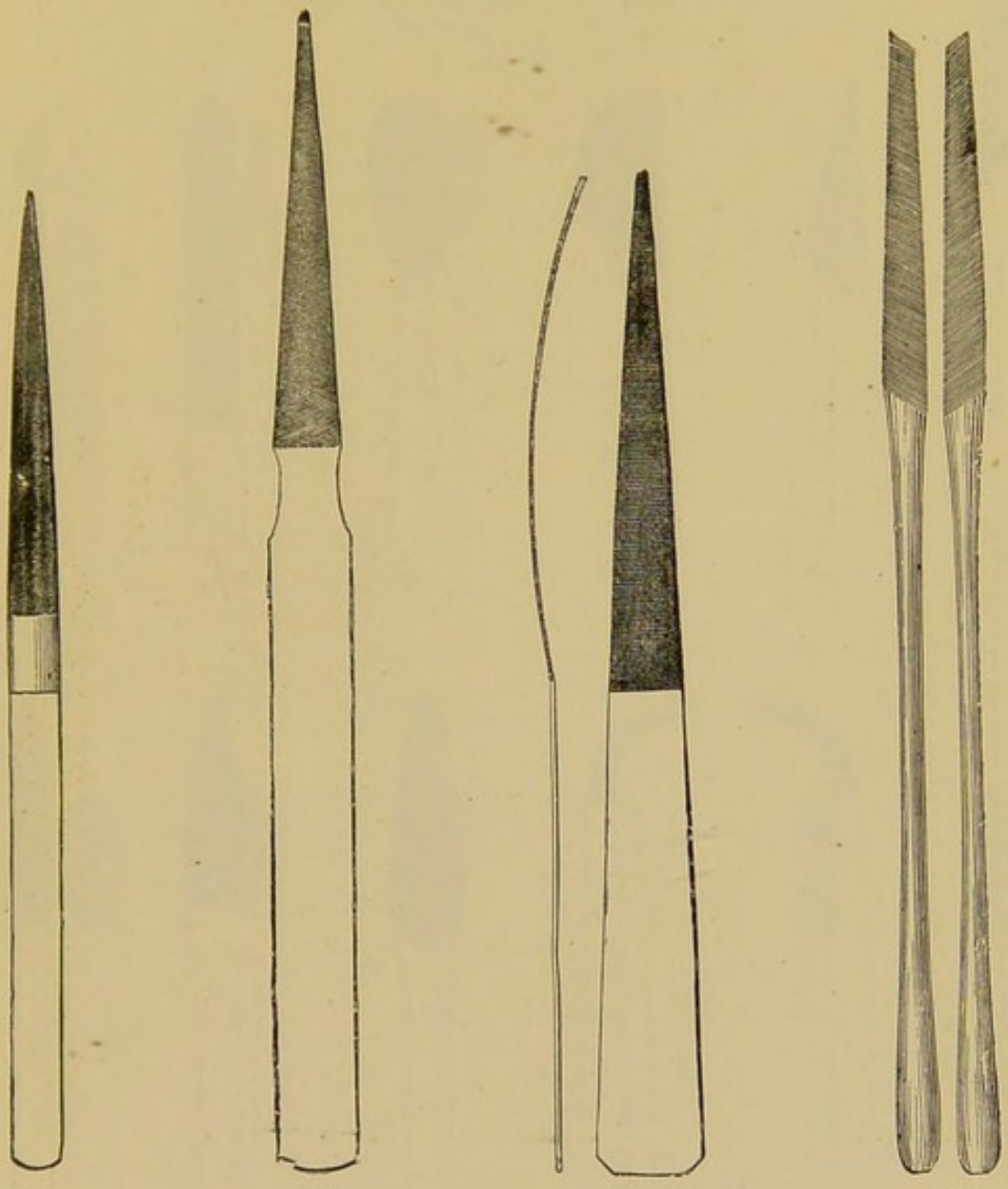
The angular end I find very useful as an adjunct to my set of Scalers, and it is also a handy instrument for the removal of ligatures. By applying its two sides to an oil stone or corundum slab, *three* sharp edges are developed, the utility of which will be obvious to any operator."

	s.	d.
Price, with Ebony centre	3	0

Osteo Trimmer.

FINISHING FILES.

(STUBS' AND FRENCH.)



9. 10. 11. 12.

			s.	d
Fig. 9, half-round pointed, straight, cut all over ..	each		0	6⅓
„ 10, „ „ straight and curved, one safe side	„		0	6½
„ 11, half-round pointed, straight and curved, cut all over, sizes 0, 1, 2	„		0	4
„ 11, half-round blunt, cut all over, sizes 0, 1, 2 ..	„		0	4
„ 12, Dr. Taft's spring tempered, made in rights and lefts	„		0	5½
„ 12, „ „ „ „ „	per doz.		5	0

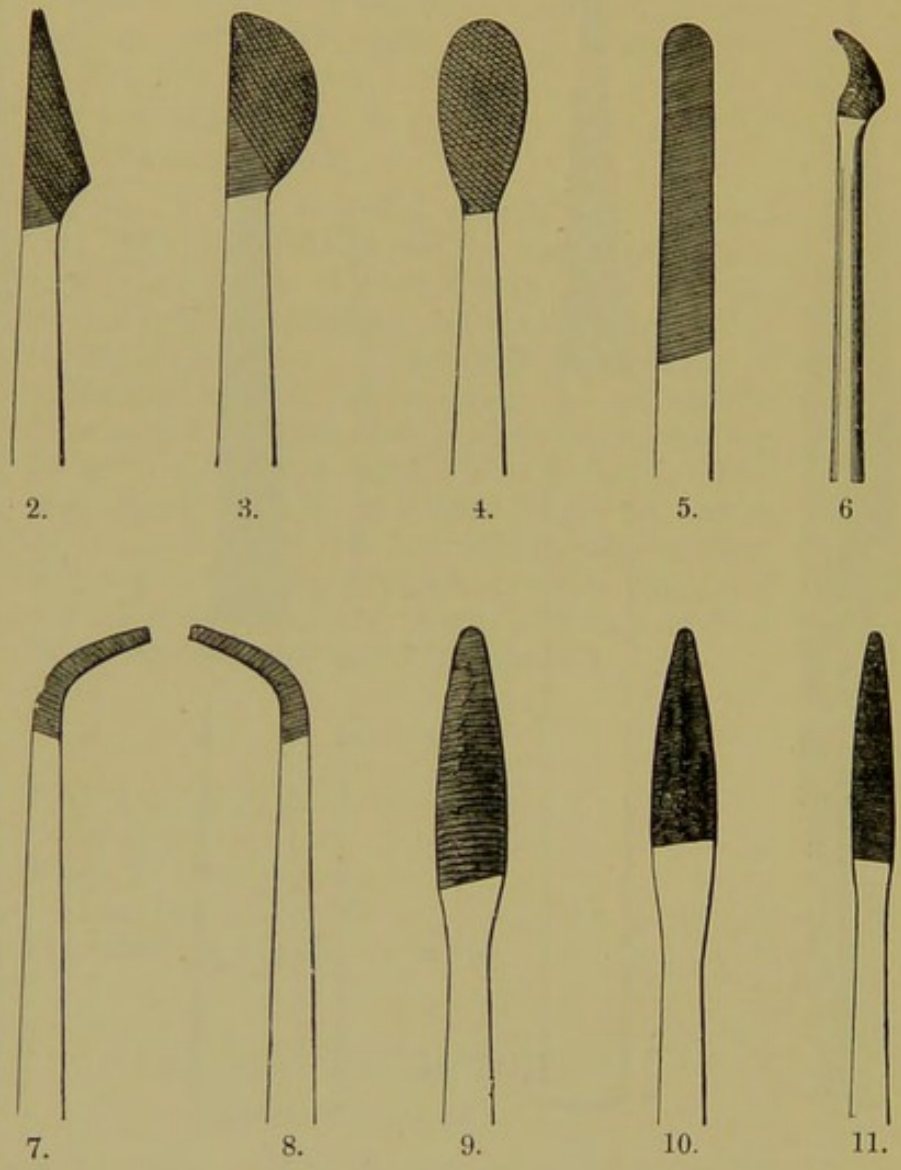
The side view of Fig. 11 shows the bend of the curve.

Size No. 1 is given in the Illustration.

RIFFLERS.—Double-ended.

FOR FINISHING STOPPINGS.

(Stubbs'.)



2. 3. 4. 5. 6

7. 8. 9. 10. 11.

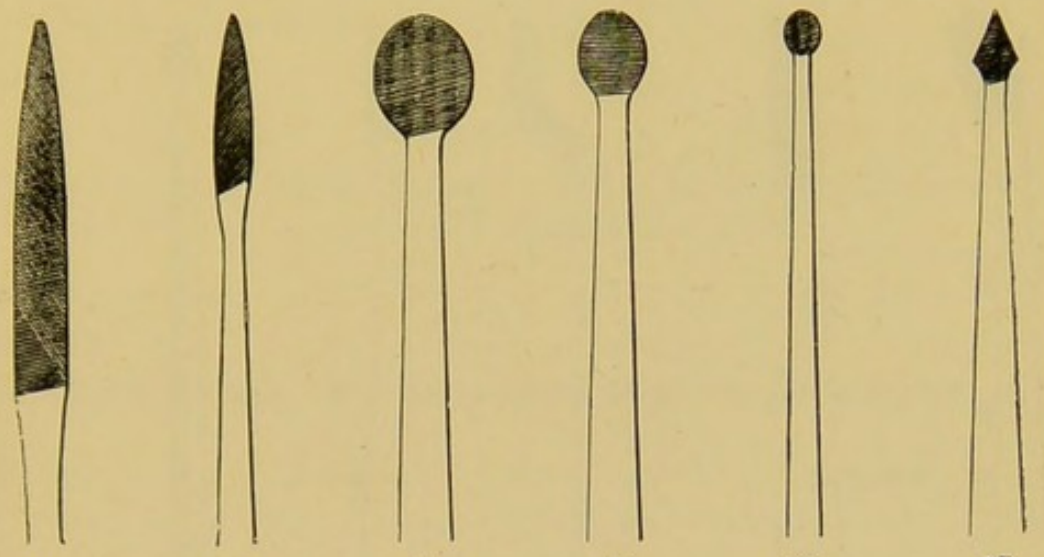
1.

					s.	d.
Fig. 1.		Flat, curved, and half-round—curved at other end	each		0	7½
,,	2, 3, 6	,, straight—other end same shape	,,		0	7½
,,	4	,, curved ,, ,,	,,		0	7½
,,	5	,, straight and narrow ,,	,,		0	7½
,,	7, 8	,, right and left sides ,,	,,		0	7½
,,	9, 10.	Half-round, curved ,,	,,		0	7½
,,	11.	Oval, thin, curved ,,	,,		0	7½

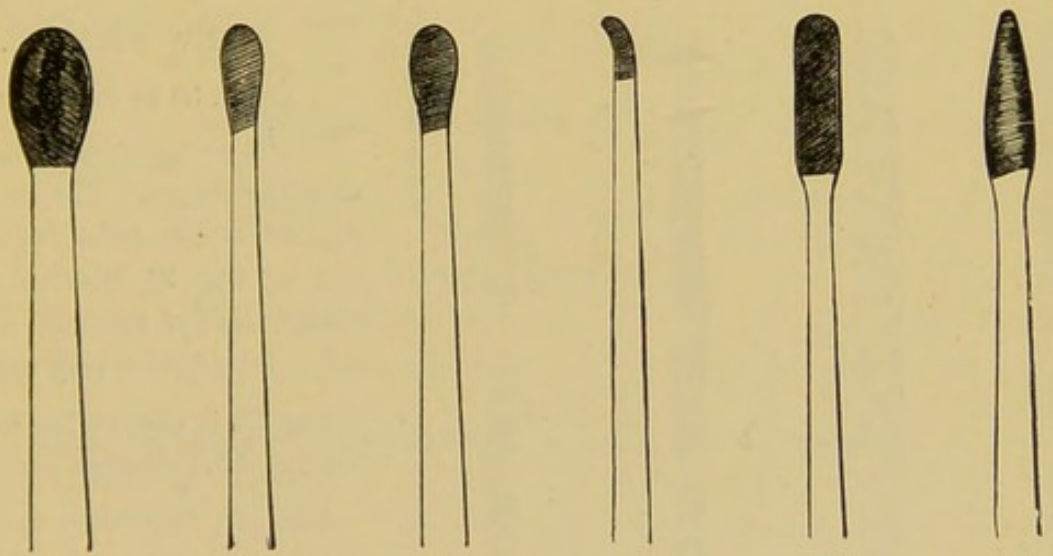
RIFFLERS.—Double-ended.

FOR FINISHING STOPPINGS.

(Stubs'.)



12. 13. 14. 15. 16. 17.



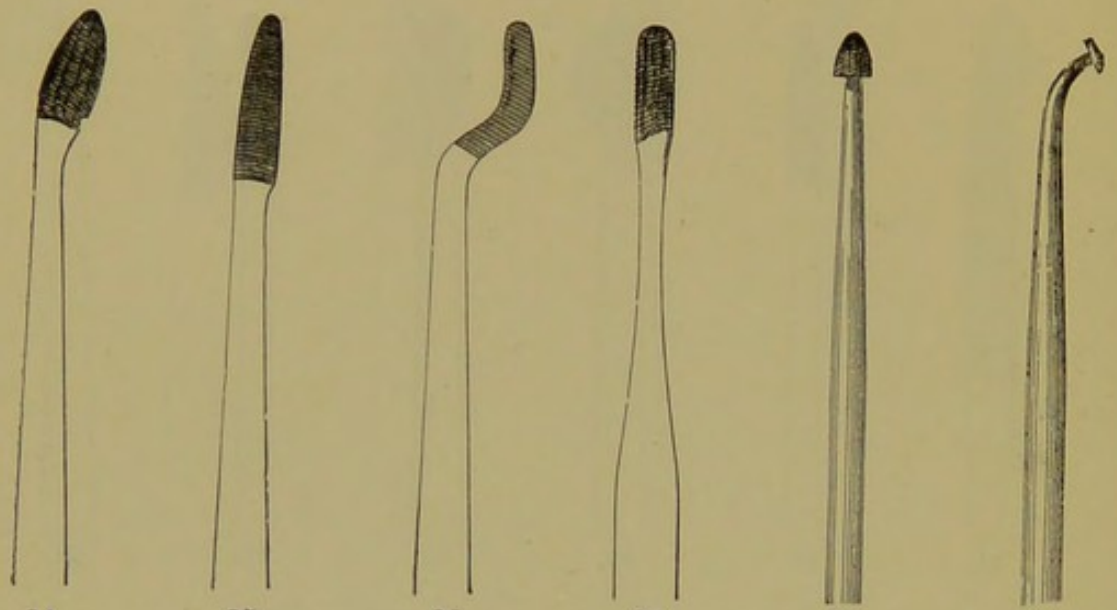
18. 19. 20. 21. 22. 23.

						s.	d.
Figs.	12 to 17,	Half-round,	curved—	other end	same shape	each	0	7½
„	18 to 20,	Oval,	straight	„	„	„	0	7½
„	21	„	curved	„	„	„	0	7½
„	22	„	straight, thin	„	„	„	0	7½
„	23	„	curved	„	„	„	0	7½

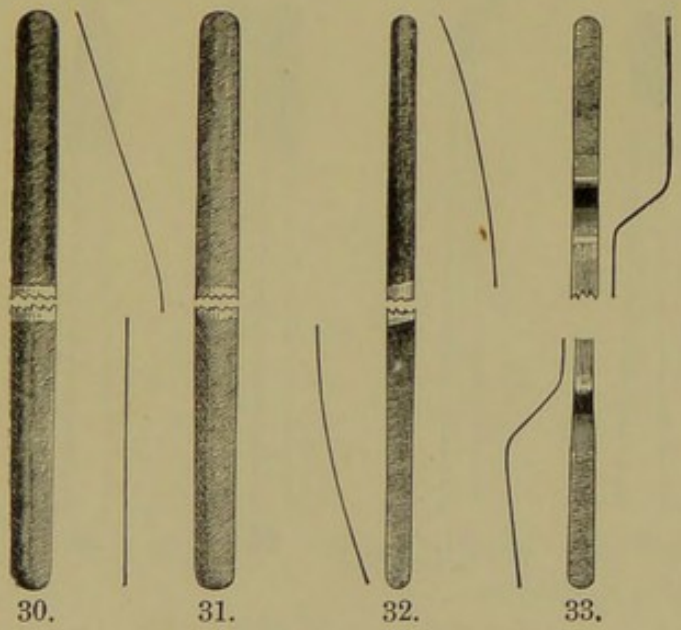
RIFFLERS.—Double-ended.

FOR FINISHING STOPPINGS.

(Stubs'.)



24. 25. 26. 27. 28. 29.



30. 31. 32. 33.

NEW SHAPES.

(Figs. 30 to 33 fine cut.)

The lines between these Rifflers show the shapes. The bent end of Fig. 30 is cut **outside**, the bent end of Fig. 31 **inside**, and the straight end of both **on one side** only. They form a very useful pair.

Fig. 32 is curved, one end being cut **inside**, the other **outside**.

Fig. 33, Bayonet-shape, is cut **inside** one end, and **outside** the other.

			s.	d.
Fig. 24.	Oval, thin, flat—other end curved	each	0	7½
„ 25, 26.	„ „ straight—other end same shape ..	„	0	7½
„ 27, 28.	Round, straight „ „ „ ..	„	0	7½
„ 29.	Half-round, curved „ „ „ ..	„	0	7½
„ 30 to 33.	See description above	„	0	7½

POLISHING STRIPS.

Metal Polishing Strips. These Strips are used with pumice or other suitable powders for finishing fillings and are thin enough to go readily between teeth. They can be smoothed out after being used by drawing between a towel or over the edge of a table. Put up in boxes of one dozen, assorted in six widths.

		s.	*d.*
Price	per box	0	10

Carborundum Cloth Strips. Made in Coarse, Medium-Coarse, Medium and Fine Grits, put up in boxes of one gross.

		s.	*d.*
Price, any grit	per box	2	1

Celluloid Strips. Put up in boxes of one dozen, assorted grits.

		s.	*d.*
Price	per box	0	10

Dental Cloth Strips (Dr. C. T. Howard's), very thin, made in Coarse, Medium-Coarse, Medium and Fine Grits, put up in Broad, Medium, Narrow or Assorted Widths, in boxes of one gross.

		s.	*d.*
Price, any grit or assorted	per box	2	1

Emery Cloth Strips. Supplied in boxes of one gross in the following grits:

A.—Very Fine. B.—Fine.
C.—Medium. D.—Coarse.
And Assorted.

		s.	*d.*
Price, any grit or assorted	per box	1	1

---

		s.	*d.*
French Emery Paper Strips. In boxes of one gross, assorted widths	per box	0	10

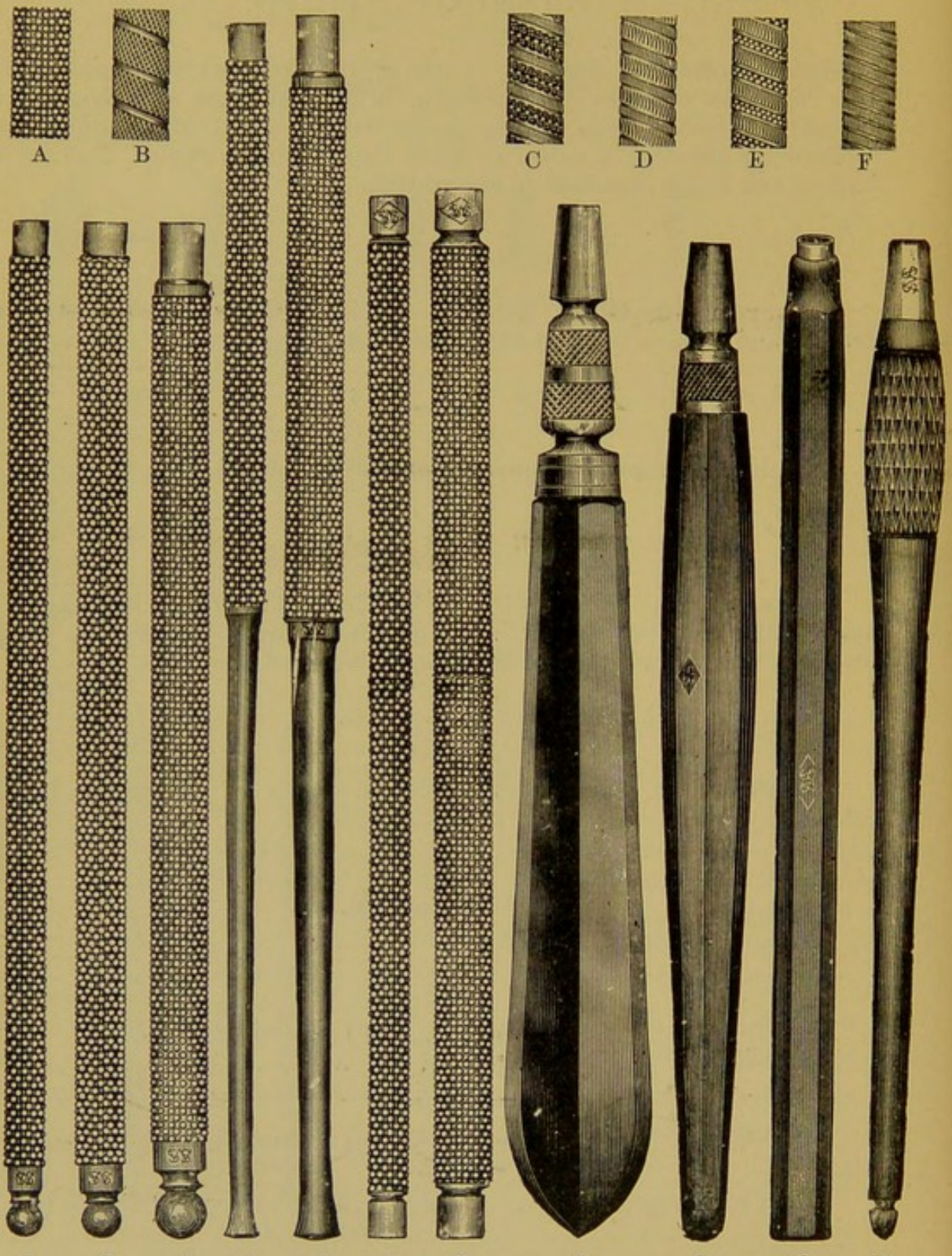
Lava Cloth Strips. Put up in boxes containing 100 Coarse or Fine.

		s.	*d.*
Price, either grit	per box	0	10

Perfection Cloth Strips. Supplied in the following varieties: Emery, Garnet, Lava, Flint, French Emery, Pumice and Rouge. Put up in boxes of one gross, in any of the above kinds or assorted.

		s.	*d.*
Price	per box	1	3

AMERICAN CONE-SOCKET HANDLES.



1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Each 6*d.*		8*d.*	——— 1/- ———				2/6	1/9	1/-	1/6

The various styles of Knurls (A–F) in which Handles (Nos. 1–7) are made are shown above. In ordering specify Knurl required.

Nos. 1, 2, 4, 6, 9, 10, and 11 are for Excavators, Pluggers, &c., with X shank.

„ 3, 5, 7, and 8 are for Burnishers, Chisels, Pluggers, &c., with Y shank.

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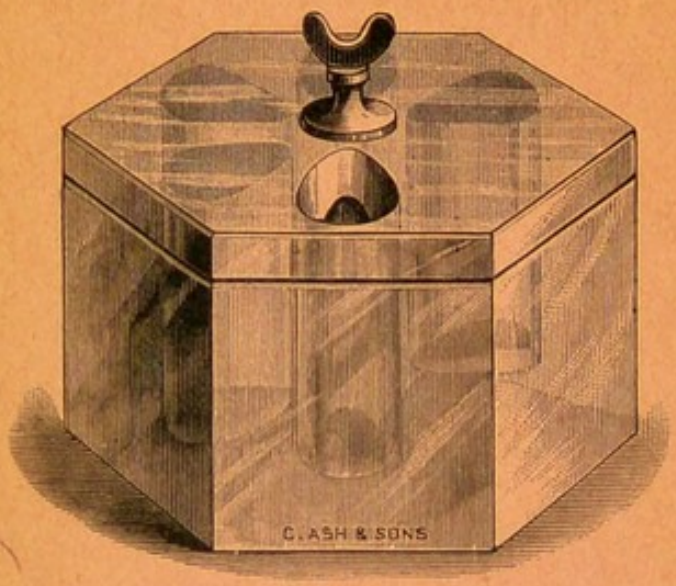
GLASS
MEDICAMENT HOLDER.

(Suggested by Dr. F. J. LANKESTER, of Leicester.)

REGISTERED. REG. No. 334,143.



Two-thirds size.

There are five pear-shaped wells in this convenient little Holder, any one of which can be exposed at will by simply revolving the lid and fixing it in position with the winged nut on the top. All the wells are covered and kept practically dust-proof when the hole in the lid is set over the space where there is no well.

	s.	*d.*
Price	3	3

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Size of Tin Cylinder: 7⅞ inches long.

IN TWO THICKNESSES—MEDIUM AND THIN.

The Medium is supplied in rolls 15 feet or 7½ feet long by 6 inches wide, and the Thin in rolls 15 feet long by 6 inches wide, each kind being put up in air-tight enamelled tin cylinders as illustrated above.

It is made of pure Para Rubber of the highest grade, with the greatest care and in the best manner. We can most strongly recommend it.

We feel sure that operators will at once recognise the advantage of having— 1. The Rubber-dam in rolls 6 inches wide; and

2. An Air-tight Tin for holding it.

It is extremely strong and elastic, and, as its freshness may always be relied on, it cannot fail to give general satisfaction.

Prices:

								s.	d.
Medium, in lengths of 15 feet by 6 inches wide					..	per tin		7	6
,,	,,	7½	,,	,,	,,	..	,,	3	9
Thin	,,	15	,,	,,	,,	..	,,	5	6

CLAUDIUS ASH AND SONS, Limited,

SOLE AGENTS FOR THE UNITED KINGDOM.

THE KLEINERT RUBBER-DAM.

Supplied in sheets as under :—

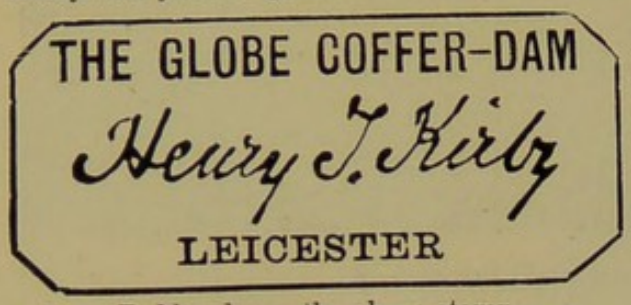
No. 1.—Thin, in boxes of 24 sheets, each 6 by 9 inches.
,, 2.—Medium ,, 20 ,, ,, ,,
,, 3.—Thick ,, 18 ,, ,, ,,

							s.	d.
Price, any thickness	..	..	..	..	..	per box	6	0

GLOBE COFFER-DAM RUBBER.

(INTRODUCED BY MR. H. T. KIRBY.)

Every half-yard of genuine Globe Coffer-Dam



Rubber bears the above stamp.

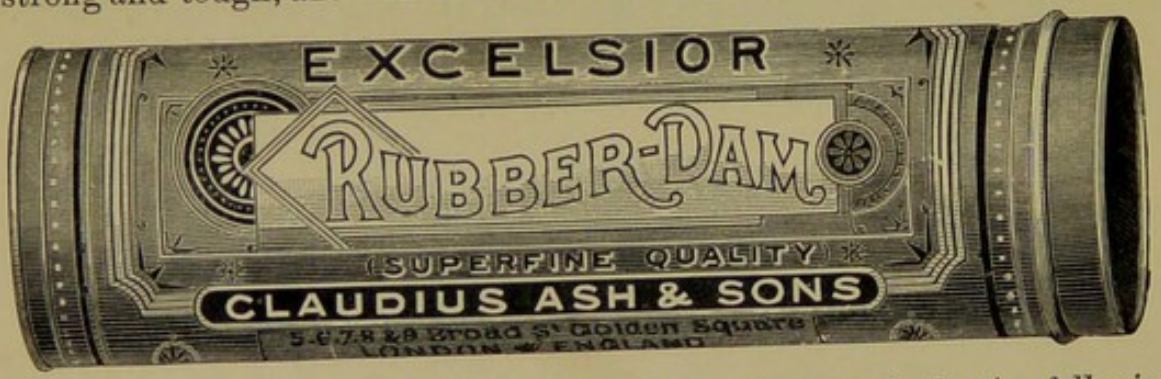
Of superior quality, not readily affected by climate. This feature renders it particularly useful. The colour, which is a pale red, is preferred by many to the dark rubber-dam, because it is claimed that it adds to the light in the mouth. Supplied in yard and half-yard packets.

		s.	*d.*
Price	per yard	8	0
,, ...	per ½-yard	4	0

EXCELSIOR RUBBER-DAM.

SUPERFINE QUALITY—MEDIUM THICKNESS.

Made from the purest Para rubber. Keeps good a long time; is strong and tough, and can be stretched to a great extent without tearing.



Supplied in rolls, packed in tins as here illustrated, in the following lengths and width :—

		s.	*d.*
Fifteen feet long by six inches wide	per tin	7	6
Seven and a half feet long by six inches wide ..	,,	3	9

AMERICAN RUBBER-DAM.

				s.	*d.*
S. S. W. D. M. Co.'s Thin,	15 ft. × 6 inches	per tin		5	3
,, ,,	7½ ,, × 6 ,, ...	,,		2	8
,, Medium,	15 ,, × 6 ,, ...	,,		7	4
,, ,,	7½ ,, × 6 ,, ...	,,		3	8
,, Thick,	15 ,, × 6 ,, ...	,,		10	5
,,					

FLOSS SILK FOR LIGATURES, ETC.

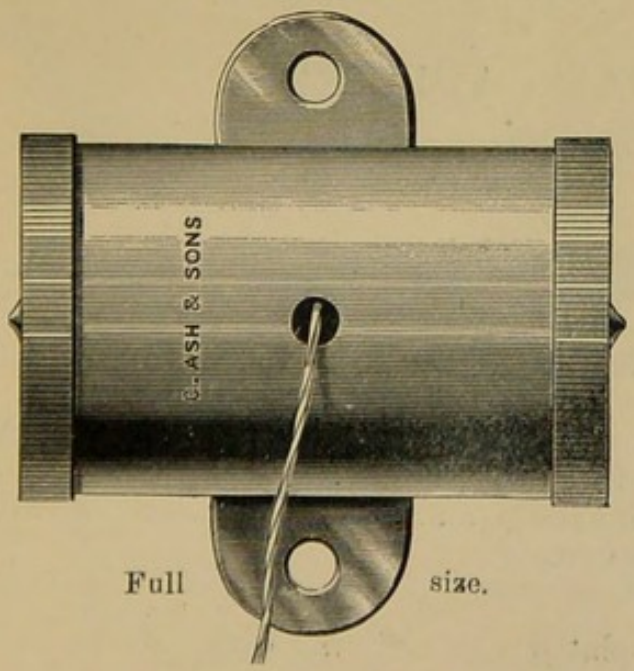
PLAIN.

WAXED.

	per doz. s.	per doz. d.	per reel. s.	per reel. d.
Ash's plain, 12 yards on reel	3	0	0	4
„ waxed, „ „	4	3	0	5
„ „ „ „ extra stout	7	0	0	8
American, plain „ „	3	0	0	4
„ waxed „ „	4	3	0	5
Silk Twist	—		0	9
Floss Silk, fine, medium, and coarse, for wrapping round tube teeth, pins, pivots, etc.	—		0	4
Best English Gilling Thread	—		0	5

For Witzel's Ligature Knife—see page 72.

SILK HOLDER.



Full size.

For attaching to the bracket table, or wall, or any available place within easy reach of the Operator.

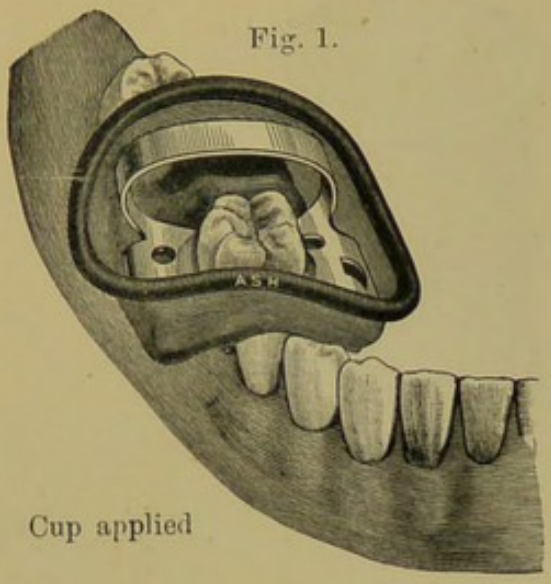
It will hold a reel of our plain or waxed floss silk, and can be charged or re-charged in a few moments.

To charge, unscrew the ends, slip the reel on the spindle inside the holder, and pass the end of the silk through the hole shown in the illustration.

	s.	d.
Price, nickel-plated, with cutter on end ..	3	6

DENHAM'S RUBBER-DAM CUP.

Fig. 1.



Cup applied

Fig. 2.

Cup ready for use.

The utility of this device is clearly seen in Fig. 1. It is invaluable in cases which do not readily admit of the sheet rubber-dam being used, also during short operations, and while applying devitalizing preparations, strong medicaments, etc. It can be employed in conjunction with existing clamps, like the sheet rubber, after a hole has been punched in that part of the floor of the cup most convenient for the case under operation.

		s.	*d.*
Price	per doz.	2	0

RUBBER-DAM APPLIER.

(Mr. Marcus Davis's.)

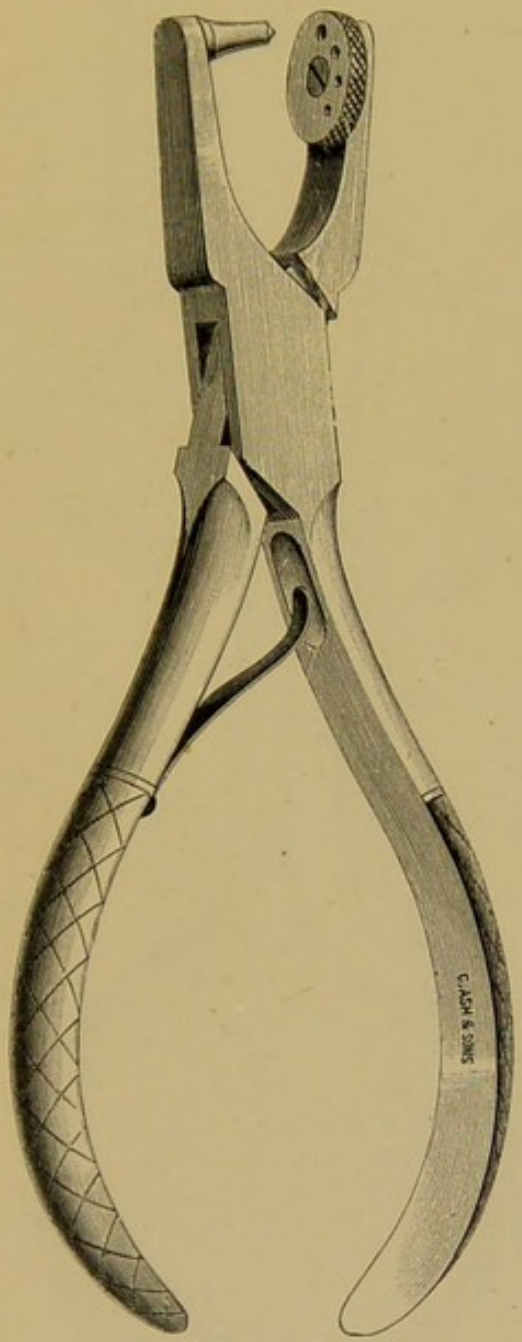
6¾ inches long.

This instrument is used with silk or thread, which is passed into the grooves of the fork, and tightened by wrapping it round the steel button at the back, carrying it down the handle, and wrapping it once or twice round the neck of the ball on the end.

		s.	*d.*
In file-cut handle, Nickel-plated	each	3	9

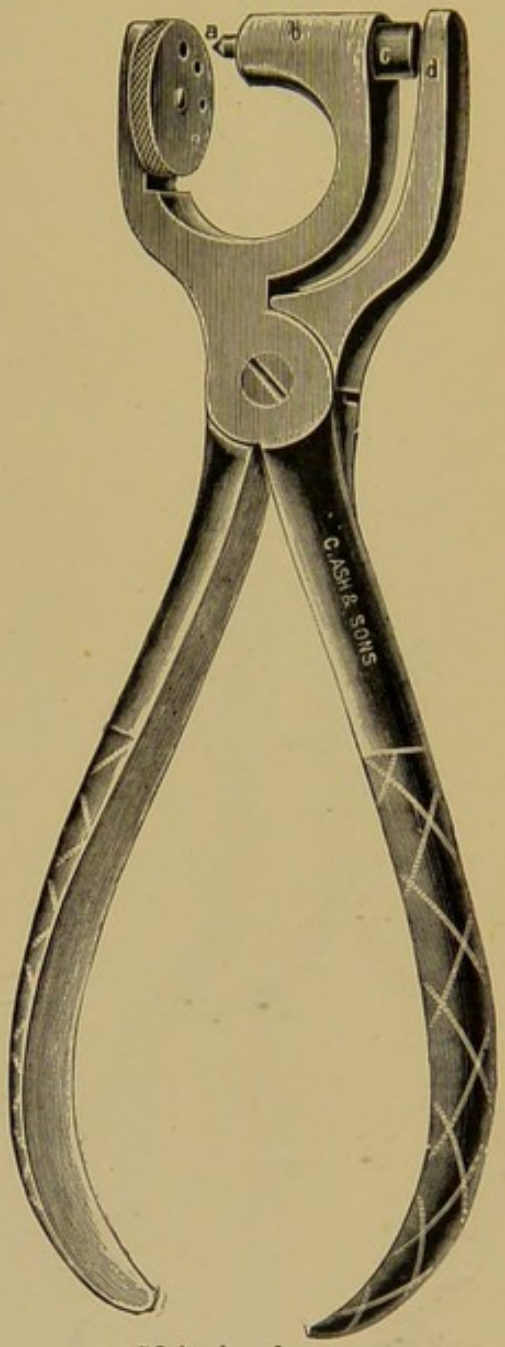
RUBBER-DAM PUNCHES.

AINSWORTH'S.



6½ inches long.

IMPROVED FORM.



5⅞ inches long.

Rubber-dam Punch, Dr. Ainsworth's, with circular plate containing five holes of different sizes.

	s.	*d.*
In Steel, Nickel-plated	12	6

Rubber-dam Punch, Improved Form, with circular plate containing four holes of different sizes.

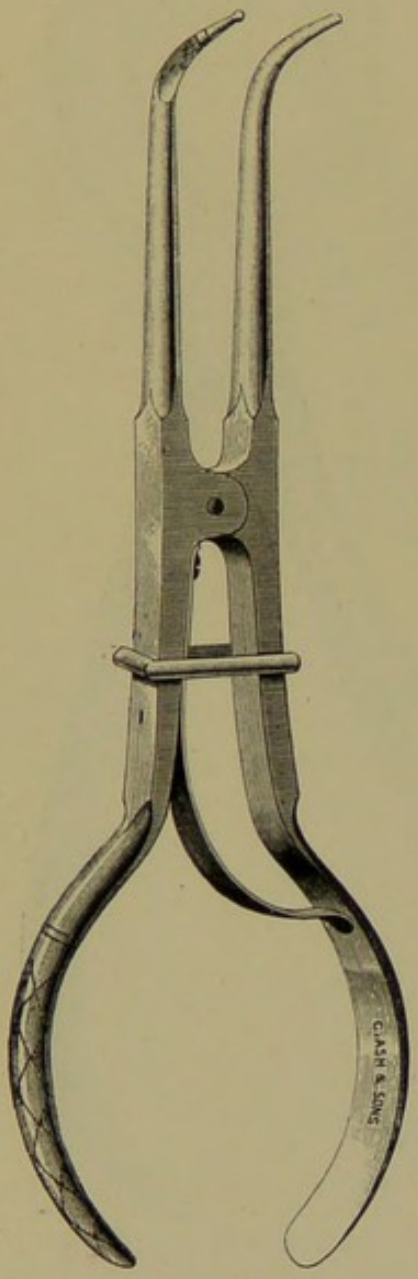
The punching pin *a* slides in socket *b* in a straight line when pressure is applied, and thus cuts equally all round the edge of the holes. There is a small spring on the pin, inside the socket, which opens the handles when the pressure is released.

The Rubber-dam can be laid in the space beneath the plate and pin without danger of being caught and torn in the joint of the handles.

	s.	*d.*
Price	15	0

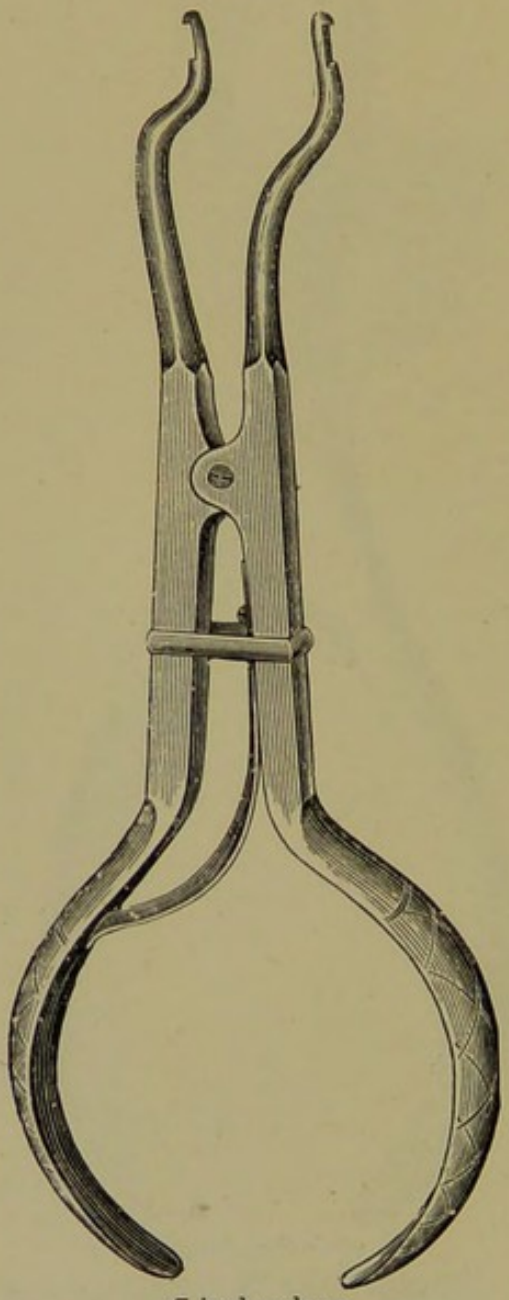
RUBBER-DAM CLAMP FORCEPS.

STOKES'.



7 inches long.

BAYONET.



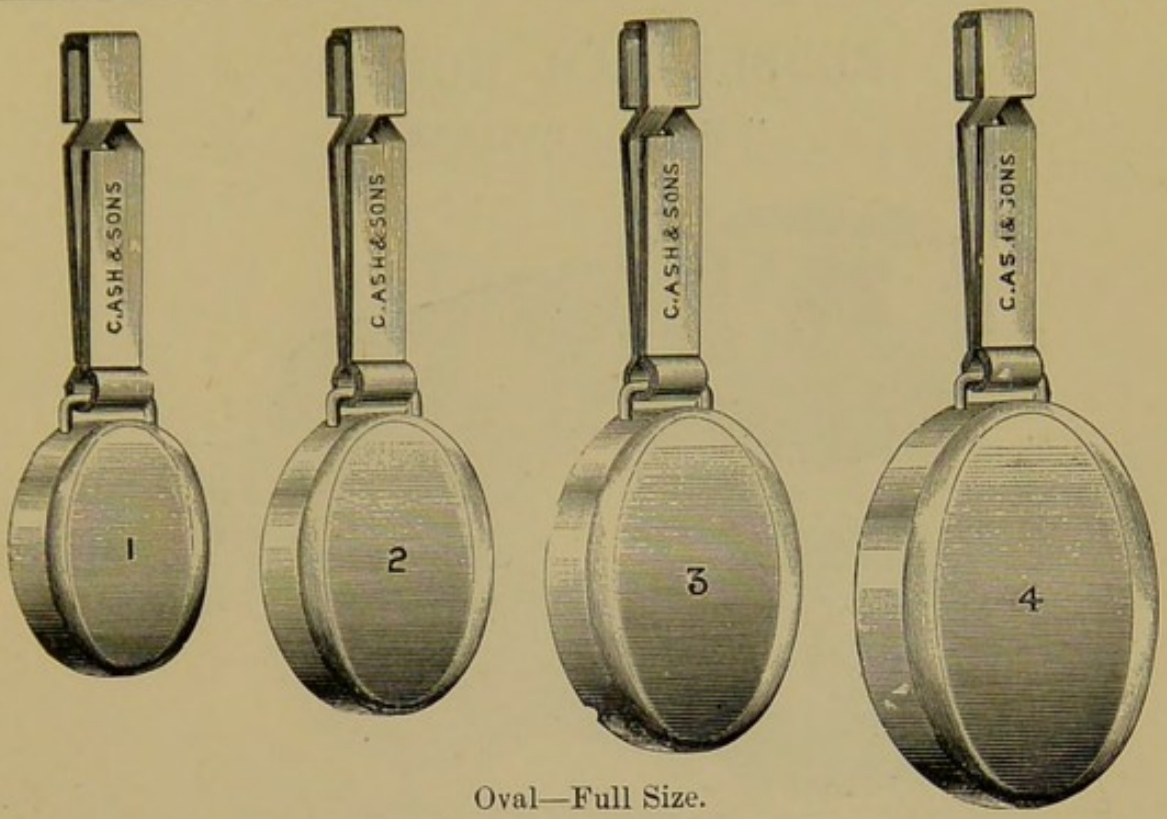
7 inches long.

		s.	d.
Stokes', Nickel-plated	each	10	0
Bayonet form „	„	10	0
Either of the above as made for Students ..	„	7	6

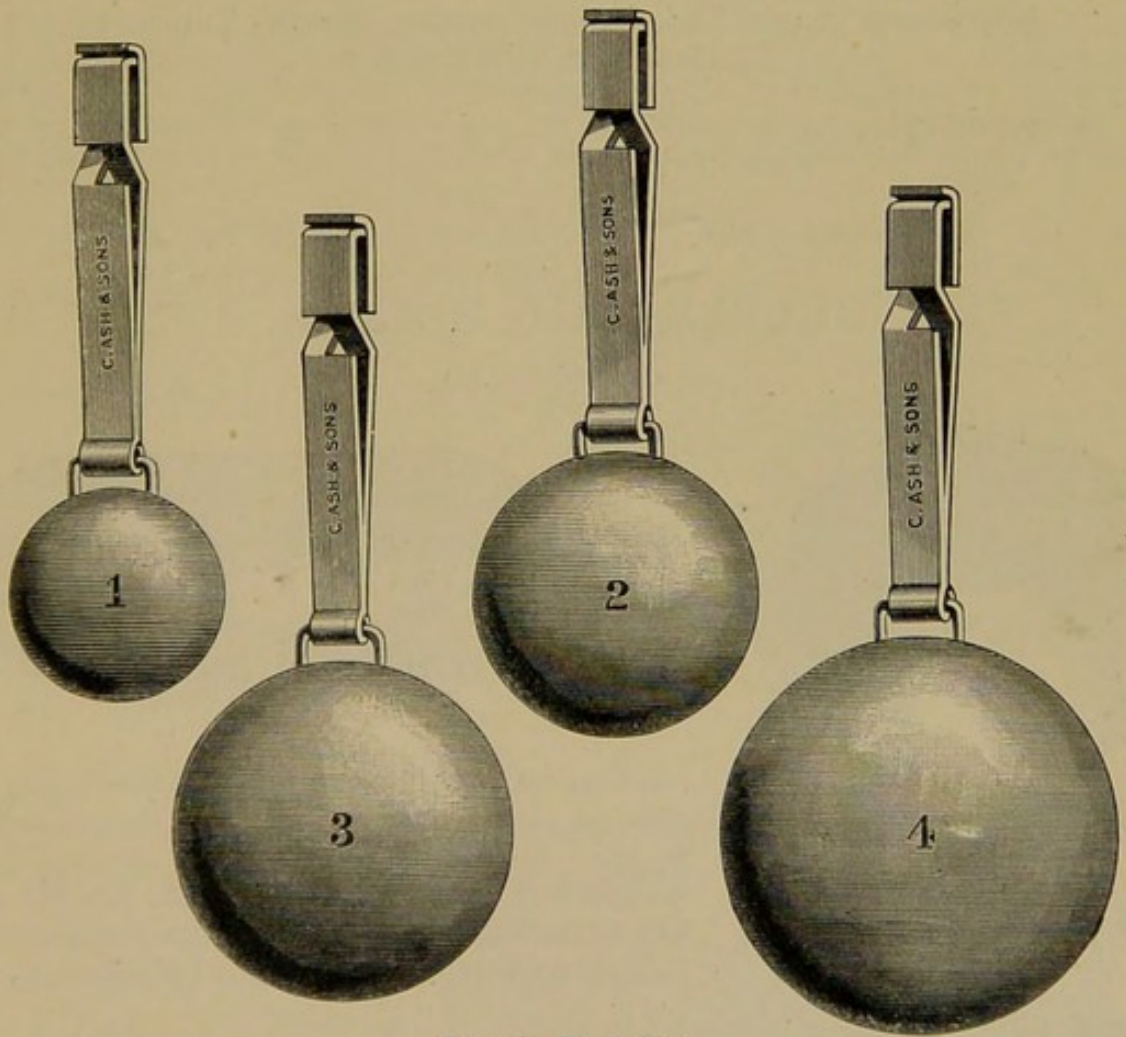
RUBBER-DAM WEIGHTS.

OVAL AND ROUND—*see next page.*

		s.	d.
Made of Brass, with German Silver Springs, Nickel-plated throughout, sizes 1, 2, 3, 4—either shape or size ..	each	2	0



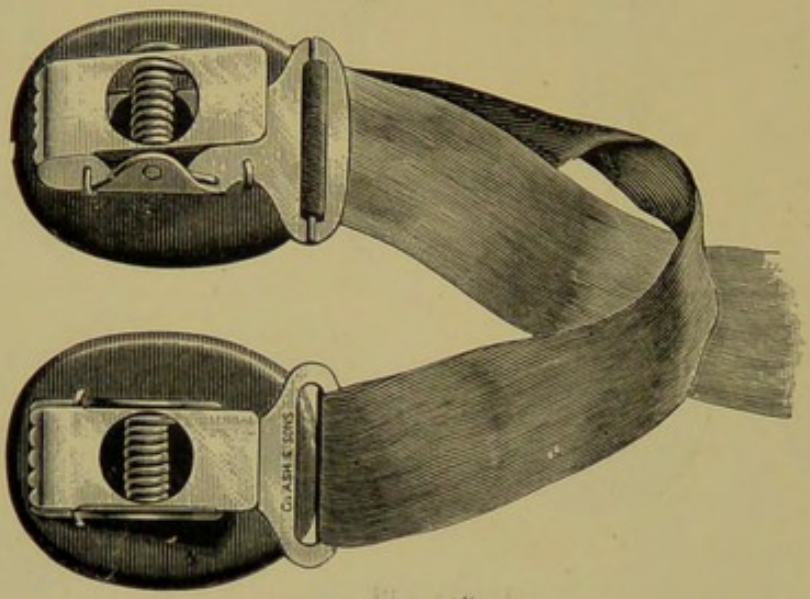
Oval—Full Size.



Round—Full Size.

RUBBER-DAM HOLDER.

HOSPITAL PATTERN.

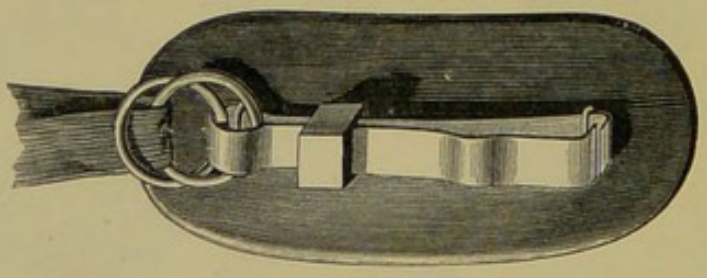


Consisting of two Nickel-plated spring clamps, Vulcanite guards and Silk braid.

	s.	*d.*
Price, complete with guards	3	6
„ without „	2	6

RUBBER-DAM HOLDER.

(Dr. COGSWELL'S.)



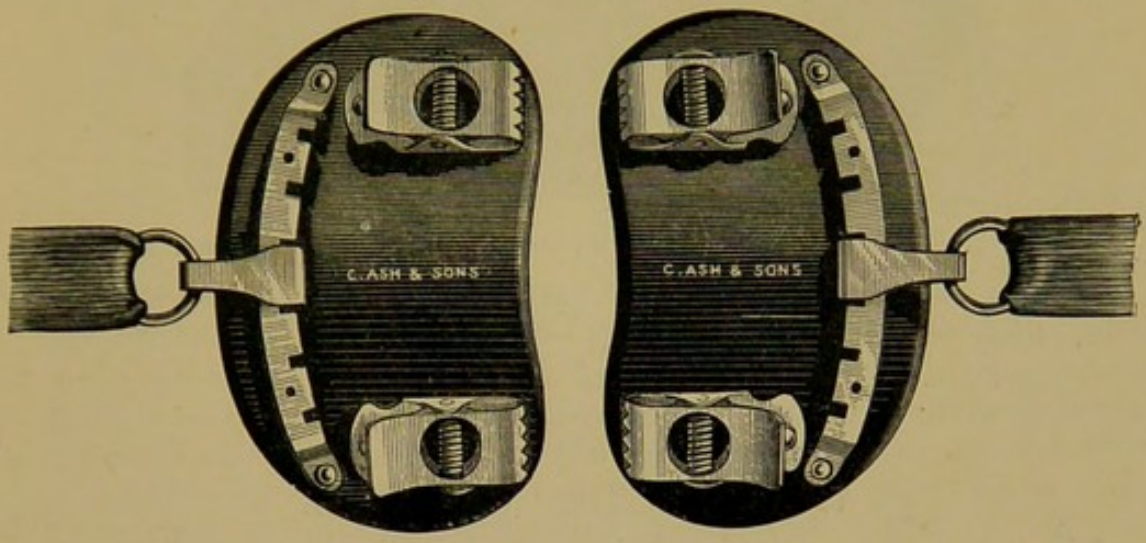
Consisting of two guards, Nickel-plated clamps, slides and rings, and Elastic Braid to pass round the head. The illustration on the left hand side shows the Holder in use, attached to the Rubber-dam, which has been forced over the teeth to be stopped.

	s.	*d.*
Complete, with Vulcanite guards ..	3	6

RUBBER-DAM HOLDER,

WITH ADJUSTING RATCHETS.

(Dr. W. Mitchell's.)



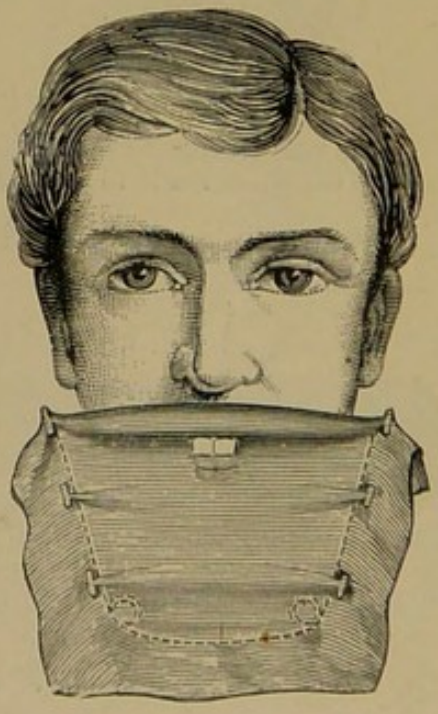
Dr. Mitchell thus speaks of this novel and useful Holder :—

"The advantages of the Rubber-dam Holder are too apparent to need much description. Its capacity is that of both rubber-dam and napkin holder, and in many cases weights may be dispensed with. The adjusting ratchet is an important improvement over all other methods, enabling the operator to produce traction in any desired direction —something that has long been needed. To the practical dentist further description would be superfluous."

	s.	*d.*
Rubber-dam Holder, with vulcanite guards, elastic braid and nickel-plated clips and ratchets	8	6

RUBBER-DAM HOLDER.

(Dr. H. P. Fernald's.)



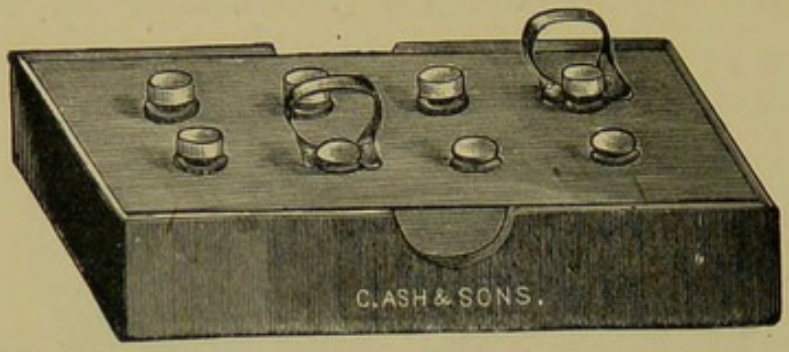
This useful little appliance is for keeping the Rubber-dam in position on the face, and is complete in itself.

Directions for Applying :

Cut the Rubber-dam a trifle larger than the holder ; apply to teeth, and secure same by means of thread, silk or clamp—then stretch the free ends of rubber over the studs of holder, as shown in illustration.

	s.	*d.*
Price, Nickel-plated	3	6

RUBBER-DAM CLAMP HOLDER.



Outside measurements: $4\frac{3}{4}$ in. long, $2\frac{3}{8}$ in. wide, 1 in. deep.

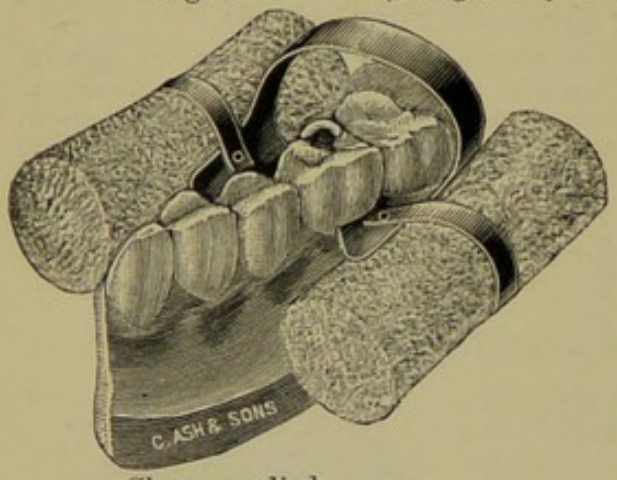
With eight studs for Clamps of various sizes and lift-off cover, which can be put underneath, as shown in the illustration, during use.

	s.	*d.*
Price, without Clamps	2	3

WOOL-ROLL CLAMPS.

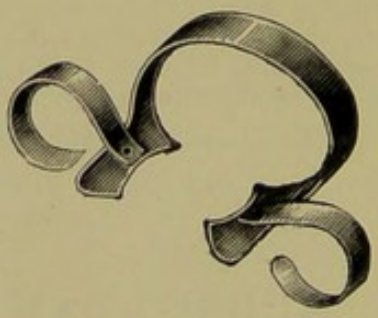
(Designed by Mr. F. Gross.)

Fig. 1.



Clamp applied.

Fig. 2.



Clamp showing spring loops.

The rolls should be fixed in the loops before the Clamp is applied.
The Clamp is made in two sizes—for Molars and for Bicuspids.

		s.	*d.*
Price, either size, Nickel-plated throughout ..	each	3	0

COTTON-WOOL ROLLS.

Large.

Small.

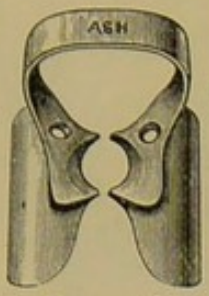
Full Size.

		s.	*d.*
In packets containing 100 either size or assorted ..	per pkt.	0	10
„ „ 500 „ „ „ ..	„	3	6

For other Absorbents—see pages 84 and 86.

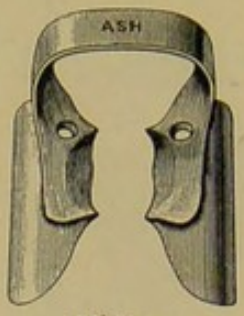
WOOL-ROLL
CLAMPS FOR LOWER MOLARS AND BICUSPIDS.

(Mr. Francis Rogers'.)



Bicuspid.

These Clamps can be used on either side of the mouth.



Molar.

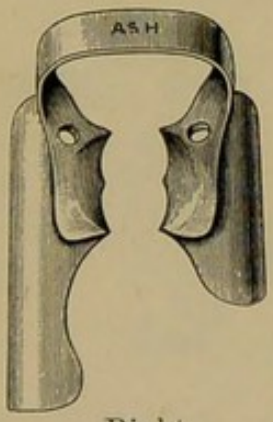
Directions for use :

Place a Wool-Roll on the inside of the tooth to be prepared, then apply one of the clamps with the clamp forceps, and pack either another Wool-Roll, or some pieces of dental-napkin, cut to the size of about two inches square, or other suitable absorbent, under the wing on the other side. When these have become saturated with moisture, the pieces should be drawn out and some additional pieces put in their place.

		s.	*d.*
Price	each	3	6

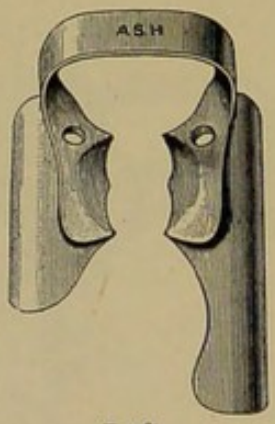
WOOL-ROLL
LONG ARM RIGHT AND LEFT MOLAR CLAMPS.

(Mr. Francis Rogers'.)



Right.

These Clamps can be used in the same way as the others shown above; they are most useful where the cavity extends down to the margin of the gum.



Left.

Directions for use :

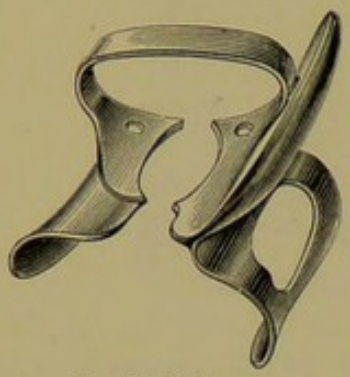
Place one of the Clamps on the tooth either in front or behind the one to be prepared, and pack a Wool-Roll or some pieces of dental-napkin, or other suitable absorbent, under each wing.

Mr. Rogers says: "These Clamps can be reversed. I find that, with the aid of these four Clamps and the Saliva Ejector, almost any cavity in the lower Molars and Bicuspids can be reached and kept dry. My experience is that nervous patients, who very much object to the Rubber-dam, do not mind having these Clamps applied."

		s.	*d.*
Price	each	3	6

ABSORBENT-PAPER CLAMPS.

(Dr. C. H. Stokes'.)



Right Side.

Left Side.

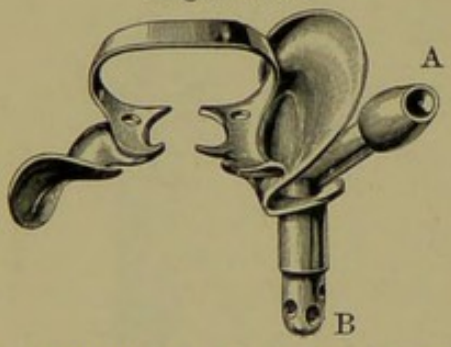
Clamps with Tongue Guards for lower Bicuspids and Molars, designed to be used with Bibulous Paper and Paper Fibre Lint.

		s.	d.
In right and left sides, Nickel-plated	each	5	6
Clamps, without Tongue Guards, for upper and lower Molars, Nickel-plated	„	3	0

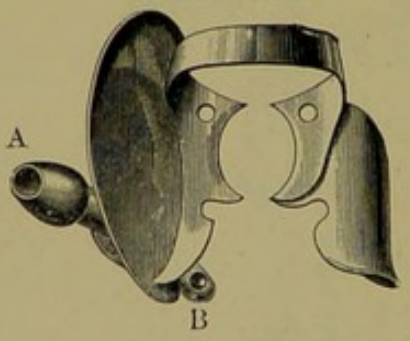
CLAMP AND SALIVA TUBE COMBINED.

(Dr. C. H. Stokes'.)

Right Side.



Left Side.



A. Nipple to which the India-rubber tubing is attached. B. The Saliva Tube.

		s.	d.
In right and left sides, Nickel-plated, with short length of tubing and glass indicator attached ready for use ..	each	6	0

RUBBER-DAM CLAMPS.

(Dr. C. H. Stokes'.)

Molar.

Bicuspid.

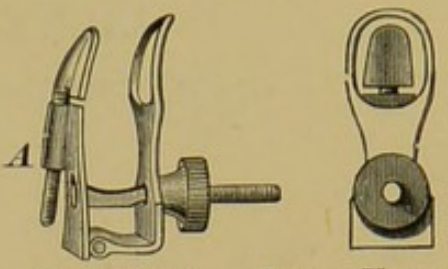
		s.	d.
Price, Nickel-plated	each	2	0

CERVIX CLAMP.

(Mr. R. P. Lennox's.)

With screw attachment *A*, by means of which the length of the rear limb can be adjusted to suit any given tooth.

	s.	d.
Price	10	6



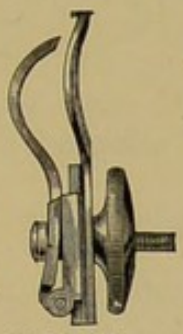
Side View. Front View.

THE IDEAL CLAMP.

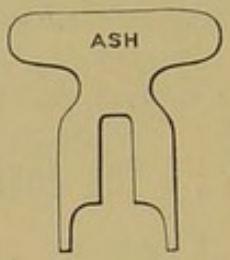
FOR LABIAL SURFACE CAVITIES ON THE SIXTEEN ANTERIOR TEETH.

(Dr. J. L. Williams's.)

Front View.



Side View.



Spanner.

The Clamp here illustrated was made for Dr. J. L. Williams several years ago, from pattern furnished by him. The special features of the Clamp are the combination hinge and sliding joint, by means of which the outer side of the Clamp may be easily adjusted to any degree of gum recession, the milled head set-screw with which it may instantly be fixed in the required position, and the general form which combines adaptability, delicacy, and strength.

	s.	d.
Price, with Spanner for tightening up and for releasing the Clamp	10	6
Spanner separately	0	6

RUBBER-DAM CLAMPS,

WITH BROAD FLANGES.

(Suggested by J. F. Colyer, of London.)

1.

2.

3.

4.

Mr. Colyer says: "Dr. Palmer's Clamps are admirably adapted for fitting the teeth, but they have one objection—the flanges are hardly broad enough to prevent the rubber slipping over them. To overcome this, I have had some made with broader flanges, and have found them a great advantage."

	s.	d.
Price .. .. (Figs. 1–4) each	2	0

LIBBY'S CERVIX CLAMPS.

(PATENTED IN ENGLAND, FRANCE, GERMANY, &c.)

The mechanical principles of these Clamps is shown when the outer jaw is above the cervical cavity; the end of the inner arm is midway of the shoe and directly opposite the outer jaw, therefore holding its perfect adjustment.

The figures on the opposite page represent the application of one pair of Clamps, right and left, adapted to Cervical, Labial, and Buccal cavities.

The Advantages Claimed for these Clamps are:

First.—The inner arm is supplied with a pivoted shoe, rendering it painless.

Second.—The outer arm is thrown at an angle, allowing a free exposure of cervical aud approximal cavities, as shown in Fig. 3.

Third.—The large sweep of the U-shaped bow admits the operator to every form of cavity with ease and comfort.

Fourth.—In all its positions it is comparatively painless.

Fig. 1 represents the adjustment of rubber-dam and clamp being applied.

Fig. 2 illustrates its universal adaptability.

Fig. 3 shows a perfect drawn position.

Fig. 4.—In this figure the pivotal shoe will be seen applied midway on lingual surface, when the cavity is at margin of gum, as in Fig. 1.

The Inventor has had practical use of the Clamp for two years with absolute success.

' Directions for Applying the Clamps:

Adjust the rubber-dam without ligature on tooth to be operated upon, and with the forefinger of the left hand draw the rubber above the cavity. Place the clasping edge of Clamp above the cavity and simply turn the pivoted shoe under the lingual surface, holding in position while releasing forceps, and the Clamp will adjust itself perfectly.

On lower bicuspids, slip a piece of rubber tubing over the shoe to render it painless.

The Clamps can be applied with existing clamp forceps.

		s.	*d.*
Price	per pair	12	6

LIBBY'S CERVIX CLAMPS—*continued.*

Fig. 1.

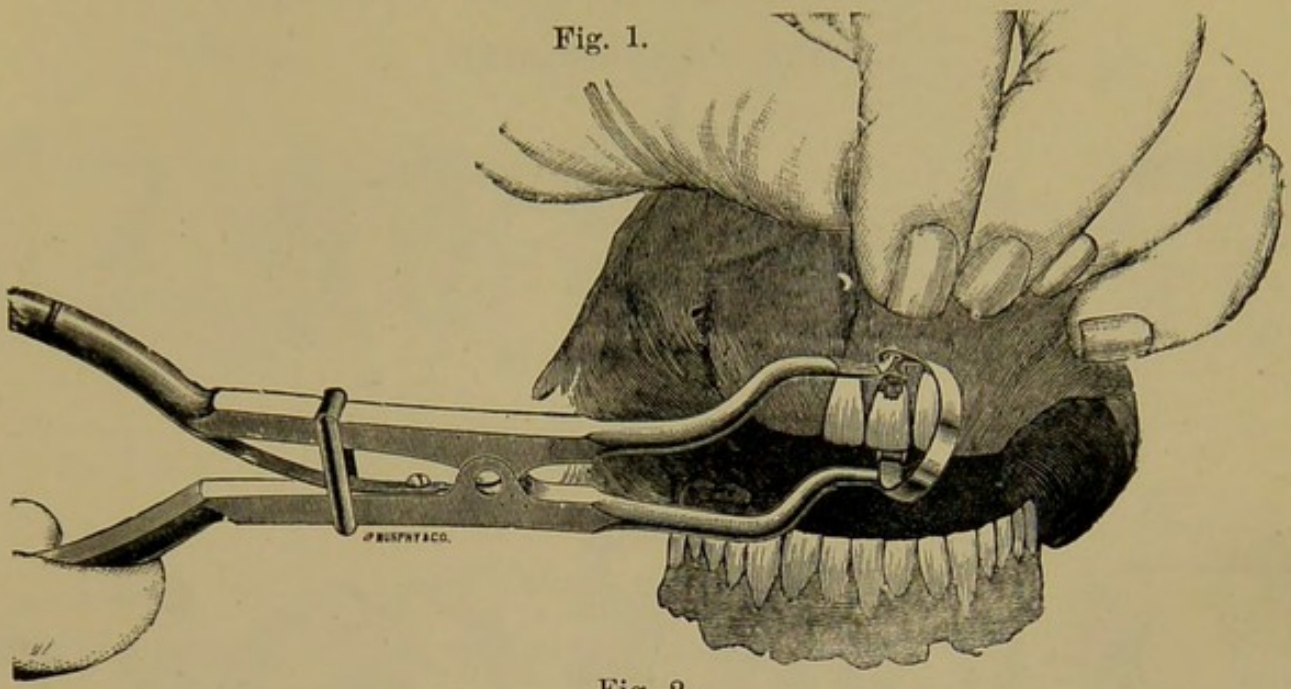


Fig. 2.

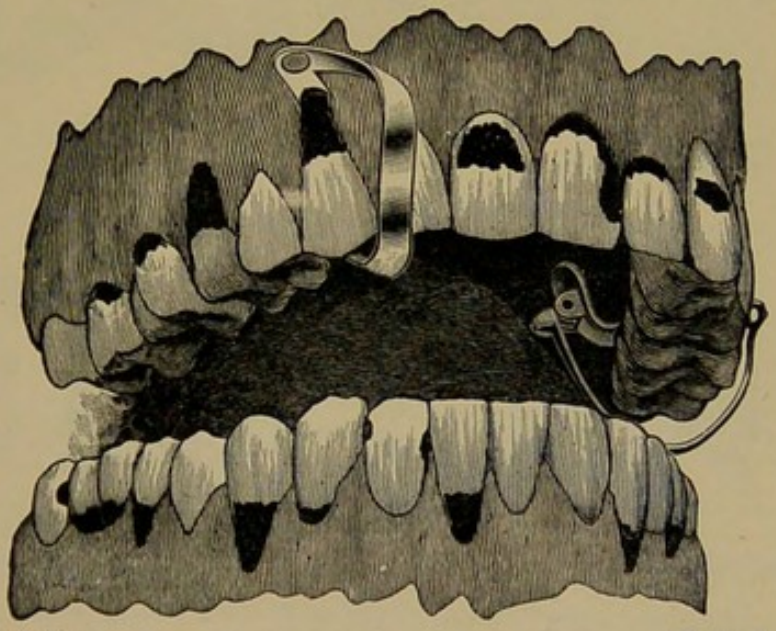


Fig. 3.

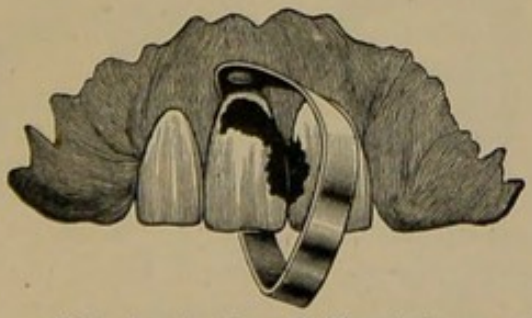
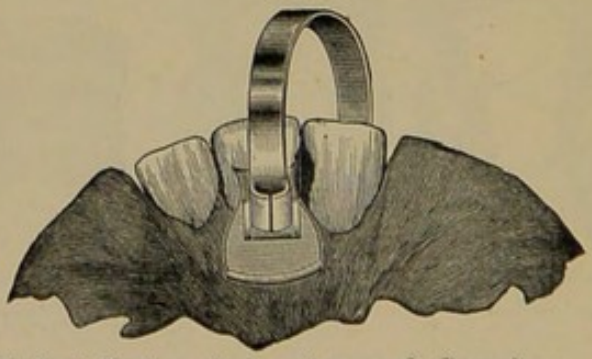


Fig. 4.



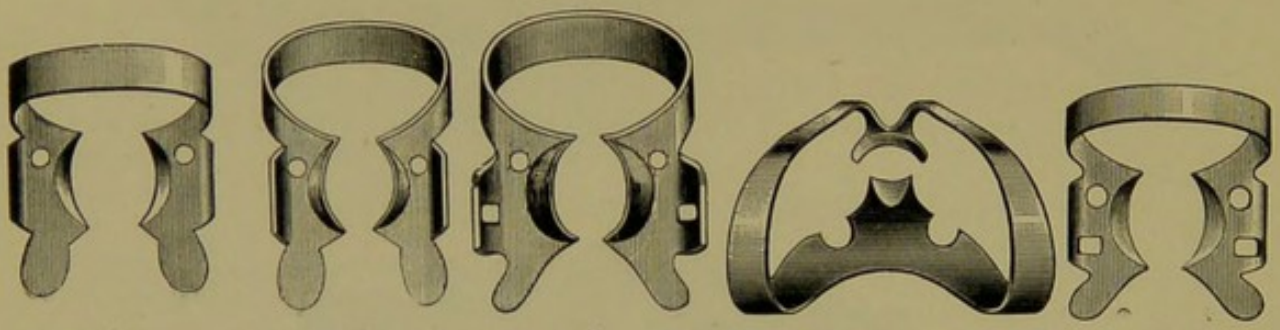
Sole Agents for all Countries except the United States of America and Canada:
CLAUDIUS ASH & SONS, Limited.

IVORY'S RUBBER-DAM CLAMPS.

(ALL NICKEL-PLATED.)

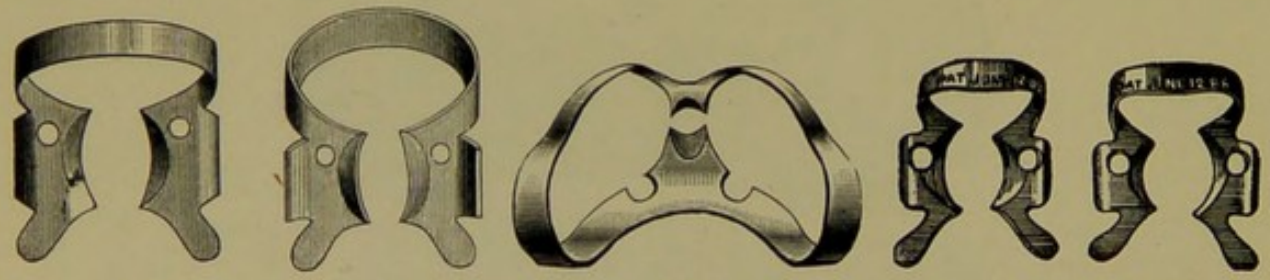
00. 0. 1. 2. 2A.

Each, 2*s.* 6*d.*



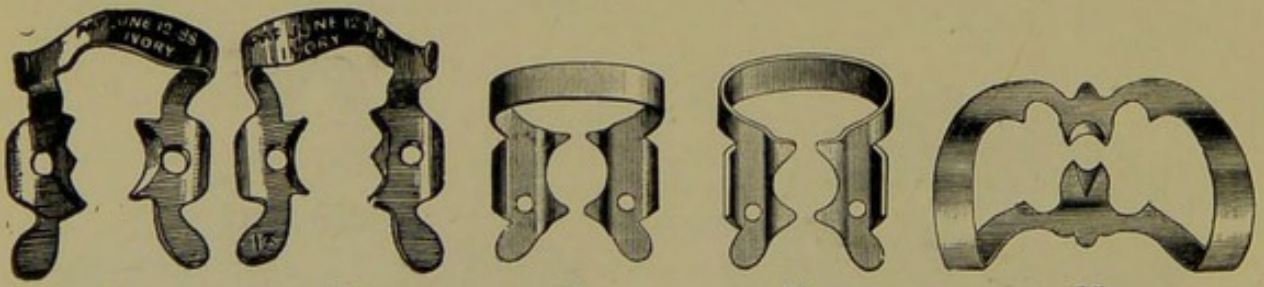
3. 4. 5. 6. 7.

Each, 2*s.* 6*d.*; 3*s.*; 2*s.* 6*d.*



7A. 8. 9. 10. 11.

Each, 2*s.* 6*d.*; 3*s.*; 2*s.* 6*d.*

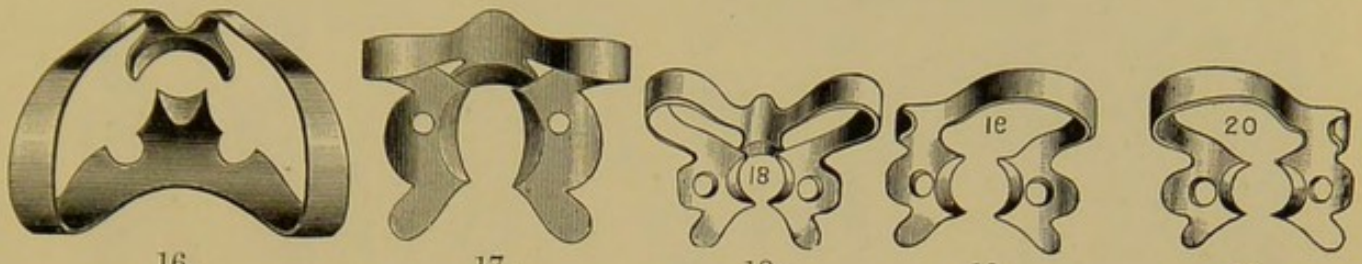


12. 13. 14. 14. 15.

Each, 2*s.* 6*d.*; 3*s.*

The two illustrations of Fig. 14 represent the front and back views of the Clamp.

IVORY'S RUBBER-DAM CLAMPS—*continued.*



16. 17. 18. 19. 20.

Each 3*s.*; ——————————2*s.* 6*d.*——————————

Description:

Fig. 00.—Very small bicuspid, useful also for lateral incisors.

„ 0.—Small bicuspid, also used frequently on lateral incisors and cuspids.

„ 1.—Bicuspid clamp, festooned in the jaws to hold rubber and gum deep on neck of tooth.

„ 2.—Bicuspid, general.

„ 2*a*.—For superior bicuspids and small third molars.

„ 3.—Designed for inferior molars, small size.

„ 4.—Festooned. Designed for superior molars, small size.

„ 5.—Designed for superior molars, modelled after Tees' festooned clamp.

„ 6, 9, 15, 16.—Designed for labial cavities in superior and inferior incisors, cuspids, and bicuspids.

„ 7.—Designed for inferior molars generally.

„ 7*a*.— „ „ „ large size.

„ 8.—Festooned. For superior molars generally.

„ 10, 11.—Right and left molars, patterned somewhat after the Delos Palmer set, suggested by Drs. Allen and McKellops. Spread by clamp forceps that engage in holes on sides of jaws.

„ 12, 13.—Right and left inferior molar buccal cavity clamps, designed to hold the gum and rubber away from the margin of buccal cavities.

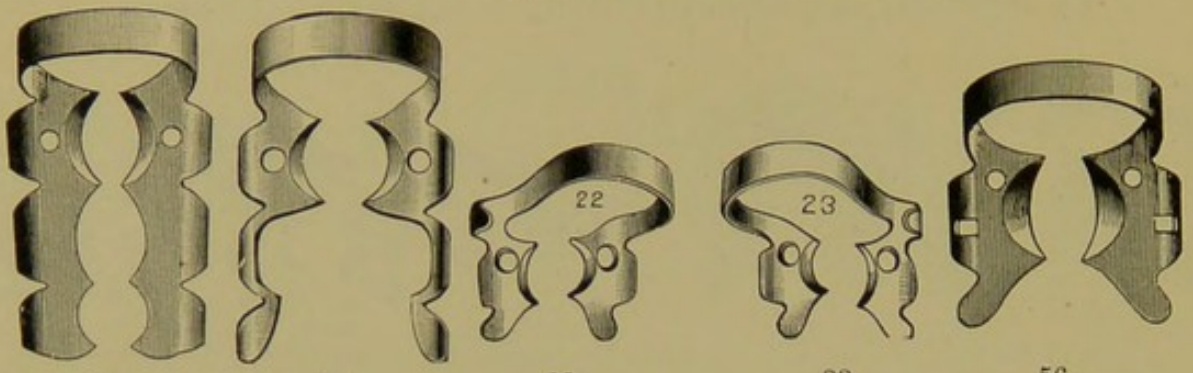
„ 14.—Designed for partially erupted teeth, and where a strong hold of conical crown is desirable.

„ 17.—Designed with three jaws, to facilitate the filling of cavities on the distal surface of molars, where the adjacent tooth is absent. Spread only by forceps that engage in holes on sides of jaws.

„ 18.—Designed for cavities on the distal surface of bicuspids where the adjacent teeth are missing.

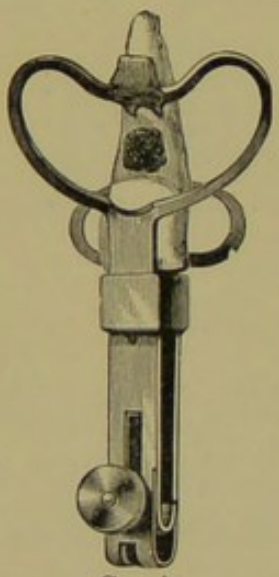
„ 19, 20.—Right and left. Designed for buccal cavities on bicuspids.

IVORY'S RUBBER-DAM CLAMPS—*continued.*



21. 21A. 22. 23. 56.

——Each, 3*s.*;—— ——————————2*s.* 6*d.*——————————



Cervix.

Description:

Figs. 21, 21A.—Designed for use in filling simple crown cavities. The projecting arms are to hold the rubber down, so as to do away with the necessity of applying it to more than one tooth; the clamps are also designed to hold cotton or napkin for plastic fillings, and treatment of roots, etc.

Figs. 22, 23.—Designed for superior molars; made with narrow jaws, so as not to impinge on the gum; adapted to fit odd-shaped molars.

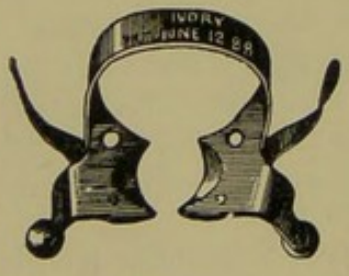
Fig. 56.—Designed for inferior Molars generally.

Cervix.—Designed for cavities deep on the neck of the tooth.

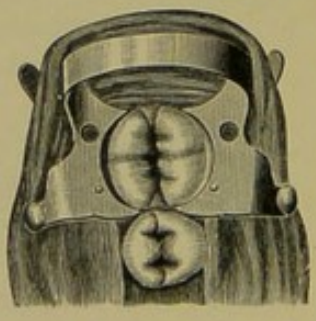
	s.	*d.*
Price of Cervix Clamp	6	3

IVORY'S NAPKIN CLAMPS.

Bicuspid.



Molar.



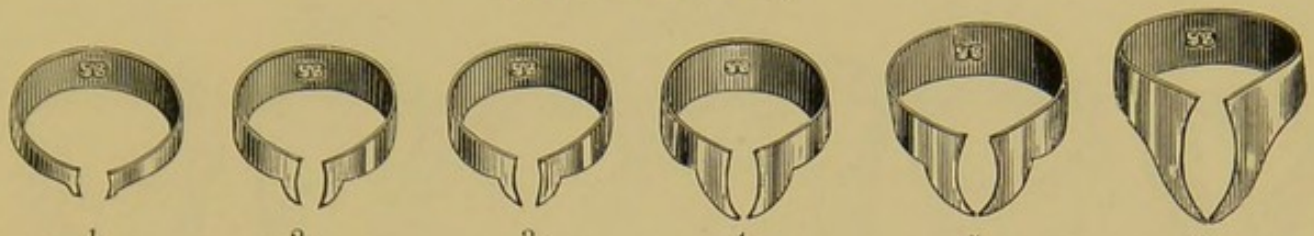
Molar Clamp applied.

For superior and inferior bicuspids and molars. Designed for holding bibulous paper and cotton-wool rolls.

	s.	*d.*
Price, Nickel-plated .. .. each	3	0

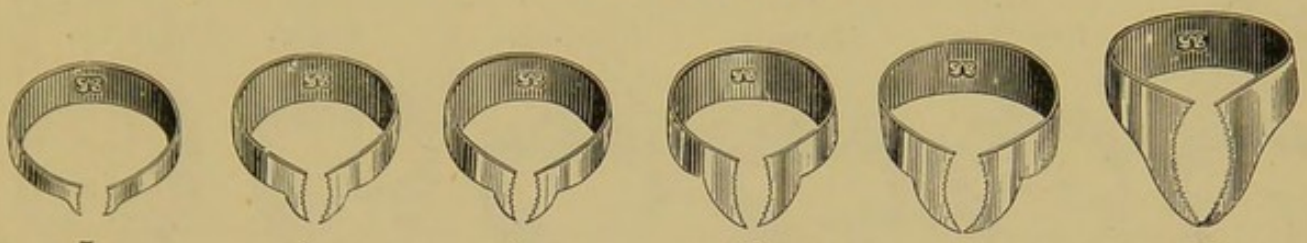
RUBBER-DAM CLAMPS.

(American Forms.)



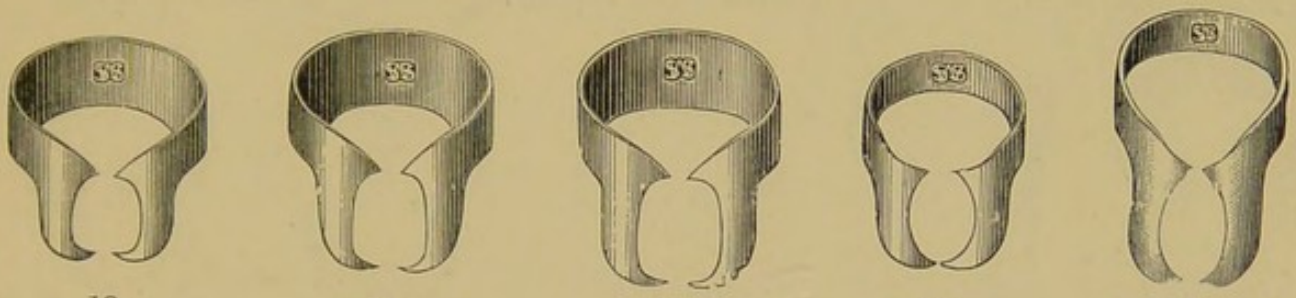
1. 2. 3. 4. 5. 6.

For Upper and Lower Teeth.



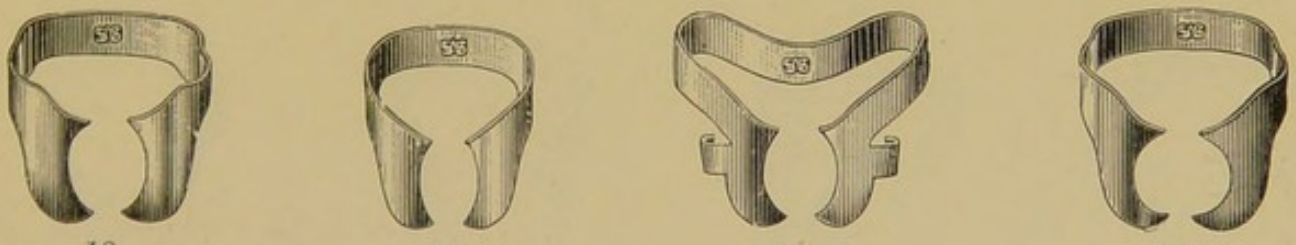
7. 8. 9. 10. 11. 12.

For Upper and Lower Teeth.



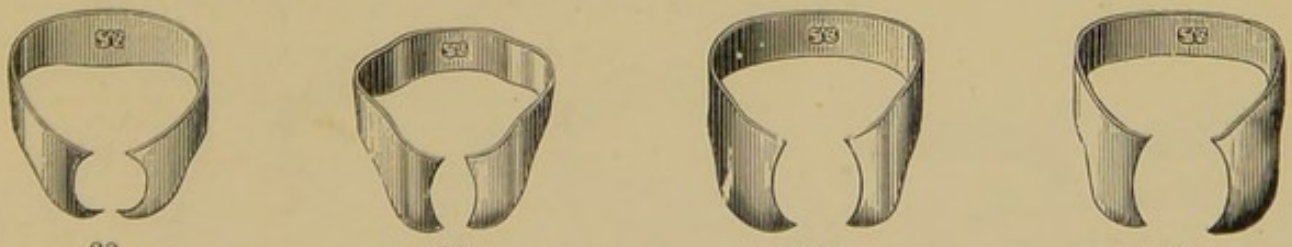
13. 14. 15. 16. 17.

——For Lower Molars.—— ——Small Molars.——



18. 19. 20. 21.

For Upper and Lower Molars.



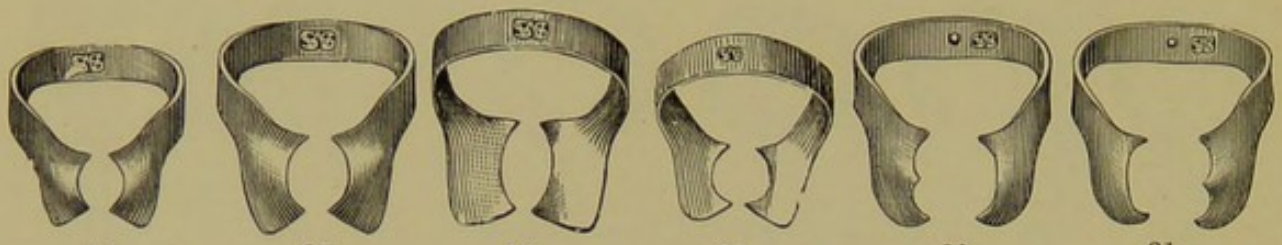
22. 23. 24. 25.

——For Laterals and Centrals.—— ——Molars, Right and Left.——

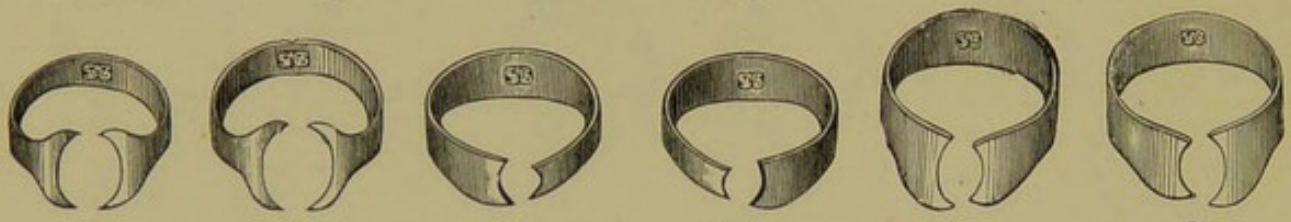
	s.	d.
Price, Nickel-plated (Figs. 1–25) .. .. .. each	1	8
	c 2	

RUBBER-DAM CLAMPS.

(American Forms.)

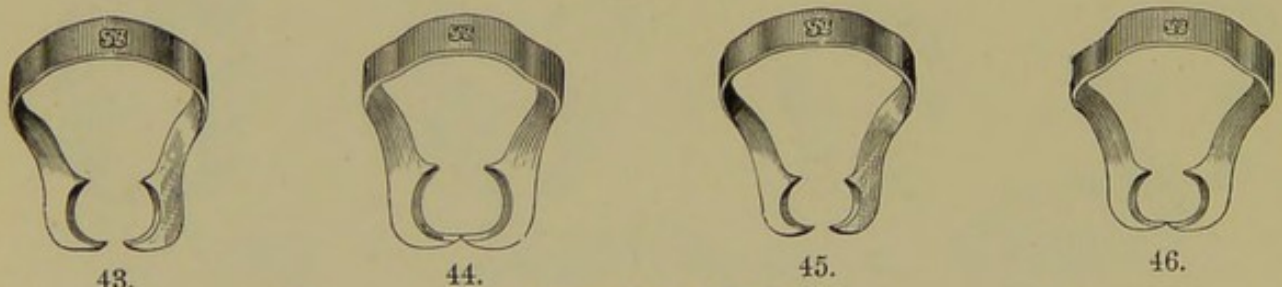


26. For Molars. 27. Bicuspids. 28. Molars. 29. Bicuspids. 30. 31. Molars, right and left.



32. 33. For Wisdom Teeth. 34. 35. 36. 37. For Teeth which require one side smaller than the other.

38. 39. 40. 41. 42. For Molars and Bicuspids.



43. 44. 45. 46. For Bicuspids and Incisors.

47. 48. 49. 50. 51. Lower Molars.

For Labial Cavities.

	s.	d.
Price, Nickel-plated (Figs. 26–51) .. .. each	1	8

RUBBER-DAM CLAMPS.

(American Forms.)

52. 53. 54. 55. 56.

For Upper and Lower Teeth.

57. 58. 59. 60.

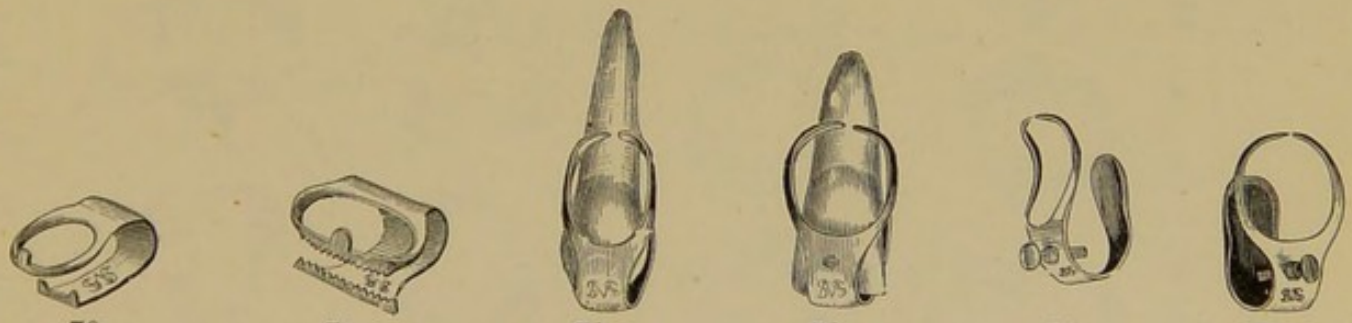
For Upper and Lower Teeth. — Wisdom Teeth.

Each, 1*s.* 8*d.*

61. 62. 63. 64. 65. 66.

For Molars.

Each, 2*s.* 6*d.*



70. 71. 72. 73. 74. 75.

For Labial Cavities.

Each, 3*s.* 4*d.*

For Labial Cavities.

Each, 4*s.* 2*d.*

76. 83. 84.

For Molars.

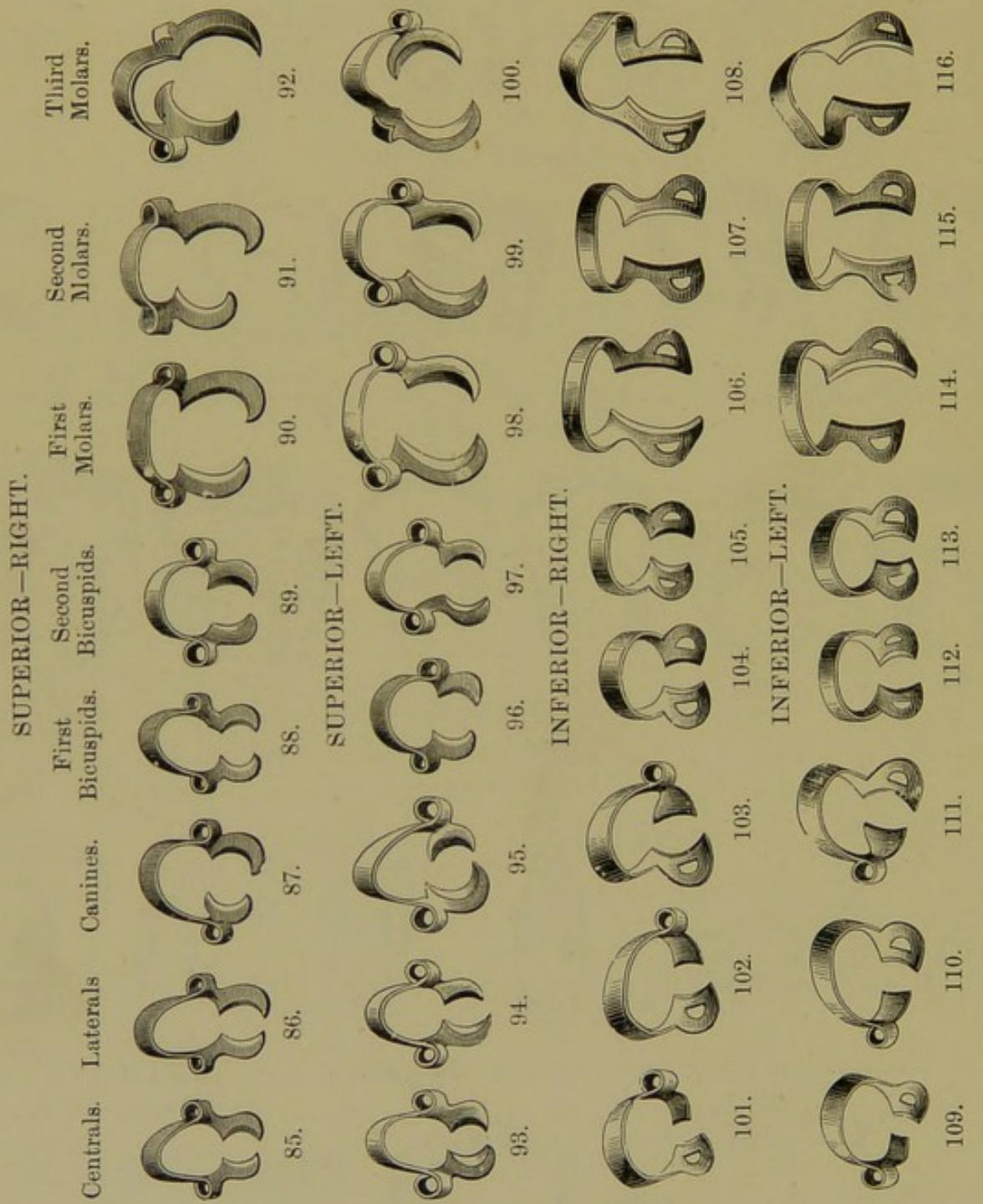
Each, 3*s.* 9*d.*

For Lower Molars.

Each, 3*s.* 6*d.*

AMERICAN RUBBER-DAM CLAMPS.

(Dr. DELOS PALMER'S SET OF THIRTY-TWO.)



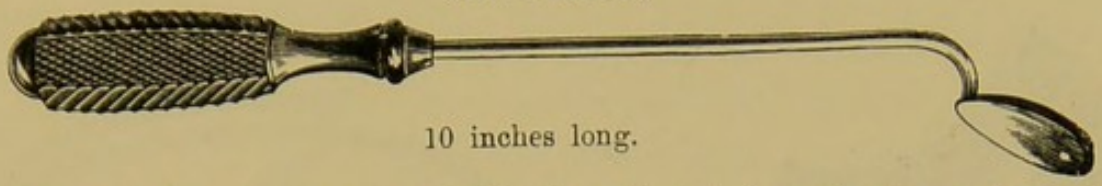
This set conveys its own description.

Prices :

		s.	d.
Clamps, Nickel-plated .. ..(Figs. 85-116)	each	2	6
The entire Set of Thirty-two, with a pair of Palmer's Nickel-plated Clamp Forceps, in neat cardboard box, with Pin for holding each Clamp ..		96	0
The same, in Leather Case, with Satin and Velvet Lining		104	0
Clamp Forceps, Nickel-plated, separately	„	10	0

TONGUE HOLDER.

(Dr. FLAGG'S.)

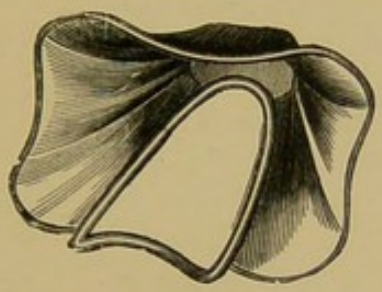


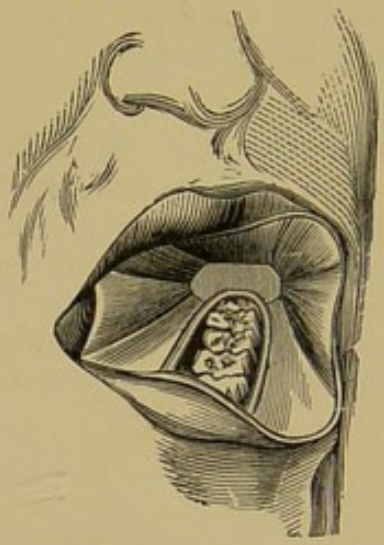
10 inches long.

Tongue Holder (Dr. Flagg's), held by the patient, to keep the tongue down during the operation of Plugging, &c.

		s.	*d.*
In German Silver, Nickel-plated, with Ebony handle ..	each	4	0

MOUTH SPECULUM.



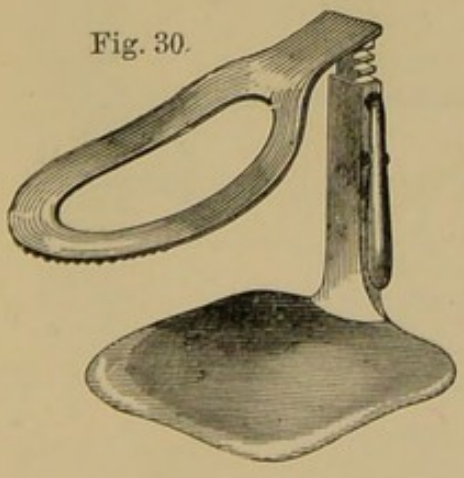


This also serves as a Mouth Prop, Tongue and Cheek Guard, and Napkin Holder.

	s.	*d.*
Price, Nickel-plated	3	0

TONGUE COMPRESSOR.

Fig. 30.

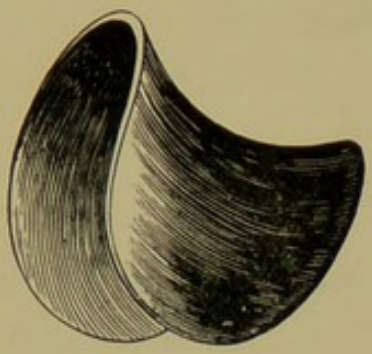


Tongue Compressor, for holding the tongue down during filling operations. It has a Spring Ratchet for regulating the height required, and a roughened tongue-plate to prevent slipping.

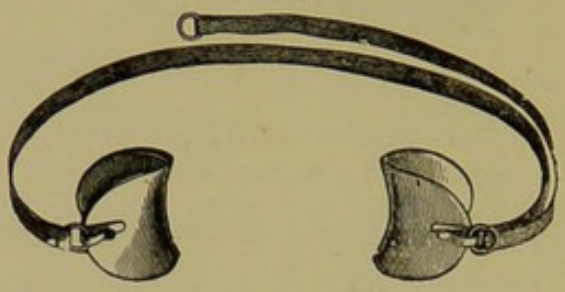
	s.	*d.*
In German Silver, Nickel-plated (Fig. 30)	9	0

LIP PROTECTORS, &c.

63.



64.



Lip Protector, plated. This contrivance is useful in protecting the lips, when using files, drills, or other cutting instruments .. .. .. (Fig. 63) each 1 6

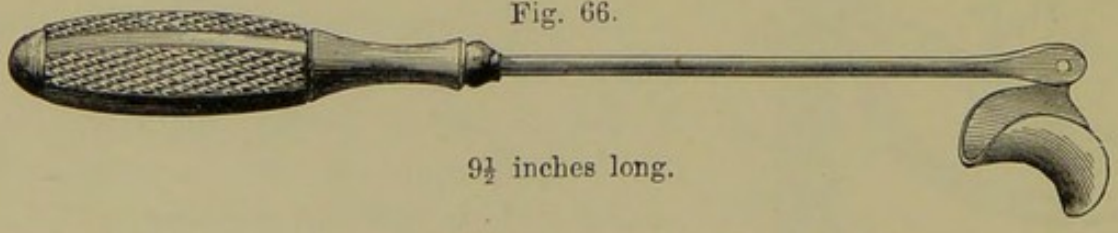
Lip Protector and Mouth Distender, for keeping the mouth distended during many operations upon the teeth. An elastic band is fastened to metal hooks and rings, and passing round the head, keeps the parts distended without trouble to the Operator or patient. The pair of shields (size of Fig. 63), with hooks, &c., plated, complete .. .. (Fig. 64) „ 5 0

Fig. 65.

6½ inches long.

Lip Protector and Mouth Distender, in German Silver, Nickel-plated, with Ebony handle (Fig. 65) „ 3 0

Fig. 66.

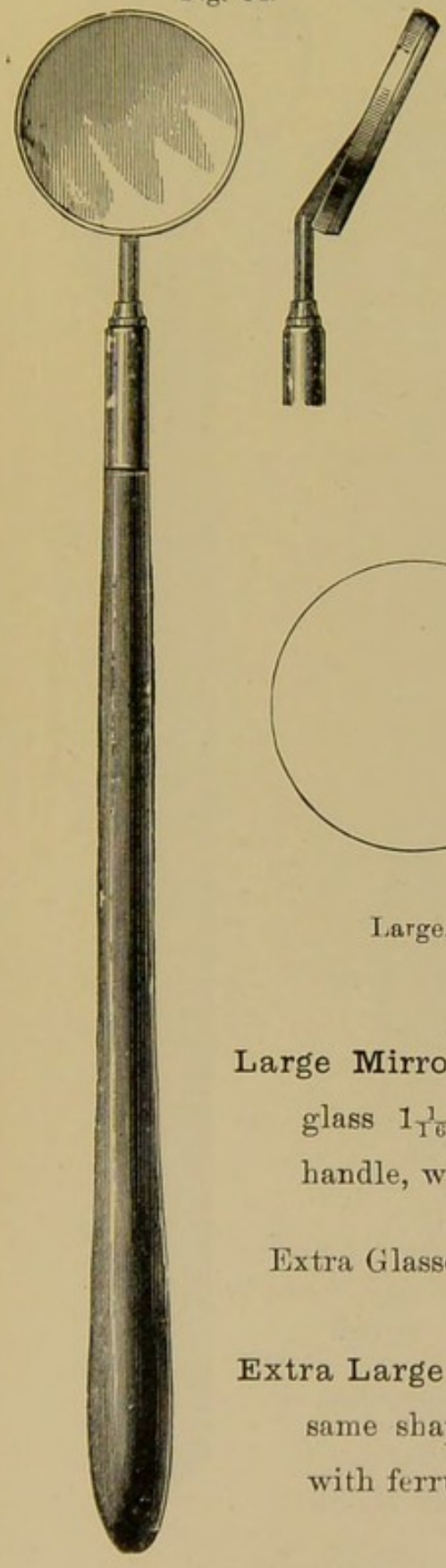


9½ inches long.

Lip Protector and Mouth Distender, plated; the shield the size of Fig. 63, with Ebony handle. This instrument is held by the patient during operations in the mouth .. .. (Fig. 66) each 6 0

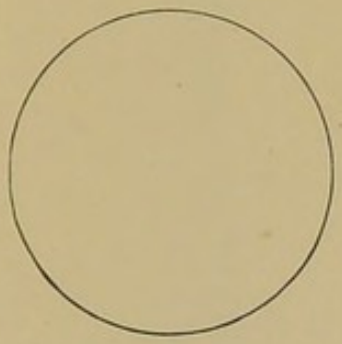
MOUTH MIRRORS.

Fig. 54.

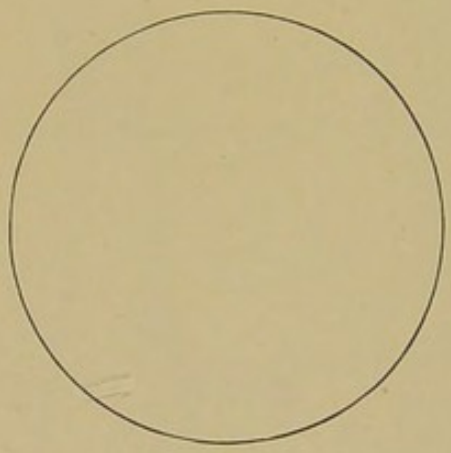


Mirrors, with round Magnifying Glasses, coated on the back with copper, and mounted in German-silver frame, Nickel-plated. Size of glass, $\frac{7}{8}$ of an inch in diameter.

			s.	*d.*
With Ebony Handle	(Fig. 54)	each	5	6
„ Ivory „	(„ 54)	„	7	0
Extra Glasses		„	1	3



Large.



Extra Large.

Large Mirror, same shape as Fig. 54, with glass $1\frac{1}{16}$ inches in diameter, in Ebony handle, without ferrule .. .. .. *s.* 3 *d.* 6

Extra Glasses .. .. each 1 3

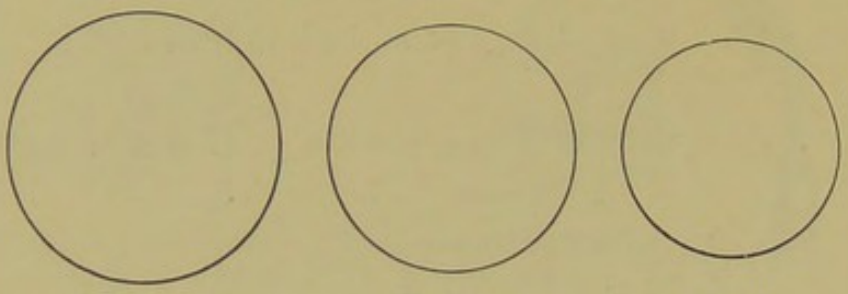
Extra Large Mirror for examining the mouth, same shape as Fig. 54, in Ebony handle, with ferrule, as illustrated .. .. .. *s.* 10 *d.* 0

Extra Glasses .. .. each 4 0

MOUTH MIRROR IN METAL HANDLE.

NICKEL-PLATED.

MADE IN THREE SIZES.



Large. Medium. Small.

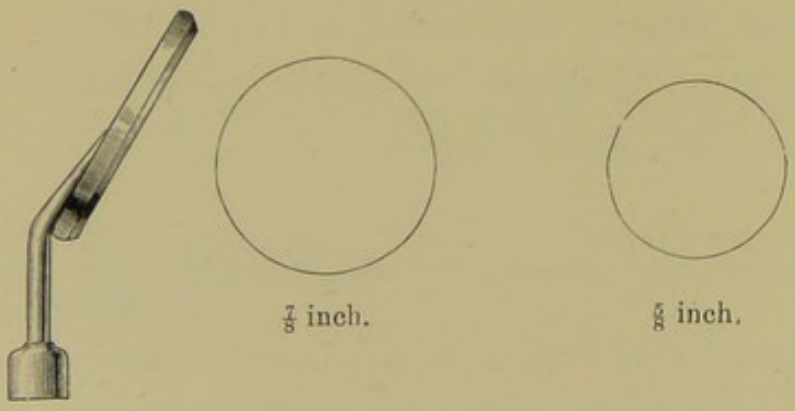
		s.	d.
Price, any size	each	1	6
Four, any size or assorted	,,	5	0

54c

MOUTH MIRROR.

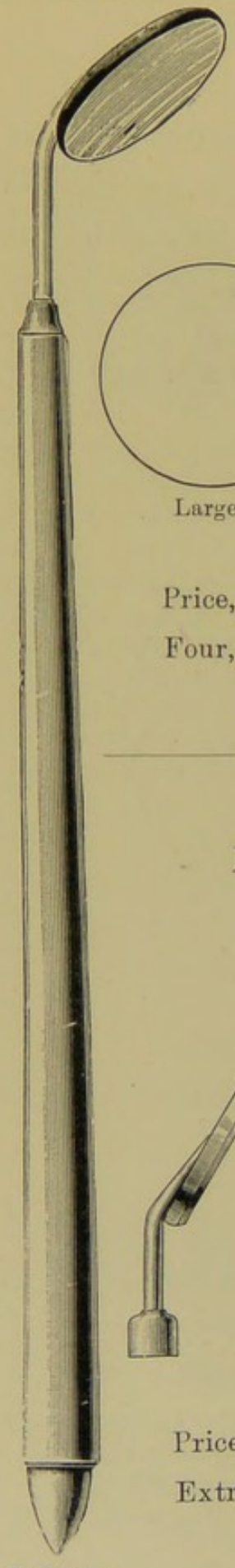
Fig. 54c.

MADE IN THESE TWO SIZES.



$\frac{7}{8}$ inch. $\frac{5}{8}$ inch.

		s.	d.
Price, any size	each	2	9
Extra Glasses	,,	1	3



Full size.

MIRRORS—*continued.*

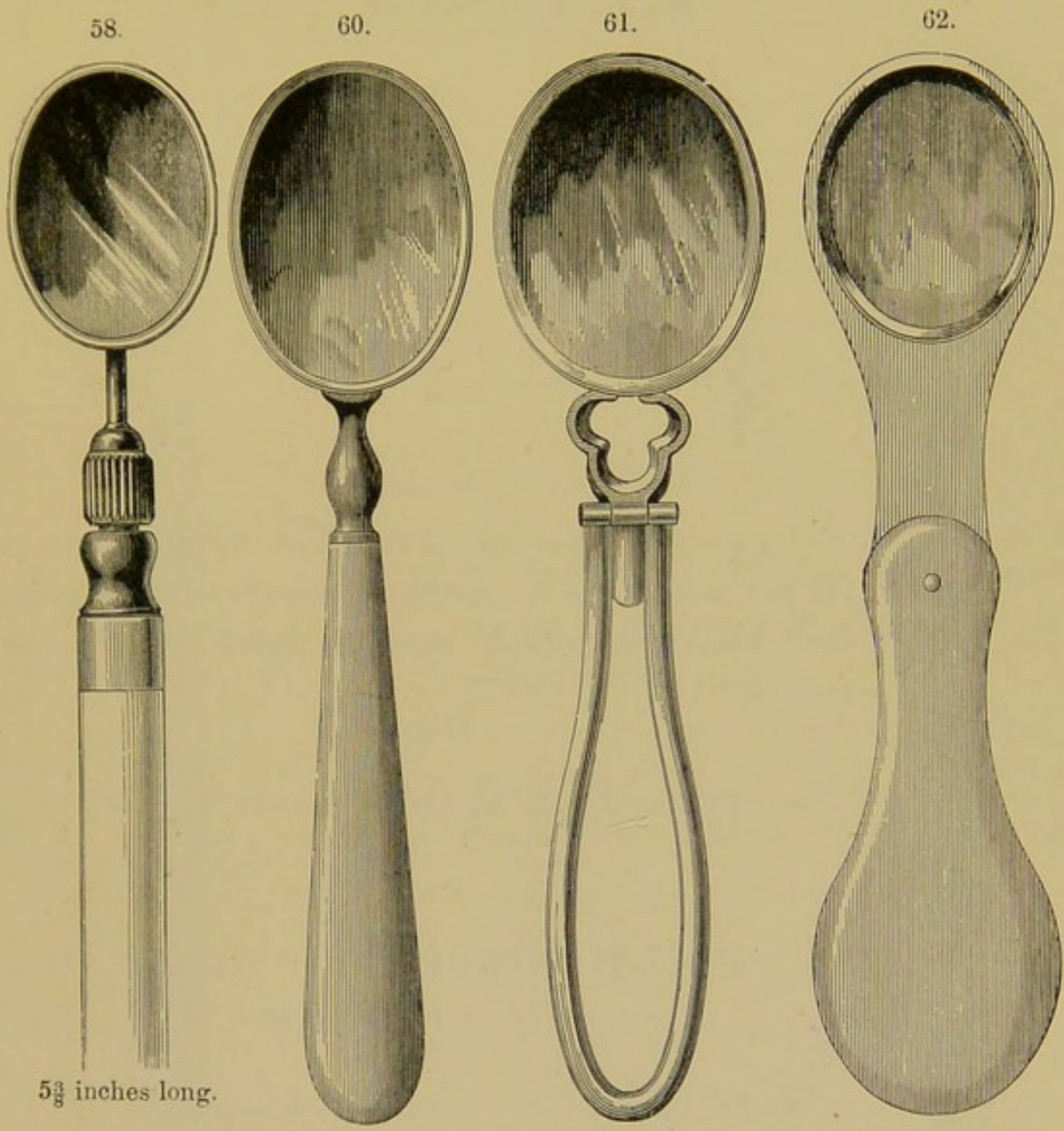
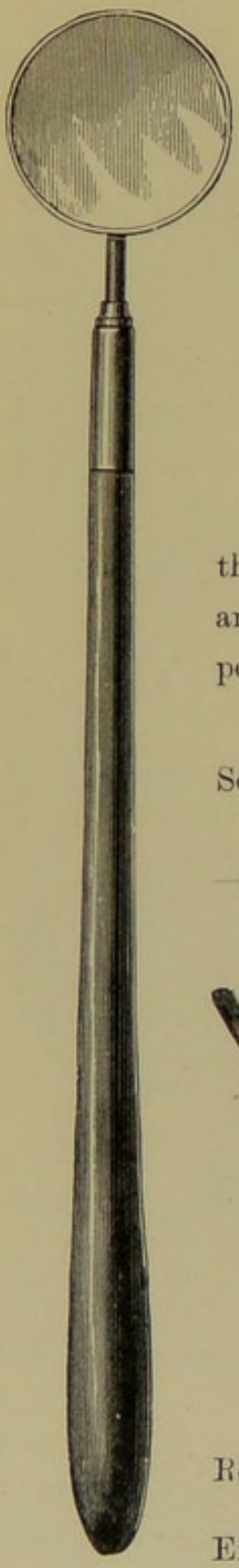


Fig. 58. Ball and Socket, Ivory handles and German Silver frames, Nickel-plated, made in four sizes—see page 32.

		s.	*d.*
Price, any size	each	9	0
Extra cups for Ball and Socket	„	0	4
Fig. 60. In Ivory handle, size No. 2	„	5	6
„ 61. Folding Mirror, size No. 2, Nickel-plated ..	„	8	6
„ 62. „ „ in Ivory frame, size No. 3 ..	„	6	0
Extra glasses, any size	„	1	3

MOUTH MIRROR.

WITH SCREW FRAME.



Back.

Glass.

Frame.

Directions.

Unscrew the front part of the frame three full turns to the left and remove the useless glass, put in a new glass, and, when it is properly adjusted, screw carefully into position.

Prices :

	s.	*d.*
Screw Frame Mirror, in Ebony handle, large or small	9	0

MOUTH MIRROR REVERSED.

WITH SCREW FRAME.

Mirror Glasses.

Large.

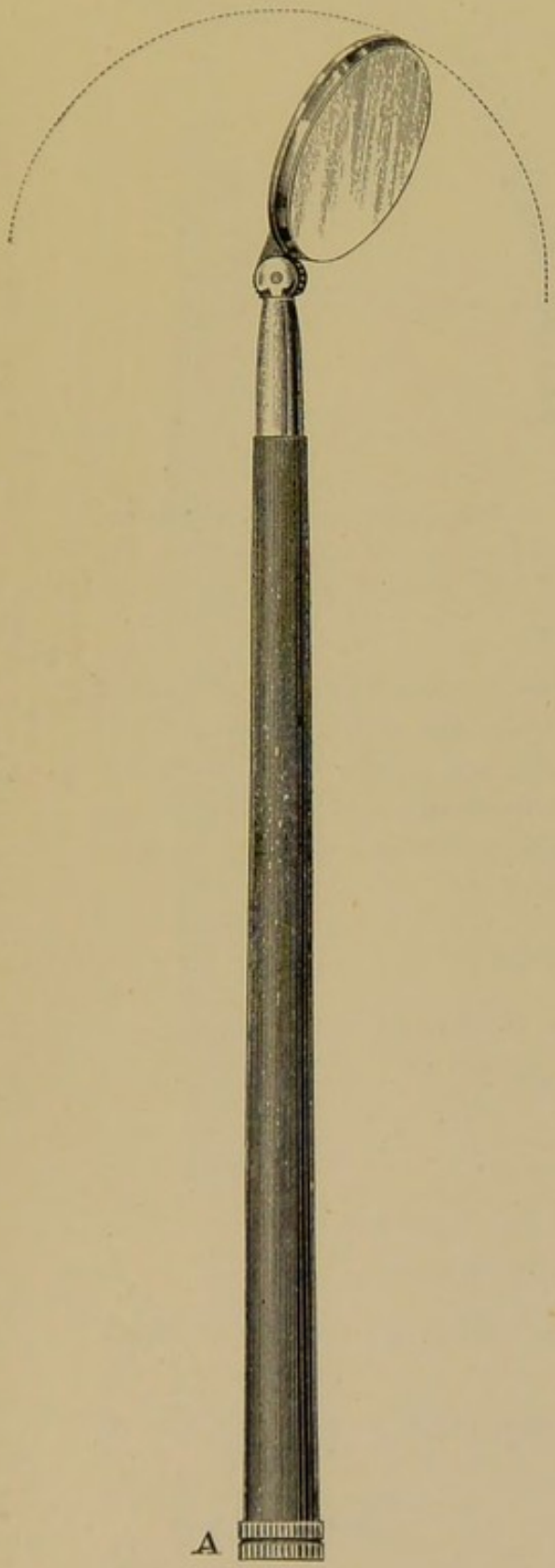
Small.

Prices :

		s.	*d.*
Reversed Screw Frame Mirror in Ebony handle, large or small		9	0
Extra glasses, either size	each	1	3

ADJUSTABLE MOUTH MIRROR,

WITH ROUND GLASS.



The dotted lines in the engraving show the full range of this Mirror. By means of the screw A at the end of the handle the frame can be fixed at any angle. Made in one size with glass $\frac{7}{8}$ of an inch in diameter.

			s.	*d.*
In Ebony handle ..	..	each	9	6

Adjustable Mirror with screw frame as shown and described on the previous page.

			s.	*d.*
In Ebony handle ..	..	each	14	0
Extra glasses ..	..	„	1	3

MIRROR GLASSES.

For **Round Mirrors** coated on the backs with copper to prevent them being injured by moisture. Supplied in two sizes, large $\frac{7}{8}$ and small $\frac{5}{8}$ of an inch in diameter.

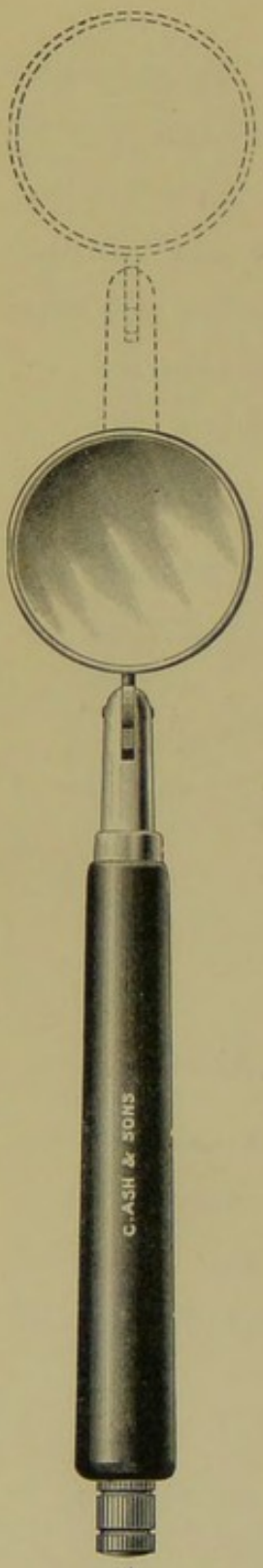
			s.	*d.*
Price, either size ..	..	each	1	3

Larger sizes supplied to order.

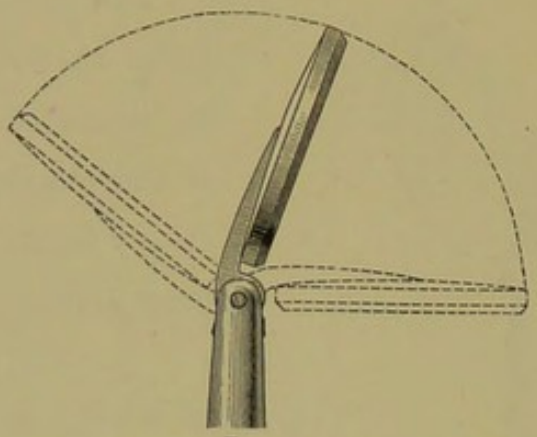
POCKET MOUTH MIRROR.

(C. ASH & SONS'.)

Registered—Rd. No. 266,510.



A
Full size.



B

When closed this Mirror is four inches long, a convenient length for carrying about in the pocket. It measures 5⅜ inches when fully extended, this being a very useful length for general work.

The range of the frame is shown in illustration ***B.*** It can be securely fixed at any point within this range by means of the screw ***A*** at the end of the telescopic handle. The adjustment must be made before the handle is extended. The locking device is a great improvement upon the old pin and ratchet movement and cannot readily get out of order.

Prices:

	s.	*d.*
As illustrated, complete in leather case ..	8	6
With screw-frame—see page 28	12	6

ANTI-CLOUDINE

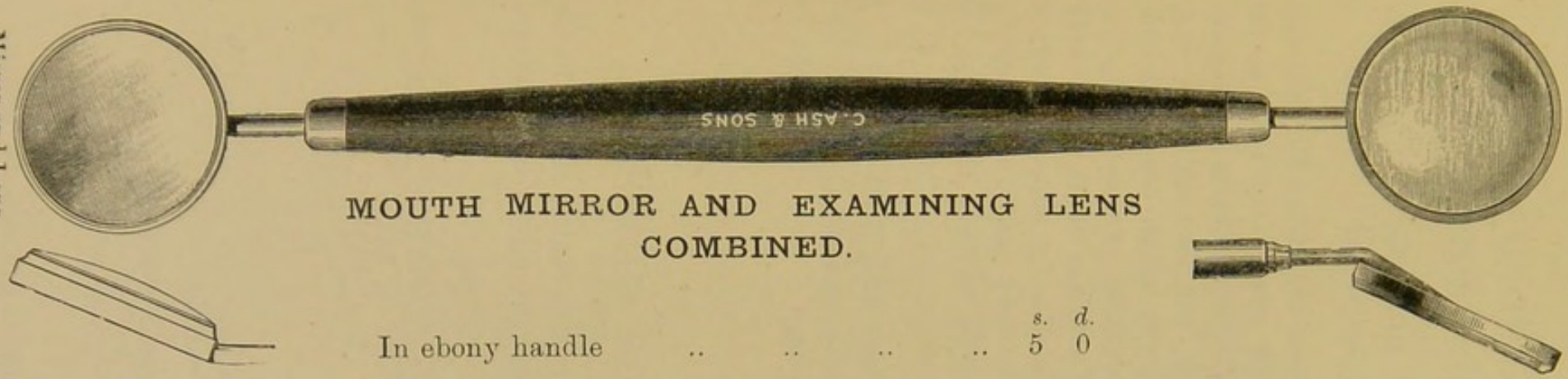
(Dr. DE WALTOFF'S.)

An Antiseptic Paste for preventing the clouding of mirror glasses.

Directions:—Apply a small quantity of the paste and wipe off clean.

	s.	*d.*
Price .. .. .. per box	1	0

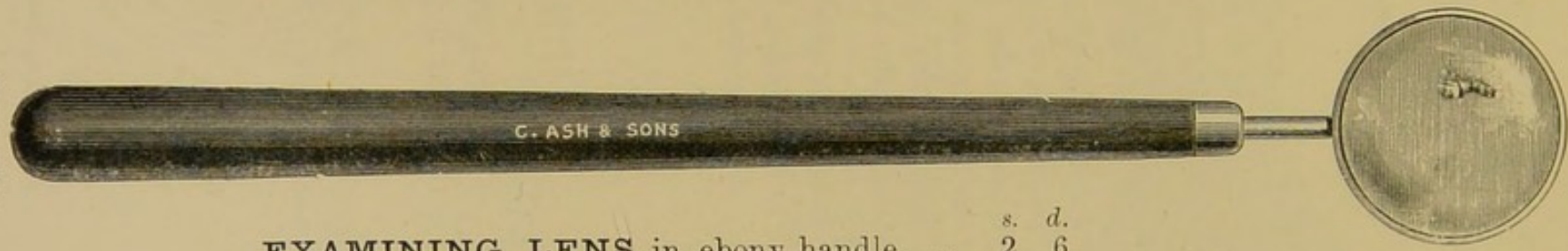
Mirror and Lens.



MOUTH MIRROR AND EXAMINING LENS COMBINED.

	s.	*d.*
In ebony handle	5	0

Lens only.



	s.	*d.*
EXAMINING LENS in ebony handle ..	2	6

55.

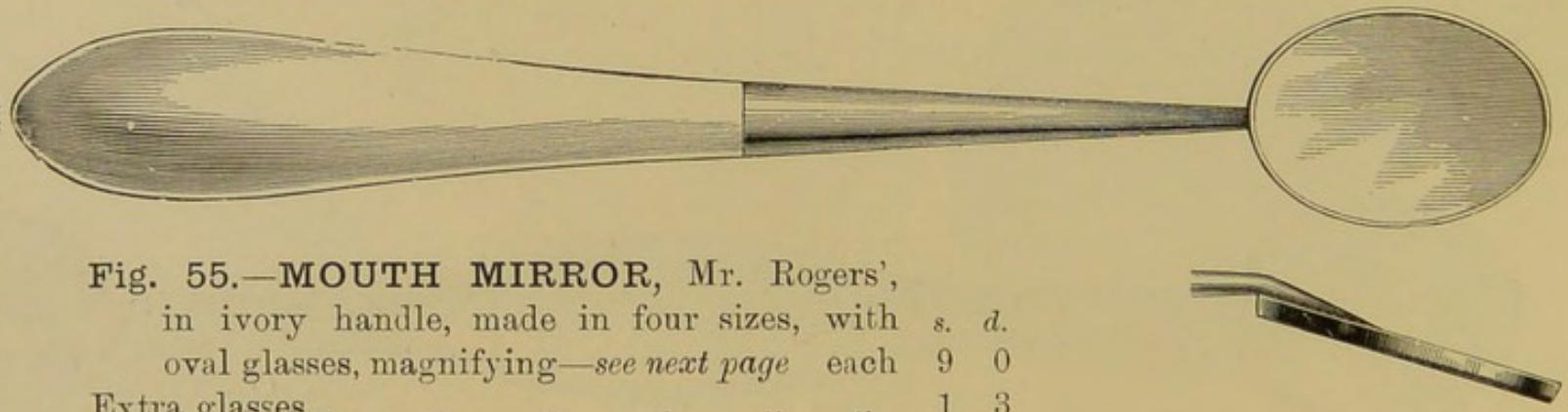
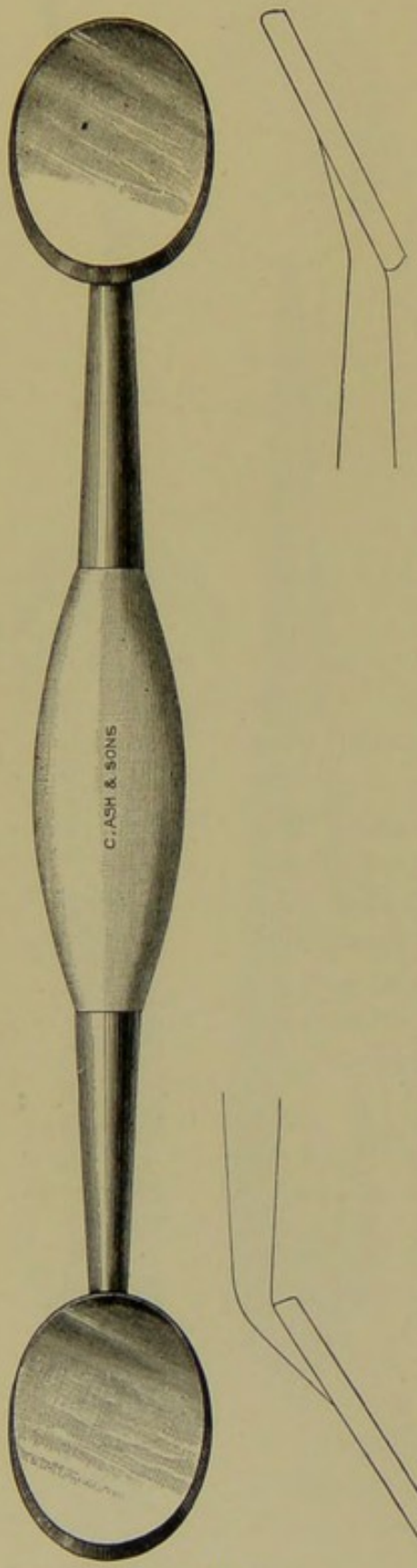


Fig. 55.—MOUTH MIRROR, Mr. Rogers',

	s.	*d.*
in ivory handle, made in four sizes, with oval glasses, magnifying—*see next page*	each	9	0
Extra glasses	„	1	3



Full size.

DOUBLE-ENDED MOUTH MIRROR.

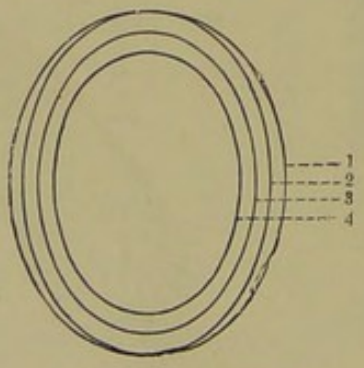
(Designed by Mr. HERBERT WILLIAMS, of Londonderry.)

After some years' experience Mr. Williams states that this is one of the most useful mouth mirrors with which he is acquainted. The glasses in it both face the same way, and are set at angles which are found convenient for all working purposes. Another feature requiring notice is the flat oval ivory centre in the handle, by means of which the mirror can be held easily and steadily between the fingers without cramping or fatiguing the hand.

	s.	d.
Double-ended Mirror with No. 3 size oval glasses, in ivory and German silver, nickel-plated	15	0

MIRROR GLASSES.

For **Oval Mirrors** coated on the backs with copper to prevent injury by moisture.



Sizes of Glasses without Frames.

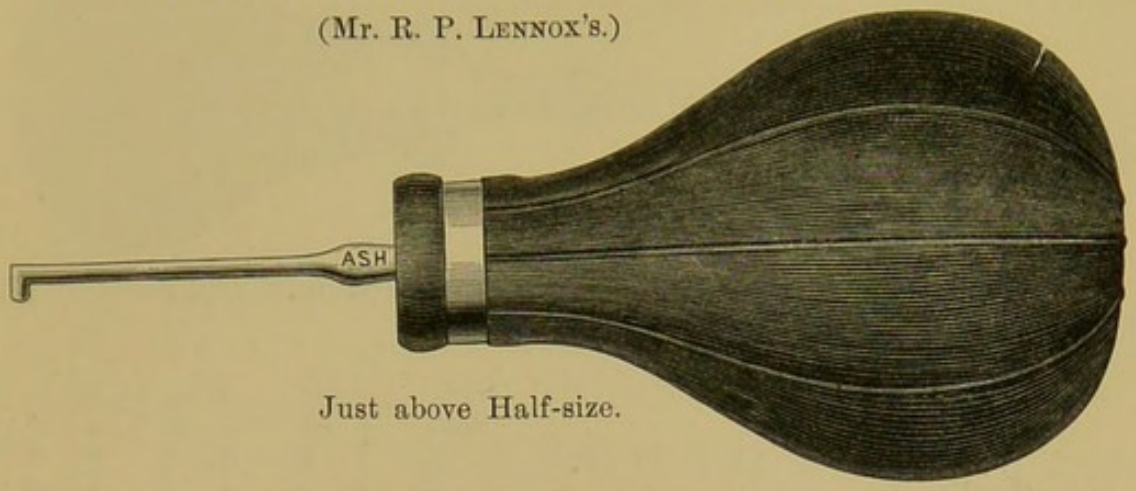
	s.	d.
Any size .. .. .. each	1	3

All forms of Mirrors supplied with plane glasses to order.

WATER SYRINGE,

FOR COOLING IMPRESSIONS IN THE MOUTH.

(Mr. R. P. Lennox's.)



Just above Half-size.

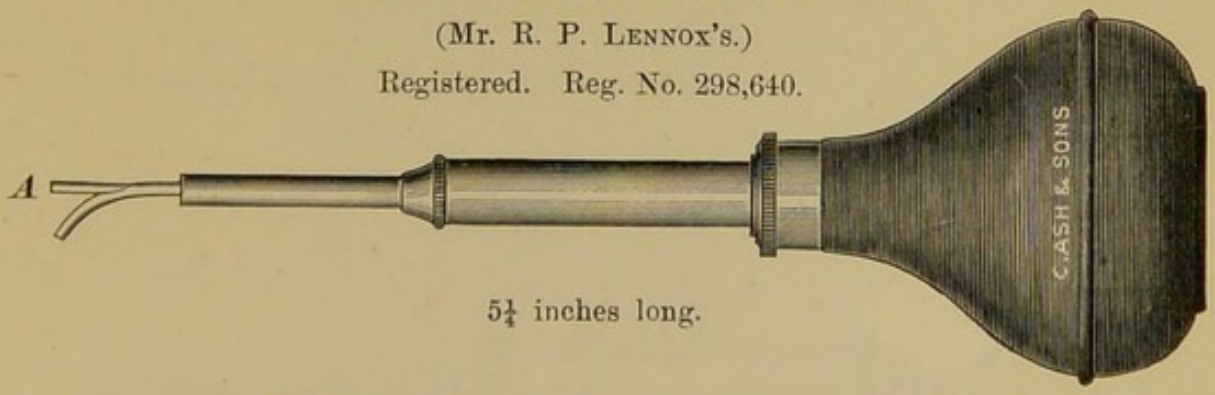
Mr. LENNOX says: "When the tray is in position I spray it with cold water from an 8-oz. syringe (as here illustrated), with a nozzle bent at right angles, a basin being held close under the patient's chin to catch the overflow of water. In this way the setting of the composition, which otherwise takes four or five minutes, is effected in about a minute, and the water, in general, proves grateful rather than not to a mouth overheated by a mass of warm composition. Irrigated trays have been devised to effect the purpose thus attained, but the trays are cumbersome and more difficult to insert than ordinary trays, themselves not seldom difficult enough."

	s.	*d.*
Price	6	6

HOT-WATER SYRINGE.

(Mr. R. P. Lennox's.)

Registered. Reg. No. 298,640.



5¼ inches long.

Although Mr. Lennox describes this as a "Hot-water Syringe for washing out cavities," it should be understood that it is equally well fitted for use as a tepid or cold-water syringe.

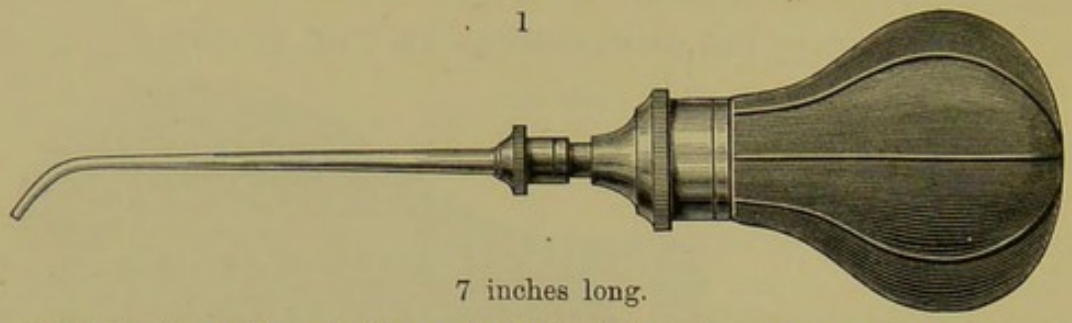
He says: "The syringe shown above is furnished in the nozzle with a valve actuated by a light spring." . . . "Whether to fill or to empty but one hand is needed."

To Fill.—Compress the bulb and press down on point ***A***.

	s.	*d.*
Price	10	6

SYRINGES.

1



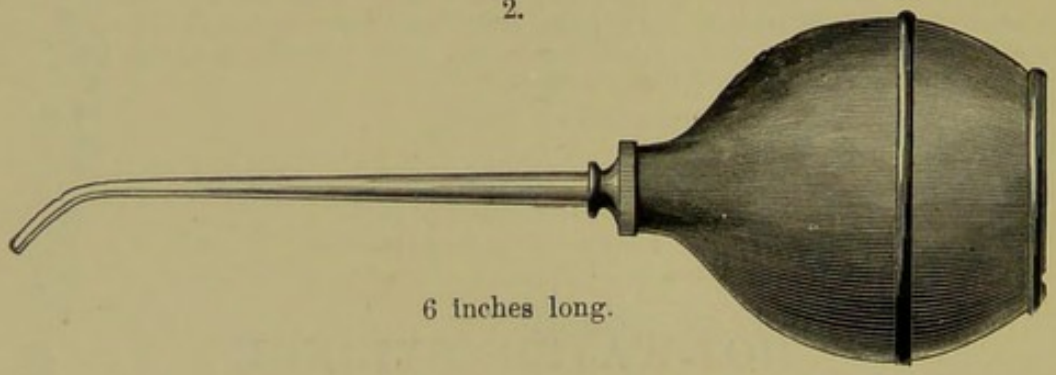
7 inches long.

With India-rubber bulbs and Nickel-plated mounts and nozzle. Made in four sizes, with nozzles to **slip off.**

Size of bulb:	½ oz.		1 oz.		2 oz.		3 oz.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Syringes .. (Fig. 1) each	5	6	7	0	8	0	9	0
Extra Bulbs .. .. „	1	0	1	3	1	6	1	9

CHIP SYRINGE.

2.

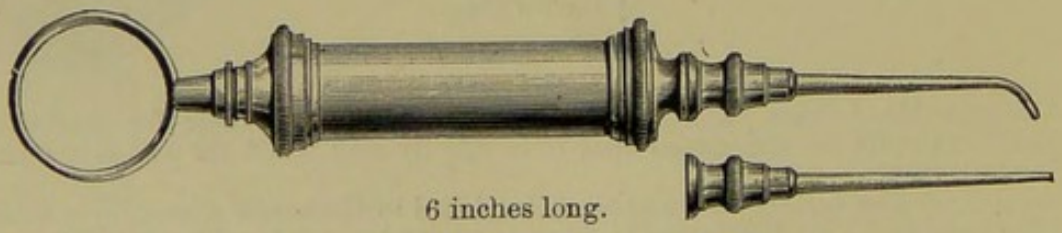


6 inches long.

		s.	*d.*
For blowing cuttings and dust out of cavities.			
With 1 oz. bulb and Nickel-plated nozzle ..	(Fig. 2) each	3	0
Extra Bulbs	„	1	6

METAL SYRINGE.

3.



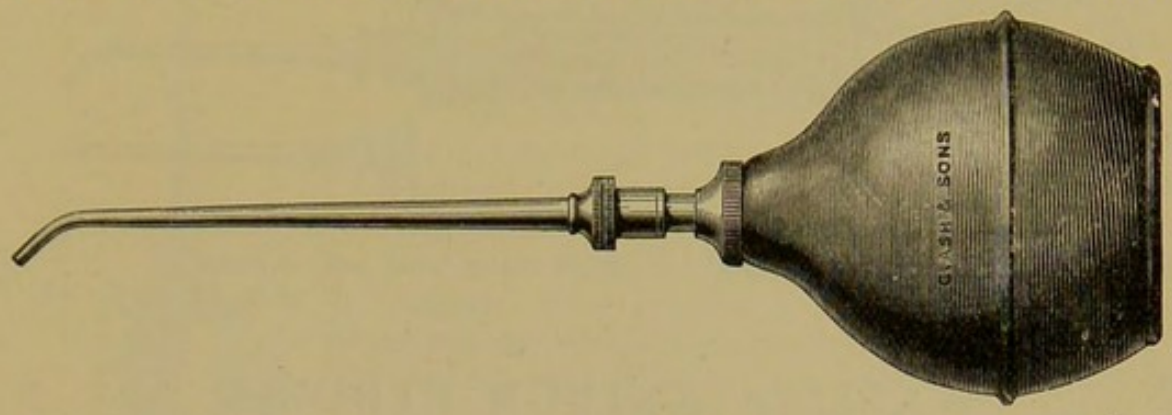
6 inches long.

		s.	*d.*
With straight and curved nozzles, Nickel-plated throughout, and enclosed in leather case ..	(Fig. 3) each	9	0
Cheaper kind with one nozzle only, in card box ..	(„ 3) „	5	0

WATER SYRINGE,

WITH

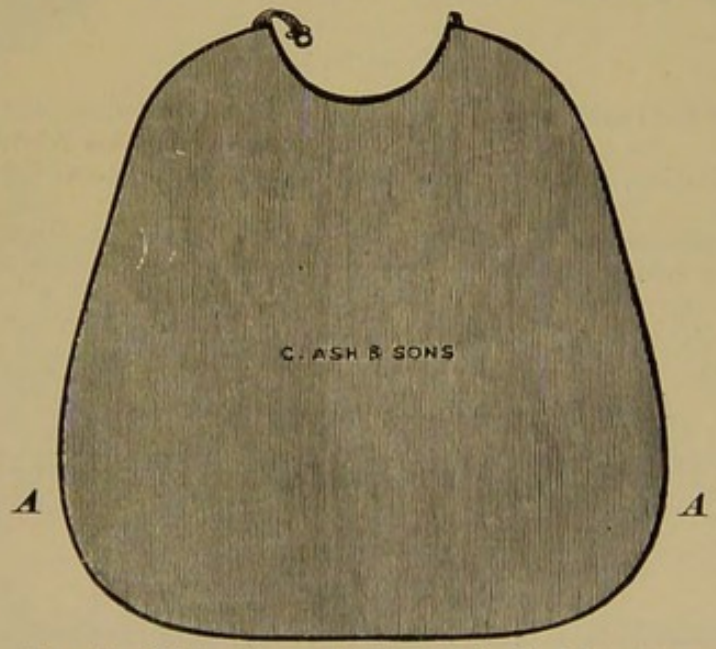
SLIP-OFF NOZZLE AND TWO-OUNCE SIZE FLAT-BOTTOMED BULB.



	s.	d.
Price	5	0
Extra Bulbs	1	6

WATERPROOF APRON.

FOR USE IN THE OPERATING ROOM.



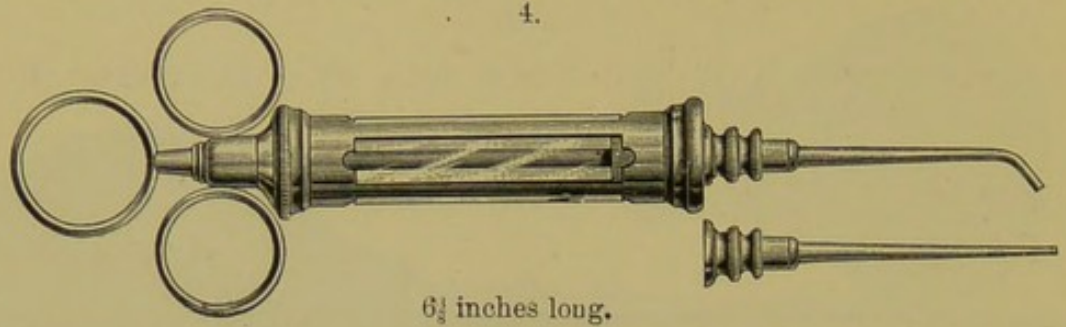
Length, 34 inches; width at *A A*, 34 inches.

The Apron here illustrated will be found most valuable for protecting the patient's dress during dental operations, for which purpose it has been specially designed. It is durable, light, neat in appearance, and can be as readily washed as a serviette.

	s.	d.
Price	3	6

METAL SYRINGE WITH THREE RINGS.

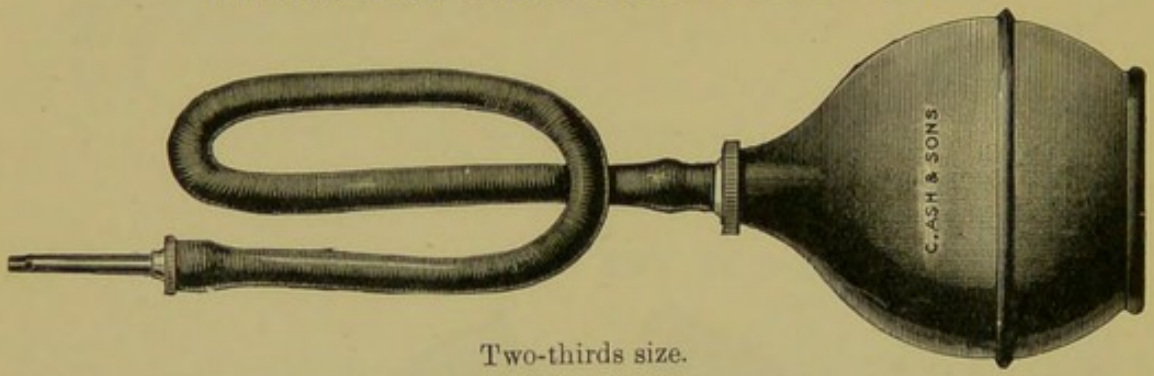
4.



6⅝ inches long.

		s.	d.
With straight and curved nozzles, Nickel-plated throughout, and enclosed in leather case .. .. (Fig. 4)	each	13	6

WALLIS'S ANTRUM SYRINGE.



Two-thirds size.

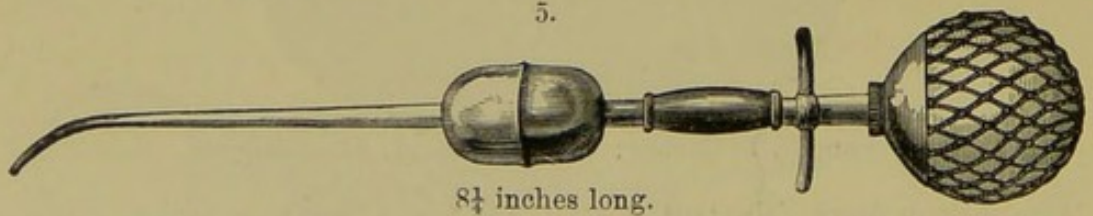
With two-ounce India-rubber bulb of best quality and mounts, length of small black tubing and nozzle. An improvement has been made in this Syringe, which is not shown in the illustration, consisting of a small slip-off mount to which the India-rubber tubing is attached.

Directions for charging:—To charge the bulb with the medicament, slip off the mount to which the tubing is attached, and replace it when the bulb is filled.

		s.	d.
Price, complete	each	5	6
Extra bulbs	,,	1	6

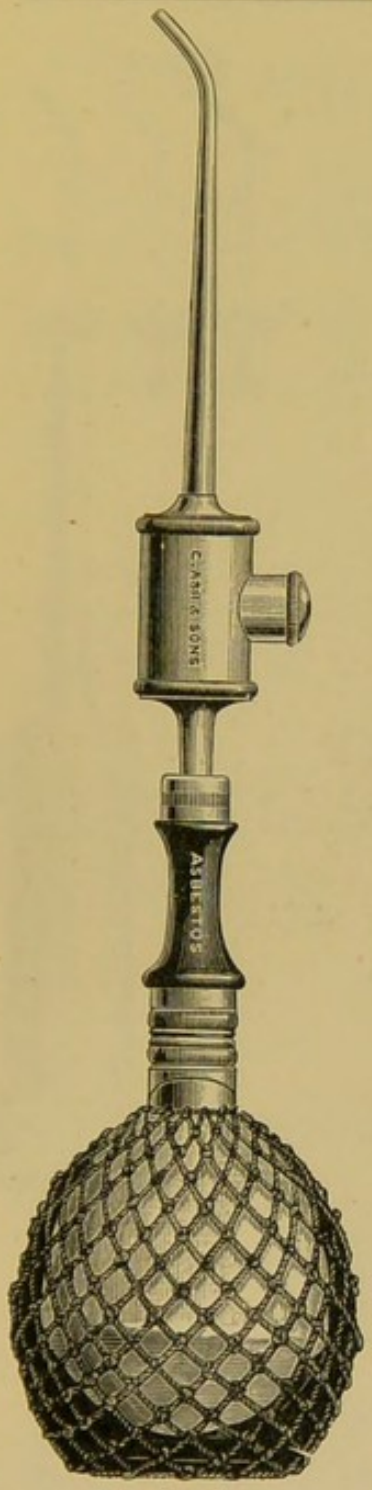
MOFFATT'S HOT-AIR SYRINGE.

5.



8¼ inches long.

		s.	d.
With Air Chamber, which is heated over a Spirit or Gas flame, for drying cavities previous to Stopping. Made of German Silver, Nickel-plated, with India-rubber Bulb and Wood Insulator .. .. (Fig. 5)	each	12	6
Tooth Syringe (Dr. Moffatt's) minus Air Chamber and Insulator, with straight and curved nozzles	,,	8	0
Extra bulbs with net	,,	1	6
,, without net	,,	1	0



9 inches long.

IMPROVED HOT-AIR SYRINGE.

(American Pattern.)

At the suggestion of Mr. A. Kendrick, of Taunton, this Syringe is made with a patented asbestos connection which is marked in the accompanying engraving.

The wooden connection which the asbestos has superseded was soon burned, when the Syringe was used, and after a short time the hole became so much enlarged in size that it would not hold the nozzle properly. The Syringe thus became a source of trouble and annoyance to the operator.

The substitution of asbestos for wood has completely remedied this defect, and makes the Syringe perfect for its purpose.

Prices :

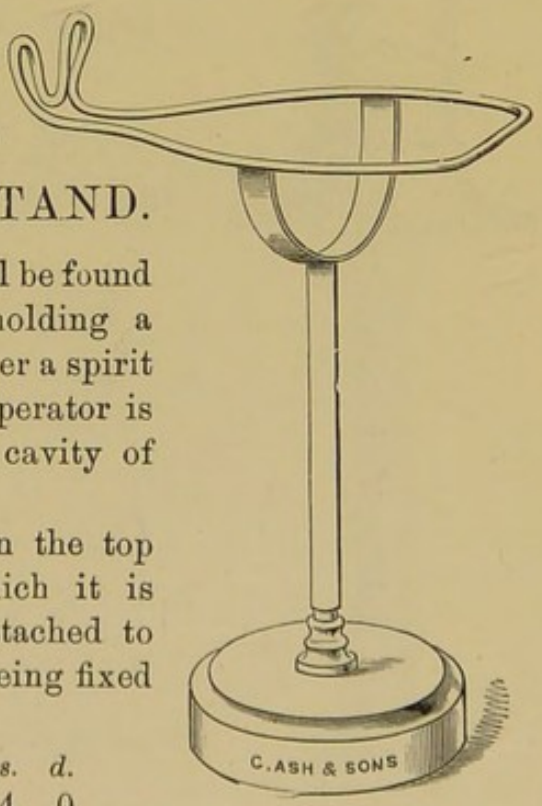
		s.	d.
Hot-Air Syringe, with patented asbestos connection, metal parts Nickel-plated, and bulb covered with silk netting as illustrated		14	0
Patented asbestos connection fitted to Syringes now in use ..	each	2	3
Extra Bulbs without net	,,	1	6

HOT-AIR SYRINGE STAND.

This stand will be found convenient for holding a hot-air syringe over a spirit flame while the operator is at work on the cavity of the tooth.

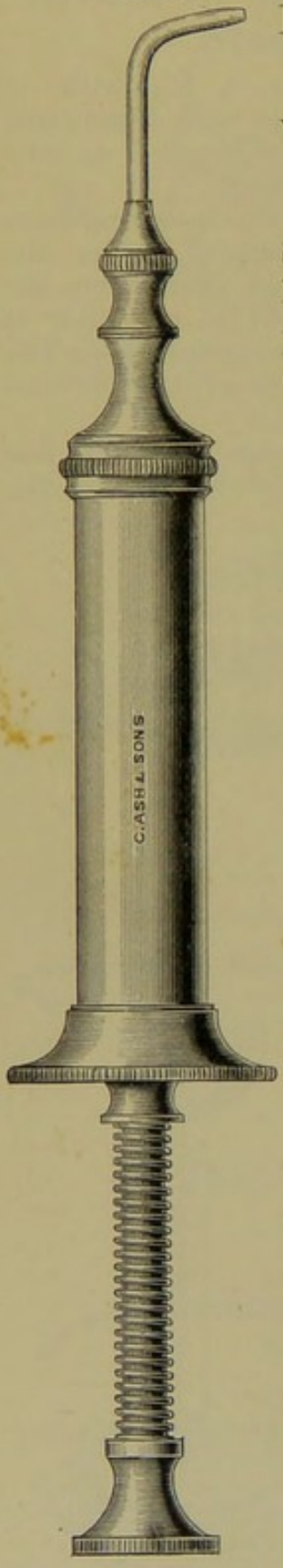
The syringe bulb rests in the frame on the top of the stand, and the metal tube to which it is secured slides up and down the pillar attached to the base, to permit of the heat chamber being fixed at any point above the flame of the lamp.

	s.	d.
Price of Stand, Nickel-plated ..	4	0



Half-size.

HUNT'S.



7½ inches.

HUNT'S SELF-FILLING WATER SYRINGE,

WITH CURVED DETACHABLE NOZZLE.

The illustration shows the Syringe with the spring compressed.

	s.	d.
Price, Nickel-plated ..	7	6
The same **extra large** with fixed nozzle	9	6

ELLIOTT'S SYRINGE,

FOR WASHING OUT NERVE-CANALS.

	s.	d.
Price, as illustrated, made of German Silver Nickel-plated, with steel spring on piston rod and three points, enclosed in neat leather case	14	0

BETA EUCAINE:

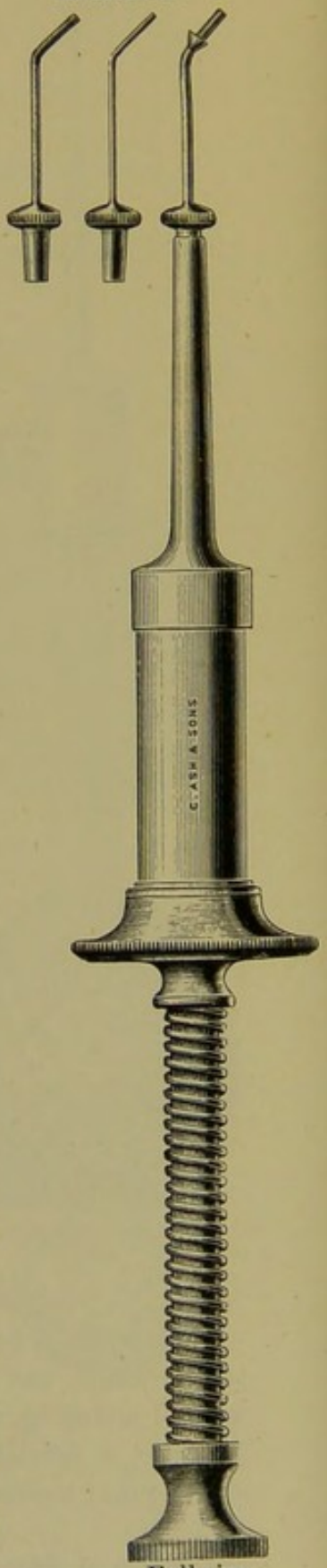
A LOCAL ANÆSTHETIC.

See p. 205, *June*, 1896, *Quarterly Circular.*

	s.	d.
Powder in one gramme bottles .. per bot.	0	8
Tabloids, ⅓ grain size, in tubes containing 12 tabloids .. .. per tube	0	7
Tabloids, ⅓ grain size, in tubes containing 12 tabloids .. per doz. tubes	6	0

For Hypodermic Syringes, see next page.

ELLIOTT'S.



Full size.

COCAINE AND COCAINE SYRINGES.

COCAINE.

Pure Soluble Hydrochlorate of Cocaine, specially prepared for dental purposes, supplied as under:

		s.	d.
In small glass tubes containing one grain each ..	.. per doz.	2	0
„ „ „ half a grain each	.. „	1	6
In bottles containing 15 grains	per bottle	1	9

WYLEY'S COCAINE PELLETS.

Each Pellet consists of ½ grain of pure hydrochlorate of cocaine, compressed without the addition of any other substance.

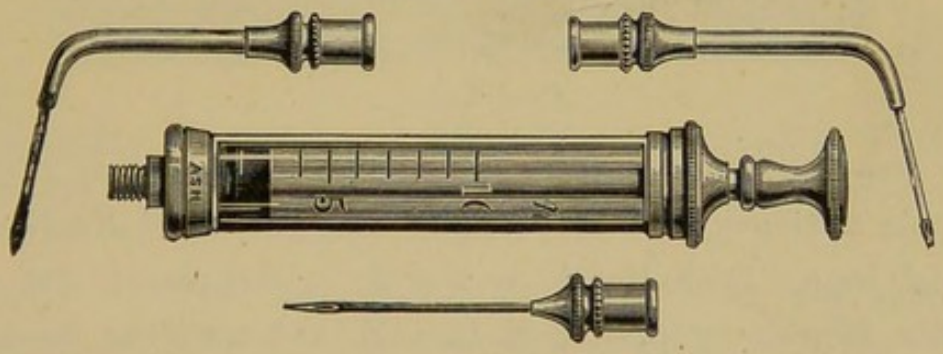
The Pellets are easily soluble in water, keep indefinitely, and *afford the means of obtaining a fresh solution of the alkaloid as required.*

Directions for Use.

Dissolve half a grain in 10 minims of warm water, and inject half the solution on each side of the gum.

		s.	d.
Price per tube, containing 12 Pellets	each	0	8
„ in boxes containing 6 tubes	per box	3	6

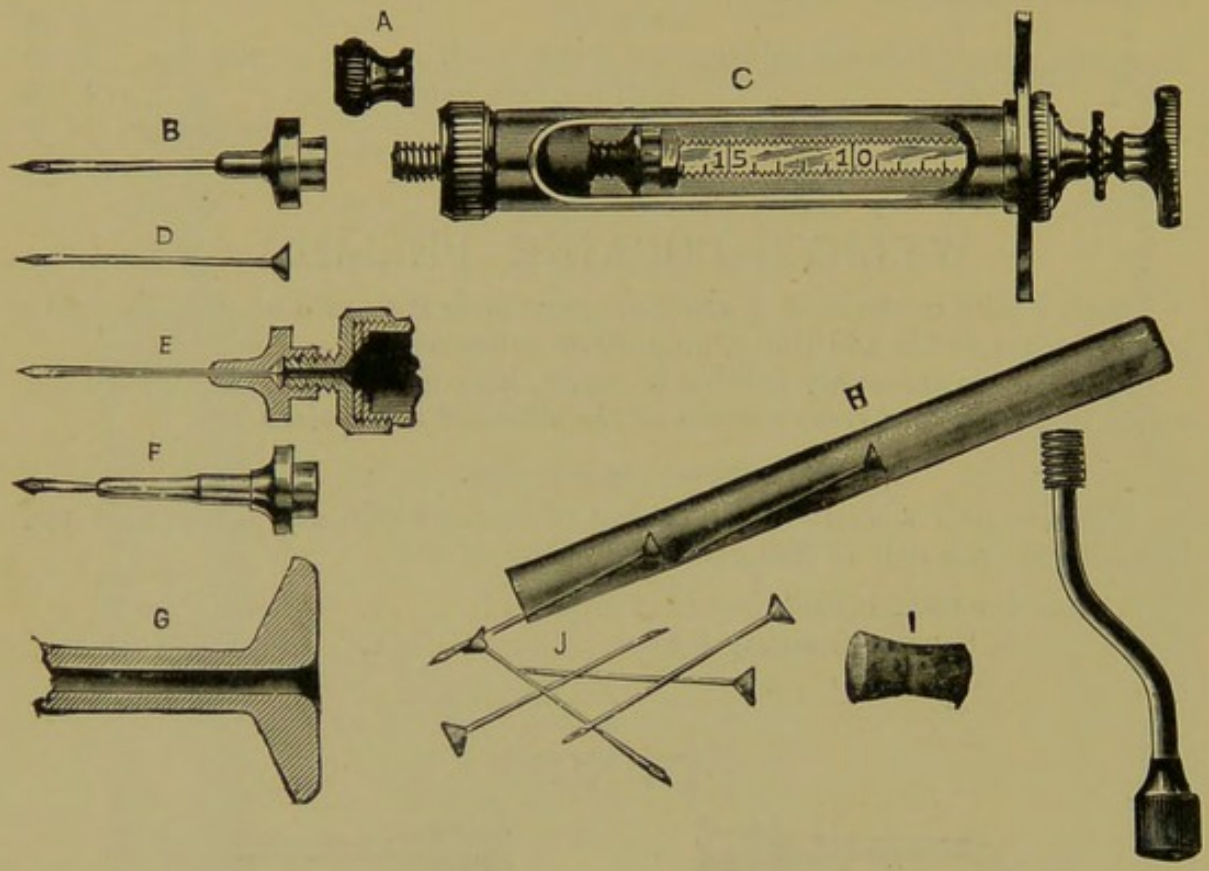
SYRINGES.



		s.	d.
Hypodermic Syringe, Gilt (Mr. G. Brunton's), with three points, as illustrated, for injecting Cocaine, &c. In neat leather case, complete	each	14	0
German-silver Hypodermic Syringe, Nickel-plated, with three points, for injecting Cocaine, &c. In neat leather case, complete	„	10	0
Vulcanite Hypodermic Syringe, with two straight points, for injecting Cocaine, &c. In neat leather case, complete	„	3	6
Glass Tubes, for mixing Cocaine ready for use	„	0	6
Wire, for clearing Nozzles	per bundle	0	2
Steel Needles for renewing	each	0	9

ASEPTIC HYPODERMIC SYRINGES,

WITH PATENTED SEAMLESS DETACHABLE NEEDLES.



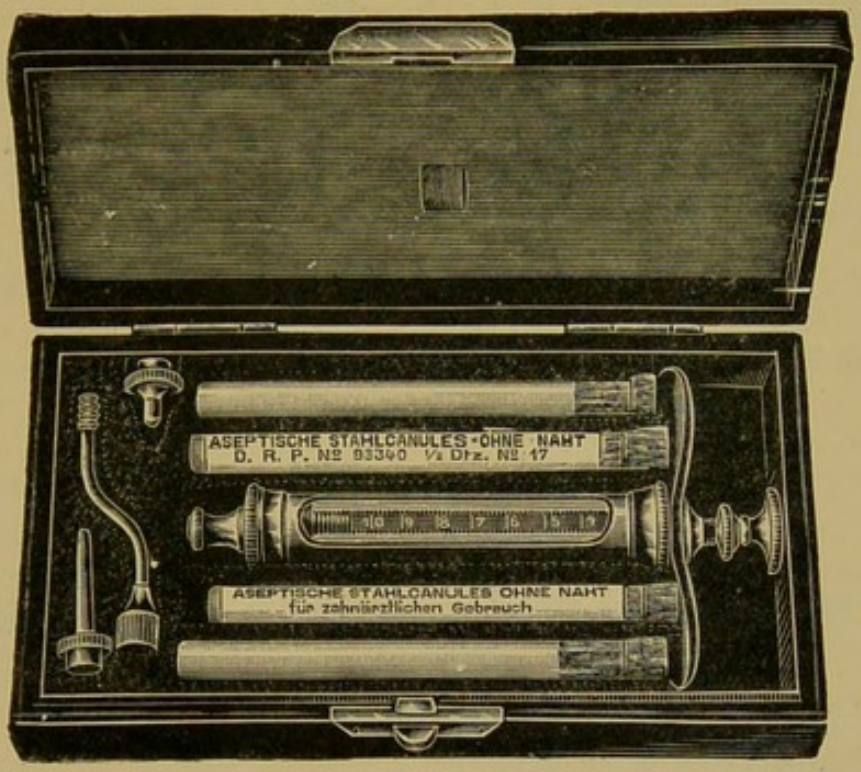
Description :

The great advantage which these Syringes possess over other hypodermic Syringes is in the Aseptic Seamless Steel Needle D with soft metal cone. Each Needle is heavily nickel-plated, and is fitted into nozzle B or F by passing it through and screwing the nozzle on to the threaded mount of Syringe C, by which means it is jammed into position so as to form a perfectly water-tight joint, as shown in sectional drawing E. Fig. G shows magnified end of Needle D with hole countersunk to permit easy introduction of wire. All Needles are sterilized at a temperature of 300° F. for five hours, and are put up in glass tubes of six, as shown in Figs. H, I, J. The screw mount A is fitted on the end of Syringe when not in use, to prevent dust entering the barrel and the packing on piston becoming dry.

ASEPTIC HYPODERMIC SYRINGES—*continued.*

The piston is graduated to show minims, and the leather packing is self-lubricating, being fitted with an oil cup, which, when filled with a drop of good oil, keeps the Syringe in working order.

No. 11.



	s.	*d.*
No. 11, Aseptic Syringe, as illustrated, with nozzles B, F, K, 12 dental needles D, and 2 glass vials for hypodermic tablets; complete in Morocco Case, leather-lined	9	6
No 6, same as above, but smaller size, with long and short nozzles B and F, and all the other accessories; complete in Morocco Case, leather-lined	7	6
Extra dental needles in tubes of six for either of the above Syringes per tube	1	6

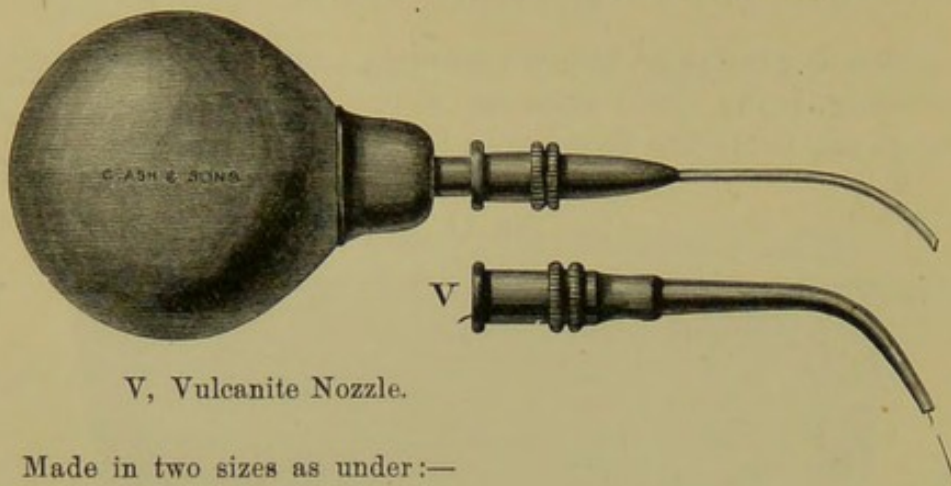
SOLE DENTAL AGENTS for the United Kingdom of Great Britain and Ireland:

CLAUDIUS ASH & SONS, LIMITED,

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE, LONDON, W.

To be obtained through all Dental Depôts.

ROOT-DRESSING SYRINGES.



V, Vulcanite Nozzle.

Made in two sizes as under:—

				s.	d.
100 Minim Bulb with Vulcanite Mount and	Platinum Nozzle	..	each	3	6
„ „ „ „ „ „	Vulcanite „	..	„	2	6
20 Minim Bulb „ „ „ „	Platinum „	..	„	3	6
„ „ „ „ „ „	Vulcanite „	..	„	2	6

HOW'S SCREW POSTS.

			s.	d.
Gold, 14 carat, size A A small, $\frac{7}{8}$-inch long	.. ..	each	1	10
„ „ A medium „	.. ..	„	2	3
„ „ B large „	.. ..	„	2	9
Nuts AA, A and B	.. ..	„	2	1
Bright Metal (Dental Alloy):—				
Size A A small, $\frac{7}{8}$-inch long	.. ..	„	0	$7\frac{1}{2}$
„ A medium „	.. ..	„	0	$7\frac{1}{2}$
„ B large „	.. ..	„	0	$7\frac{1}{2}$
Nuts AA, A and B	.. ..	„	0	6
Crown Metal, size A A small, $\frac{5}{8}$-inch long	.. ..	„	2	1
„ „ A medium „	.. ..	„	2	6
„ „ B large „	.. ..	„	2	11

[The composition of Crown Metal is not given by the manufacturers of these posts.—C. A. & S.]

Pins, for setting Logan's Crowns, made of platinum	..	„	1	11
Nash's Crown Pin in Dental Alloy	..	„	0	9
„ „ „ Platinum	..	„	2	9

COMPRESSED HICKORY WOOD,

FOR PIVOTING, &c.

		s.	d.
In Sticks, drawn to a convenient size, supplied in boxes containing 18 Sticks	per box	1	0

PIVOTING INSTRUMENTS.

(Mr. Balkwill's.)

Mr. Balkwill's method of pivoting teeth consists of screwing a metal tube into the stump, and fixing the artificial crown on to a split pin. It is fully described in Chapter VI. of his book on "Mechanical Dentistry," from which he has kindly given us permission to take the directions for use.

The instruments illustrated are made from patterns which Mr. Balkwill submitted to us in 1880. They are supplied in two sizes, large and small. The small, shown in the engraving, are intended for use on laterals and bicuspids, and the large for use on centrals and canines.

Pins and Tubes adapted for the instruments are also supplied in large and small sizes. The Pins are made of platinum, and the Tubes with platinum stem and gold shoulder.

When ordering either the Instruments or extra Pins and Tubes, please be careful to state which size is required.

Description:

Fig. 1. Twist Drill for enlarging the nerve cavity.
This can be had for use with the Dental Engine if desired.

„ 2. Square Screw Tap for forming the screw socket in the nerve cavity.

„ 3. Mitred Screw Tap for completing the thread.

„ 4. Key for screwing the platinum tube into the root.

„ 5. Fine-pointed Excavator for inserting pellet of wool to guard the canal, and for removing the same after the platinum tube is screwed in position.

„ 6. Socket Handle for holding the pin while bending it to the required angle. A tube and split pin are shown over the top of Fig. 6.

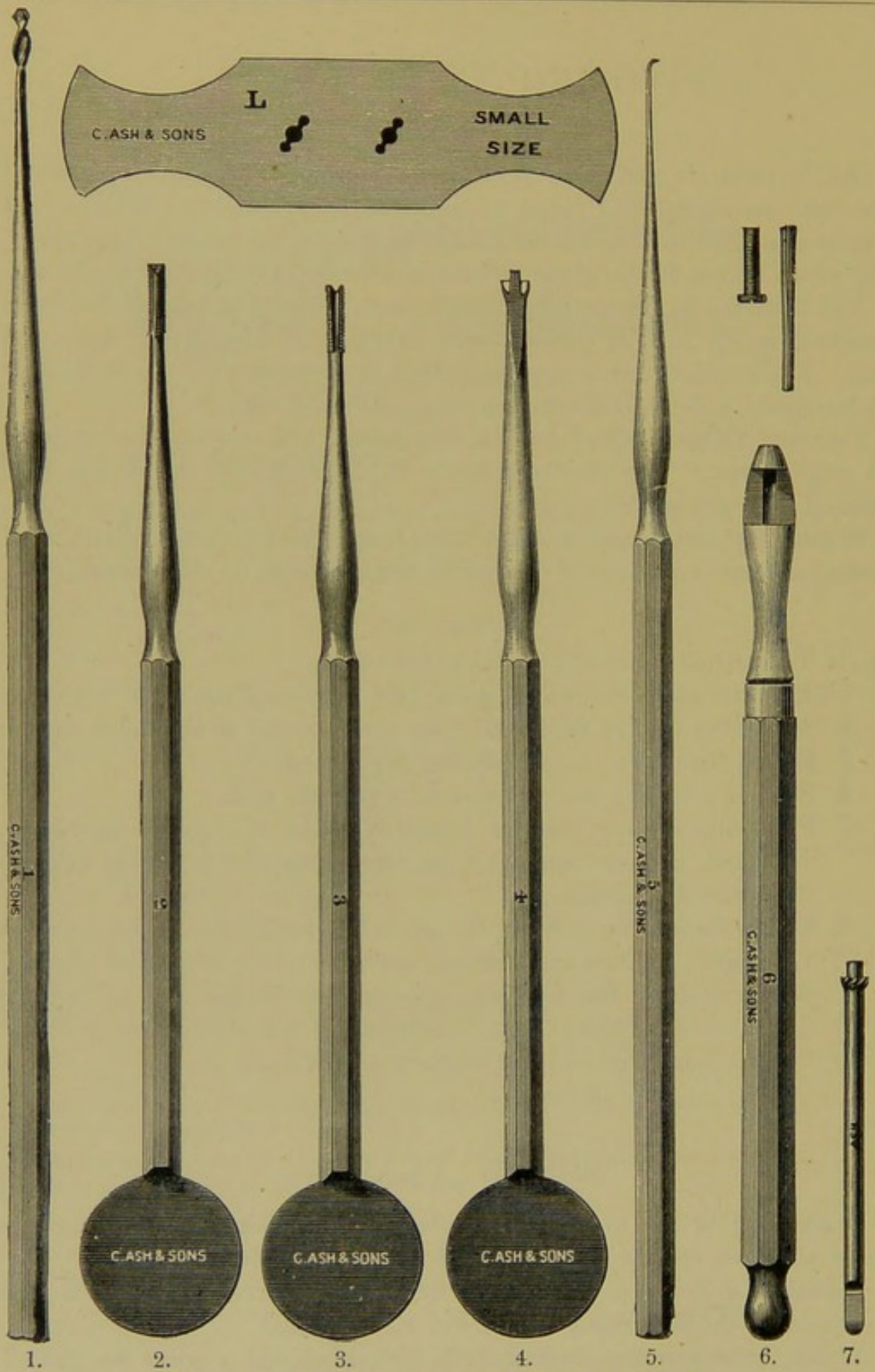
„ 7. Countersinking Bur for forming a shoulder in the root to receive the head of the tube, so that when it is screwed into position the head will be level with the top of the root.

SCREW PLATE.

A screw-plate for making the tubes (or, if necessary, reducing the size of those we supply) is given with each set of instruments.

Caution.—Before screwing the tube into the root, see that it will pass through the hole marked L on the screw-plate.

If the tube requires reducing in size, it should always be passed through the hole L before any attempt is made to put it through the other hole, which is smaller than L.



1. 2. 3. 4. 5. 6. 7.

Directions for use sent with each Set.

For prices see next page.

BALKWILL'S PIVOTING INSTRUMENTS—*continued.*

Prices:

	s.	d.
Pivoting Instruments, large or small size (Figs. 1–6), per set	10	6
Countersinking Bur ,, ,, ,, (Fig. 7), extra	1	6
Twist Drill for Engine ,, ,, ,, ... ,,	1	0
Pins and Tubes, large or small size .. .. .. each	4	6
Separately: Pins only, large or small size .. ,,	2	9
Tubes ,, ,, ,, ,, .. ,,	2	0

The Pins are made of Platinum, and the Tubes with Platinum stem and Gold shoulder.

Ten per cent. allowed off Pins and Tubes when purchased by the dozen.

The Instruments can be had in Leather Cases at the following prices:—

	s.	d.
Single set of Instruments, large or small size (Figs. 1–6)	10	6
Countersinking Bur ,, ,, ,, (Fig. 7)	1	6
Twist Drill for Engine ,, ,, ,, ...	1	0
Leather Case, blocked, to take the above and with a compartment for holding large or small Pins and Tubes ..	8	0
Complete	21	0

Double set of instruments, consisting of:—

	s.	d.
1 each Twist Drills for hand, large and small (Fig. 1) 1 ,, Square Screw Taps ,, ,, (,, 2) 1 ,, Mitred ,, ,, ,, ,, (,, 3) 1 Key for screwing the Platinum Tubes into the root (,, 4) 1 Fine pointed Excavator .. .. .. (,, 5) 1 Socket Handle for holding the Pins while bending them .. .. (,, 6) 1 each Twist Drills for Engine, large and small 1 ,, Countersinking Burs ,, ,, (,, 7)	24	6
Leather Case to hold the above, and with two compartments for large and small Pins and Tubes	10	6
Complete	35	0

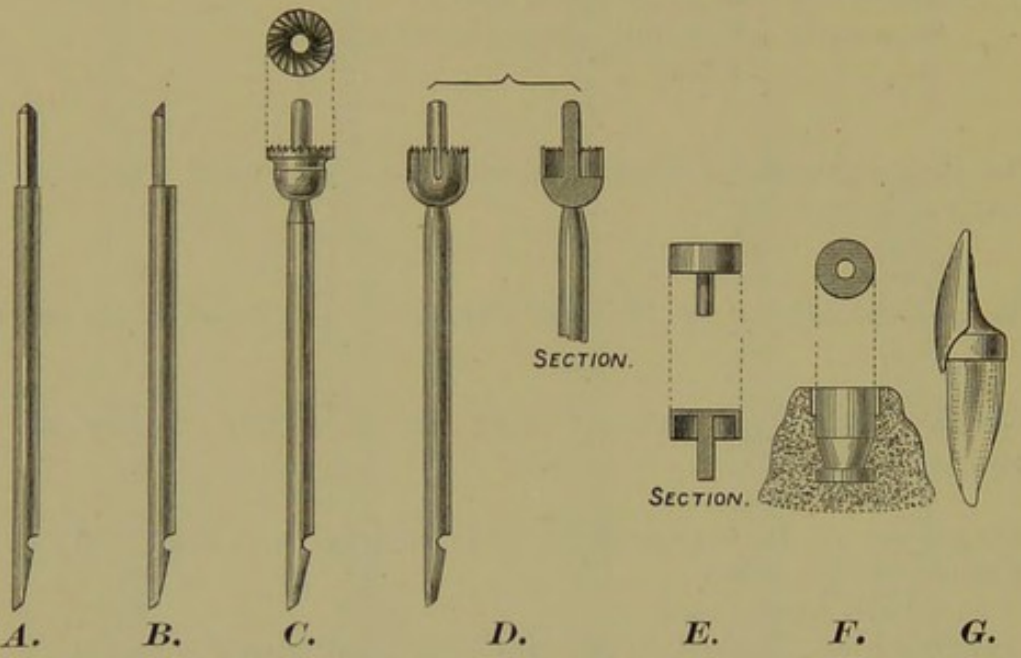
Circulars containing full directions for using the instruments sent on application.

BÜTTNER'S PIVOTING INSTRUMENTS.

(PATENTED.)

MANUFACTURED BY C. ASH & SONS.

Consisting of: 2 Drills .. .. Fig. ***A***
2 Broaches .. .. „ ***B***
7 Levelling Instruments .. .. .. „ ***C***
7 Shaping „ .. .. .. „ ***D***
7 Pairs of Brass Roots .. .. „ ***F***



A. ***B.*** ***C.*** ***D.*** ***E.*** ***F.*** ***G.***

Dr. Büttner's method of pivoting consists of the use of circular metal caps of various sizes, upon which the mineral crowns are mounted, and of rotating instruments which shape the roots so as to exactly fit these caps.

After the decayed crown of the tooth is cut off and the nerve is destroyed, the nerve cavity is drilled out and enlarged by the instruments ***A*** and ***B.*** Then the surface of the root is levelled to a right angle with the nerve cavity by means of the cutting or planing instrument ***C***; when this is done, the outer part of the root is shaped to fit the circular cap ***E*** by means of the cutting instrument ***D.*** (The seven sizes of caps are shown on page 48.)

These caps upon which the mineral crowns are mounted are numbered to correspond with the numbers on the cutting instruments, No. 1 being the largest and No. 7 the smallest, so that, for example, a metal cap marked No. 1 will fit a root prepared by the instrument marked No. 1, and so on with all the numbers. Each cap has a pin soldered in the centre, which goes into the hole in the root made by the drill ***A.***

The straight pins of steel wire heretofore supplied with the instruments have been superseded by the headed brass caps illustrated on the next page.

HEADED BRASS CAPS.

(Introduced by Mr. ARTHUR E. BALL, of Boscombe.)

Fig. 1.—Headed Brass Cap and diagram of the seven sizes in which it is made.

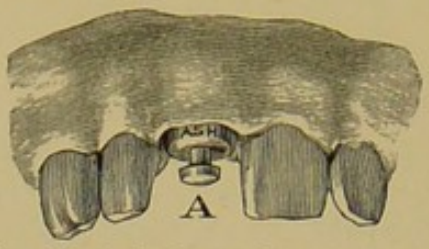


Fig. 2.—Headed Brass Cap A *in situ* on prepared natural root, preparatory to impression taking.

After the plaster model is made and the cap is removed, the brass root is ready for receiving the gold cap, no trimming being required as when a steel pin is used.

Mr. Ball thus describes their use and advantages:—

"After preparing the root with the levelling and shaping instruments, I mount on it a headed brass cap (Fig. 2 A) to correspond in size with the gold cap I intend to use, and, keeping it quite dry, take the impression. The brass cap is held firmly in the impression material by its head, and on to the pin in the cap I mount the brass root which corresponds in size and pour the plaster. I may say it is a decided advantage to drop a little hot wax down the hole in the centre of the brass root; this holds it to the pin in the cap and prevents it moving while pouring the plaster. If the operator prefers, the brass root can be dispensed with altogether, but if a *long pin* gold cap is to be used, it is, I think, better to retain it.

"The advantages I claim are that the resulting model shows the brass cap in exactly the position the gold cap is to occupy, there is no film of plaster over the face of the brass root, which is often the case after taking an impression (no matter what the material) when one of the straight pins is used, and the model requires absolutely no trimming to allow the gold cap to fit right home. Further, no impression tray of special pattern is required."

Fig. F on page 46 shows a brass root embedded in the plaster model. As will be observed from the illustration, the brass root is reduced in size at the lower end to secure a firm hold in the plaster.

Fig. G, also on page 46, shows a natural root with an artificial crown fitted to it. The crown is secured to the root by means of a little thin Osteoplastic stopping put into the cup around the upper part of the pin in Fig. E.

Prices:

	s.	*d.*
The set of 18 instruments for any Handpiece, seven pairs of brass roots, and set of seven headed brass caps complete, in leather case	60	0
Headed Brass Caps separately, any size or assorted each 9*d.*; per set of 7	5	0

GOLD CAPS AND PLATINUM CAPS,

FOR BÜTTNER'S METHOD OF PIVOTING.

Cap with long pin.

Cap with short pin.

Sizes: 1. 2. 3. 4. 5. 6. 7.

These are made with *long* and with *short* pins, in seven different sizes, as here illustrated, to correspond with the instruments invented by Dr. Büttner.

		s.	*d.*
Gold Caps with long pins, any size or assorted ..	each	3	0
,, ,, short ,, ,, ,, ..	,,	2	6
Platinum Caps with long pins, any size or assorted	,,	3	9
,, ,, short ,, ,, ,,	,,	3	0

PLATINUM CAP WITH CROWN PIN.

SUITABLE FOR USE WITH CROWNS WHICH ARE BACKED WITH OUR HIGH OR LOW FUSING GUM BODY.

		s.	*d.*
Made in Sizes 1 to 7 as shown above	each	4	6

GOLD AND PLATINUM CAPS WITHOUT PINS.

(Suggested by Mr A. E. BALL, of Boscombe.)

These are made in the seven sizes shown above, but without pins, and with a hole tube-size in the face of each to allow of tube teeth being used for crowns with all the advantages of the Büttner method. Mr. Ball thinks they will commend themselves to practical crowners.

		s.	*d.*
Gold Caps without pins, any size or assorted ..	each	1	6
Platinum Caps ,, ,, ,, ..	,,	1	9

Any of the above Caps less 10 per cent. by the dozen.

For size 0 Cap, etc., see next page.

DIAMOND REAMERS,

FOR HOLLOWING OUT THE BACKS OF MINERAL TEETH SO THAT THEY WILL FIT THE CAPS.

S. *M.* *L.*

These Reamers are made in three sizes to suit the various sizes of Caps. They are designed for use on the engine or lathe, camphorated turpentine being recommended as a lubricant.

	s.	*d.*
Diamond Reamers for any Handpiece, large, medium, or small .. .. each	3	0

When ordering Büttner's Instruments, or Diamond Reamers for Engine, say for which Handpiece they are required.

BÜTTNER'S METHOD OF PIVOTING—*continued.*

EXTRA SIZE CAP AND INSTRUMENTS.

Size O.

In response to a demand for a larger size of Cap than No. 1, we have introduced the size here illustrated, which is known as No. O.

It is shown separately from the set of seven, for the information of those operators who already have the Büttner outfit, and for convenience in ordering by those who may or may not desire to have it in addition to the set of seven mentioned on the three preceding pages.

Prices:

	s.	d.
Gold Cap with long pin, size O	3	0
„ „ „ short „ „ O	2	6
„ „ without pin „ O	1	6
Platinum Cap with long pin, size O	3	9
„ „ „ short „ „ O	3	0
„ „ without pin „ O	1	9
„ „ with Crown pin „ O	4	6
Root Leveller, size O, Fig. ***C,*** page 46	3	6
„ Shaper „ O, „ ***D,*** „ 46	3	6
Brass Root „ O	0	6
„ Cap „ O	0	9

Any of the above Caps less 10 *per cent. by the dozen.*

DENTAL-ALLOY ROOT-CAPS.

(Mr. W. H. Moore's.)

Registered. Register No. 269,607.

1. 2. 3. 4. 5. 6.

Fig. 1. Cap with pin complete.
„ 2. Cap and pin for round roots.
„ 3. Cap with pin off centre for oval roots.
„ 4. Cap with pin in centre for oval roots.

These Caps are intended for pressing the gum away from roots that are to be crowned, and the success that Mr. Moore has had with them leads him to believe that they will be generally appreciated.

They are made in three forms, as shown in illustrations, Figs. 2, 3, 4, which will be found suitable for nearly all cases.

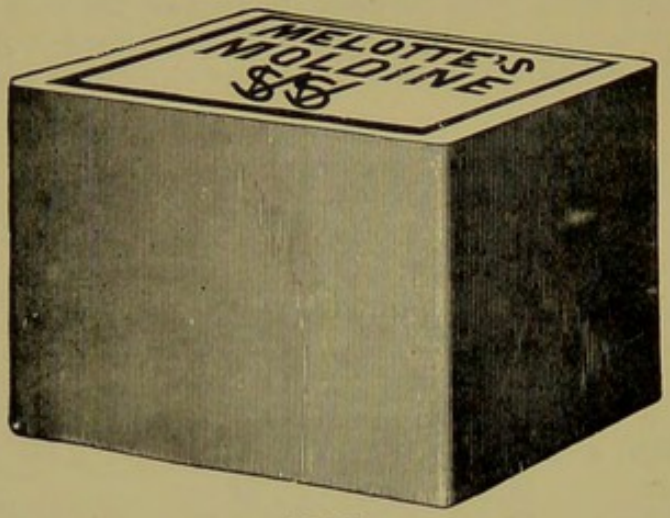
	s.	d.
Price of Caps, in sets of 3, with directions for use .. per set	2	0

For Lennox's Dowel-Crown Outfit, see Impression Tray Pamphlet.

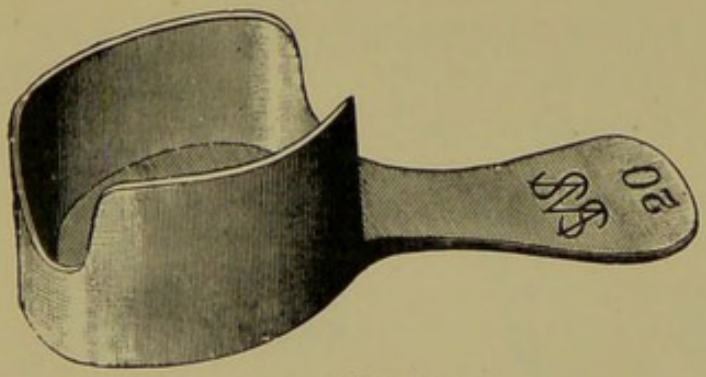
MOLDINE OUTFIT,

CONSISTING OF MOLDINE, IMPRESSION CUP, INDIA-RUBBER RING AND FUSIBLE METAL FOR CROWN DIES AND COUNTER DIES.

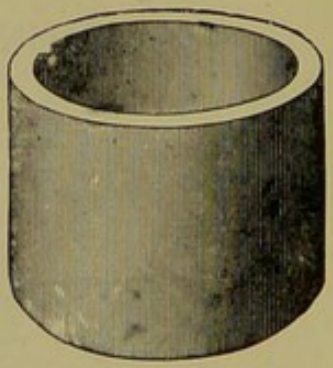
(Dr. Melotte's.)



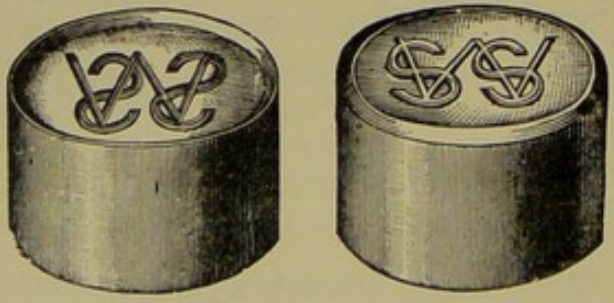
Moldine.



Impression Cup.



Rubber Ring.



Fusible Metal Ingots.

MELOTTE'S MOLDINE OUTFIT.

Directions for Use.

Success in forming and fitting gold crowns and bridge-work to natural teeth and roots depends largely on the models obtained. These can be quickly and accurately made by means of Moldine, which retains its plasticity for months and is always ready for instant use. The method of manipulation is as follows:—

Dry the teeth or roots to be copied and keep them dry. Nearly fill the cup with Moldine; dust over it some soapstone powder, and with firm pressure secure an exact impression of the teeth, using great care in removing the cup.

Trim off the surplus Moldine and stretch the rubber ring over the edge of the cup. Melt some fusible metal in a ladle or large iron spoon over the flame of a spirit lamp, and pour it over the Moldine to fill that half of the ring. So soon as the metal hardens, withdraw the cup and Moldine from the ring, and make the die (still enclosed by the ring) cold with ice-water.

Melt some more of the fusible metal, and with something like a spoon-handle stir it until it is cooled to near the point of stiffening; then pour and scrape it into the ring over the die to form the counter-die, and immediately cool by pouring on cold water.

Remove the rubber ring, when with a few taps the die will separate from its counter. If it sticks it is because the die was not cold, or the last metal was poured hot instead of when partly cooled. A film of glycerine on the die will also prevent sticking.

A little practice will enable one to thus produce a die and its counter-die in less than five minutes after taking the impression.

Devices for regulating teeth and for other purposes may be immediately struck up by these means.

When soldering a gold cap to a collar, it may first be filled with Moldine, which will prevent the solder from flowing on the inside of either the collar or cap.

Moldine will serve as an investient for the impromptu soldering of an additional tooth to a metal plate, or for any other emergency of repair.

By merely indenting Moldine, an ingot mould of the desired size and shape for any melted metal may at once be made.

MOLDINE STIFFENS BY USE—MOISTEN IT WITH GLYCERINE.

Prices:

	s.	d.
Moldine Outfit complete, consisting of Moldine, Impression Cup, Rubber Ring, and Two Ingots of Fusible Metal	5	3
Extra Moldine in ½-lb. packets .. .. .. per packet	1	8
„ Impression Cups .. .. each	1	0
„ Rubber Rings .. .. „	0	3
„ Fusible Metal Ingots .. .. „	1	3

COLLAR-CROWN OUTFIT.

(Mr. R. P. Lennox's.)

Fig. 1.

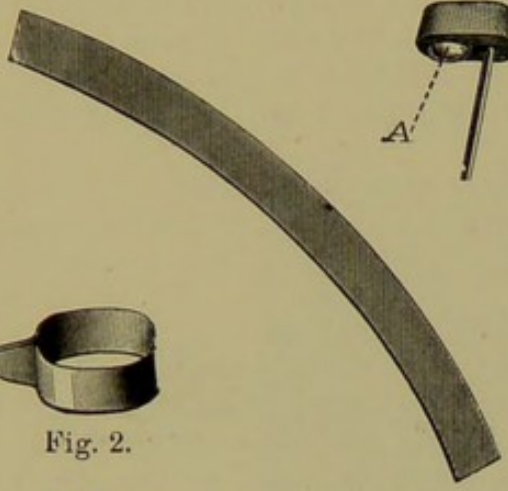


Fig. 2.

Fig. 3.

Fig. 4.

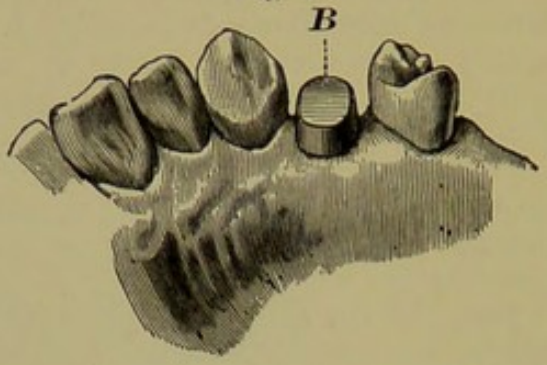


Fig. 5.

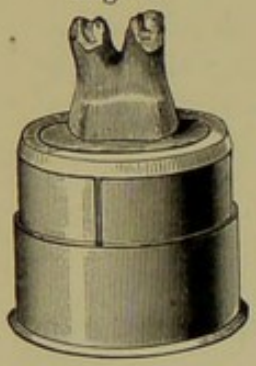


Fig. 6.

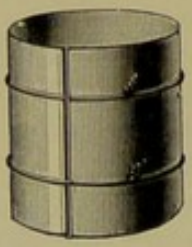


Fig. 7.

Fig. 8.

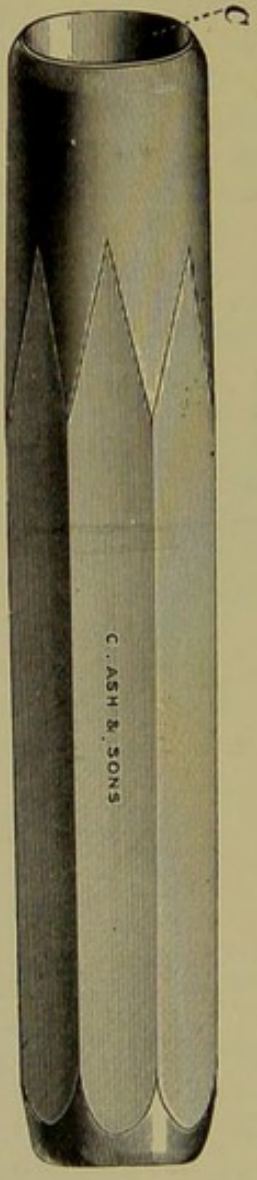
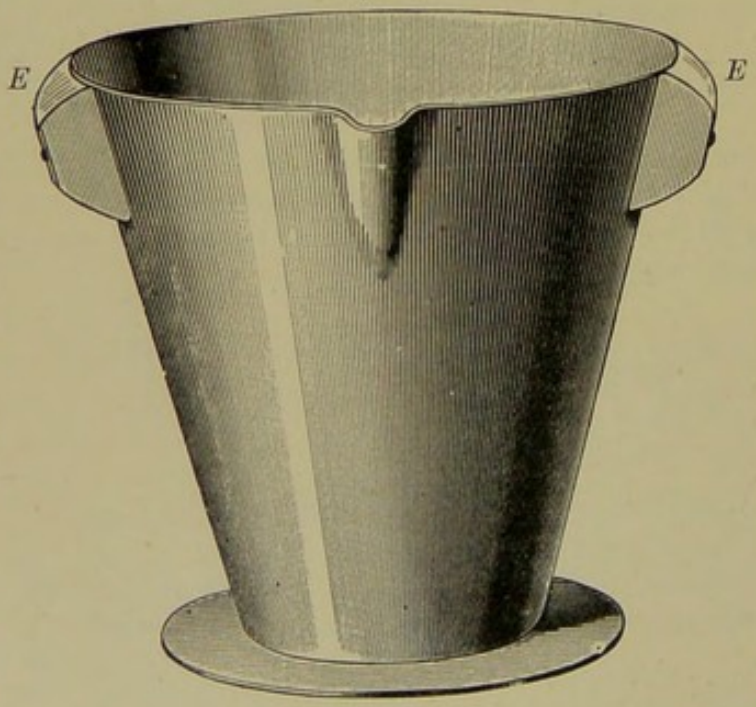


Fig. 11.



COLLAR-CROWN OUTFIT—*continued.*

(Mr. R. P. Lennox's.)

Description.

Fig. 1. Strip of copper cut to shape for measuring the natural root, and obtaining a mandrel for shaping the collar.

„ 2. The same after removal from the root.

„ 3. Mandrel obtained from Fig. 2 with pin and boss A.

„ 4. Shows Fig. 3 *in situ* at B on the plaster model, ready for use in shaping the gold collar to which the crown is to be soldered.

„ 5. Shows mould A holding a split copper ring filled with King's Crown Composition, in which is imbedded a natural tooth crown downwards.

„ 6. Shows a second split copper ring, which is placed over the tooth in Fig. 5, and into which fusible metal is poured from the cup, Fig. 11.

„ 7. Shows the Crown Die thus produced.

„ 8. Steel Punch drilled out at C to receive Crown Die, Fig. 7.

„ 9. Shows a method of securing the crown to the collar by means of a piece of binding wire for the purpose of soldering.

„ 11. Pouring Cup for Fusible Metal. For method of using, see *Directions for use* enclosed in each outfit.

„ 22. Excavator, spade-shaped. See *Directions for use.*

„ 23. Pliers with curved chops for grasping the strip of copper, Fig. 1, about a molar root.

Fig. 9.

Fig. 23.

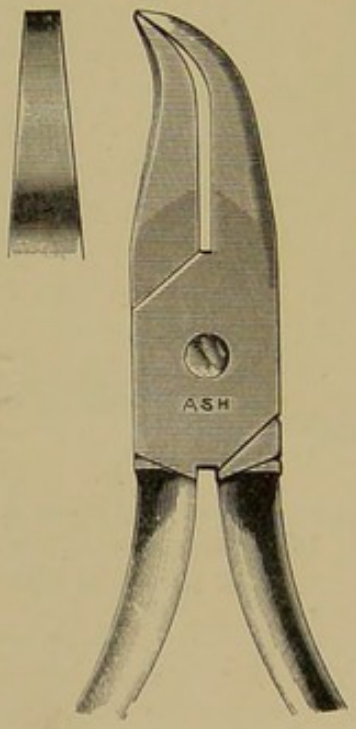


Fig. 22.

Prices:

		s.	d.
Copper Strips	(Fig. 1) two doz.	1	6
(Extra Copper Strips, per doz. 9*d.*)			
Mould and Split Rings	(Figs. 5, 6) per set	1	3
Steel Punch for holding Crown Dies ..	(Fig. 8) each	2	9
Pouring Cup	(„ 11) „	2	9
Excavator	(„ 22) „	0	9
Pliers with Curved Chops	(„ 23) „	2	3
Complete		11	3

Materials for use with the above:

		s.	d.
King's Crown Composition in ½-lb. boxes	per lb.	5	0
Fusible Metal in bars of about 1 lb.	per bar	8	0

(This Metal can be used over and over again.)

OUTFIT FOR MAKING NEW VULCANITE PLATES

AND

A FUSIBLE METAL ARTICULATOR.

(Mr. R. P. Lennox's.)

This Outfit consists of the Pouring Cup (Fig. 11, page 52) and the Spade-shaped Excavator (Fig. 22, page 53) in addition to the following articles.

Fig. 15.

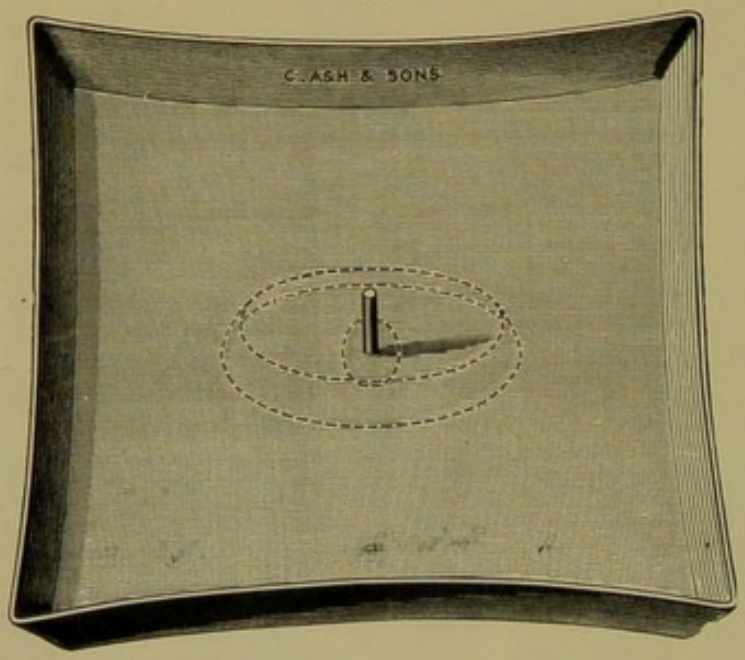


Fig. 16.

Fig. 17.

Fig. 15 is a tray for making an articulator.
„ 16 is a small oval tray adjustable about the post in the centre of Fig. 15.
„ 17, split tube and disc for securing Fig. 16 in position.

Directions for Use enclosed in each Outfit.

Prices:

	s.	*d.*
Pouring Cup, Fig. 11, page 52	2	9
Articulator Tray complete, as shown in Figs. 15, 16, 17	5	6
Excavator, Spade-shaped, Fig. 22, page 53	0	9
Complete	9	0

Materials for Use with the above:

		s.	*d.*
* King's Crown Composition in ½ lb. boxes	per lb.	5	0
Fusible Metal in bars of about 1 lb.	per bar	8	0

(This Metal can be used over and over again.)

* This is also an excellent material for taking impressions of the mouth; it gives a sharper impression even than plaster, has a delightful aroma when softened, does not adhere to the impression tray, and does not require renovating.

OUTFIT FOR THE REPAIR OF VULCANITE PLATES.

(Mr. R. P. Lennox's.)

This Outfit consists of the Pouring Cup (Fig. 11, page 52), the Spade-shaped Excavator (Fig. 22, page 53), and some strips of thin Celluloid, in addition to the Die Frame and Washer (Figs. 12 and 13) here shown.

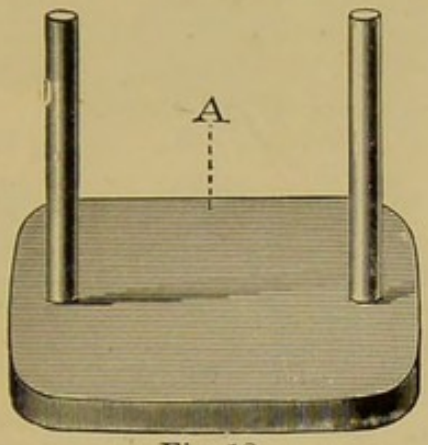


Fig. 12.

Fig. 13.

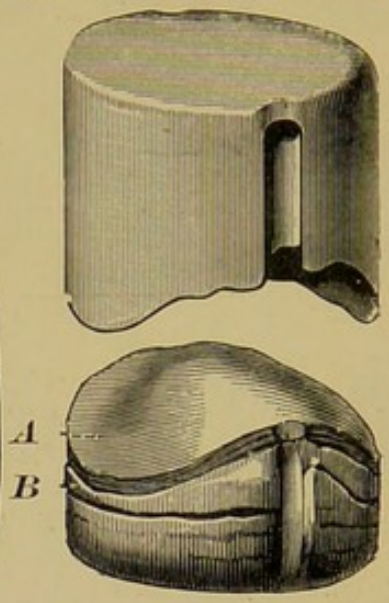


Fig. 14.

Fig. 12 represents a frame to facilitate the casting of a die and its counterpart, and the striking up of a gold plate for repairing a vulcanite plate.

Fig. 13 represents a washer to be used as explained below, under Fig. 14.

Fig. 14 represents one of the dies obtained by the use of the apparatus shown in Figs. 12 and 13. The part A (Fig. 14) is a cast in fusible metal of a wax disc applied to the vulcanite plate at the part to be repaired. This cast is set face downwards in a layer of clay on the plate A (Fig. 12), a ferrule is made by winding and tying a strip of celluloid round the posts (Fig. 12), and fusible metal B is poured in to unite with and strengthen A (Fig. 14). The die (Fig. 14, A, B) is then placed face upwards between the posts (Fig. 12), and a counterpart is cast. To strike up the gold plate, the washer (Fig. 13) is first placed upon the plate (Fig. 12), then the die, the gold plate and the counter-die in the order named, the washer serving to raise the end of the counter sufficiently above the posts for the hammer to be used.

Directions for Use enclosed in each Outfit.

Prices:

	s.	d.
Pouring Cup, Fig. 11, page 52	2	9
Die Frame and Washer (Figs. 12, 13)	2	0
Excavator, Spade-shaped, Fig. 22, page 53	0	9
Celluloid in strips	0	6
Complete	6	0

Materials for use with the above:

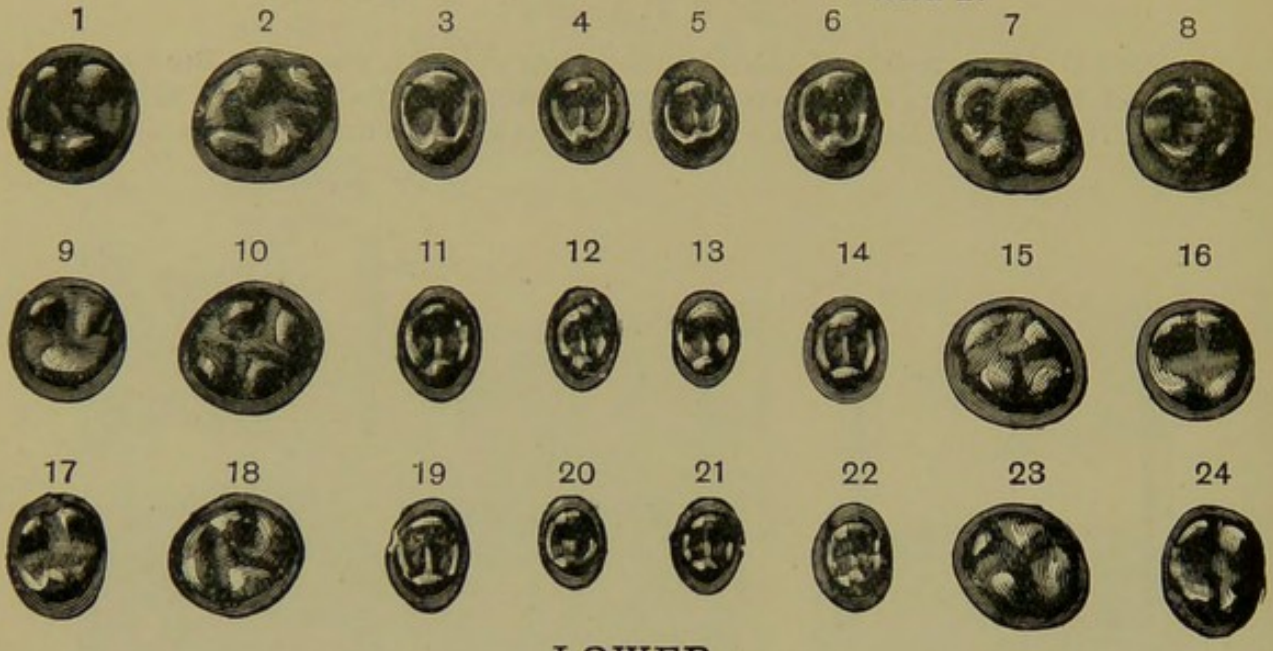
	s.	d.
King's Crown Composition in ½-lb. boxes .. per lb.	5	0
Fusible Metal in bars of about 1 lb. .. „ bar	8	0

(This Metal can be used over and over again.)

JÜTERBOCK'S SEAMLESS GOLD CROWNS.

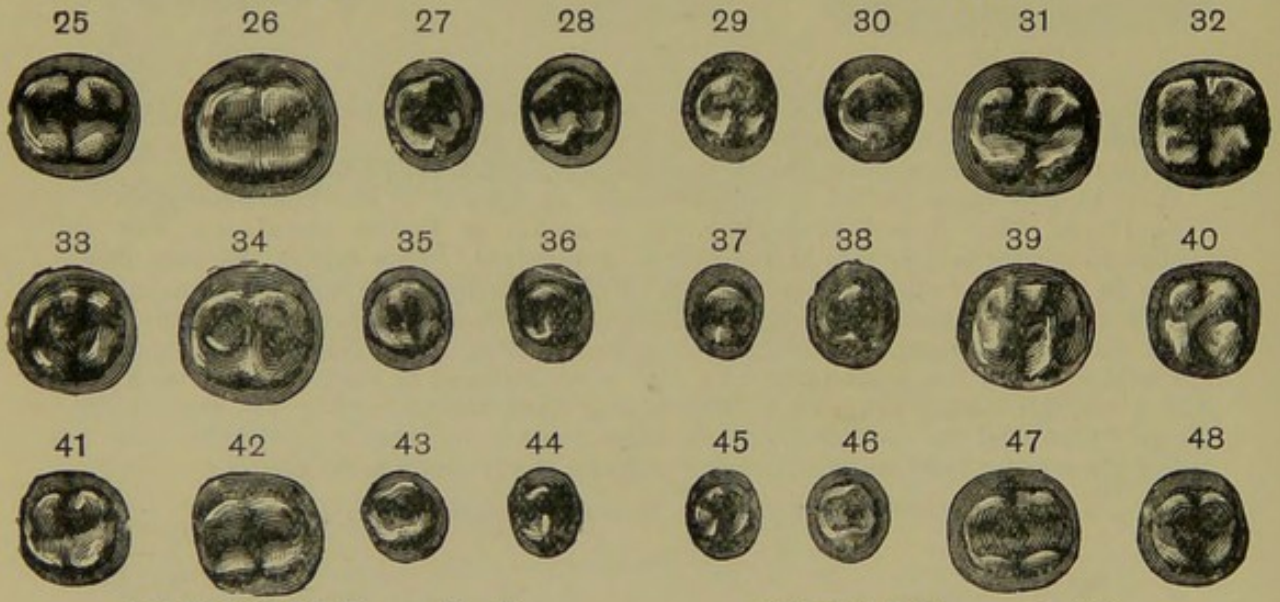
UPPER.

RIGHT. LEFT.



LOWER.

LEFT. RIGHT.



BICUSPIDS, each 8s. **MOLARS, each 10s.**

The outer edge in the above Illustrations represents the exact size of the *base* of the Crowns.

These Crowns are made of absolutely fine Gold with a small addition of pure Platinum, which gives them great hardness and strength, and prevents the possibility of any oxidation.

They are struck in one piece from the sheet metal, no solder whatever being used in their manufacture; they are made in a variety of sizes to meet every ordinary requirement, but should any special Crown be required, it can be supplied, within two days, from any cast, at an extra cost of 2*s*.

In ordering it is only necessary to give the number of Crown required.

Double Crowns for movable Bridgework made to order.

IMPROVED GOLD CROWN DIES.

(Dr. G. W. Melotte's.)

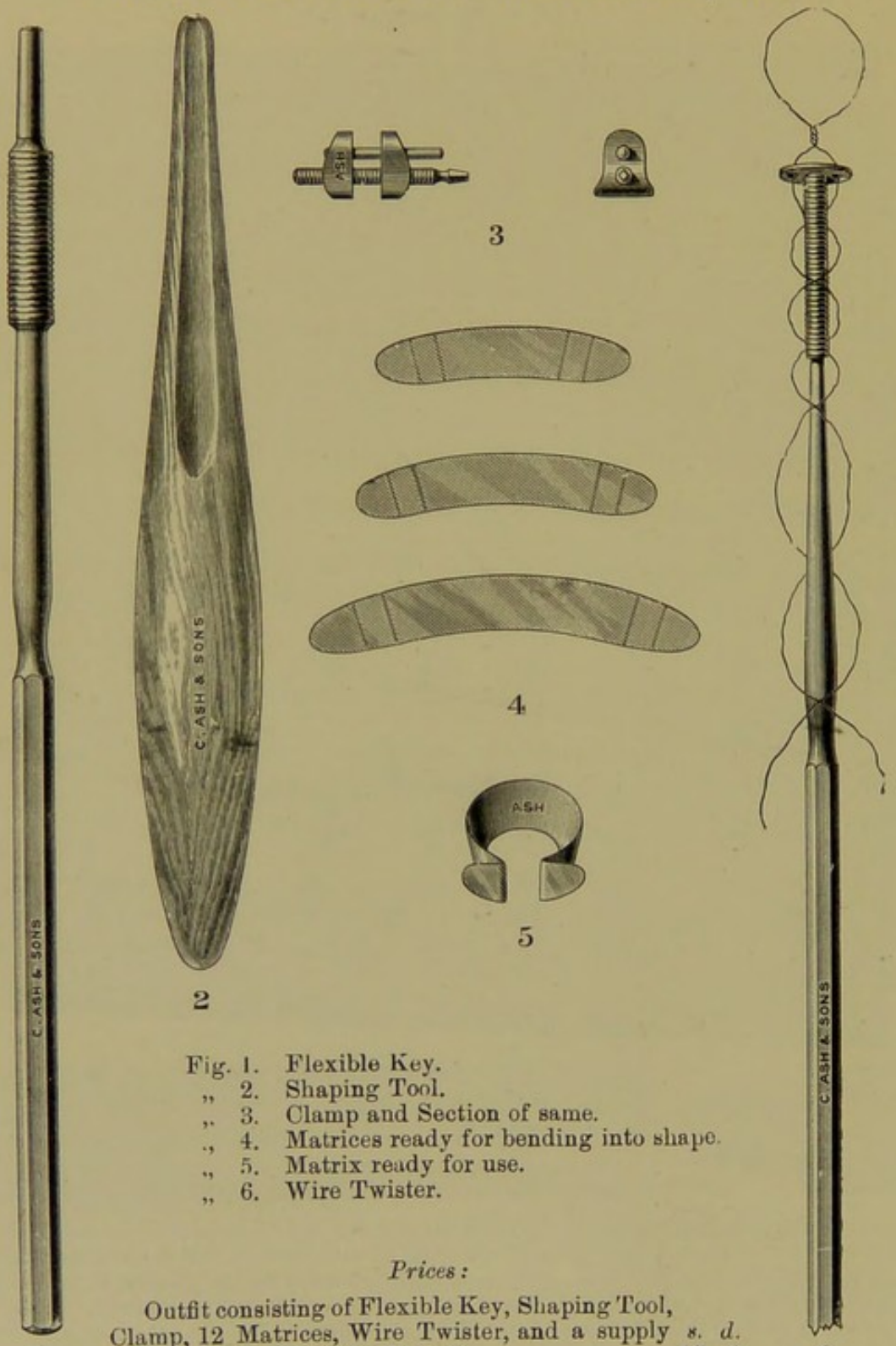
The notable points claimed by Dr. Melotte for his set of Improved Crown Dies are convenience and compactness. The set consists of sixteen dies and a handle or holder. The die-heads are provided with a shank to fit the socket in the holder, in which it is held securely by a spring. The die heads are of bronze, the handle of steel.

The set is put up in a neat case, 6 by 3¼ by 1⅜ inches.

		s.	*d.*
Price	per set	25	0
Crown-Die Plate (American), latest form		12	6
Hub Mould ,, ...		4	2

Directions for use are supplied with these. Illustration sent on application.

LENNOX'S CLAMP MATRICES, &c.



1 2 6

Fig. 1. Flexible Key.
„ 2. Shaping Tool.
„ 3. Clamp and Section of same.
„ 4. Matrices ready for bending into shape.
„ 5. Matrix ready for use.
„ 6. Wire Twister.

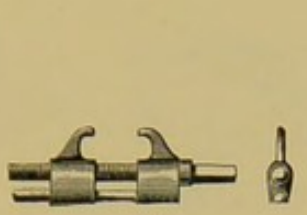
Prices:

			s.	d.
Outfit consisting of Flexible Key, Shaping Tool, Clamp, 12 Matrices, Wire Twister, and a supply of Wire, with directions for use			15	0
Parts separately: Flexible Key ..	(Fig. 1)	each	2	0
Shaping Tool ..	(„ 2)	„	1	0
Clamp	(„ 3)	„	7	6
Matrices	(„ 4)	3 dozen	2	6
Wire Twister ..	(„ 6)	each	2	0

THE LADMORE-BRUNTON CLAMPS AND MATRICES,

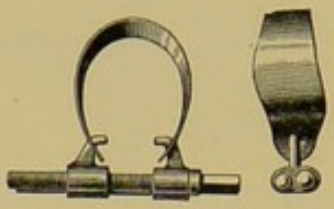
WITH FLEXIBLE KEY.

1.



2.

3.



4.

Fig. 1. Key for adjusting, with steel spiral spring between the upper end and the handle. The Spring admits of the Key being turned when the handle is at right angles to it almost as easily as when it is straight.

„ 2. Clamp with sliding bar parallel with the Screw. As will be seen from the illustration, it forms a miniature parallel vice, the hooks representing the jaws of the vice.

In Figs. 3 and 4 a Clamp is shown in which the sliding bar is placed at right angles to the hooks. This was introduced with the idea of making the clamp lie closer to the tooth, and it is difficult to say which is the better of the two, as they both have points to recommend them.

Either is equally efficient with molar or bicuspid teeth, and each has been used for both gold and amalgam fillings with satisfactory results. The sections on the right hand side of Fig. 2 and Fig. 4 give a clear idea of the position of the sliding bar in the two forms.

„ 3. Shows a Matrix for bicuspids attached to the Clamp.

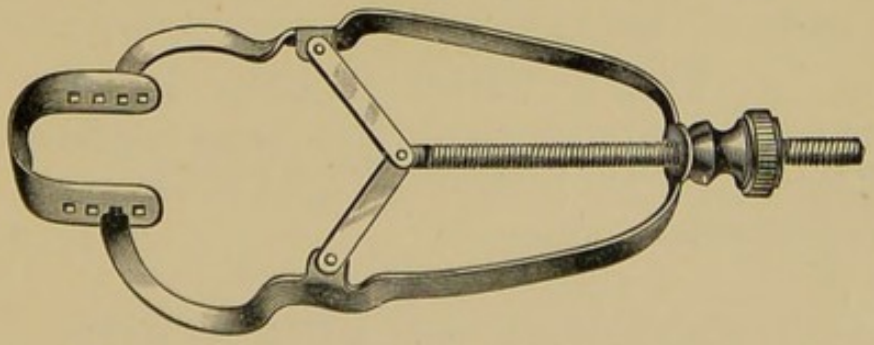
„ 4. Shows a Matrix for molars attached to the Clamp. The depth of this Matrix is given in the section.

Directions for use sent with each set.

Prices :

		s.	d.
One Clamp, either style, nine Matrices and one flexible Key for adjusting, complete		10	6
Separately { Clamps, either style	each	6	0
Separately { Matrices, any size	per doz.	4	6

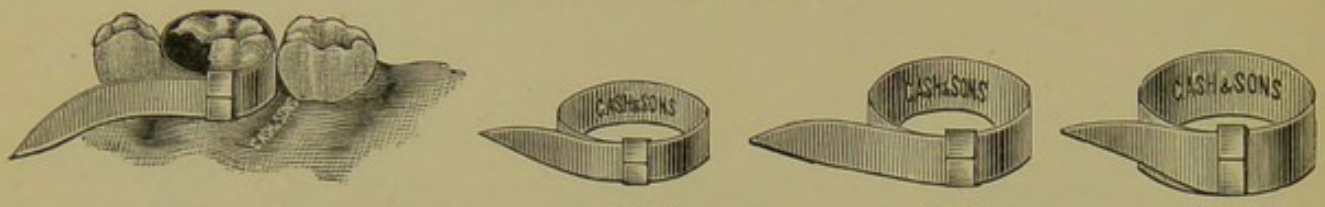
IVORY'S MATRIX RETAINER.



		s.	d.
Price, complete with one dozen steel matrix bands		8	4
Steel Matrix Bands	extra, per doz.	1	0

MATRICES.

(Dr. LEVETT'S.)



4 mm. 6 mm. 8 mm.

The advantages of this very simple matrix are briefly these:—Ease of application to and removal from the tooth under operation. It consists of a pliable band of soft metal with one end shaped to form a loop. As shown in the engraving, it can be drawn tightly round a tooth of any size, by passing the pointed end of the band through the loop, and it is firmly secured in position by bending back the free end over the loop.

		s.	*d.*
It is made in three depths as illustrated .	per doz.	2	0

SPRING MATRICES.

(Dr. HERBST'S.)

1. 2. 3. 4. 5.

These Matrices were first brought to the notice of the Profession by Dr. Herbst previous to April, 1885.

They are intended for use between the Canines, Bicuspids and first and second Molars when filling approximal cavities. Should the spring, in any one of them which may be employed, not be strong enough to keep the matrix firmly in position, it can be thoroughly secured by means of a wooden wedge or thin strip of india-rubber.

It may be well to repeat that the chief point in the Herbst method of filling is to convert all complicated cavities into simple ones, and Dr. Herbst claims that the Matrices shown in the illustration are the simplest and most suitable that can be employed for this purpose between the teeth in the back of the mouth.

		s.	*d.*
Matrices made of Spring Steel, Nickel-plated	(Figs. 1–5) each	1	0

VERY THIN STEEL TAPE.

For Matrices, smoothing fillings, &c. In two widths—narrow, $\frac{1}{4}$ inch wide; broad, $\frac{3}{8}$ inch wide. When ordering please state which is required.

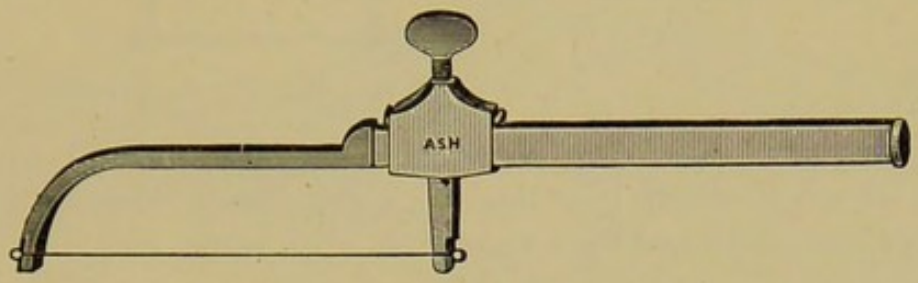
		s.	*d.*
Supplied in one-foot lengths	per foot	0	4

GERMAN SILVER STRIPS.

		s.	*d.*
For Matrices, &c.	per dozen	1	0

STEEL SAW FRAME.

(Mr. R. P. Lennox's.)



6 inches long.

On page 31 of his book Mr. Lennox thus refers to the Saw Frame here illustrated:

"Of instruments for use in the surgery, I may mention a small saw which will cut in a direction at right angles to the plane of its frame, and which is consequently useful for removing the crowns of incisors when the roots are to be crowned.

"Finding the frames of saws of this kind, as supplied by the depôts, deficient in substance, I made one for myself by adapting the frame of a piercing saw. To do this I had merely (1) to shorten, and cut slots in, the sides of the extremities of the frame to receive the saw-blade, and (2) to prevent the blade from pulling out, when in action, by attaching a small bead of solder to either end of the blade.

"This bead is obtained by making the end of the saw-blade bright, dipping it in a solution of zinc chloride, then in melted solder, again melting in the gas-flame the solder which adheres, and tilting the blade so that the solder runs to the end of it and forms the bead desired.

"The blade is, of course, cut in the first instance of such a length that there is just sufficient length left between the beads to suit the frame."

Price:

	s.	*d.*
Saw Frame as illustrated	6	0

MOUTH SAW.

69.

6¾ inches long.

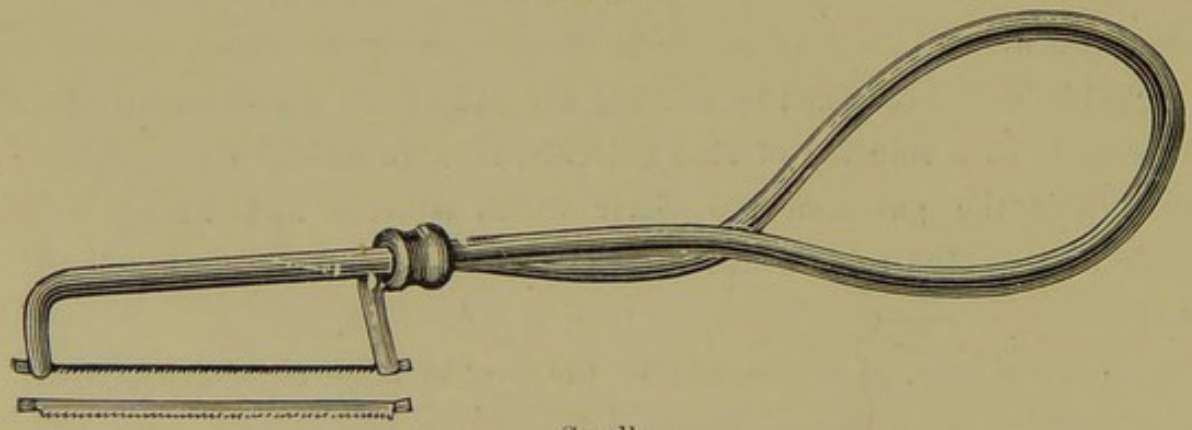
Mouth Saw (Fig. 69). The frame is so contrived that the Saw blades are easily adjusted, either in a line with the frame, or at right angles; the Saw blade is tightened by means of an open screw loop.

		s.	*d.*
In Ivory handle	each	10	6
„ Ebony „	„	9	0
Saw blades, all sizes	per doz.	0	4
„ „	per gross	3	0

MOUTH SAWS.

(Mr. Kaeber's.)

Large.

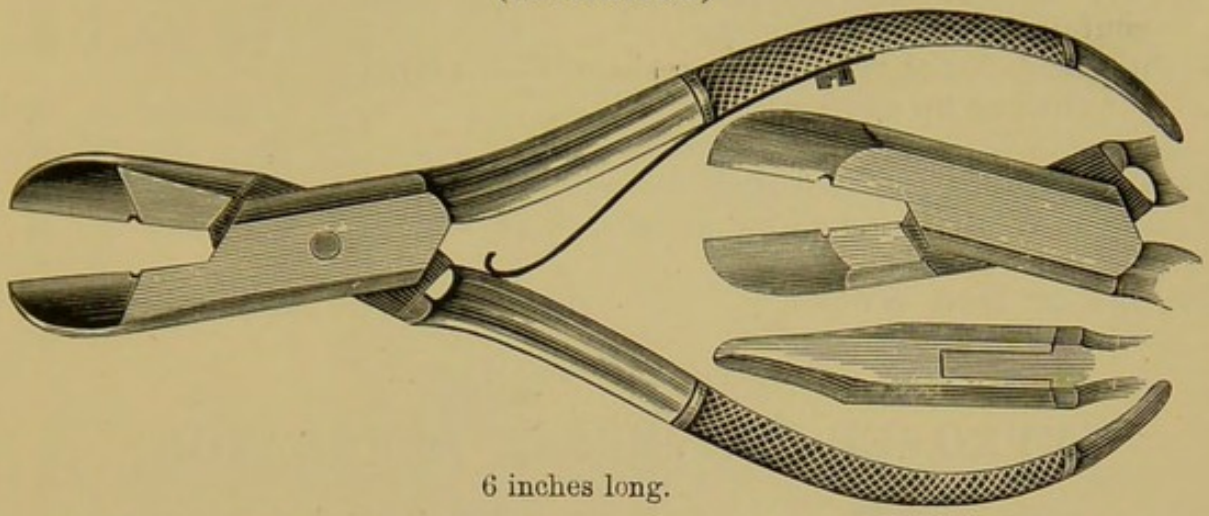


Small.

		s.	*d.*
Mouth Saws for finishing fillings, &c.:—			
Large size (Kaeber's), Nickel-plated	each	3	0
Small „ „ „	„	2	6
Saw blades for the above	per doz.	1	0

WEDGE CUTTERS.

(Dr. Miller's.)



6 inches long.

For cutting the wooden wedges which are used in regulating teeth. The illustration shows the inside and outside of the blades, and a side view of the same.

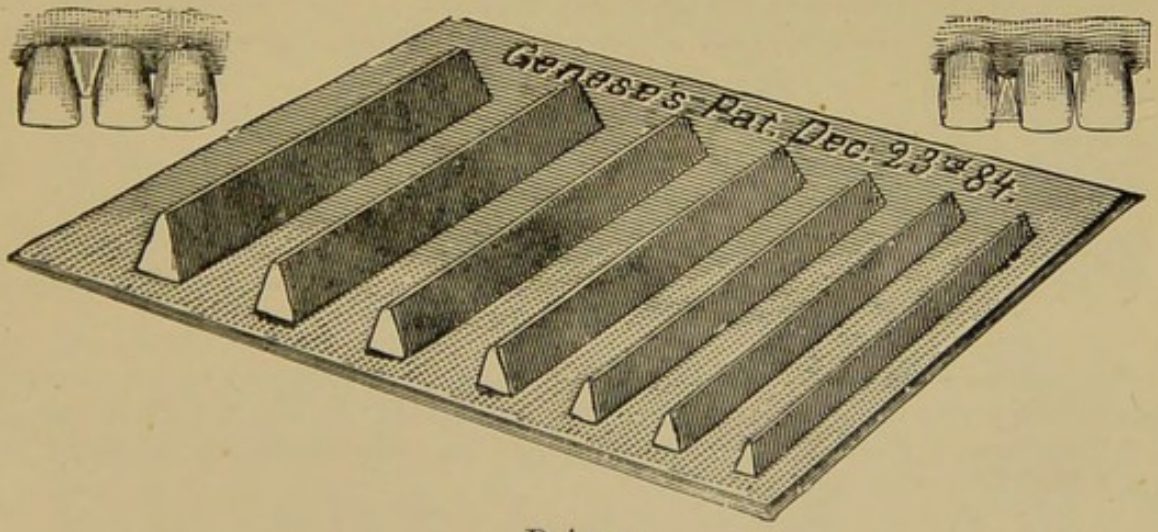
		s.	*d.*
In Steel, highly polished, with checkered handle ..	each	9	6
„ „ Nickel-plated	„	10	6

GRADUATED RUBBER WEDGES,

FOR SEPARATING TEETH.

(Dr. Genese's.)

Made in seven different sizes. The strips are two inches long, and are put up in boxes containing thirty assorted sizes. Made in two colours, black and white.



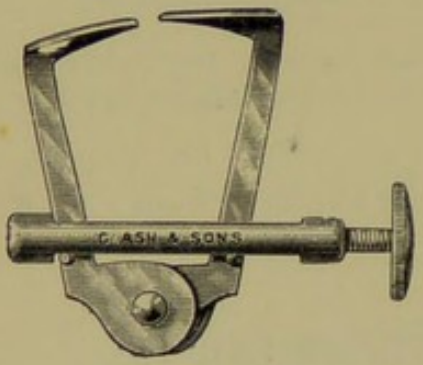
Prices:

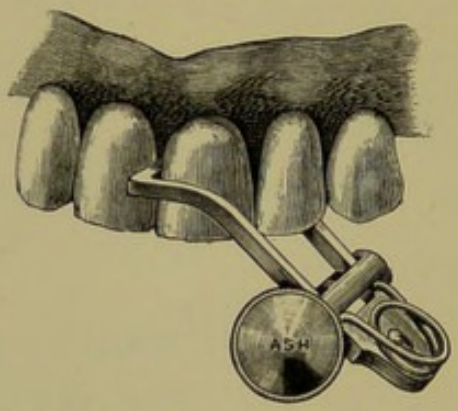
		s.	*d.*
Black graduated Rubber Wedges	per box	2	0
White „ „ „	„	2	6

SEPARATING MATERIALS.

		s.	d.
Rubber Separating Strips (American), in boxes, containing assorted widths	per box	1	0
Regulating Rubber (Red), in sheet, best quality, for cutting up as required	per oz.	0	9
„ „ „ „	„ lb.	11	0
Elastic Bands, assorted sizes, for regulating ..	„ box	0	10
Hickory Wood for making wedges, in blocks ..	per block	0	6
Sycamore „ „ „ „ ..	„	0	6
Orange or Dog Wood „ in sticks ..	per bundle	0	3

IMPROVED UNIVERSAL SEPARATOR.





The following advantages are claimed for this Separator:—

1. It will separate any two teeth, in either jaw, on either side.
2. It is extremely simple to manipulate, the regulating screw being always under the immediate control of the Operator.
3. It is less painful in its application than the majority of Separators.
4. It interferes very little with the Operator's work.
5. **It takes up no more room at the cervical edge** than an ordinary wooden wedge.
6. It is inexpensive.

		s.	d.
Price, Nickel-plated	each	7	0

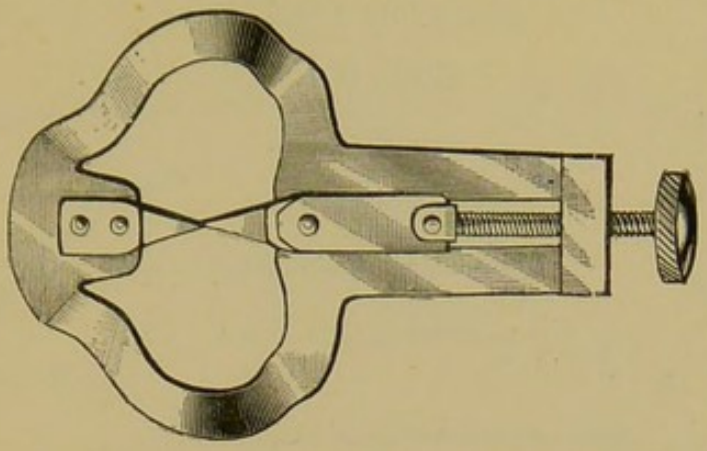
PERRY'S SEPARATORS.

Six sizes (A, B, C, D, E, F). A, for separating molars; B, for separating molars from bicuspids; C, for the bicuspids; D, for the front teeth; E, for separating the first bicuspid from the cuspid; F, for incisors too small for D.

		s.	d.
Price	each	14	6
Key for applying	„	5	3

Other shapes of Separators obtained to order.

IVORY'S DOUBLE-BOW SEPARATOR.



This Separator is easily adapted to front or back teeth. The force of the screw being applied direct can be turned with the thumb and finger with very little effort. The bevelled sides of the wedges, facing the gum, prevent any slipping of the instrument when the wedges catch the teeth; unnecessary pressure on the gum is thus avoided, and both gum and rubber-dam are held well away from the margin of the cavity.

Circular sent with each Clamp.

	s.	*d.*
Price, with extra wedge point for molars	14	6

PLIERS.

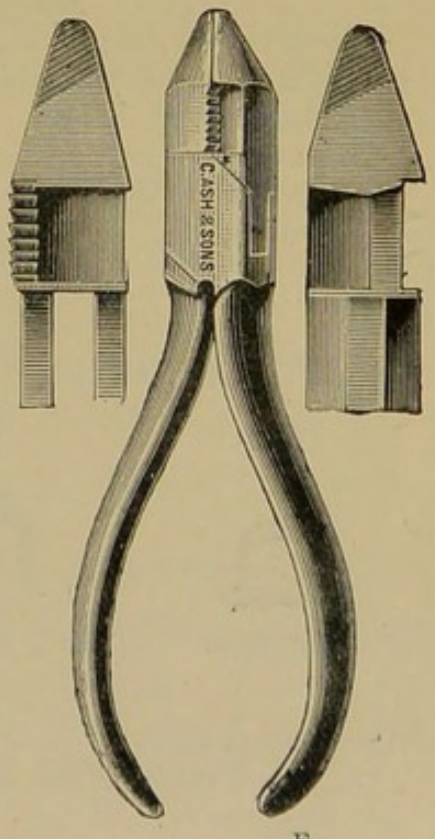
For cutting and bending the steel wire used in Dr. Coffin's system of regulating.

This illustration is taken from a copy furnished by Dr. McKellops, of St. Louis, Mo.

The pointed chops here shown are generally preferred by dentists in this country to the broad fat chops with which the tool is also made. We can supply either form to order, although we only keep this in stock.

In the engraving the Pliers are shown half size and the Chops full size.

	s.	*d.*
Price in bright steel .. each	4	0

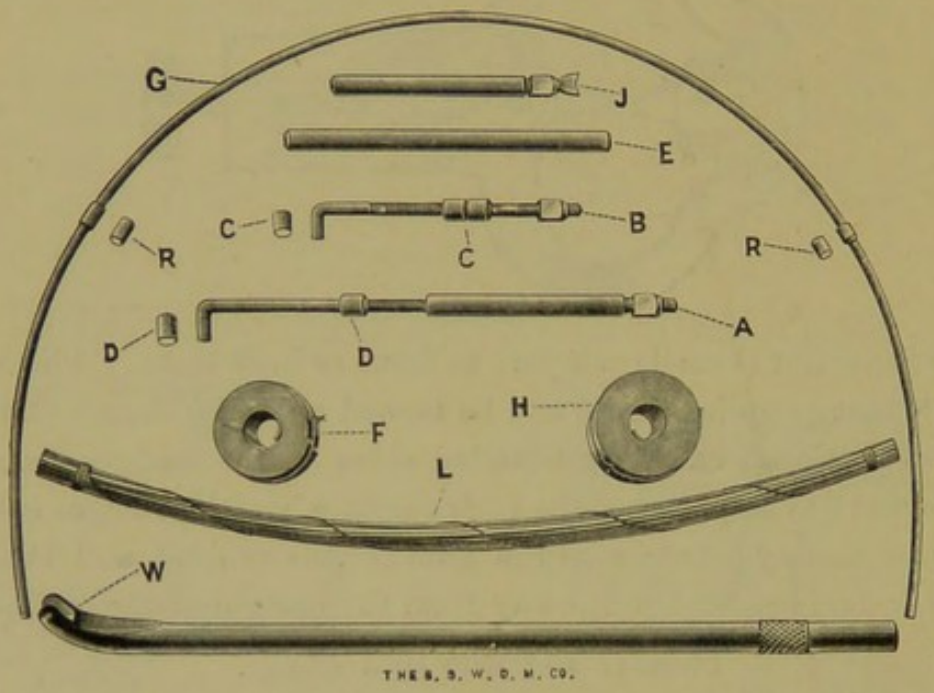


F

PATENTED REGULATING APPLIANCES.

(Dr. E. H. ANGLE'S.)

SET No. 1.

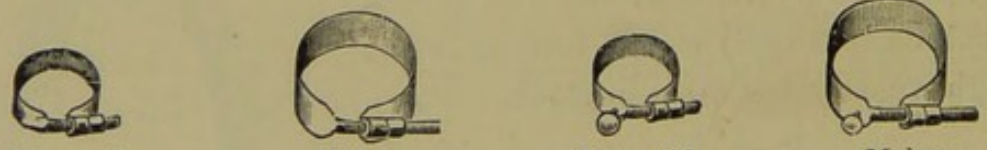


	s.	d.
Set No. 1 complete, including 100-page descriptive book	20	10
Parts separately :—		
Traction Screw, *A* and *D*	5	3
„ „ *B* and *C*	4	2
Jack-Screw, *E* and *J*	4	2
Coils of Band Material, *F* and *H* .. .. .. each	2	1
Retaining Wire, *G*	2	1
Rotating Levers, *L* .. .. per ½ doz.	1	0
Retaining Pipes, *R* .. .. set of ten	3	2
Wrench, *W*	0	8

EXTRA PARTS.

ADJUSTABLE CLAMP BANDS FOR BICUSPIDS AND MOLARS.

Fig. 1. Fig. 2. Fig. 3. Fig. 4.



Bicuspid. Molar. Bicuspid. Molar.

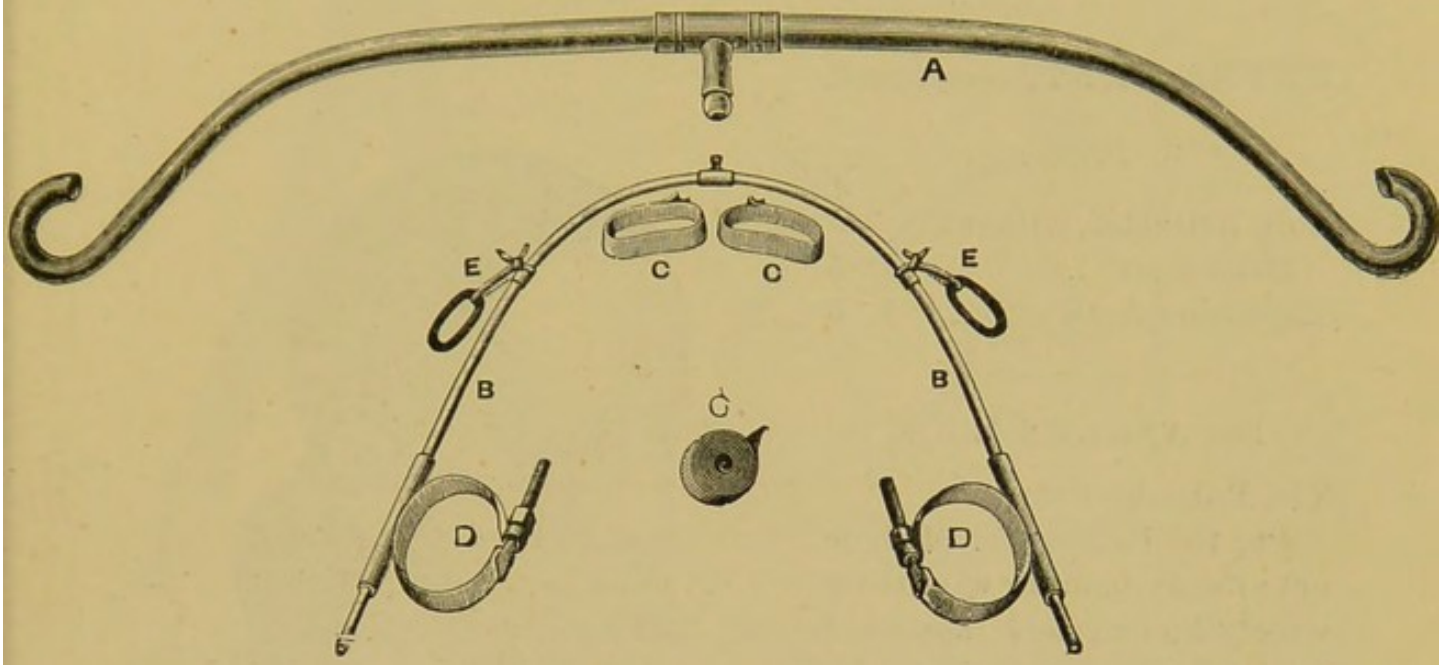
Prices :

		s.	d.
Adjustable Bands	(Figs. 1, 2) each	4	2
„ Fracture Bands	(„ 3, 4) „	4	7

PATENTED REGULATING APPLIANCES—*continued.*

(Dr. E. H. ANGLE'S.)

SET No. 2.



	s.	d.
Set No. 2, complete, including 100-page descriptive book ..	27	0
Parts separately:—		
Traction Bar, *A*	8	4
Wire Arch, *B*	6	3
Anchor Bands and Pipes, complete, *D*	6	3
Coils of Band Material .. .. each	2	1
Heavy Elastic Bands .. .. set of six	0	5
Wrench	0	8

Head Gear.

EXTRA PARTS.

Price:

	s.	d.
Head Gear with Heavy Elastic Bands	16	8

The illustration shows the Traction Bar *A*, which is not included in the above price.

PATENTED REGULATING APPLIANCES—*continued.*

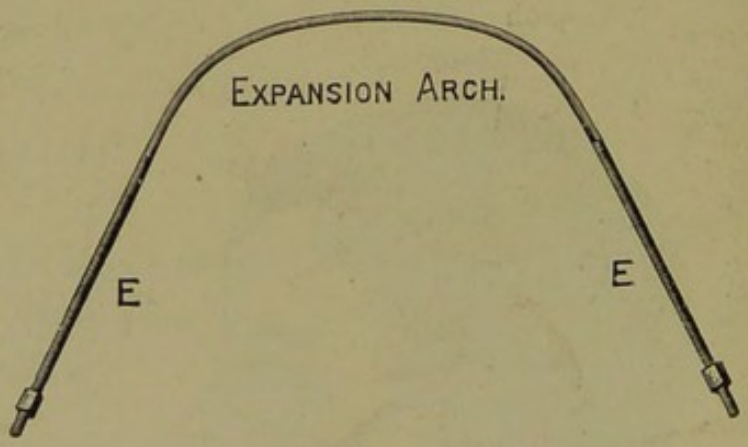
(Dr. E. H. ANGLE'S.)

EXTRA PARTS—*continued.*

Chin Retractor.

Prices:

	s.	d.
Chin Retractor, without Head Gear	10	5
Expansion Arch ..	6	3



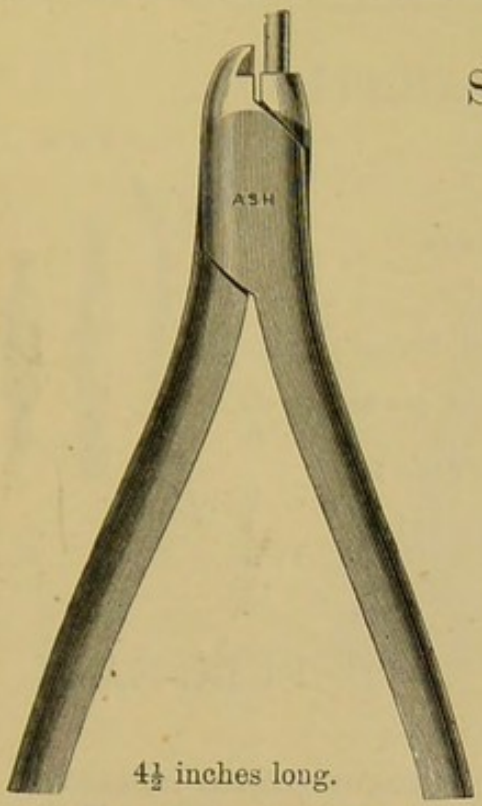
Dr. ANGLE'S BOOK.

The Publishers say:

For the information of those not already familiar with these widely-known and approved ready-made appliances for teeth regulation and retention and the reduction of jaw fractures, the 100-page book supplied with each full set, as here illustrated, contains instructions and cuts showing practical cases, and carefully covering in detail the methods for the easy adoption of these appliances to either the simplest or most complicated cases arising in practice. On the other hand, the most expert practitioners will find, in this fourth edition, new matter and methods profusely illustrated and described. The book should be a manual for ready reference in every dental office and laboratory.

Prices:

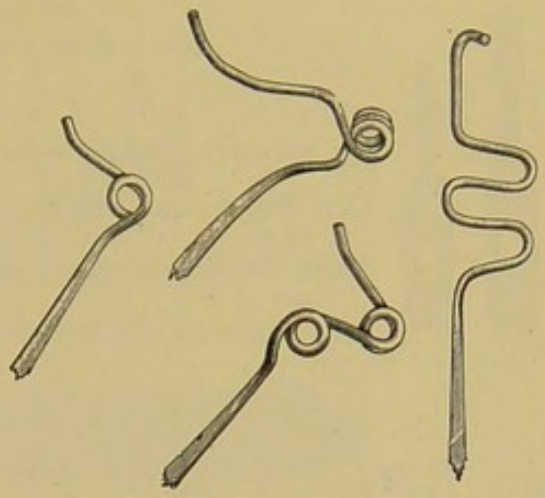
		s.	d.
Fifth Edition, in Paper Covers	net	3	3
„ „ **Cloth** „	„	4	3



4½ inches long.

SPRING-MAKING PLIERS.

(Introduced by Mr. G. NORTHCROFT.)



Different forms of Springs made with the Pliers.

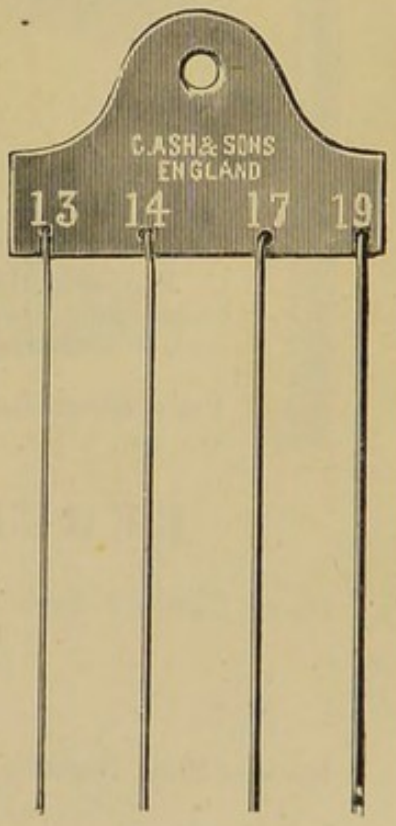
"These Pliers," states Mr. Northcroft, "are after a design of Prof. W. H. Dorrance, and will be found to greatly simplify the bending of pianoforte wire into Talbot coils, etc., for regulation cases. The springs produced by them are bent evenly and symmetrically, and are hence much neater and more efficient in use than springs that are made with a tool that is not specially adapted for the purpose."

The springs illustrated are drawn from patterns kindly furnished by Mr. Northcroft.

	s.	*d.*
Price of Pliers	4	6

STEEL WIRE,

FOR Dr. COFFIN'S SYSTEM OF REGULATING.



Supplied in 6-inch lengths in four sizes, Nos. 13, 14, 17, 19. No. 19 is the largest and No. 13 the smallest. Made up in packets of one dozen lengths, any size.

		s.	*d.*
Price	per packet	0	4

Note.—If desired, the wire can be had gilt at an extra charge of 1*s.* 6*d.* per packet.

The Set of Sizes, mounted as here illustrated, sent free of charge on application.

REGULATING APPARATUS.

Old Style.

1. 2. 3.

JACK SCREWS.

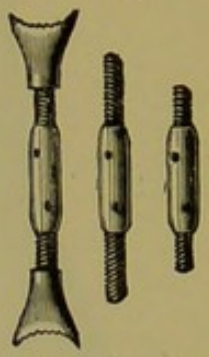
Ranges:

No. 1, from 1 to 1½ inches.
„ 2, „ ⅞ „ 1⅜ „
„ 3, „ ¾ „ 1¼ „

For regulating teeth, made of Steel, Nickel-plated.

	s.	*d.*
Old Style, complete as illustrated, per set of 3	12	0
New Style, complete as illustrated, per set of 3	7	6
Extra Bars for the New Style, Nickel-plated each	1	6

New Style.

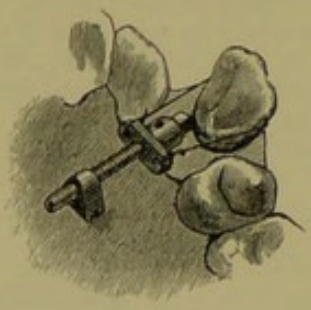


1. 2. 3.

REGULATING SCREW AND PULL-BACK.

(Dr. Lee's.)

For drawing irregular teeth inwards.



The appliance consists of screw bar, regulating nut, attachment plate, pillar, and key. **It is made in two sizes—large and small,** the large size being illustrated.

The pillar is vulcanized in the rubber plate, which is fitted in the mouth as shown in the illustration; then the screw bar is attached to it, a wire band is passed through the holes in the attachment plate, and the regulating nut is screwed up by means of the key.

	s.	*d.*
Price, either size, Nickel-plated, with key ..	5	6

THE LEE-BENNETT JACK SCREW.

For pushing irregular teeth outwards. Made in two sizes—large and small. Applied and worked in the same manner as the above, and, if desired, can be attached to the same vulcanite plate.

	s.	*d.*
Price, either size, Nickel-plated, with key	5	6

REGULATING EXPANDER.

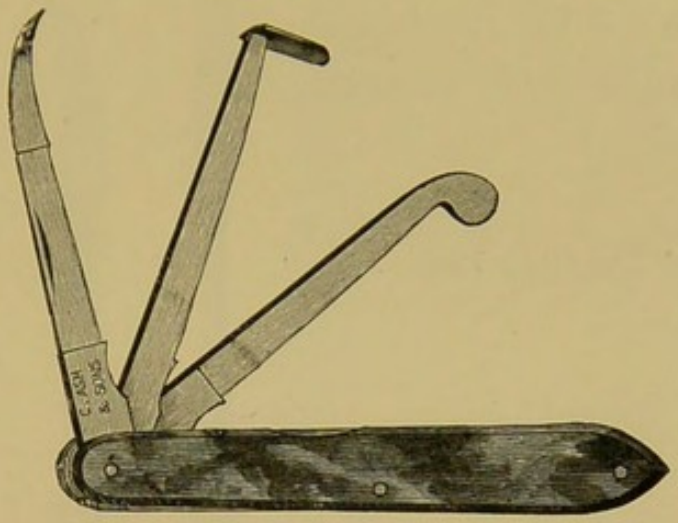
(Mr. Robertson's.)

Large size.

Made of Steel, Nickel-plated, and supplied in two sizes, large and small.

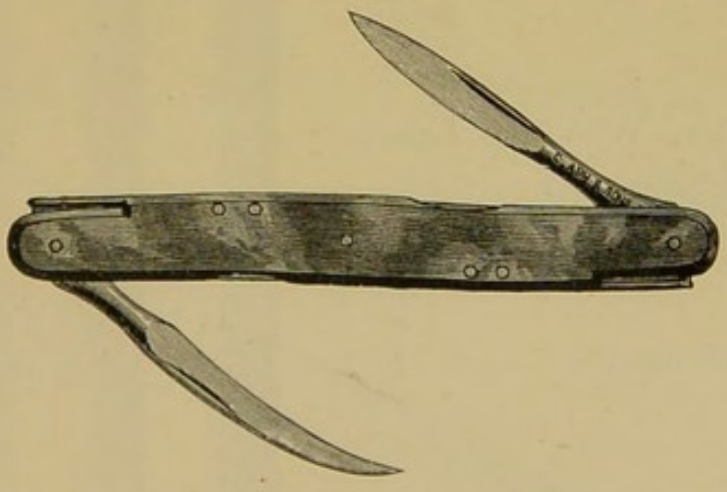
	s.	*d.*
Price, any size .. .. each	7	0

LANCETS.



	Blades.					
	1.		2.		3.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
Lancets, for pocket, in Tortoise-shell handles, each	2	6	4	0	5	6

SYMES—PAGET'S KNIFE.



With two Blades and Spring Stops, best make.

		s.	*d.*
In Tortoise-shell handle	each	7	0

Other Lancets made or obtained to order.

LANCETS FOR ABSCESSES, &c.

Figs. 1 and 2 for opening abscesses, trimming and smoothing fillings, &c.

		s.	*d.*
In blued Steel handles	each	1	0

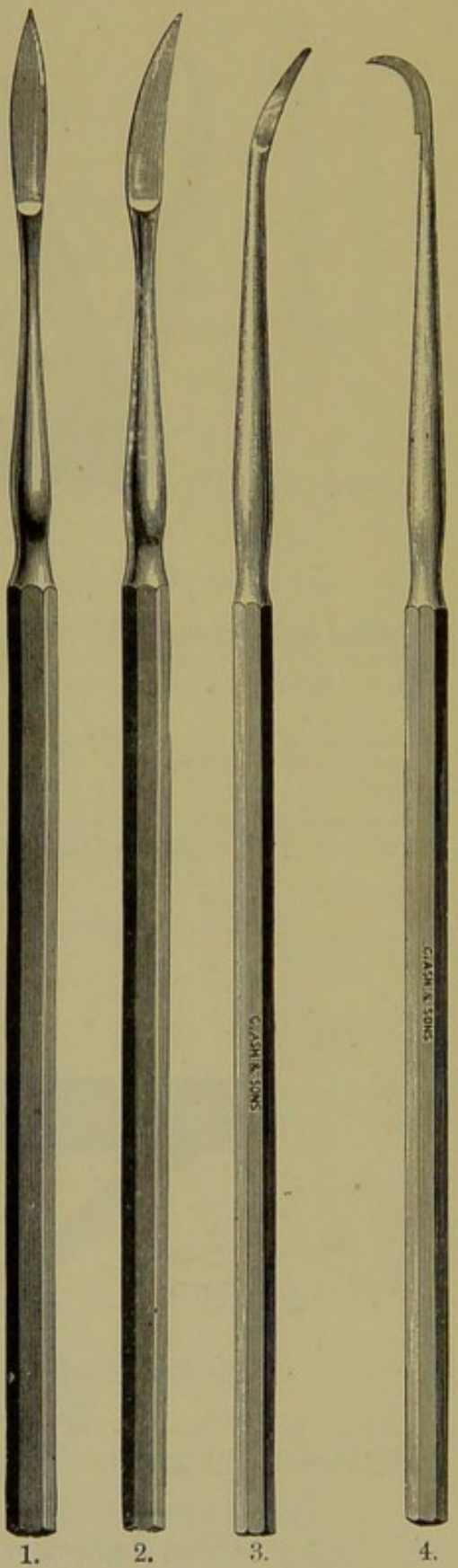
Fig. 3 (Dr. Dally's) for abscesses and for general use in the operating room.

		s.	*d.*
In blued Steel handle	each	1	3

Fig. 4 (Dr. Witzel's), ligature knife. Used for cutting silk or thread, and for other purposes.

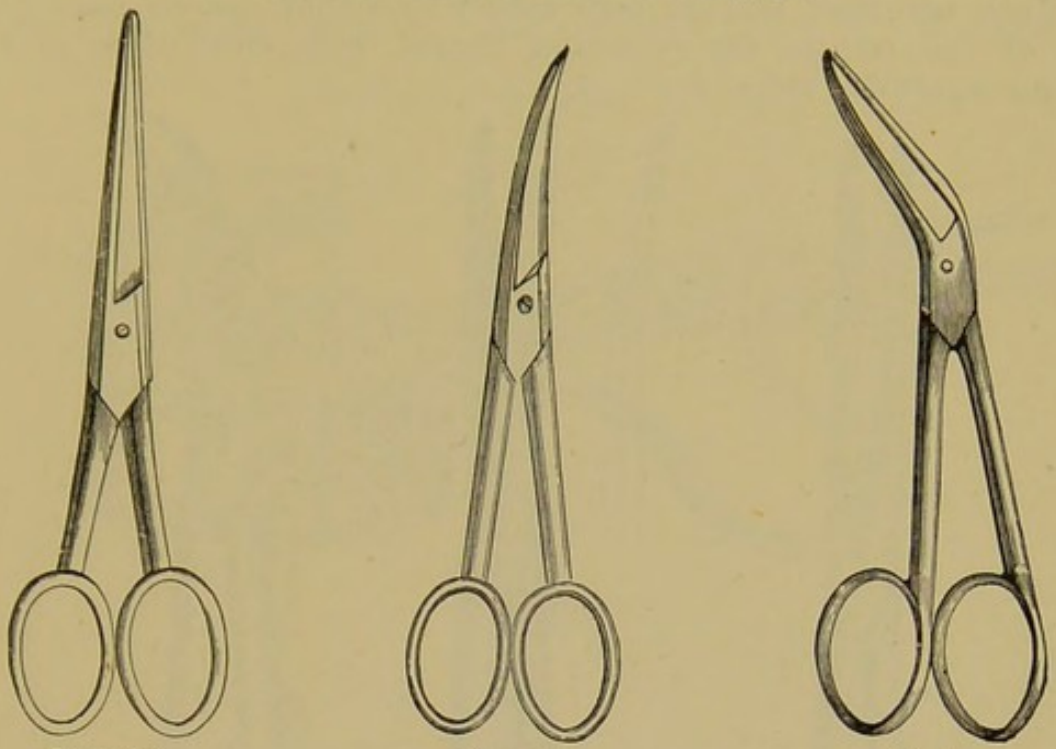
		s.	*d.*
In blued Steel handle	each	1	2

Other Lancets made or obtained to order.



SCISSORS,

FOR CUTTING THE GUMS, &c.



Straight. Curved. Bent.

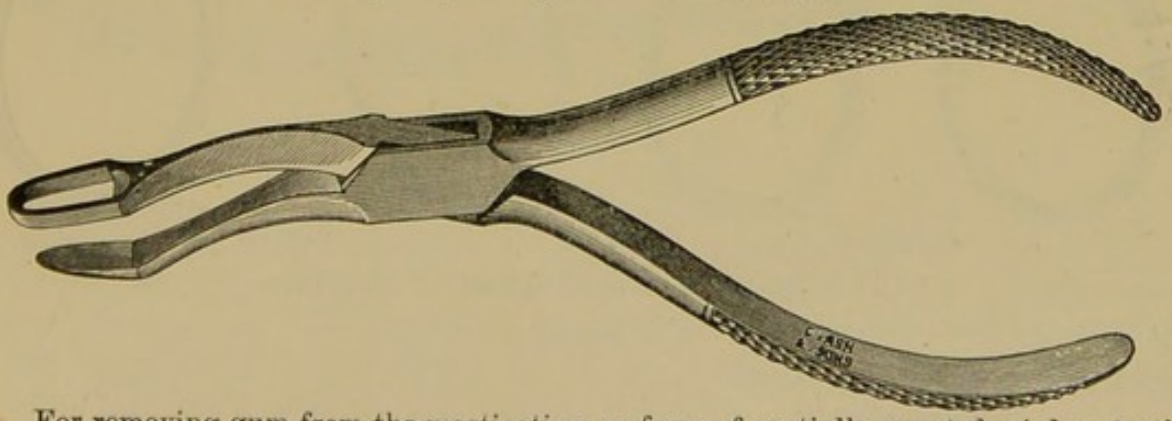
Full length of each 4½ inches.

			s.	d.
In Steel, highly polished	.. ..	Straight each	1	9
„ „	.. ..	Curved „	3	6
„ „	.. ..	Bent „	2	6
„ Nickel-plated	.. ..	extra „	0	9

Gum Scissors of any other form made or obtained to order.

GUM GUILLOTINE FORCEPS.

(Designed by Mr. WOODHOUSE.)



For removing gum from the masticating surfaces of partially erupted wisdom teeth. Before applying the Forceps, make an incision with a lancet along the anterior margin of the tooth; then insert the blade and remove the gum by firmly closing the handles.

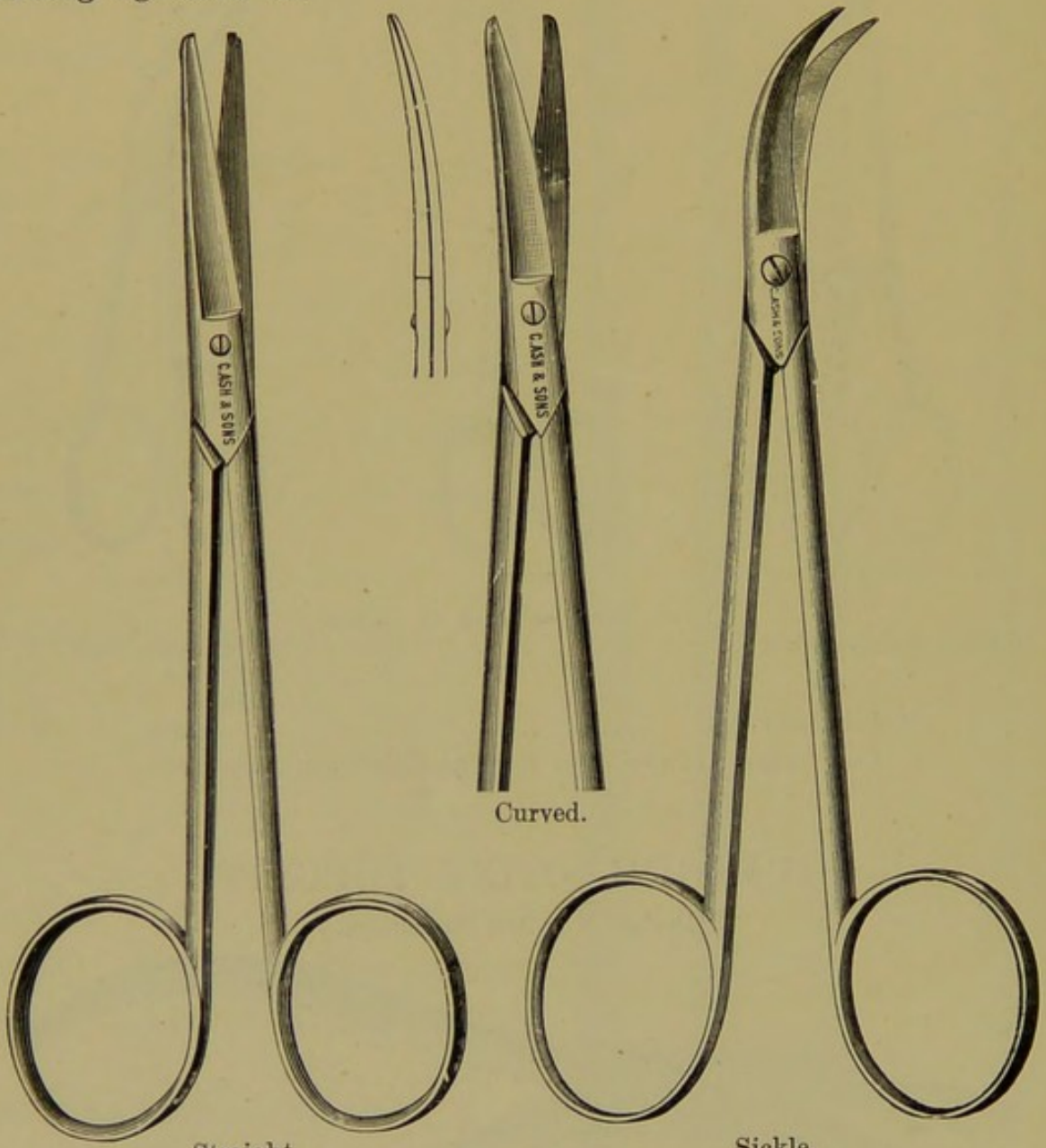
This instrument cannot be Nickel-plated without spoiling the cutting edges.

	s.	d.
Price, in polished Steel	9	6

GUM SCISSORS,

WITH LONG HANDLES AND THIN DELICATE BLADES.

Much esteemed for the ease with which they can be used in any part of the mouth, for removing ragged and torn edges of Gum, cutting ligatures, etc.



Straight. Curved. Sickle.

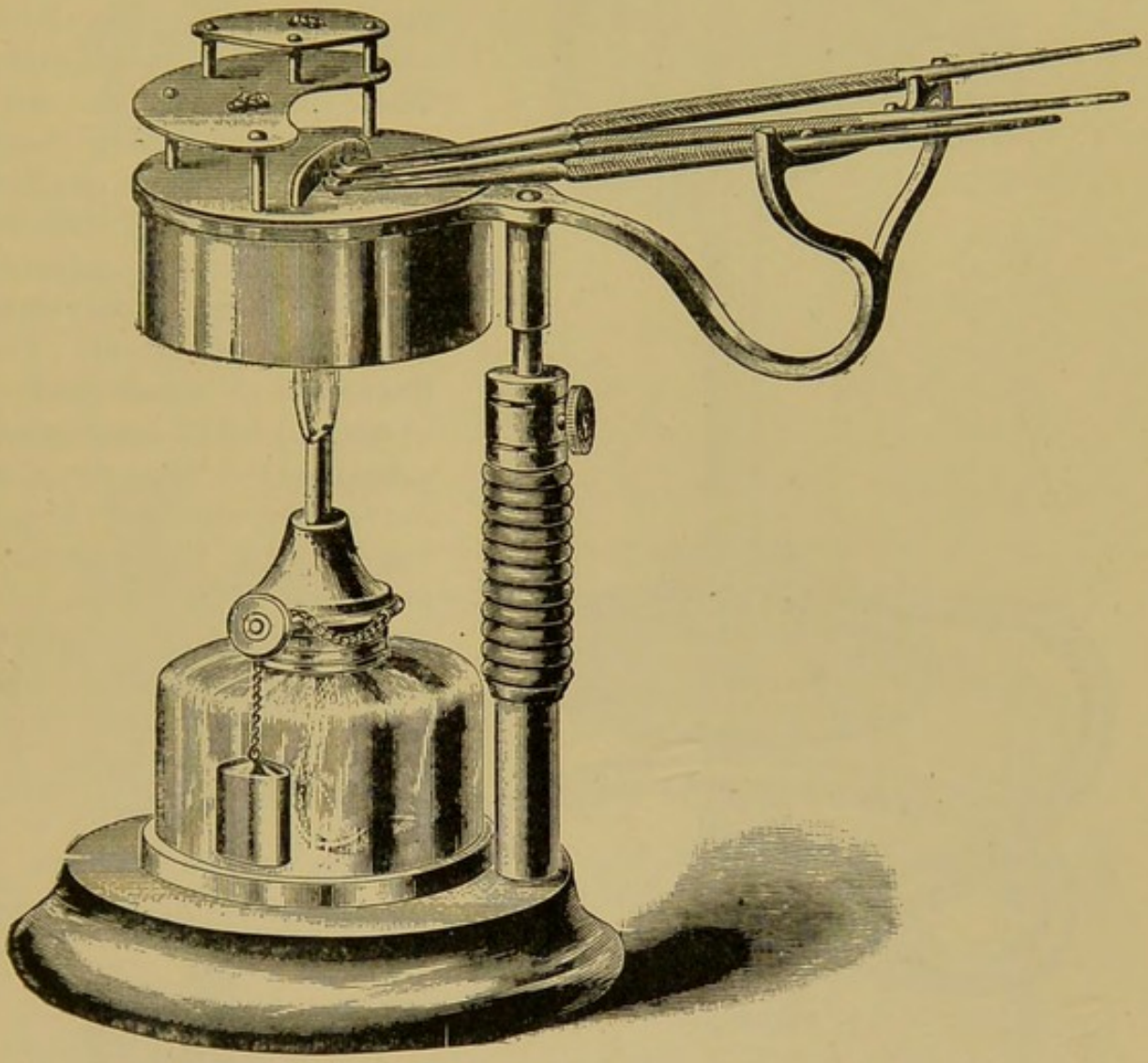
The Scissors are illustrated full size.

Prices:		*s.*	*d.*
Straight, in polished steel	each	3	0
„ nickel-plated	„	3	9
Curved, in polished steel	„	4	6
„ nickel-plated	„	5	3
Sickle-shape, in polished steel	„	4	6
„ nickel-plated	„	5	3

FLAGG'S GUTTA-PERCHA

SOFTENER AND INSTRUMENT WARMER.

ADAPTED FOR DRY HEAT.*

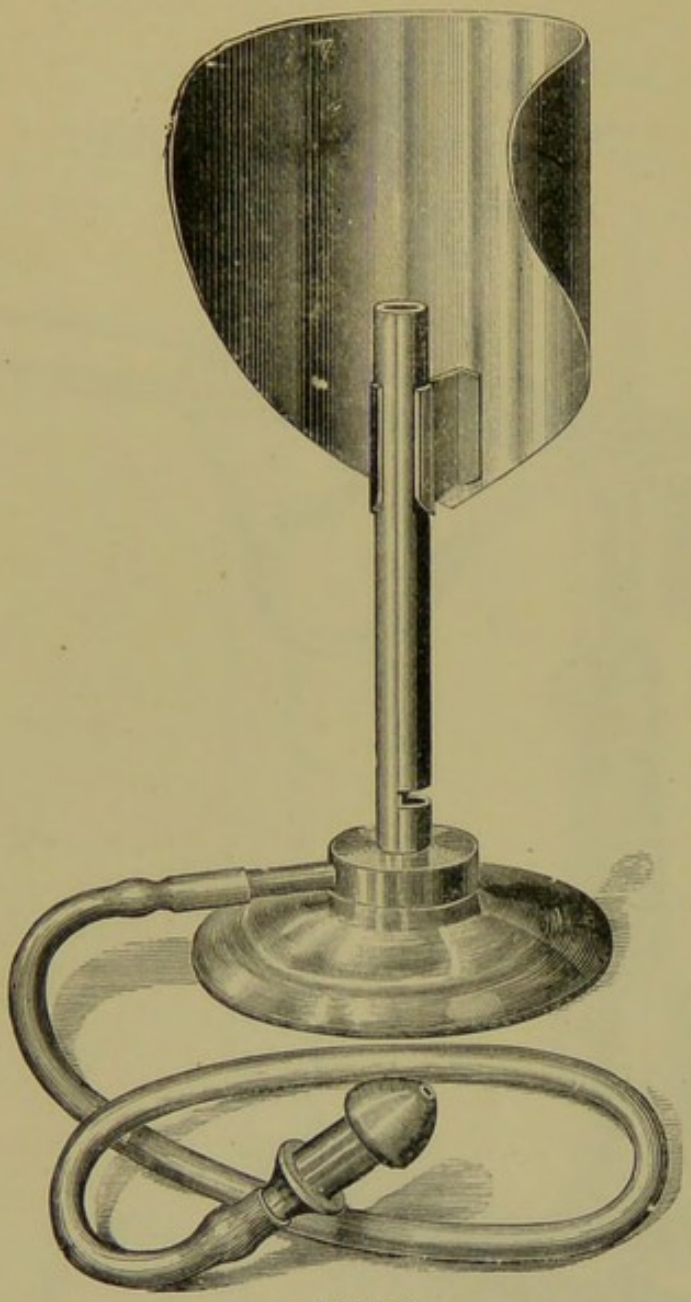


Directions for Use.

Dr. Flagg says: "Fill lamp two-thirds full. Put 'Low Heat' gutta-percha—red base-plate or temporary stopping—on upper plate; 'High Heat'—or shaded gutta-percha—on middle plate; Instruments on lower plate. The heat for instruments, the handles being comfortable to work with (regulated by raising or lowering them or the wick), makes all heats right."

		s.	*d.*
Price, as illustrated		20	0
Annealing Tray for Gold	extra	2	0

* Dr. Flagg has not used the water-bath warmer since 1885.



Full Size.

THE "MODEL" ANNEALING GAS BURNER.

This Burner is neat and small, occupying but little room on the bracket-table. The tubing, which rests upon the table or instrument stand, is made of the smallest size rubber-tubing, with an expanding-tip to connect with the large supply-tube from the gas-bracket. The Burner is so constructed as to secure perfect combustion, giving a clear blue flame, of convenient size and proper temperature for annealing purposes. The shield may be adjusted at any height to suit the Operator, or it may be lowered so as to completely expose the flame.

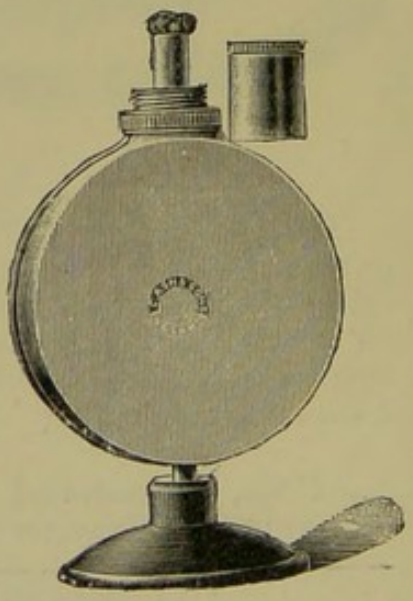
Price:	*s.*	*d.*
Nickel-plated, each	4	0

FLAT SPIRIT LAMP.

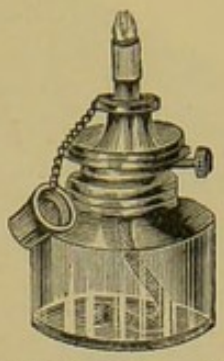
Fitted with Screw Cap.

Suitable for Visiting Case, and for Hospital Students.

	s.	*d.*
Price, in stout metal, nickel-plated, japanned base	3	0
How's Gutta-Percha Heater, with directions for use	1	3



BRACKET LAMPS.

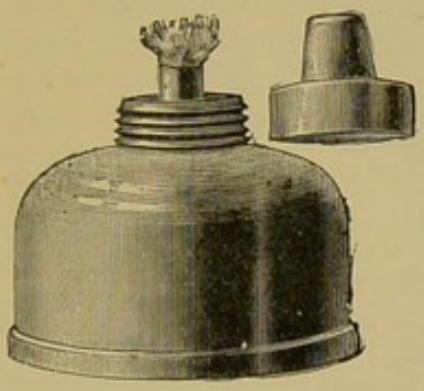


Outside Measurement of Glass Part:

	High.		Diameter.
Deep ..	1¾	by	2½ inches.
Shallow	1	by	2½ „

For general use in the Operating Room. In two sizes, deep and shallow. Made of flint glass with Nickel-plated mountings.

		s.	*d.*
Price, either size with Shield	each	2	9
„ „ without shield	„	1	9
Separately:—Glass vessels only, deep or shallow, for renewing broken lamps	„	0	8
Wicks for ditto	per doz.	0	3



METAL SPIRIT LAMP.

Diameter, 2½ ins.; Height, 2½ in.

With screw cap. Suitable for Visiting Bag or Student's Cabinet.

	s.	*d.*
Price, Nickel-plated	2	0

ALCOHOL LAMP FOR "SOLILA" GOLD.

Pure alcohol should be used in this Lamp when it is employed for annealing "Solila" Gold, and the directions for annealing should be most strictly followed.

Prices:

	s.	*d.*
Lamp, as illustrated ..	5	0
Extra Mica Trays ..	0	3

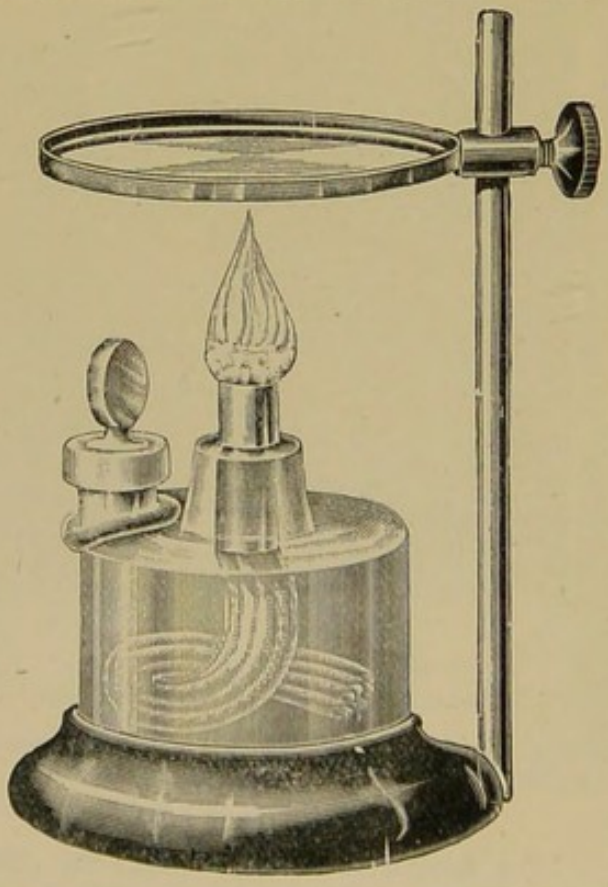


Fig. 1.

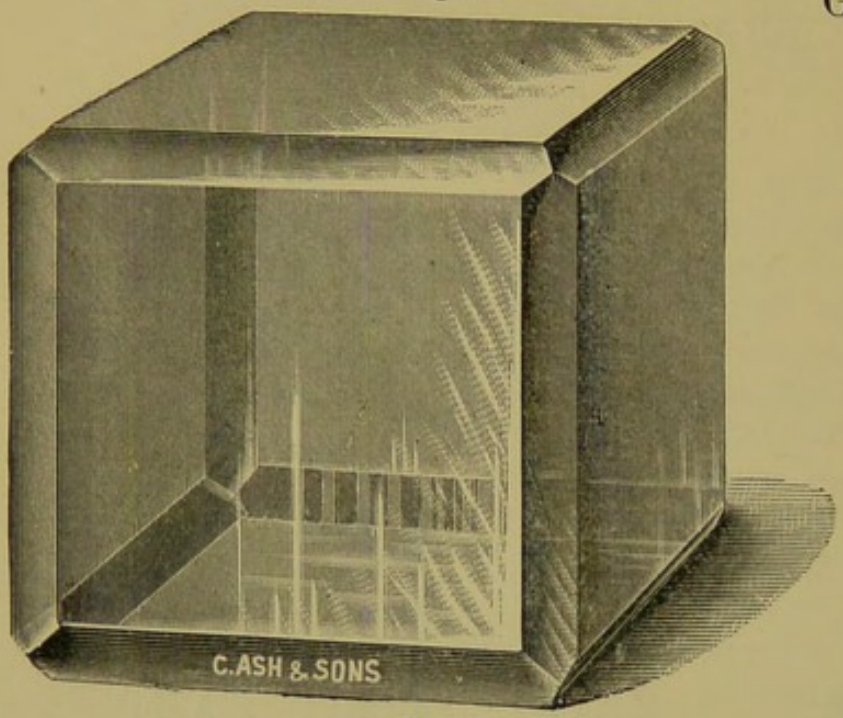
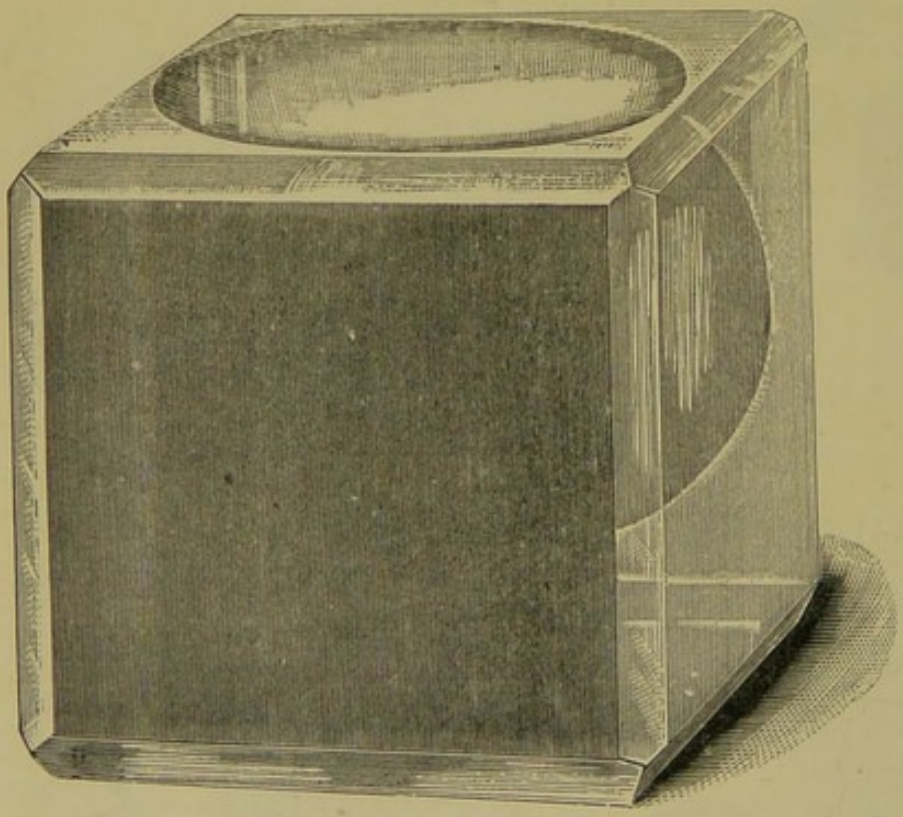


Fig. 2.



GLASS CUBES.

(Suggested by
Mr. George Pedley.)

For mixing Cement Stoppings on. In calling attention to their usefulness, some years ago, Mr. Pedley said: "Your readers may be interested to know of a useful substitute for the ordinary slab on which Oxyphosphate Stoppings are mixed. It is a two-inch cubic block of glass, with bevelled edges, usually sold as a letter weight. Its advantages are obvious—always a firm grip on your block and six sides for mixing instead of two. To clean quickly, rub the surface of two blocks together, using a little fine sand and water." —*The Journal of the British Dental Association.*

Fig. 1 is flat on all six sides.

Fig. 2 is flat on four sides and hollow on two sides.

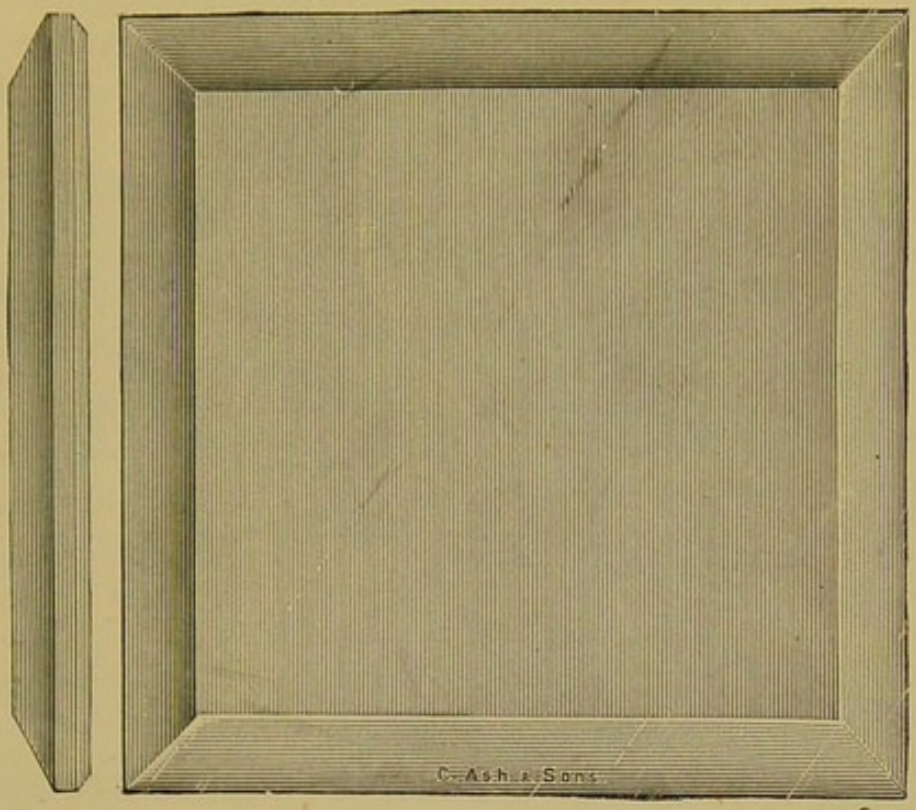
			s.	*d.*
Two-inch Glass Cubes	(Fig. 1)	each	1	0
Two-and-a-half-inch Cubes, ground on three sides ..	(„ 1)	„	2	6
„ „ „ „ „ „ ..	(„ 2)	„	3	0

SPOONER'S MIXING PAD.

For mixing Cement Stoppings on. Made of specially prepared paper impervious to moisture. After mixing the cement the top leaf can be taken off and the pad is again ready for use.

	s.	*d.*
Price	1	0

GLASS MIXING SLAB.

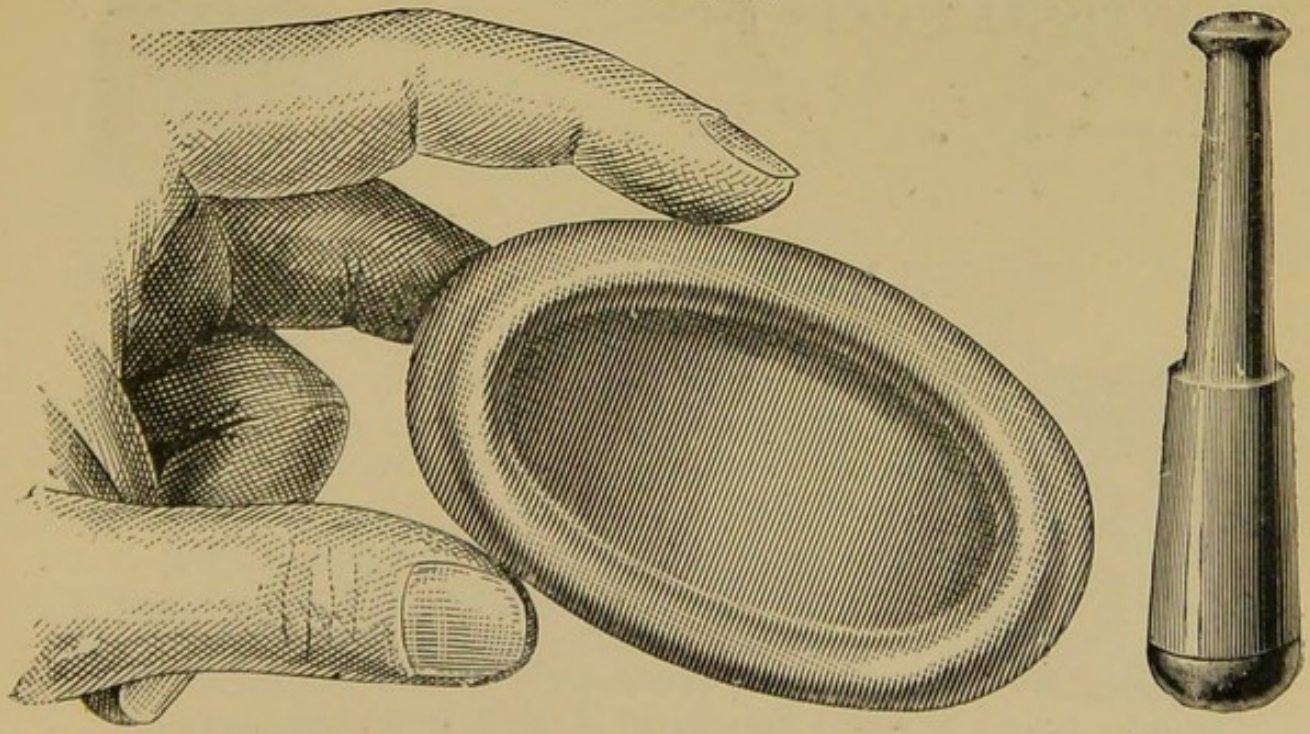


	s.	*d.*
Flat Glass Slab, with ground surface 4 by 3¾ inches, with bevelled edges ..	1	0

RUBBER PESTLE AND MORTAR,

FOR AMALGAM MIXING.

(Dr. GENESE'S.)



	s.	*d.*
Price of Mortar	1	6
„ Pestle	0	10

PESTLES AND MORTARS.

Fig. 1.

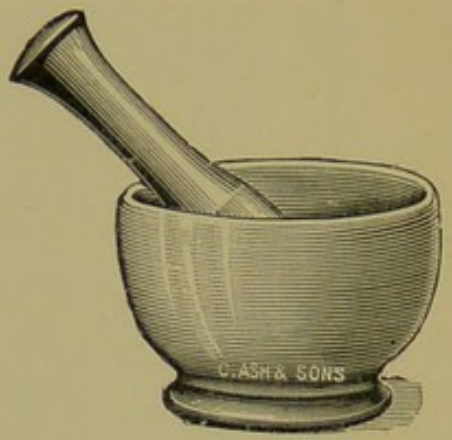


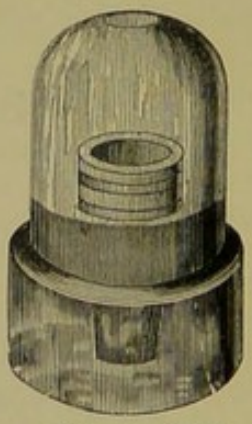
Fig. 2.

			s.	d.
In Wedgwood ware, $3\frac{1}{4}$ in. diameter	(Fig. 1)	each	2	0
„ „ $2\frac{1}{2}$ „	(„ 1)	„	1	8
„ „ 2 „	(„ 1)	„	1	4
In Porcelain (Mr. Fletcher's), $1\frac{1}{4}$ in. diameter	(„ 2)	„	0	9
In Glass, ground inside (Mr. Fletcher's), $1\frac{3}{4}$ in. diameter		„	1	6
„ „ same form „ „ ..		„	1	0
In Agate, various sizes, obtained to order		each from	6	6

ROWNEY'S CEMENT BOTTLE.

For holding Mastic and other Cements. Provided with glass cover to prevent evaporation.

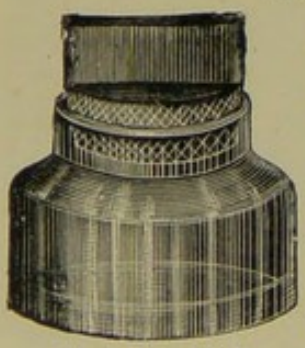
		s.	d.
In glass	each	2	9



3 inches high.

HOCKLEY'S MASTIC BOTTLE,

WITH MITCHELL'S IMPROVED STOPPER.



$1\frac{1}{2}$ inches high.

This little bottle possesses the following advantages:

1. The glass at the base is $\frac{3}{8}$ of an inch thick, and effectually prevents the bottle being upset during use.

2. The diameter of the opening is $1\frac{1}{4}$ in., to admit of the cement being readily and rapidly reached.

3. The bottle is provided with a stopper made of soft vulcanized rubber cupped underneath. Across the top there is a thumb-piece of hard rubber, by means of which the stopper is easily removed.

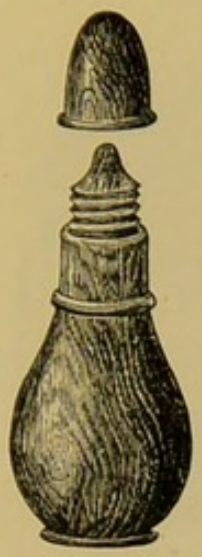
		s.	d.
Price, with improved stopper	each	2	0

MERCURY BOTTLE.

MERCURY BOTTLES.

DROP BOTTLE.

	s.	d.
In Ivory, with cap, to hold 1 oz. each	4	6
In Boxwood ,, ,, ,,	1	0
,, without cap, ,, ,,	0	6



2¾ inches high.

DROP BOTTLES,

For holding the liquid of Oxychloride Cements.

	s.	d.
In Glass, as illustrated .. each	1	0

3 inches high.

MERCURY BOTTLE WITH DROP TUBE.

(Dr. MANNHARDT'S.)

Half-size.

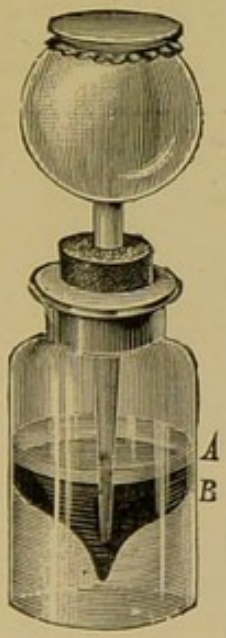


Fig. 1.

The advantages claimed for this mercury bottle with drop tube are cleanliness, practical storing, saving, and easy working of the mercury.

After the bottle has been about half filled with mercury, the upper portion is filled up with a mixture of three-parts distilled water and one-part glycerine. Beneath this fluid the mercury is kept clean and pure for a long time.

The weight of the mercury added to the heavy base of the bottle causes the latter to stand firm; and the tapering floor inside, shown in the illustration (Fig. 1), makes it possible to use up the whole of the mercury.

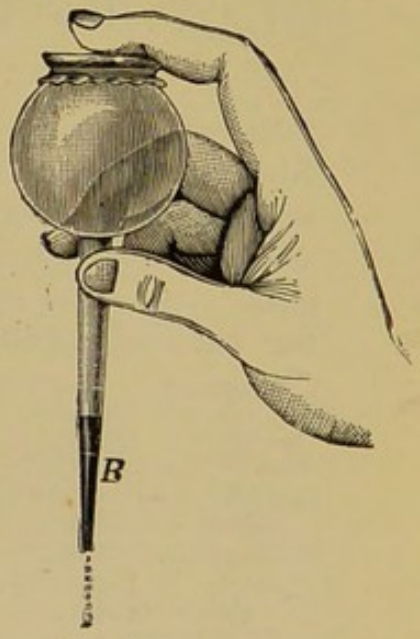


Fig. 2.

Directions for Use.

Press the rubber capping on the top of the drop tube with some force, and on removing the finger the mercury will be drawn up the tube.

Then remove the drop tube from the bottle, and force the mercury from the tube by slightly pressing upon the rubber capping with the finger, as shown in Fig. 2.

	s.	d.
Price complete, as illustrated .. .. (Fig. 1.)	2	0

GLASS BOTTLES,

FOR THE OPERATING ROOM.

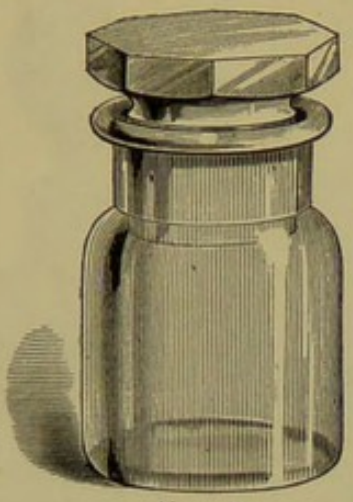


Fig. 1.

These bottles, which are illustrated full size, are made of the purest white glass, with cut-glass ground stoppers. They are supplied with labels, small enough to be pasted on the top of the stoppers, printed for the preparations mentioned below, or with plain labels, on which the Operator can write other names.

In ordering, please state which of the labels are required.

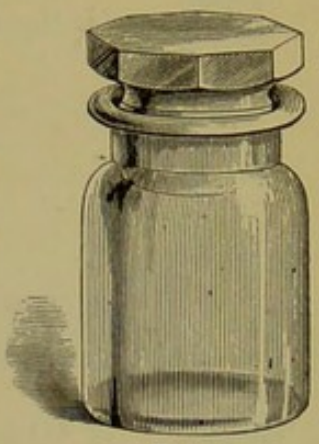


Fig. 2.

				s.	*d.*
Bottles, with Labels for Stoppers	..	(Figs. 1, 2)	per doz.	8	0

CASE

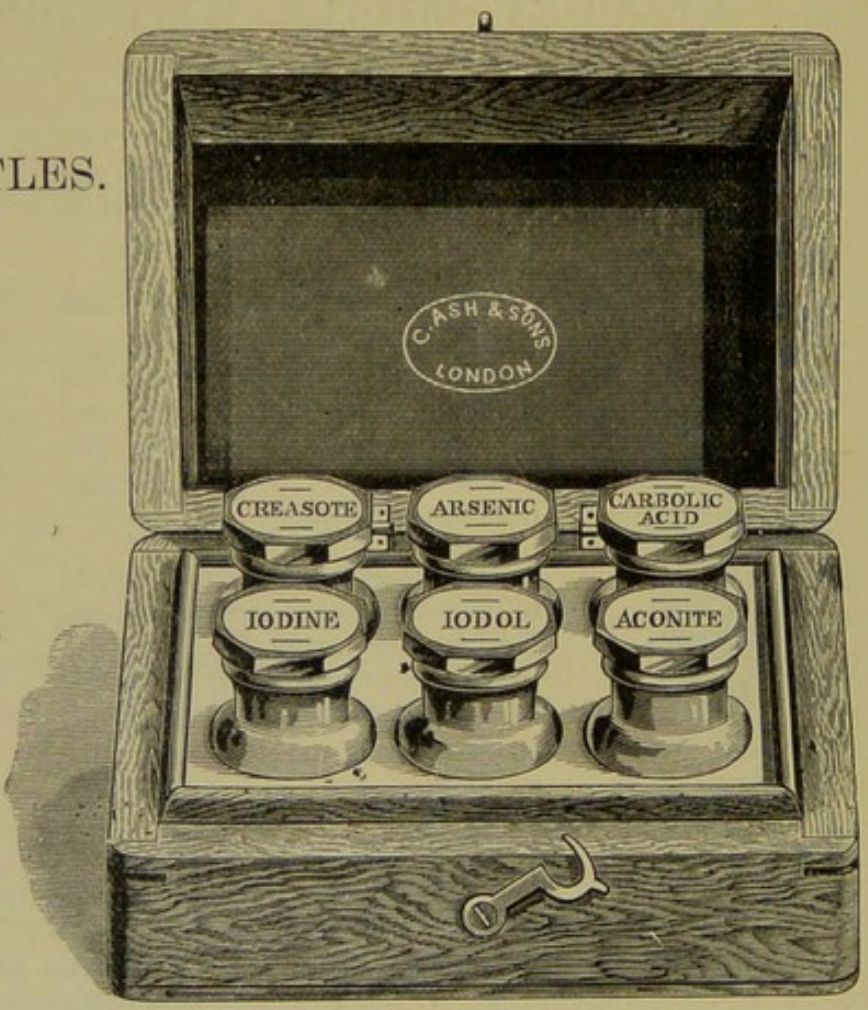
WITH

GLASS BOTTLES.

Mahogany Box containing six bottles the size of Fig. 1 shown above. In ordering, please state which of the following labels are wanted :

Aconite. Arsenic. Aconite and Iodine. Carbolic Acid. Chloroform. Creasote. Eucalyptus. Eugenol. Iodine. Iodoform. Iodol. Mastic. Oil of Cloves. Peroxide of Hydrogen. Sulphate of Copper. Tincture of Opium.

Cases to Dentists' own designs made to order.



	s.	*d.*
Price complete, as illustrated	7	6
Mahogany Box, containing 12 bottles	14	0

PEDLEY'S DROP BOTTLE.

FOR CARBOLIC ACID, CREASOTE, CHLOROFORM, ETC.

If the bottle be only half filled, when it is turned upside down the warmth of the hand expands the air inside and a drop or two, as required, is driven down the glass tube.

		s.	d.		s.	d.
Price	per doz.	4	0	each	0	5

POWDERED GUM TRAGACANTH,

FOR SECURING THE ADHESION OF SUCTION PLATES.

In bringing this preparation to the notice of the Odontological Society of Great Britain in 1886, Mr. D. Hepburn said: All must have experienced the difficulty which was not unfrequently met with in establishing the confidence of patients in suction plates, especially when first applied. He stated that he had used it with success for about a year, and that the best method of applying it was to sprinkle the plate with a thick layer of the powder before putting it into the mouth.

		s.	d.
Best White, powdered, supplied in $\frac{1}{4}$ lb. pkts. ..	per pkt.	1	9
" " " " ..	" lb.	6	6

TRAGACANTH SPRINKLER.

(Suggested by Mr. J. ACKERY.)

With gauze top, bayonet joint, and air-tight cover.

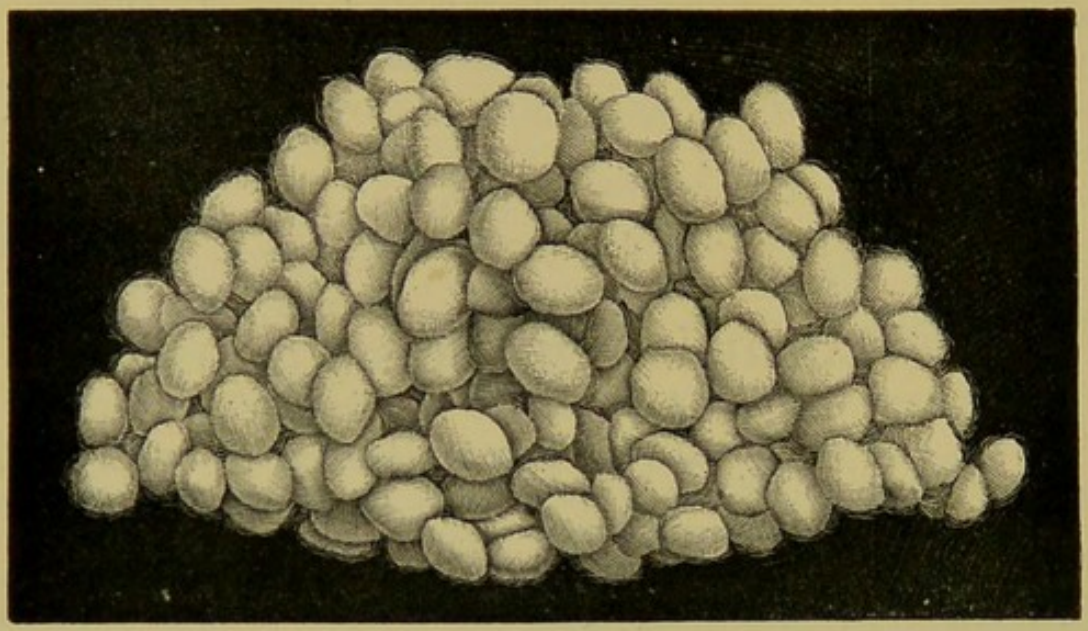
This little holder is most convenient for keeping the Tragacanth Powder ready for use. It is so handy that the act of sprinkling the plate with a thick layer of the powder before putting it into the mouth, as recommended above, only occupies a few moments.

	s.	d.
Price, Nickel-plated	3	0
	G	2

ABSORBENT COTTON-WOOL PELLETS.

(Dr. G. B. Richmond's.)

PATENTED.



These Pellets are made of the finest absorbent cotton-wool, in four sizes. They will be found a great convenience to the operator, saving the time required to prepare pellets in the usual way.

Put up in packages containing the four sizes, assorted.

Prices:	*s.*	*d.*
Box, containing from 8,000 to 10,000 Pellets	1	0
,, ,, about 5,000 Pellets	0	8

COTTON-WOOL PELLET HOLDER.

(Mr. T. Cuttriss's.)

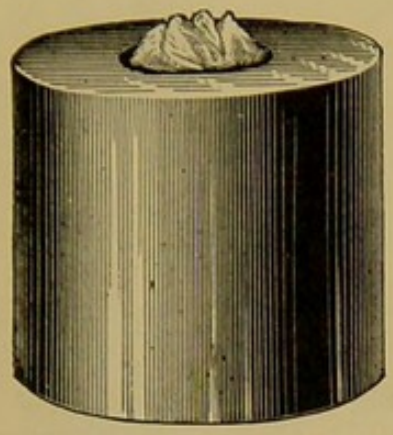
Half size.

The difficulty of picking up one pellet at a time with the tweezers, owing to the lightness and the adherent nature of the cotton, is entirely overcome by the use of Mr. Cuttriss's ingenious Holder, here illustrated.

	s.	*d.*
Price, Nickel-plated ..	3	6

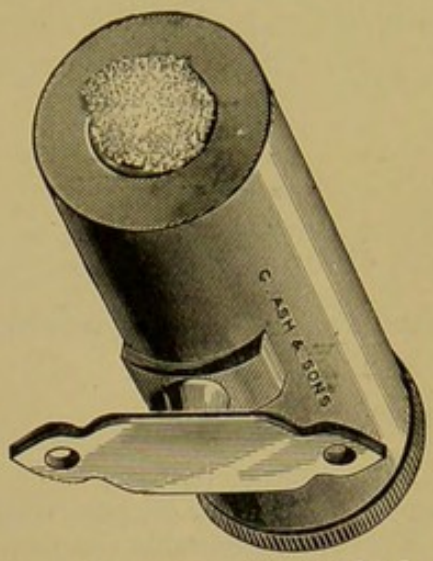
WOOL-HOLDERS.

Fig. 1.



Outside measurement: $\begin{cases} 1\frac{3}{4} \text{ ins. high.} \\ 2 \text{ ins. in diameter.} \end{cases}$

Fig. 2.



Outside measurement: $\begin{cases} 2\frac{5}{8} \text{ ins. high.} \\ 1\frac{1}{4} \text{ ins. in diameter.} \end{cases}$

There is no trouble in charging or re-charging these Holders; the wool is kept clean and is always within easy reach of the dressing-tweezers.

Fig. 1 is very convenient for use on the Operating-table or Instrument-stand; Fig. 2 can be screwed on to the side of the Table or fixed in any other convenient place.

To re-charge Fig. 1, depress that side of the spring-plate, near the two pins underneath the bottom, sufficiently for the opposite side to come over the single pin; put a good supply of wool in the chamber, and replace the plate. Fig. 2 can be re-charged by simply unscrewing the base.

			s.	d.
Made of stout Brass, heavily Nickel-plated ..	(Fig. 1)	each	3	6
" " " " ..	(" 2)	"	5	0

WASTE DRESSING HOLDERS.

Fig. 1.

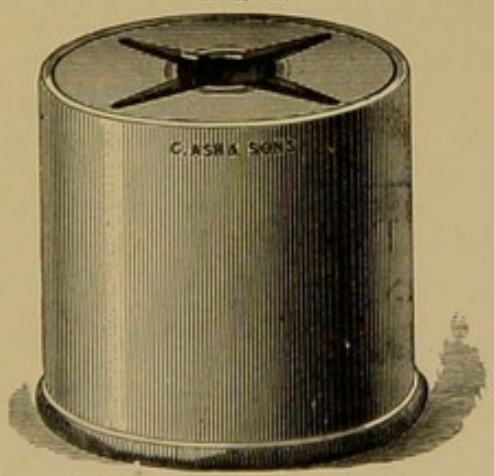
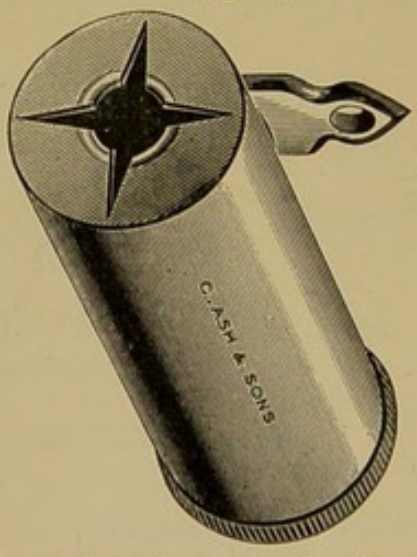


Fig. 2.



For holding used absorbents, removed dressings, and waste materials of various kinds. The points of the dressing-tweezers, &c., can be disengaged from any sticky substance by an upward scraping motion on the sides or at the end of one or other of the four slits on the top. They are of the same dimensions as the Wool-holders.

			s.	d.
Made of stout Brass, heavily Nickel-plated ..	(Fig. 1)	each	3	6
" " " " ..	(" 2)	"	5	0

ASH'S VERY ABSORBENT COTTON-WOOL.

Supplied in 1-ounce, ½ lb. and 1 lb. packets.

		s.	d.
Price	per oz.	0	3
„	„ ½ lb.	1	3
„	„ 1 lb.	2	0

		s.	d.
Absorbent Dental Napkins, in boxes of 100, size 6 by 5½ in. ..	per box	2	0
Amadou or Spunk, finest quality, selected	per oz.	0	10
„ „ „	per lb.	11	6
Bibulous Paper, Japanese, very fine	per pkt., 100 sheets	1	0
„	„ 500 „	4	0
„ „	„ 1000 „	7	6
Cotton-wool, Von Brun's	.. per 100 gramme	1	0
„ „	.. „ 250 „	1	9
Paper Fibre Lint, Parker's	.. per ½ lb. pkt.	2	0
Serviettes, Japanese Paper, with decorated border ..	per 100 sheets	1	3
Wood Fibre, an admirable absorbent	.. per pkt.	0	9

PAPER CYLINDERS,

MADE FROM JAPANESE BIBULOUS PAPER.

(Introduced by Dr. Morelli, of Buda-Pesth.)

In sizes .. 1. 2. 3. 4.

For drying cavities and for applying Arsenical Paste, Cocaine, Carbolic Acid, or any other of the numerous medicaments used by dentists, for temporary stoppings and for sealing dressings.

		s.	d.
Put up in boxes containing four assorted sizes	per box	1	0

AMADOU PELLETS,

FOR DRYING CAVITIES, CONVEYING MEDICAMENTS, &c.

		s.	d.
Price	per box	0	9

POULSON'S PAPER POINTS,

FOR DRYING ROOT-CANALS.

		s.	d.
In boxes containing 100	per box	2	0

DARBY'S STIFFENED PAPER POINTS,

FOR DRYING ROOT-CANALS.

		s.	d.
In boxes containing 100	per box	1	0

PARKE, DAVIS & CO.'S PREPARATIONS.

EUTHYMOL.—An Antiseptic, deodorant and prophylactic, possessing a wide range of usefulness.

		s.	d.
In 16-fluid-oz. bottles	per bot.	3	6
„ „	per doz.	40	0
„ ½-imp. gallon bottles	per bot.	14	6

EUTHYMOL TOOTH PASTE.—Aromatic, deodorant, antiseptic. A superior preparation for cleansing the Teeth without injury. Supplied in collapsible tubes.

		s.	d.
Price	per doz.	9	6

EUTHYMOL TABLETS.—For reducing inflammations of and cleansing the mouth and throat and sweetening the breath.

Directions for Use.—Allow a Tablet to dissolve in the mouth as often as required.

		s.	d.
Price, in boxes of 40 tablets	per box	0	8

EUTHYMOL CREAM.—An excellent toilet preparation—emollient and antiseptic; most useful to the dental surgeon for keeping the hands soft and in good condition.

		s.	d.
In collapsible tubes	per doz.	9	6

FLUID EXTRACT OF JAMAICA DOGWOOD.—An excellent preparation for the treatment of trigeminal neuralgia, odontalgia and all inflammatory conditions of the mouth.

		s.	d.
In 4-oz. bottles	per bot.	3	3
„ 8 „	„	6	3
„ 16 „	„	12	0

FLUID RED GUM.—A powerful styptic and non-escharotic Hæmostatic, the use of which is not followed by slough as with iron preparations.

		s.	d.
In 16-fluid-oz. bottles	per bot.	9	0
„ 8 „	„	4	8
„ 4 „ „	„	2	6

FLUID EXTRACT MYRRH.—The application of myrrh to spongy gums, aphthous sore mouth, etc., makes this drug of special value to the dentist, who has grown accustomed to its use in the tincture form. To make the tincture, mix 2 fluid ounces of the fluid extract with 8 fluid ounces of alcohol.

		s.	d.
In 16-fluid-oz. bottles	per bot.	9	6

WITCH HAZEL—DISTILLED EXTRACT.

		s.	d.
In 8-fluid-oz. bottles	per bot.	0	10
„ 16 „ „	„	1	5
„ ½-imp. gallon bottles	„	5	6

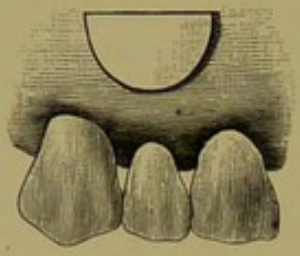
JOHNSTON'S ETHEREAL ANTISEPTIC SOAP.

		s.	d.
In 8-fluid-oz. bottles	per ot.	2	2
„ 16 „ „	,	4	0
„ ½-imp. gallon bottles		16	3

PREPARATIONS for the OPERATING ROOM.

COMPOUND CAPSICUM PLASTERS,

Prepared from the Formula of Mr. J. Leon Williams, D.D.S., L.D.S.



The following advantages are claimed for the Compound Capsicum Plasters over any others hitherto offered to the Dental Profession:—

1. They are made in a more convenient form and size for use.
2. They contain a small quantity of opium and menthol, and thus act upon the sensitive as well as the vaso-motor nerve filaments, subduing the pain of perio-steal inflammation much more rapidly.
3. The use of a small per cent. of opium and menthol enables the plaster to be made with a considerably larger proportion of mustard and capsicin, thus adding largely to their value as a counter-irritant, while the discomfort of their use is decreased.
4. If used according to instructions they are quite adhesive.

Instructions for Use.

Wipe the gum carefully and place the brown side of the plaster directly over the end of the root which is the seat of the inflammation, pressing gently but firmly with the finger for a few moments.

Supplied in boxes containing 144 enclosed in envelopes of 3 each.

		s.	*d.*
Price	per box	2	6

DARBY'S CAPSICUM PLASTERS.

Supplied in boxes containing 80 plasters, a number of small envelopes and directions for use.

		s.	*d.*
Price	per box	2	1

FOULKS' CAPSICUM BAGS.

Useful as a counter-irritant, for hastening suppuration, &c. Supplied in boxes of one dozen, with directions for use.

		s.	*d.*
Price	per box	2	1

FOULKS' COMPOUND BAGS.

These contain Chlorate of Potassium, Hamamelis and Tannic. Supplied in boxes of one dozen, with directions for use.

		s.	*d.*
Price	per box	2	1

PREPARATIONS FOR THE OPERATING ROOM—
continued.

LORD'S IMPROVED COMPOUND CAPSICIN PLASTERS.

These contain the finest Extracts of Capsicin and a small percentage of Opium and Menthol. Supplied in boxes containing 60 plasters, a number of small envelopes and directions for use.

		s.	*d.*
Price	per box	2	6

S. S. WHITE'S CAPSICUM PLASTERS.

Supplied in boxes containing 144, enclosed in 48 envelopes of 3 each, with directions for use.

		s.	*d.*
Price	per box	2	6

		s.	*d.*
Absolute Alcohol, for cleansing and drying cavities and root-canals	2-oz. bot.	1	6
Aconite, Tincture of.—A powerful sedative and pain obtundent	1-oz. „	0	6
„ „ „ „ „ ..	2-oz. „	1	0
Aristol.—An antiseptic dressing; can be dissolved in ether or chloroform; in five-gramme boxes (77 grains)	per box	1	9
Aristol in Oil of Cassia.—A sedative dressing for root-canals ..	½-oz. bot.	0	9
Asbestos Fibre, for pulp capping, finest Italian	per oz.	0	5
„ „ „ „	„ lb.	5	6
Baldock's Bactericide, for pulp treatment; a most efficient preparation, containing *inter alia* Borneol, Thymol, Phenol, Menthol and Eucalyptol	per jar	4	0
Baldock's Celluloidal Root-Filling, with directions for use ..	„	4	0
Baldock's Tooth Dressing, for root-canals, &c., composed chiefly of Carbolic, Glycerine, Eucalyptus and Iodoform, and highly appreciated for its antiseptic and penetrating properties	per bot.	4	0
Benzoin Gum, for dressings and temporary stoppings	½-oz. „	1	0
Bunter's Nervine or Toothache Specific	per „	1	0
Cajeput, Oil of, for relieving toothache and for use with gutta-percha in root filling	1-oz. „	0	9
Dr. Trueman says that for filling roots he uses the oil *freely;* for pivoting teeth, *moderately;* and for filling cavities with gutta-percha, *very sparingly.*			
Camphor, for allaying pain after extraction, &c.	per oz.	0	2
„ „ „ „	„ lb.	2	0
"A strong solution of camphor in chloroform, applied on a pledget of cotton to the alveolar socket, is said to be an efficient remedy in allaying the pain induced by the extraction of teeth during severe periostitis."—STOCKEN.			
Capsicum Plasters.—*See* previous page.			
Carbolic Acid (Calvert's), best quality; possesses styptic, antiseptic, obtundent and stimulating properties. It is one of the most useful preparations at the command of the dentist	1-oz. bot.	1	3

PREPARATIONS FOR THE OPERATING ROOM—

continued.

		s.	d.
Carbolized Resin (Fletcher's), for arresting hæmorrhage and for obtunding and hardening sensitive dentine	per bot.	1	0
„ „ „ „ „ ..	½-pint „	6	0
„ „ „ „ „ ..	pint „	12	0
Chinosol: an antiseptic, deodorant, and disinfectant.—Owing to its **non-poisonous** and **non-corrosive** character Chinosol can be freely used in Dental Surgery. In solution it possesses a slightly aromatic odour and a strong astringent taste; it is an excellent styptic and a powerful germicide. Chinosol is supplied in 8-grain compressed tablets, which, in warm or cold water, readily give the following useful solutions :— 1 tablet in 2½ ounces water (¼ tumbler) .. = 1 : 150; 1 „ 5 „ „ (½ „) .. = 1 : 300; 1 „ 10 „ „ (1 „) .. = 1 : 600; 1 „ 1 pint .. = 1 : 1200; 1 „ 1 quart „ .. = 1 : 2400 the last two of which are sufficiently strong for ordinary purposes, such as mouthwashes, gargles, etc.	per tube of 12 tablets	0	8
Chlorate of Potash Tabloids, with directions for use, large boxes	per doz.	9	0
„ „ „ „ small „	„	5	0
Chloride of Zinc, for obtunding sensitive dentine	1-oz. bot.	0	8
Chloroform, Pure, for annulling pain during the extraction of teeth when locally applied, for drying the gums, making solutions, &c.	1-oz. „	1	0
Cloves, Oil of, for obtunding sensitive dentine, dressing root-canals, &c.	1-oz. „	0	10
Cocaine-Lanolin, for obtunding sensitive dentine	2-drm. „	3	0
Copal Ether Varnish (Fletcher's), for coating cement stoppings, &c.	„ „	1	0
„ „ „ „ „ ..	½-pint „	6	0
„ „ „ „ „ ..	pint „	12	0
Copper, Powdered Sulphate of, for treatment of pyorrhœa alveolaris	2-oz. „	0	8
Cork, in very thin sheets, specially prepared for capping pulps ..	per doz.	1	6
Creasote, best quality, a useful antiseptic, pain obtundent, &c. ..	1-oz. bot.	1	3
Davis's Eucathymen, a specific for toothache and neuralgia, with directions for use	small „	2	6
„ „ „ „	med. „	5	0
„ „ „ .. for Hospital use ..	large „	11	0
„ „ „ „ „	..ex. large „	21	0
Ethylate of Sodium, for removing nævi and other vascular growths. With directions for use. Introduced by Sir B. W. Richardson ..	½-oz. „	2	6
„ „ „ „ „ ..	1-oz. „	4	0
Eucalyptus Oil.—An antiseptic and pain obtundent	„ „	0	10
Eugenol.—A powerful agent for obtunding sensitive dentine while excavating cavities	½-oz „	2	6

PREPARATIONS FOR THE OPERATING ROOM—

continued.

		s.	d.
Fletcher's Styptic.—*See* Carbolized Resin on previous page.			
Glycerole of Thymol, for treatment of pulp and alveolar abscess	1-oz. bot.	1	0
Hazeline.—This is a water-like liquid containing all the active principles of the Witch Hazel. It is a powerful styptic and is exceedingly useful in preventing hæmorrhage from the gums after the tooth has been extracted. It can be used either mixed with an equal quantity of warm water for rinsing the mouth, or may be applied by saturating a plug of Cotton Wool and filling the same into the cavity. Hazeline is quite non-poisonous; it does not injure the teeth, and has an agreeable and refreshing odour. It is supplied in 4-ounce and one-pound bottles	4-oz. ,,	1	6
Iodine Liniment, for allaying pain and inflammation	1-oz. ,,	1	3
,, **Tincture of,** ,, ,, ,, ...	,, ,,	0	10
,, ,, ,, ,, ,, ...	2-oz. ,,	1	3
,, **and Aconite, Dr. Fleming's,** double strength in equal parts, for allaying pain	3-oz. ,,	2	0
Iodoform, for root dressing; can be dissolved in any essential oil ..	1-oz. ,,	2	3
Iodoform Paste (Mr. Pedley's), an antiseptic root-filling	per ,,	1	0
Iron, Perchloride of.—A valuable styptic and astringent ..	1-oz. ,,	0	8
Listerine.—An antiseptic, prophylactic and deodorant	per ,,	4	0
Mastic Cement, thick, for dressings and temporary fillings ..	,, ,,	0	6
,, ,, thin, for fixing tube teeth, &c.	,, ,,	0	9
Morphia, Acetate of, for pulp treatment and as a pain obtundent in conjunction with oil of cloves	$\frac{1}{8}$-oz. ,,	1	6
Myrrh Gum, for making tinctures, mouth washes, &c.	per lb.	5	9
,, **Tincture of,** for treatment of the gums, &c. .. .	8-oz. bot.	2	9
,, ,, ,, ,, ...	16-oz. ,,	5	0
Opium, Tincture of, for allaying inflammation	1-oz. ,,	0	8
,, ,, ,, ,, ...	2-oz. ,,	1	0
Pedley's Medicated Dressing, composed of Bees'-wax, Gum Dammer, Resin, Oil of Cloves, Oil of Cassia, Cotton-Wool and French Chalk, for temporary and root filling	1-oz. jar	1	3
Phenate of Soda—has the same qualities as Phenol Sodique ..	4-oz. bot.	1	0
,, ,, ,, ,, ,, ...	10-oz. ,,	1	9
Phenol Sodique.—Useful as a mouth wash, pain obtundent, styptic, detergent, antiseptic, disinfectant and stimulant	8-oz. ,,	1	4
,, ,, ,, ,, ,, ...	per doz.	14	0
Peppermint, Oil of, for perfuming Tooth Powder, &c.	1-oz. bot.	3	6
Peroxide of Hydrogen.—A powerful antiseptic and germicide, used for the treatment of pus-making surfaces	2-oz. ,,	0	6
Potassa cum Calce, in sticks, a powerful caustic, for the formation of sloughs, for touching ulcers, &c.	per	0	9

PREPARATIONS FOR THE OPERATING ROOM—*continued.*

		s.	d.
Sandarac Varnish, for temporary stoppings, and for coating plaster models	per bot.	0	10
Sanitas Oil, for treatment of pulp and alveolar abscess	4-oz. „	1	0
Styptic Colloid, for arresting hæmorrhage	per bot.	2	6
Sulphur Cement, in powder, for fixing tube teeth, &c.	„ „	0	6
Tannin, for reducing inflammation and arresting hæmorrhage	1-oz. „	1	0
Vaseline, an emollient, useful also as a base for pastes and ointments of various kinds	per „	1	0
Williams's Germicide, a preparation of Gum Sandarac, Chloroform, Carbolic Acid, Tannin, Hydrochlorate of Morphia and Oil of Cloves; invaluable for capping exposed pulps and for lining the bottoms of cavities, with Asbestos paper and directions for use	„ „	1	9

Other preparations obtained to order.

Full information concerning the properties and uses of most of the above preparations will be found in the following three books :—

Stocken's Elements of Dental Materia Medica and Therapeutics with Pharmacopœia.

	s.	d.
Latest edition	**4**	**0**

Gorgas's Dental Medicine: A Manual of Dental Materia Medica and Therapeutics.

	s.	d.
Latest edition	**18**	**0**

Flagg and Inglis's Dental Pathology and Therapeutics in the form of Questions and Answers.

		s.	d.
Latest edition	net	**7**	**6**

NERVE-DESTROYING AGENTS.

		s.	d.
Arsenic Powders, $\frac{1}{16}$ grain each	per doz.	0	9
Arsenious Paste	per bot.	2	0
Azotine (Rowney's)	„	5	0
Baldock's Improved Nerve-destroying Paste	„	5	0
This is now prepared in the form of a soft inseparable paste, which renders it extremely easy of application. It has been more extensively used during the last seventeen years than any other known devitalizing preparation.			
Creasote and Arsenic (S. S. White's)	„	2	0
Devitalizing Nerve Fibre „	„	3	0

DR. SCHEUER'S PREPARATIONS.

IN COLLAPSIBLE TUBES.

DEVITALISING PASTE.

The application of this preparation does not cause the patient the slightest pain, while its action is such that the pulp under treatment can be removed in from 24 to 48 hours.

It is always ready for immediate use.

To apply.—Take a small portion, about the size of the head of a pin, lay it on the pulp, cover with cotton-wool slightly moistened with carbolic acid, and seal in place with Fletcher's Artificial Dentine or other suitable dressing.

		s.	*d.*
Price	per tube	3	0

FORMALDEHYDE PASTE.

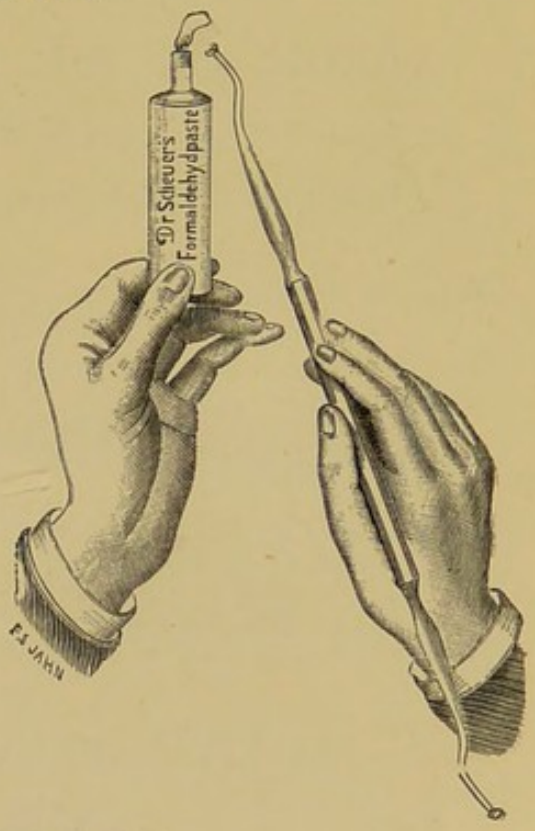
FOR PULP TREATMENT.

Dr. Scheuer claims that it is an advantage to have a pulp-capping mixed ready for use to the right consistency, hence his reason for supplying the powder and liquid of which this capping is composed in the form of paste.

It is very useful in cases of considerably advanced caries for conserving an exposed pulp or a pulp only slightly covered with dentine. In using, it should be worked from the top edge of a cavity to the centre and covered with a pledget of cotton-wool. An easy method of conveying it to the cavity is to squeeze just sufficient from the tube—*see illustration*—to be held on the flat end of, say, a No. 2 Ladmore's plastic instrument, with which it can be readily condensed.

Plastic fillings can be made upon Formaldehyde Paste at the same sitting, but it is advisable when a gold filling is to be introduced to allow the paste a day to harden, and to protect it meanwhile with cotton-wool or a layer of cement. When the cement is hard the gold may be built up on it.

Each Tube contains sufficient paste for from 300 to 500 applications.



		s.	*d.*
Price	per tube	5	0

IODOFORM ROOT-FILLING.

This preparation consists of a slow-setting artificial dentine containing 20 per cent. of iodoform, mixed to a stiff paste with oil of cloves and carbolic acid. It has no objectionable odour.

It does not stick to the fingers, and can therefore be readily moulded into cones suitable for root-canals.

To introduce.—After the canal has been swabbed with Eugenol or Oil of Cinnamon, fix a cone of iodoform paste on the flat end of a Ladmore's No. 2 or similar plastic instrument and gently insert it into the canal.

		s.	*d*
Price	per tube	5	0

In using collapsible tubes care should always be taken to squeeze from the lower end to avoid wasting the contents.

SUNDRIES FOR OPERATING ROOM.

NON-ABSORBENT COTTON-WOOL.

NATURAL COLOUR.

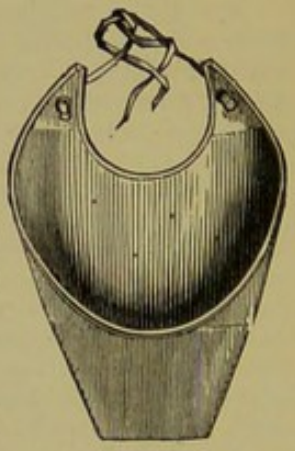
This is an excellent material for dressings, temporary stoppings, and for carrying medicaments to cavities that the Operator desires to disinfect or cleanse.

For these purposes it is far superior to any absorbent Cotton-Wool.

Supplied in 1-ounce, ½-lb. and 1-lb. packets.

		s.	*d.*
Price	per oz.	0	3
„	per ½ lb.	1	3
„	per lb.	2	0

APRON, OR BIB FOR PATIENTS.



(Dr. Horton's),

FOR USE DURING DENTAL OPERATIONS.

	s.	*d.*
In Check Rubber Cloth	3	0

ARTICULATING PAPER.

	s.	*d.*		*s.*	*d.*
Broad black (Mr. Barkley's), thick and thin, in books, per book	0	3	per doz.	2	6
„ Strips, black, in books .. .. „	0	2	„	1	6
„ „ blue, „ .. .. „	0	2	„	1	6
Narrow „ black or blue .. .. „	0	1½	„	1	0

ARTICULATING PAPER TWEEZERS.

(Mr. J. P. Moorhouse's.)

5 inches long.

Mr. Moorhouse says:—"Finding much difficulty in carrying articulating paper and placing it between the back teeth, I have designed these Tweezers, the long straight beaks of which hold the paper sufficiently firm and straight to carry it well back in the mouth. The Tweezers are self-closing; it is therefore necessary to apply pressure to the handles to open the beaks."

	s.	*d.*
Price, Nickel-plated	3	6

CAUSTIC (NITRATE OF SILVER) AND HOLDERS.

		s.	*d.*
Caustic Points in Walnut holders	each	0	6
Caustic Holders, in Silver	,,	7	0
Caustic (Nitrate of Silver) in sticks to fit holders	per stick	1	2

DRAGON CANES,

FOR POLISHING TEETH AFTER SCALING.

		s.	*d.*
In bundles of one dozen, pointed or blunt	per bundle	1	0

CANE-HOLDER WITH SCREW RING.

6 inches long.

This Holder is considered very useful for cleaning teeth at the back of the mouth, where straight Canes will not reach. It has a screw ring so that Cane points of various sizes may be secured.

		s.	*d.*
In Steel octagon handle, Nickel-plated	each	2	9
Dragon Cane points for ditto	per doz.	0	6

IODINE APPLIER.

(Dr. W. MITCHELL'S.)

5½ inches long.

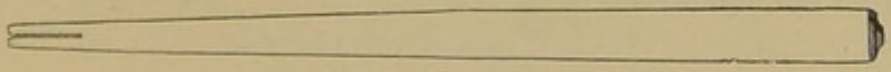
Made of nickel wire, in ebony handle.

Dr. MITCHELL says :—"The instrument is employed by simply winding a piece of cotton-wool round the square end of the wire; this constitutes the vehicle for the medicament."

	s.	*d.*
Price	1	0

IODINE DRESSER.

(Introduced by Mr. J. DENNANT, of Brighton.)



Mr. DENNANT says :—"It is used with cotton-wool twisted in the slot, instead of a pencil brush. A brush is easily bent, and the lips stained, when patients apply the medicament to their gums. My patients appreciate its utility. Most operators would, I fancy, prefer to use this or some such contrivance, instead of staining their instruments. It will be obvious that only a small quantity of wool is necessary. Patients should be told to dip the holder in water after use and dislodge the wool."

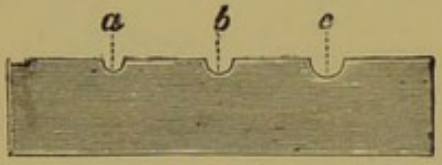
		s.	*d.*
Made of Black Vulcanite	per dozen	3	0

LARGE GROOVED SLABS,

FOR SHARPENING INSTRUMENTS.

(Suggested by Dr. W. Sachs, of Breslau).

Slab, with half-round parallel grooves, *a b c*.



End Section.

This Slab, which measures $3\frac{7}{8} \times 1\frac{7}{16} \times \frac{1}{2}$ in., is made from Arkansas Stone as well as in Carborundum. Both are excellent for imparting an admirable edge and finish to the most delicate instruments.

		s.	*d.*
Arkansas Slabs, grooved, as illustrated	each	10	0
Carborundum Slabs, grooved, as illustrated	„	3	4
„ „ **plain,** $3 \times \frac{3}{4} \times \frac{3}{8}$ in.	„	1	0

STONES FOR SHARPENING INSTRUMENTS, &c.

		s.	*d.*		*s.*	*d.*
Arkansas:						
Wheels $2\frac{1}{4}$ to 3 inches in diameter, for lathes ..	each from	13	0	to	18	0
Flat Slabs in Mahogany cases	„	3	0	„	8	0
Slips for hand, square and flat	„	1	0	„	2	6
Knife Slips with very fine edges	each	1	0			
Turkey:						
Flat Slabs in Mahogany cases	each from	4	0	to	6	0
Slips for hand, square and flat	„	0	9	„	2	0

Other Stones obtained to order.

ORDINARY COTTON-WOOL,

FOR PACKING AND FOR GENERAL PURPOSES.

		s.	*d.*
Price	per lb.	1	3

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Wedges	63
Wood Fibre	86
Wool Holders	85
Wool-Roll Clamps	10–12
Wool Rolls	10

GOLD SOLDER.

Claudius Ash & Sons Ltd

Central Depôt.
5, 6, 7, 8 & 9,
BROAD STREET,
GOLDEN SQUARE
LONDON
ENGLAND.

Branches,
MANCHESTER
LIVERPOOL
PARIS.
BERLIN.
HAMBURG.
VIENNA.
COPENHAGEN.
CHRISTIANIA.
STOCKHOLM.
ST PETERSBURG.
MOSCOW.

No. 00 GOLD SOLDER

FOR CROWN, BAR, AND BRIDGE WORK.

		s.	d.
Price	per oz.	68	0

This Solder is prepared from a highly approved formula, and gives universal satisfaction. Its colour enables it to be used with the highest grade golds.

Sold in envelopes as above.

SOLDERS FOR PLATE WORK.

			s.	d.
No. 1.	Best Quality	per oz.	63	0
No. 2.	Medium	,,	57	0
No. 3.	Most Fusible	,,	50	0

These Solders are much esteemed for their liquidity when in a state of fusion, and for the perfect union which they effect. Being prepared with the greatest care from old and well-proved formulæ, we can guarantee their purity and especially recommend their colour.

Fine Gold, flatted thin, for soldering Platinum	per oz.	92	0

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

IMPRESSION TRAYS

AND

Materials for Impressions.

CLAUDIUS ASH & SONS, LTD.

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

ADDRESS FOR TELEGRAMS:—FRENES, LONDON.
TELEPHONE NUMBER:—GERRARD, 5,258.

BRANCHES:

LIVERPOOL	78, MOUNT PLEASANT.
MANCHESTER	118*a*, OXFORD STREET.
PARIS	22, RUE DU QUATRE-SEPTEMBRE.
BERLIN	68, JÄGER-STRASSE.
HAMBURG	62 AND 63, GÄNSEMARKT.
FRANKFURT/A/MAIN	7, BÖRSENPLATZ.
VIENNA	2, SPIEGELGASSE, ECKE GRABEN.
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
STOCKHOLM	9, MALMSKILDNAS GATAN.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

STENTS

IMPRESSION COMPOSITION,

FOR TAKING

Perfect Impressions of the Mouth.

CAN BE USED FOR MANY DENTAL PURPOSES.

THE MOST RELIABLE ARTICLE IN THE MARKET.

Used by all the Leading Dentists.

TO BE HAD AT ALL DEPÔTS IN THE WORLD.

4*s*. per lb., or 6 lbs. for 21*s*.

STENTS
RENOVATING COMPOSITION.

Expressly made to be mixed with discoloured Compo, making it as Good as New. **4*s*.** per lb.

Each box of original Stents Composition bears this signature across the label.

E. S. & A. Stent.

SOLE AGENTS:

CLAUDIUS ASH & SONS,

LIMITED,

5, 6, 7, 8 and 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

MATERIALS FOR IMPRESSIONS.

CROWN COMPOSITION
(KING'S).

This Composition gives a sharper impression even than plaster, has a delightful aroma when softened, does not require renovating, does not adhere to the tray as other

compositions do, and is particularly suited for use with Fusible Metal. It is also an excellent material for use as a Matrix Plate for Lowers.

Directions for Use are enclosed in each box.

		s.	d.
Supplied in ½-lb. boxes . . .	per lb.	5	0
,, in 6-lb. lots	per lot	24	0

For STENTS COMPOSITION—see opposite page.

MATERIALS FOR IMPRESSIONS—*continued.*

PERFECTED IMPRESSION COMPOSITION.

A SUPERIOR ARTICLE FOR TAKING IMPRESSIONS OF THE MOUTH, ETC., ETC.

This Composition possesses the following qualities:—

1.—Fineness and wax-like smoothness. The impressions that are taken with it are very clear and sharp.

2.—Absolute freedom from stickiness; does not require wet fingers to manipulate it.

3.—No shrinkage.

Prepared in square cakes, pink in colour and agreeably scented. Directions for working are enclosed in each box.

		s.	*d.*
Supplied in ½-lb. boxes	per lb.	4	0
„ 6-lb. lots	„ lot	21	0

EXTRA SOFT FOR RENOVATING.

		s.	*d.*
In ½-lb. boxes	per lb.	4	0

HINDS' GODIVA COMPOSITION.

No. 1, Soft, for taking impressions of tender gums, cleft palate, &c.; also for use during cold weather.

No. 2, Medium, for ordinary cases.

No. 3, Hard, for edentulous cases, and for use during hot weather.

No. 4, Extra Soft, for renovating and for taking bites.

The Composition is agreeably scented, and full directions for use are enclosed in each box.

		s.	*d.*
In ½-lb. boxes	per lb.	4	0
In 6-lb. lots	„ lot	21	0

GLOBE MODELLING COMPOSITION,

FOR TAKING IMPRESSIONS OF THE MOUTH, &c.

This preparation has met with much favour, and is now very extensively used. It is recommended as a first-class article, possessing all the qualities that are necessary for obtaining a faithful impression of the mouth.

		s.	*d.*
Supplied in ½-lb. boxes	per lb.	3	0
In 6-lb. lots	,, lot	16	6

PINK GUTTA-PERCHA.

(BEST QUALITY.)

In ½-lb. boxes, with full directions for use and for renovating.

		s.	*d.*
Supplied in thick sheets, wrapped in tin foil	per lb.	7	9
,, thin ,, ,, ,,	,,	7	9

Mr. W. H. Coffin says that if this Gutta-Percha be placed in glycerine, it will keep good for an indefinite length of time. He uses an earthenware jar with lid for this purpose, but any other vessel having a wide mouth will serve equally well.

PARAFFIN WAX.

Of a delicate pink colour, in round cakes.

		s.	*d.*
Supplied in ½-lb. boxes	per lb.	3	0

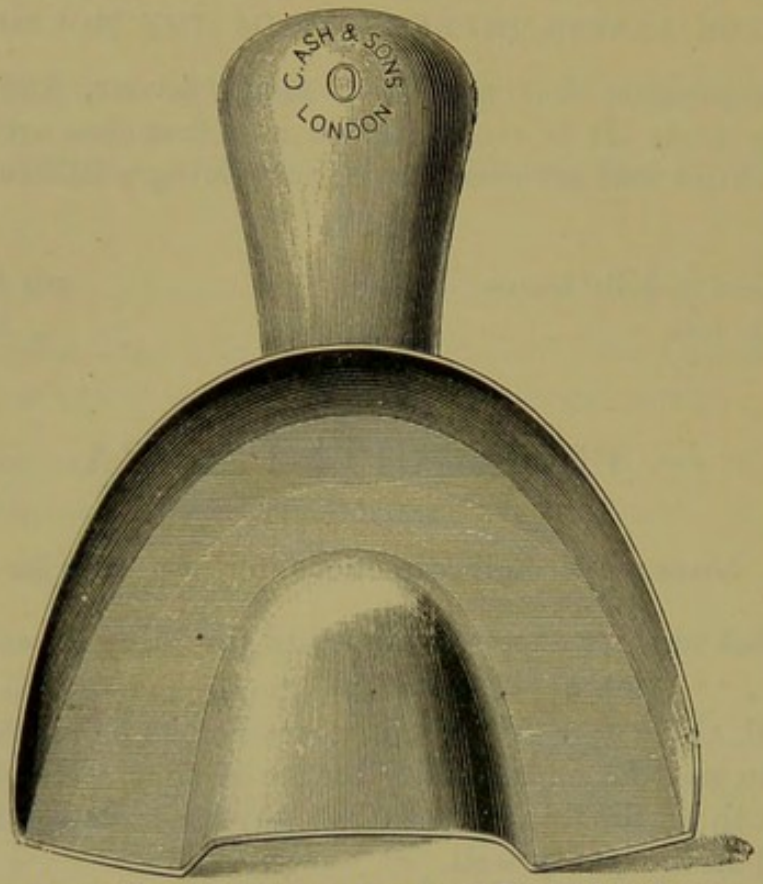
PLASTER OF PARIS FOR IMPRESSIONS

(EXTRA SUPERFINE).

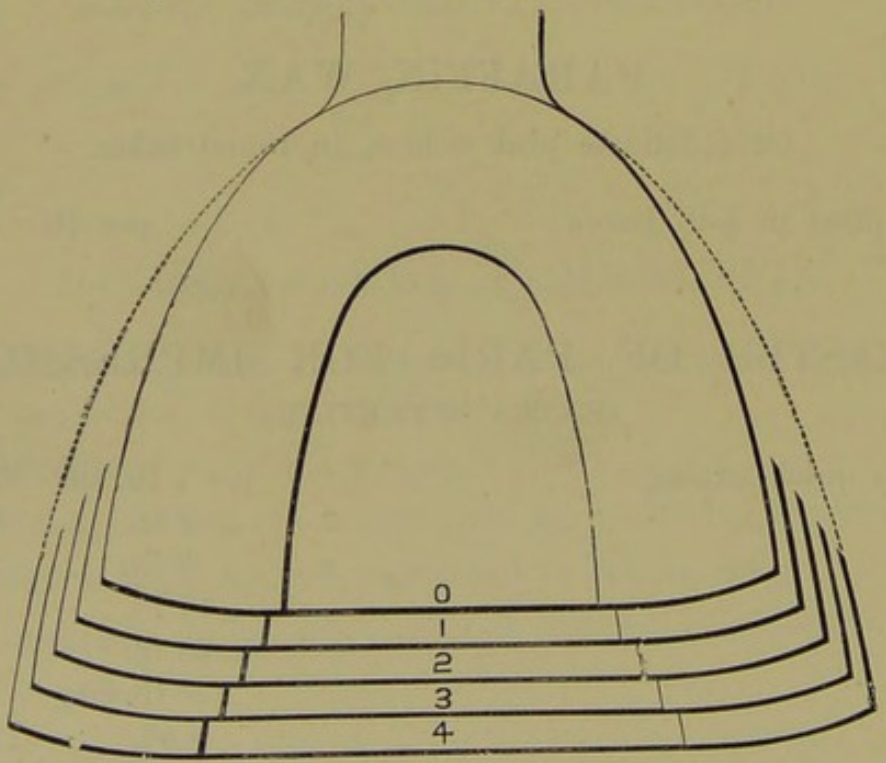
		s.	*d.*
Very quick-setting	per 1 lb. tin	0	6
,, ,, ...	,, 2 lb. ,,	0	9
,, ,, ...	,, 7 lb. ,,	2	0
,, ,, ...	,, 14 lb. ,,	3	9
,, ,, ...	,, 28 lb. ,,	6	0
,, ,, ...	,, 7 lb. bag	1	0
,, ,, ...	,, cwt.	12	6

Other Impression Materials supplied to order.

UPPER IMPRESSION TRAY.—Form A.



Depth of Tray $\frac{5}{8}$ inch. Height of Palate $\frac{1}{2}$ inch.



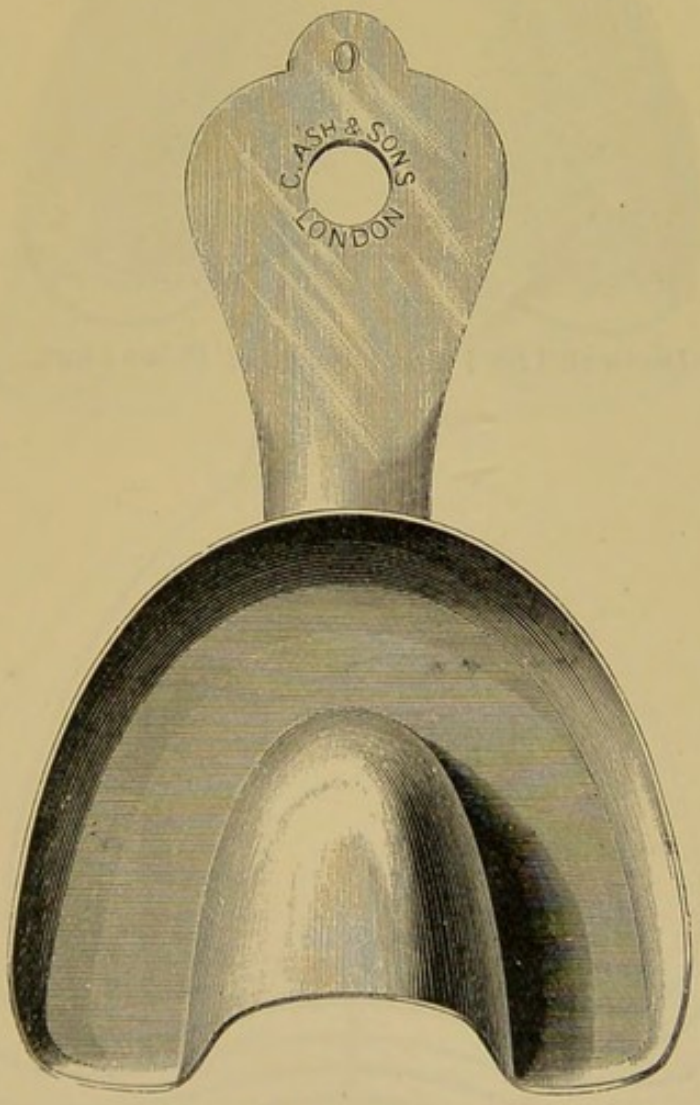
		s.	d.
In Britannia Metal, Sizes 0–4	each	2	0
In German Silver, „ 0–4, Nickel-plated	„	1	6
In Aluminium, „ 0–4	„	1	0

UPPER IMPRESSION TRAY.—Form Ax.

This Tray is narrow, and long enough "to embrace the tuberosities" of the upper jaw. It meets the want mentioned by Dr. Bogue, in *The Journal of the British Dental Association* for November 15, 1886.

Although we have always in stock a large variety of Impression Trays, of different shapes and sizes, which are found suitable for most cases, we may mention that we are prepared to make new forms either to suit special cases or for general use, provided working sketches or models are sent to us.

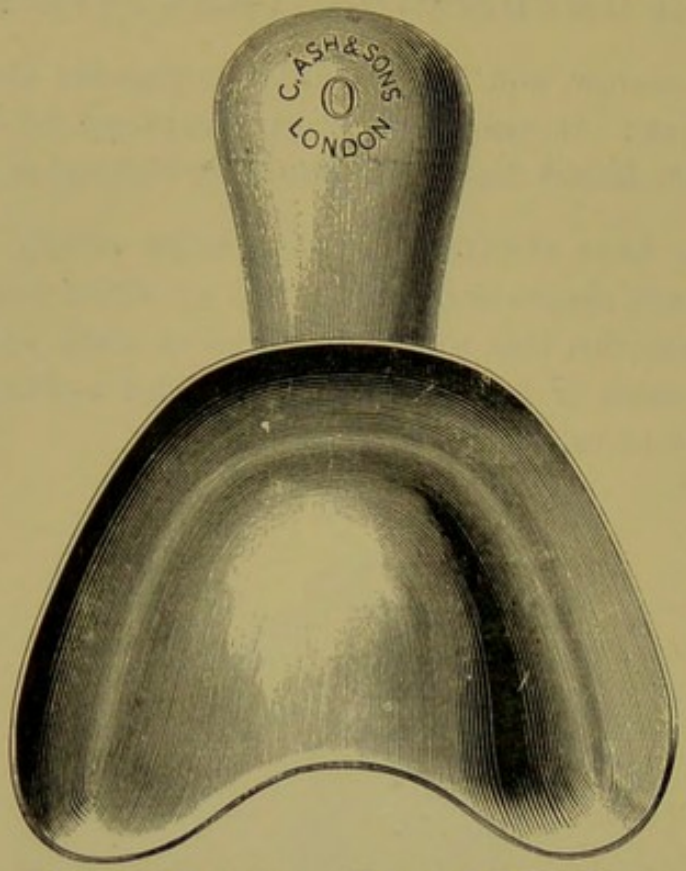
Ax.



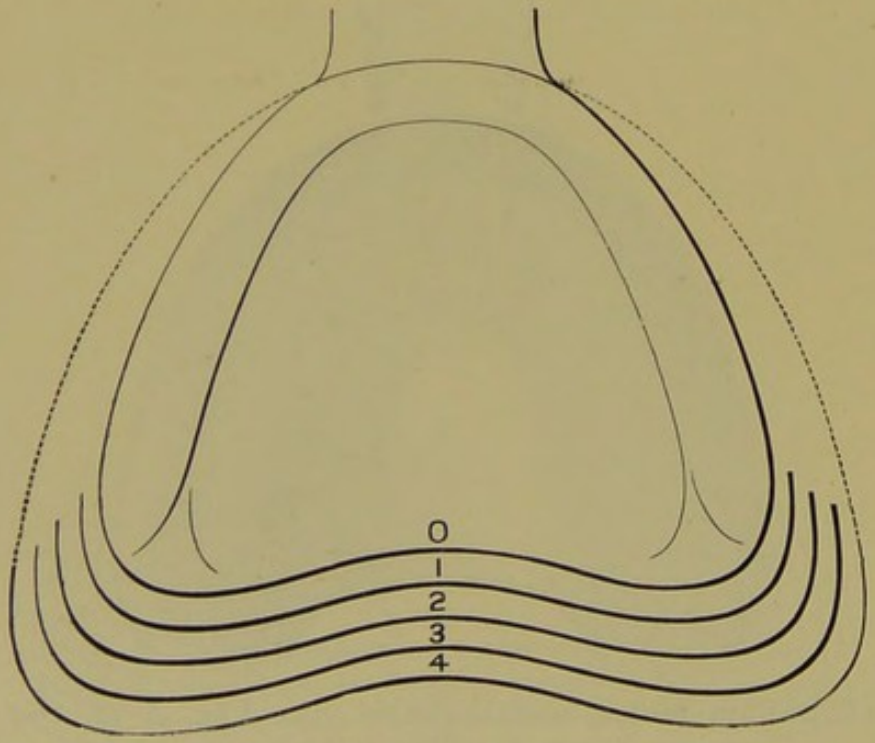
Made of Britannia Metal, with handles like Fig. A on the previous page, in Sizes 0 to 4.

		s.	*d.*
Price, any size	each	2	0

UPPER IMPRESSION TRAY.—Form B.

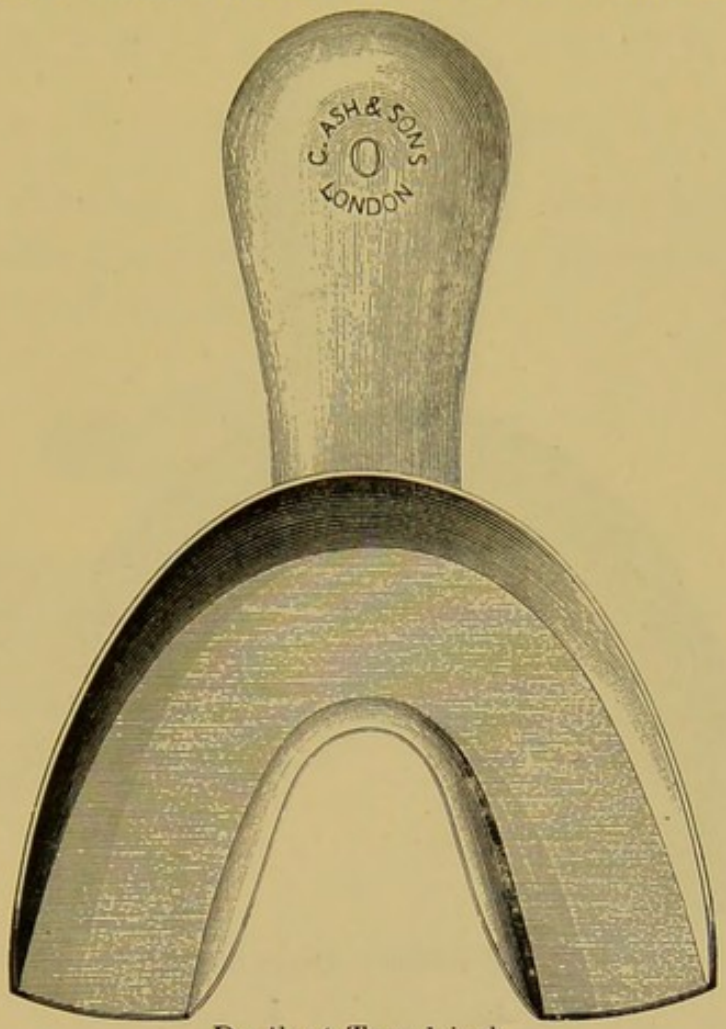


Depth of Tray $\frac{3}{16}$ inch. Height of Palate $\frac{3}{32}$ inch.

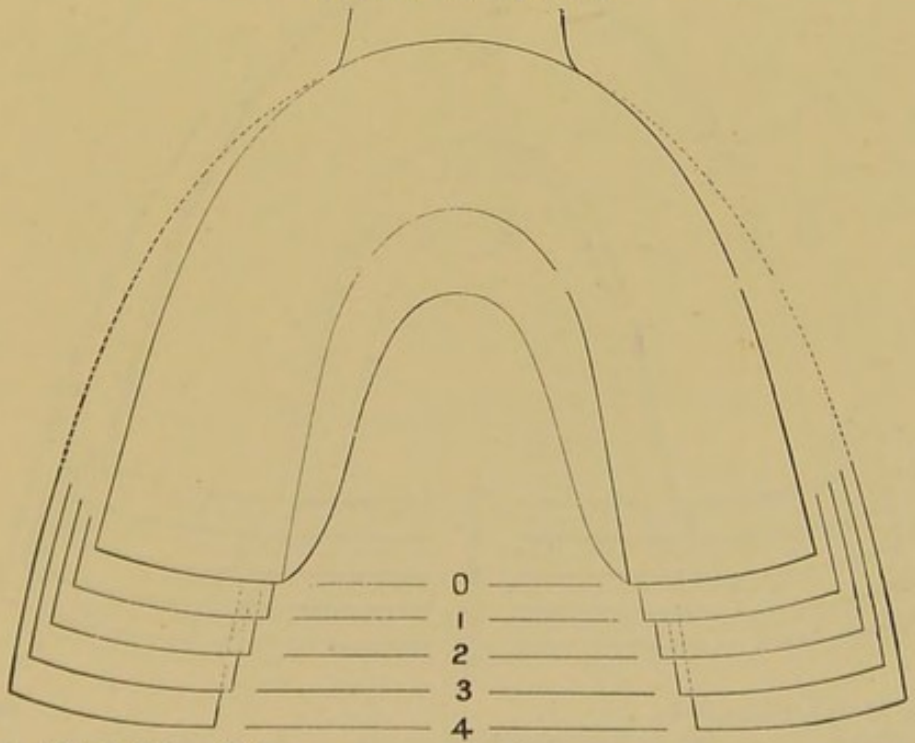


		s.	d.
In Britannia Metal, Sizes 0–4	each	1	6
In German Silver, „ 0–4, Nickel-plated	„	1	6
In Aluminium, „ 0–4	„	1	0

UPPER IMPRESSION TRAY.—FORM C.

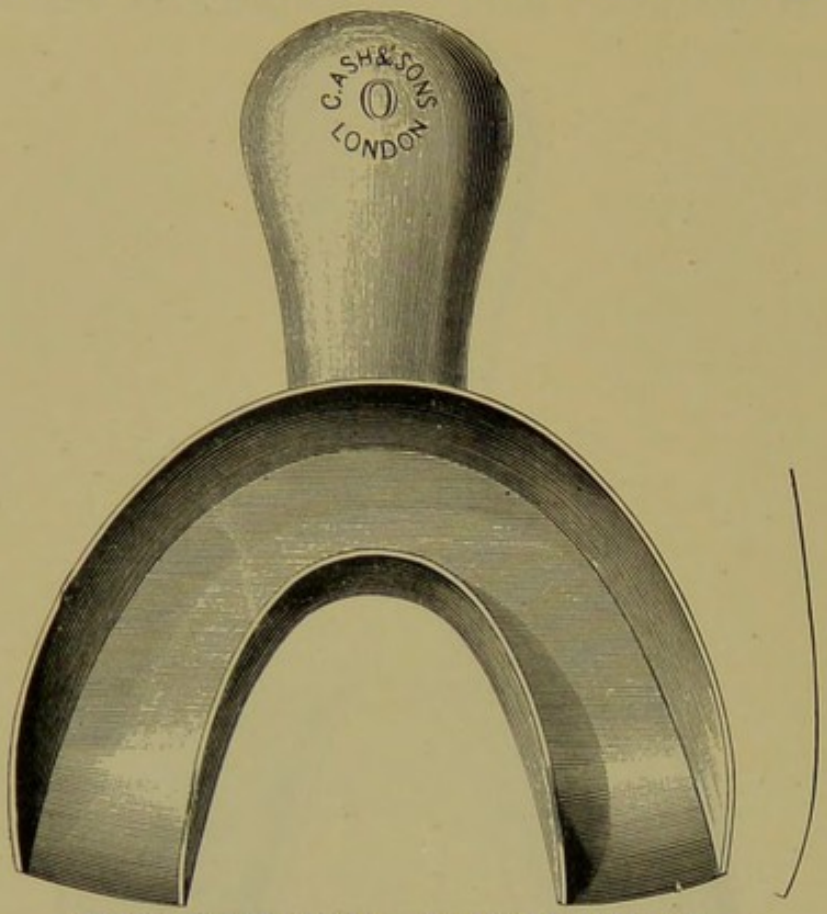


Depth of Tray ½ inch.

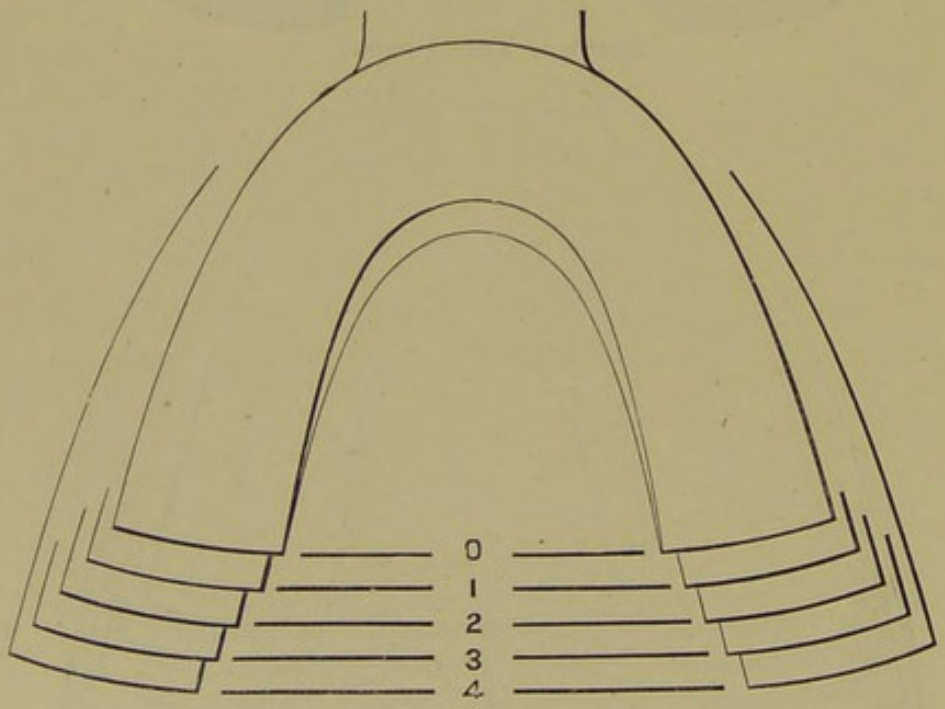


		s.	d.
In Britannia Metal, Sizes 0–4	each	1	6
In German Silver, „ 00–4, Nickel-plated	„	1	6
In Aluminium, „ 00–4	„	1	0

LOWER IMPRESSION TRAY.—FORM C.



WITH BENT ENDS. Depth of Tray ½ inch.

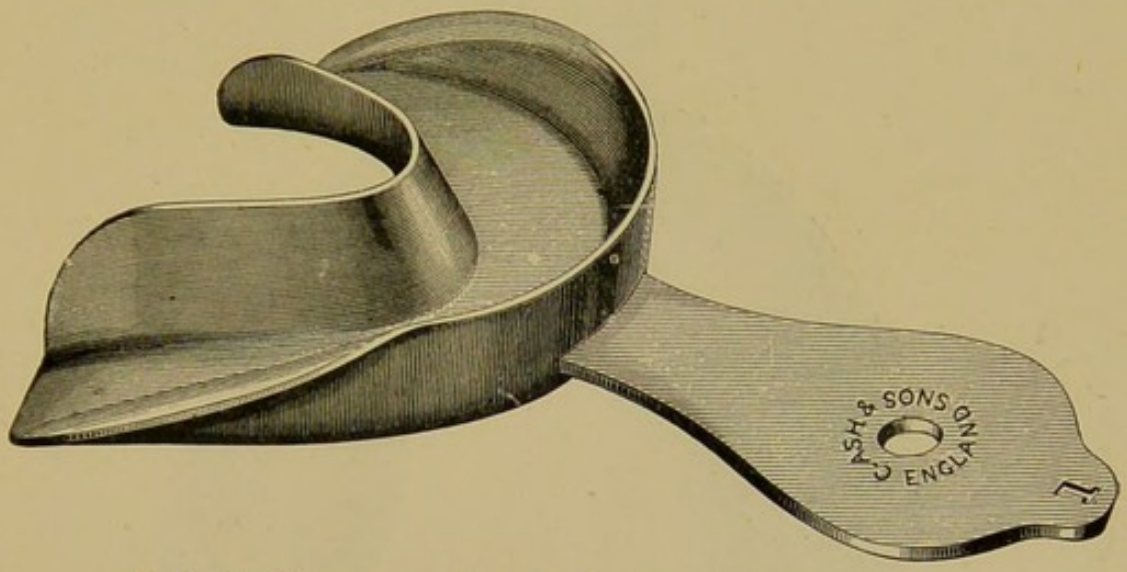


		s.	*d.*
In Britannia Metal, Sizes 0–4	each	1	6
In German Silver, „ 00–4, Nickel-plated	„	1	6
In Aluminium, „ 00–4	„	1	0

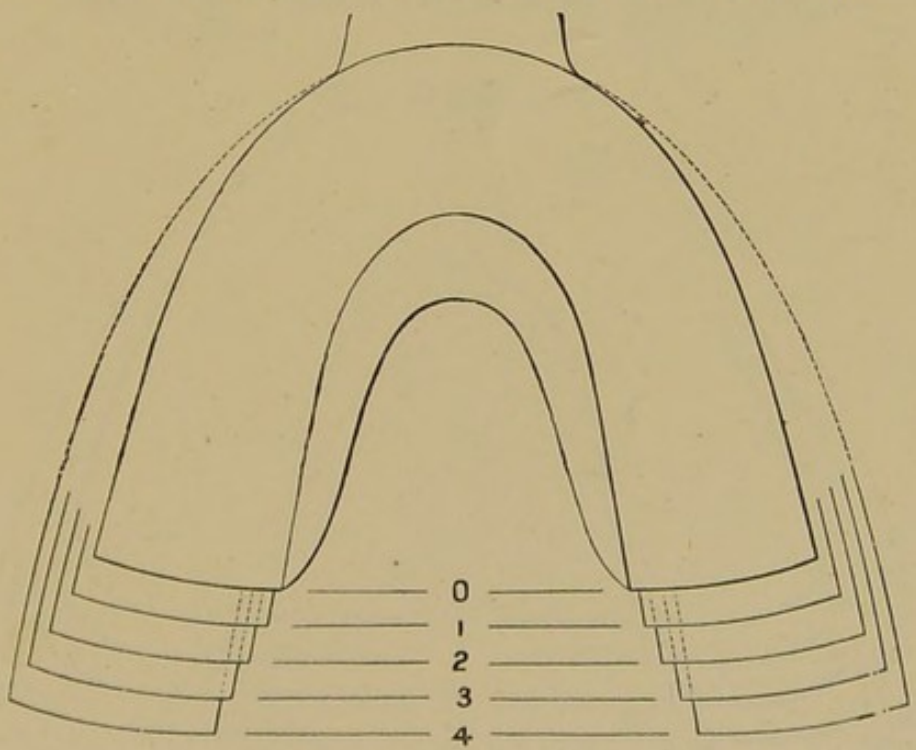
LOWER IMPRESSION TRAYS.

(Mr. A. H. Farebrother's.)

The chief advantage possessed by these Trays is the turned-back sides on the outer rim, which are intended to prevent the metal cutting into the muscles of the mouth.



Made in Sizes 0, 1, 2, 3, 4, shown in these outlines.

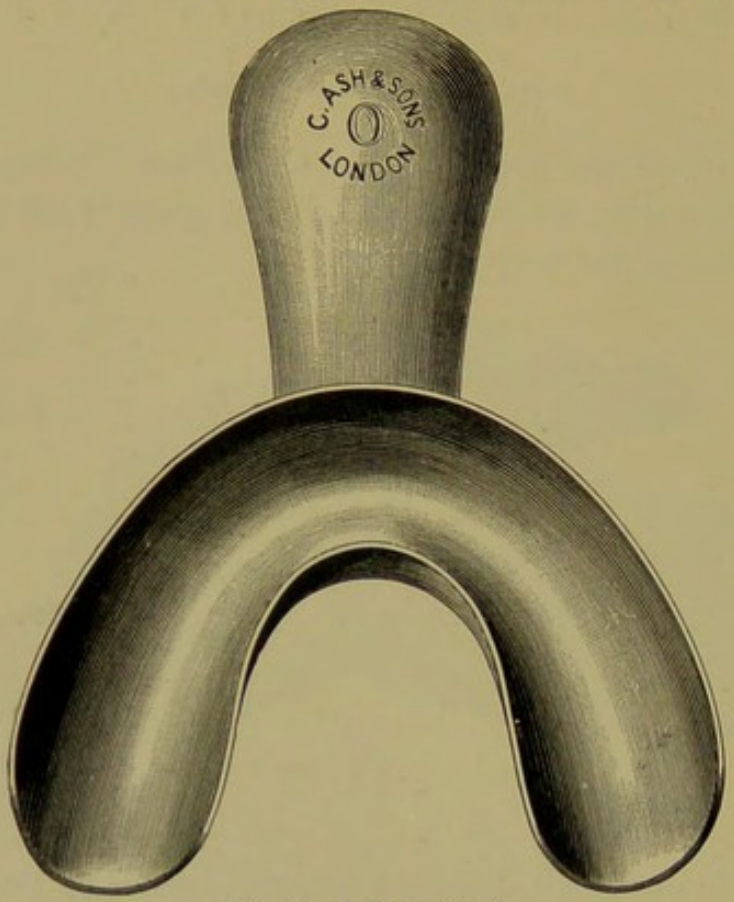


		s.	d.
In German Silver, Sizes 0–4, Nickel-plated	each	1	9
In Aluminium, „ 0–4	„	1	0

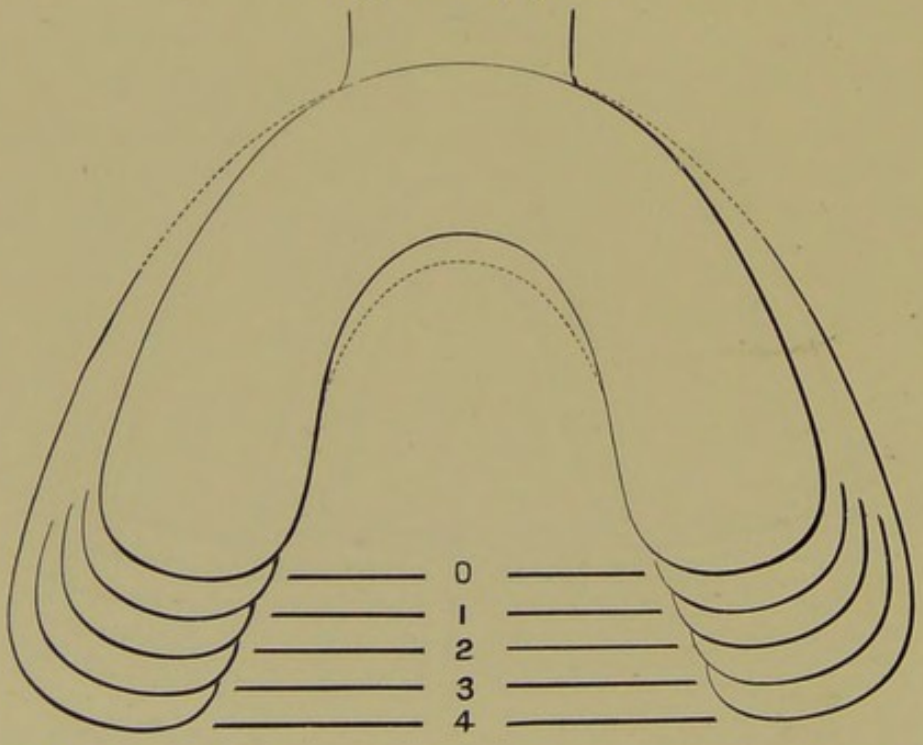
J

A 3

LOWER IMPRESSION TRAY.—FORM E.

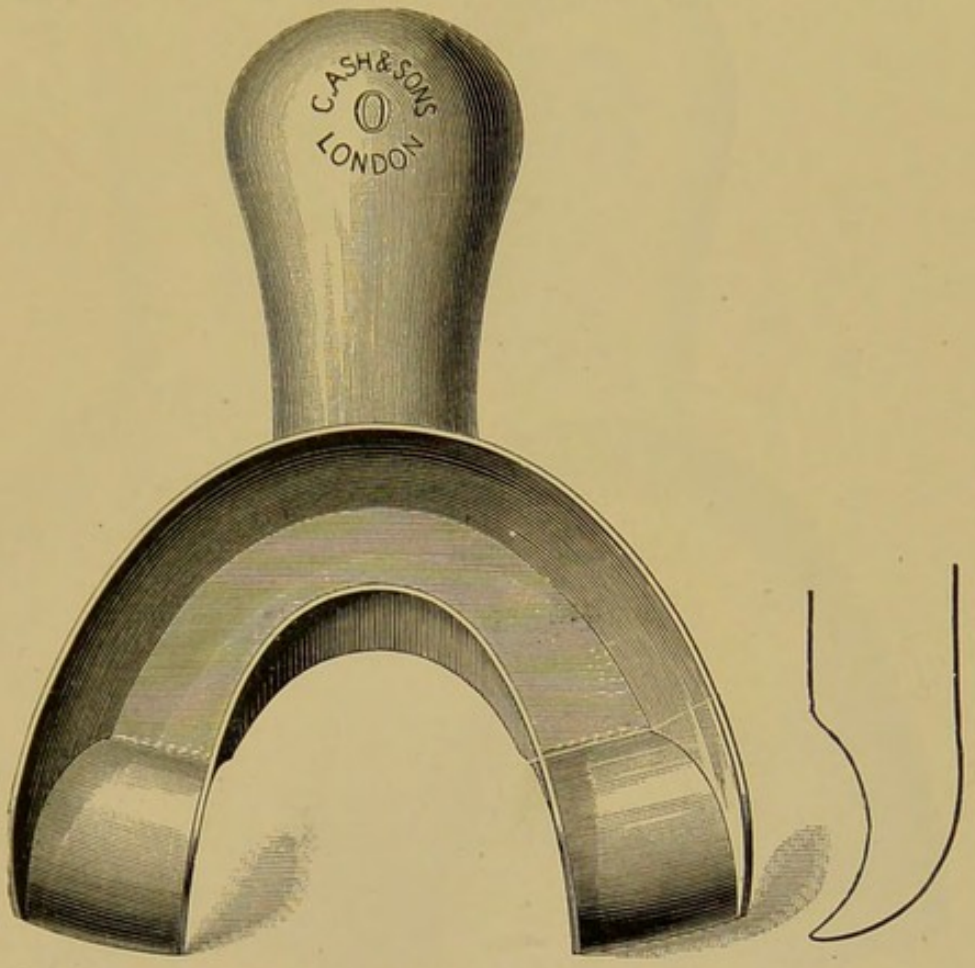


Depth of Tray $\frac{3}{8}$ inch.

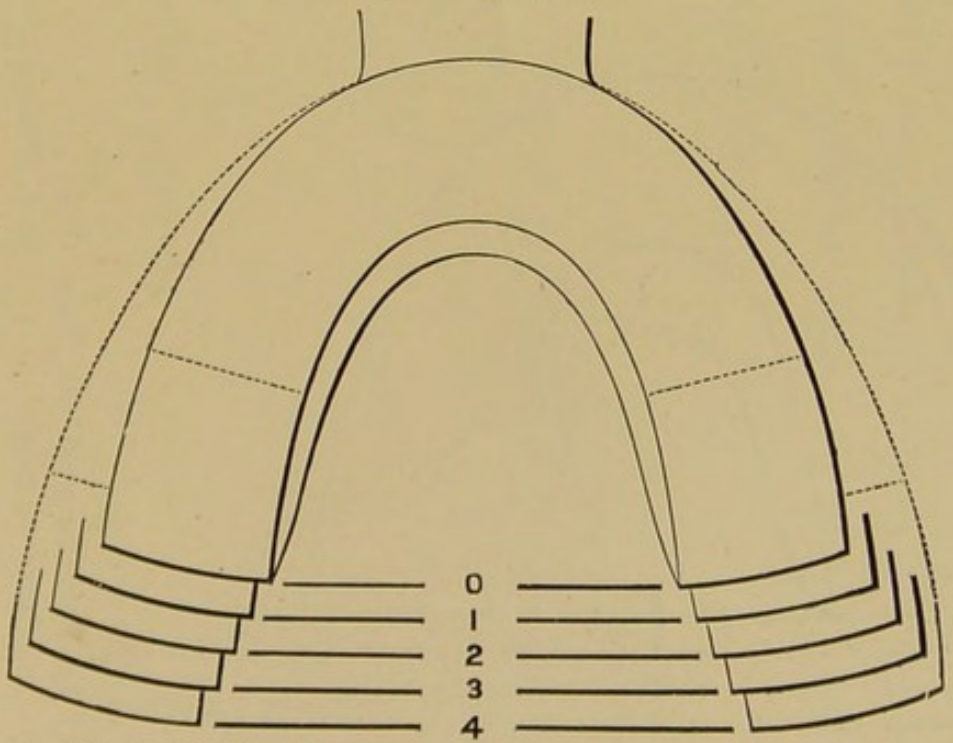


		s.	d.
In Britannia Metal, Sizes 0–4	each	1	6
In German Silver, „ 0–4, Nickel-plated	„	1	6
In Aluminium, „ 0–4	„	1	0

LOWER IMPRESSION TRAY.—Form F.

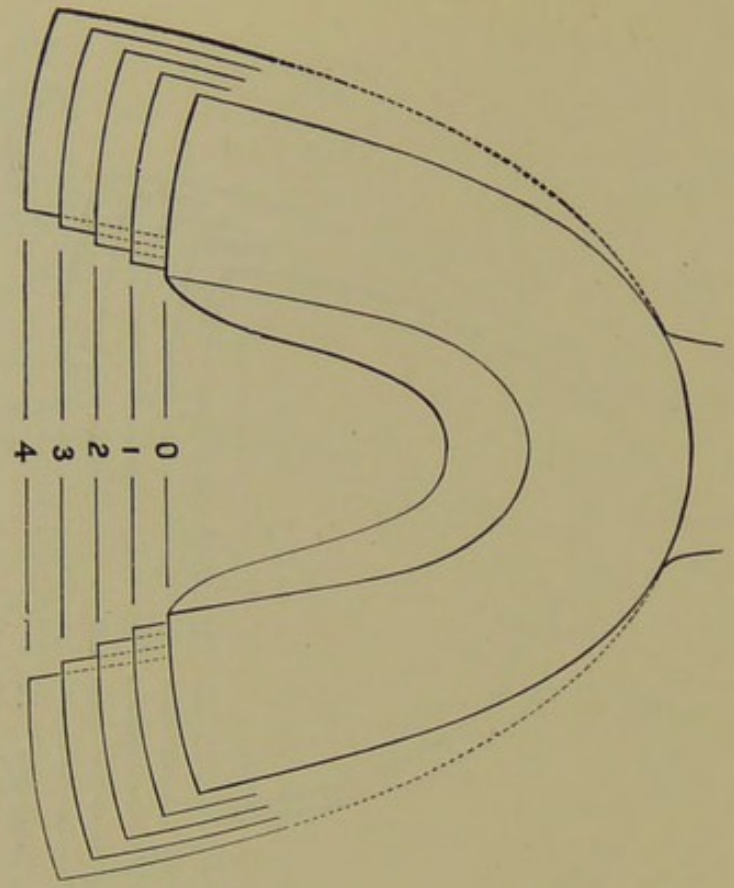


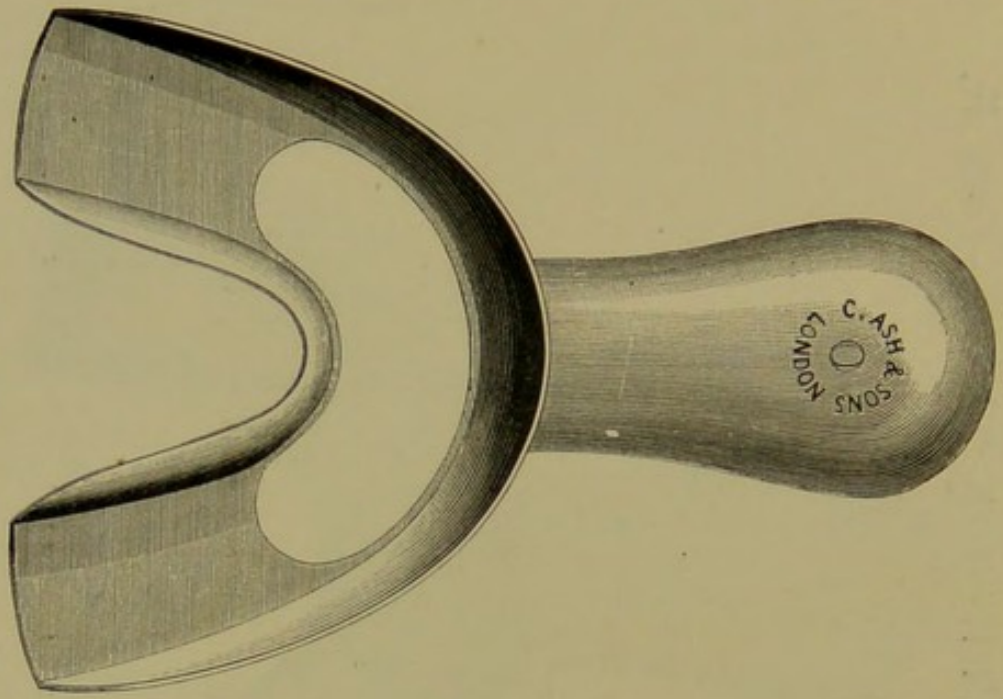
Depth of Tray ½ inch.



	s.	d
In Britannia Metal only, Sizes 0–4 .. .. each	2	0

A 4





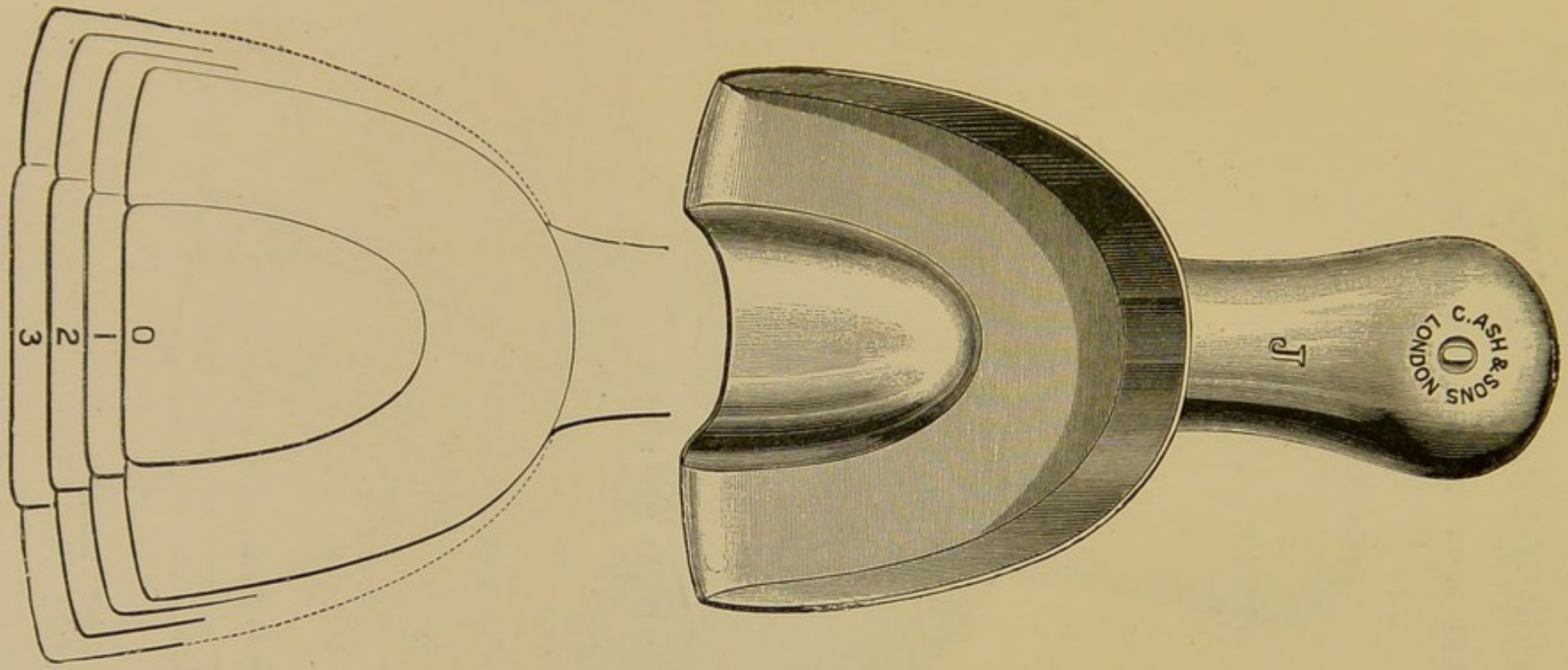
UPPER IMPRESSION TRAY.—Form G.

Depth of Tray ½ inch.

		s.	d.
In Britannia Metal, Sizes 0–4	each	2	0
In German Silver, „ 0–4, Nickel-plated	„	1	6

This Tray is also made with bent ends for Lowers:

In Britannia Metal, Sizes 0–4	each	2	0
In German Silver, „ 0–4, Nickel-plated	„	1	6



UPPER IMPRESSION TRAY.—Form J.

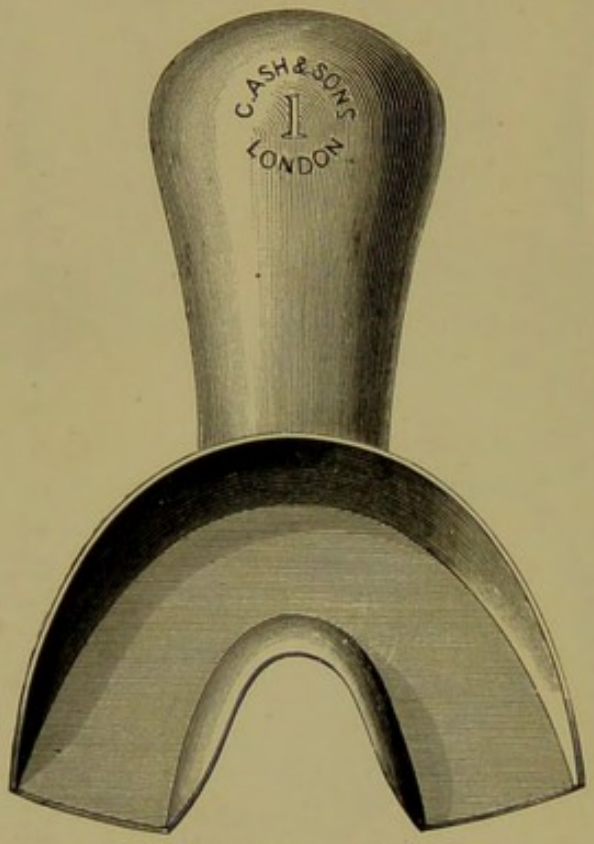
WITH NARROW PALATE AND SLIGHTLY TURNED-UP ENDS.

Depth of Tray $\frac{5}{8}$ inch. Height of Palate $\frac{9}{16}$ inch.

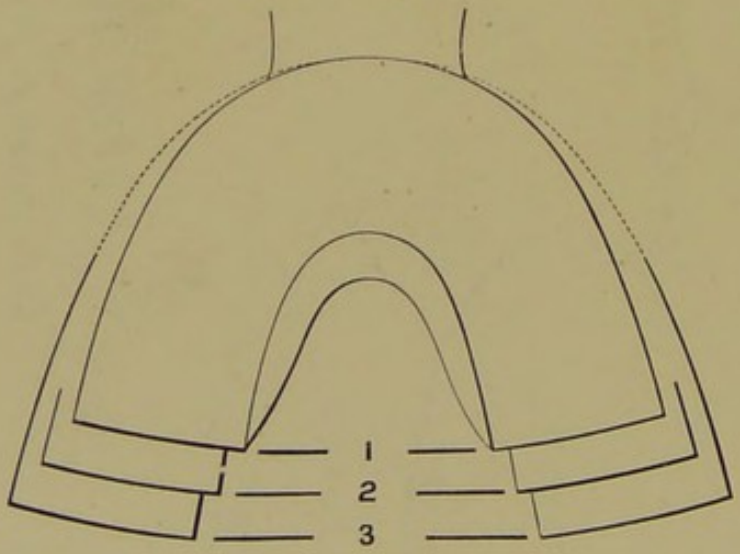
		s.	*d.*
In Britannia Metal, Sizes 0, 1, 2, 3, 4	each	2	0
In German Silver, Nickel-plated, Sizes 0, 1, 2, 3, 4	„	1	9

IMPRESSION TRAY.—Form K.

FOR UPPER AND LOWER FRONT PIECES, AND FOR REGULATION CASES.



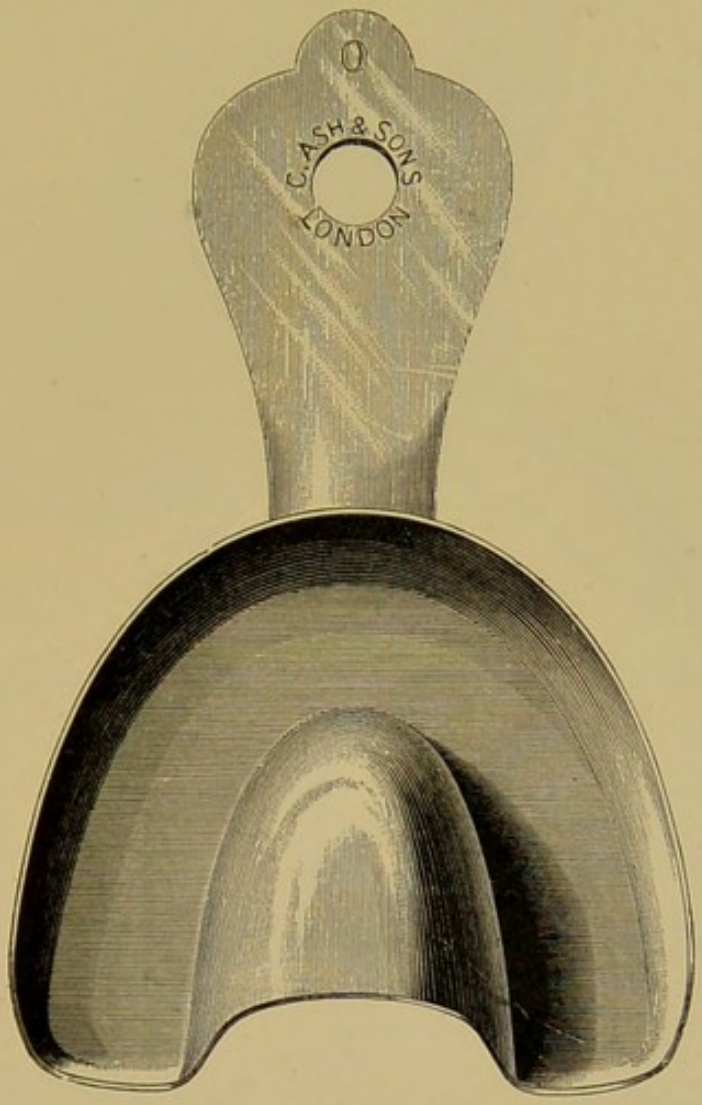
Depth of Tray ½ inch.



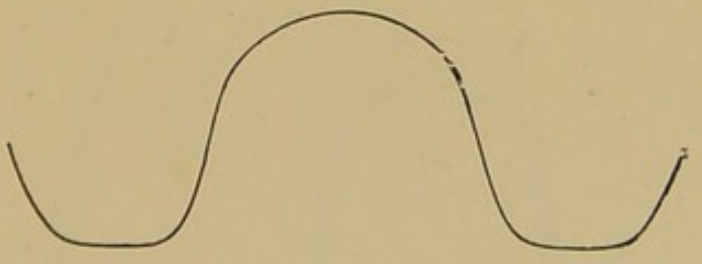
			s.	d.
In Britannia Metal, Sizes 1, 2, 3	.. ..	each	1	3
In German Silver, „ 1, 2, 3, Nickel-plated	.. ..	„	1	6
In Aluminium, „ 1, 2, 3	.. ..	„	1	0

UPPER IMPRESSION TRAY.

EXTRA LONG AND DEEP.



This outline shows depth of Tray and height of Palate.



Supplied in three sizes as under:—

	Length.	Width.	Depth.	Height of Palate.		
No. 0 ..	2 ..	$2\frac{3}{8}$ ..	$\frac{1}{2}$ ..	$\frac{7}{8}$ inches.		
„ 1 ..	$2\frac{1}{4}$ ..	$2\frac{1}{2}$ ..	$\frac{9}{16}$ ..	1 „		
„ 2 ..	$2\frac{3}{8}$ ..	$2\frac{5}{8}$ ..	$\frac{9}{16}$ ..	$1\frac{1}{8}$ „		*s. d.*
In German Silver, Sizes 0–2, Nickel-plated ..		..	..	..	each	1 6
In Aluminium, „ 0–2 ..	..	..	..	..	„	1 0

BITE FRAME.

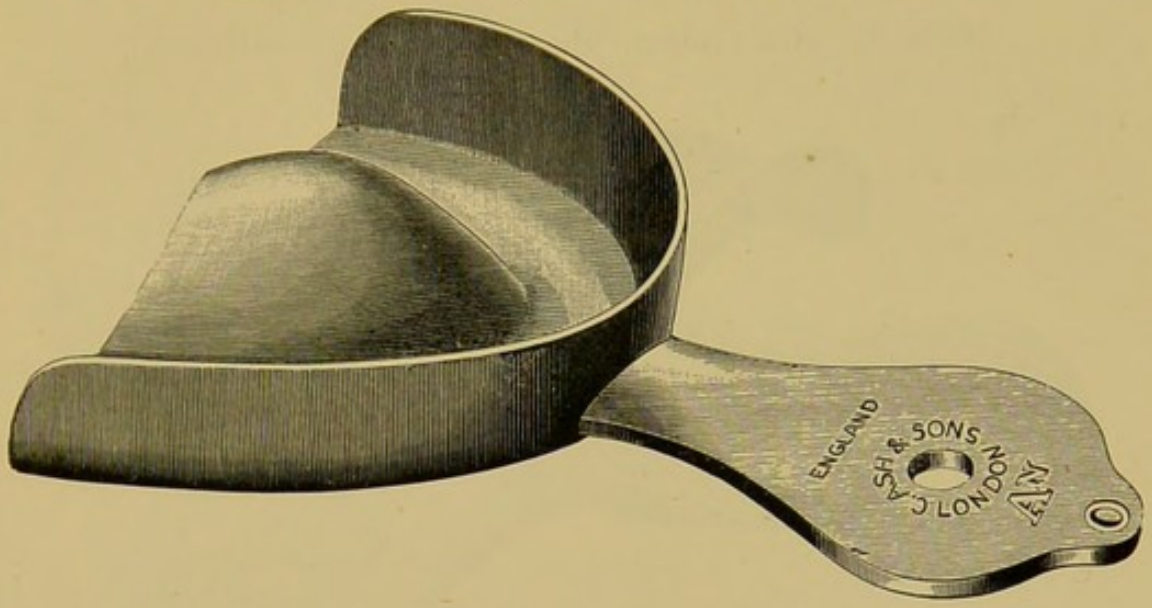
Made of German Silver in four Sizes—0, 1, 2, 3, Nickel-plated .. .. each

s. d.
1 6

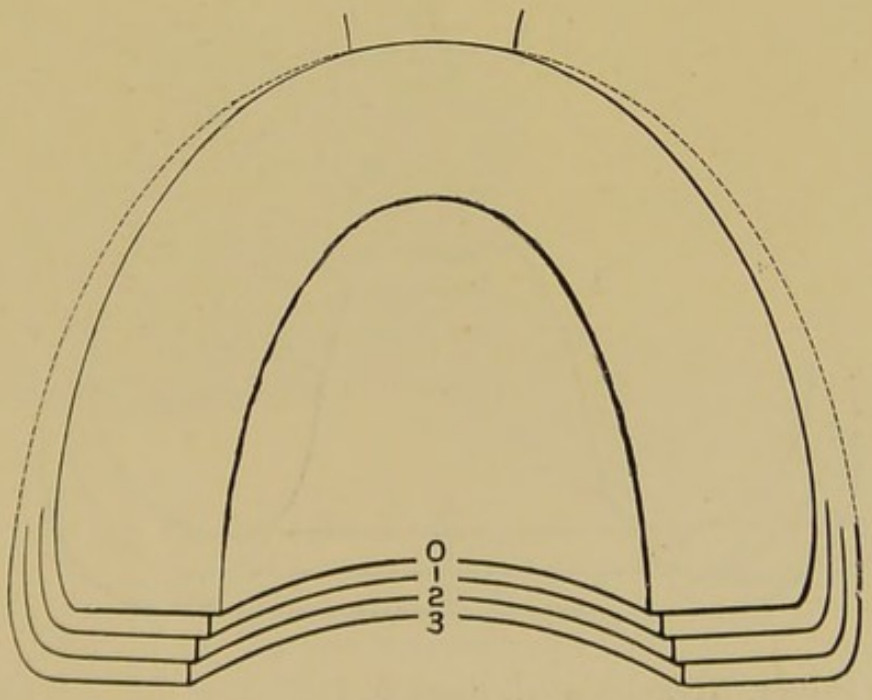
UPPER TRAY WITH TAPERING PALATE.—

FORM A^N.

Made in four sizes, shown below in outline.



This shows depth of Tray and height of Palate.

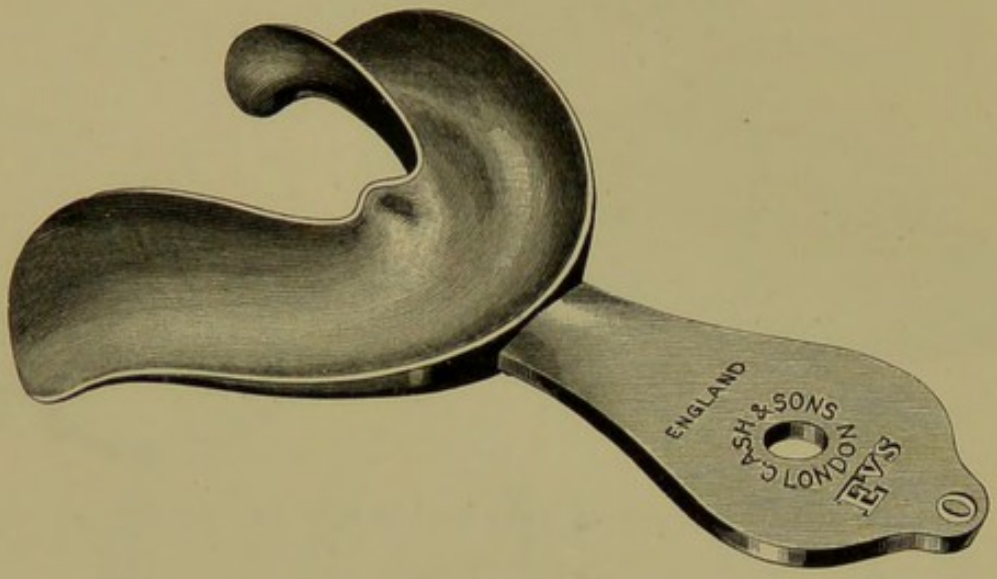


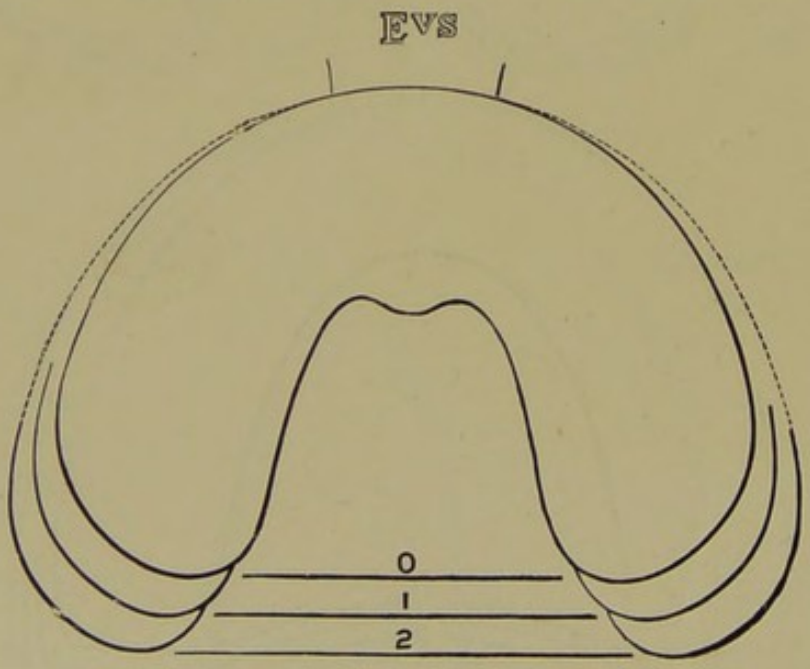
		s.	d.
In German Silver, Nickel-plated, Sizes 0 to 3	each	1	9
J	A 5		

LOWER IMPRESSION TRAY.—FORM EVS.

Very shallow for edentulous cases.

Made in three sizes, shown below in outline.

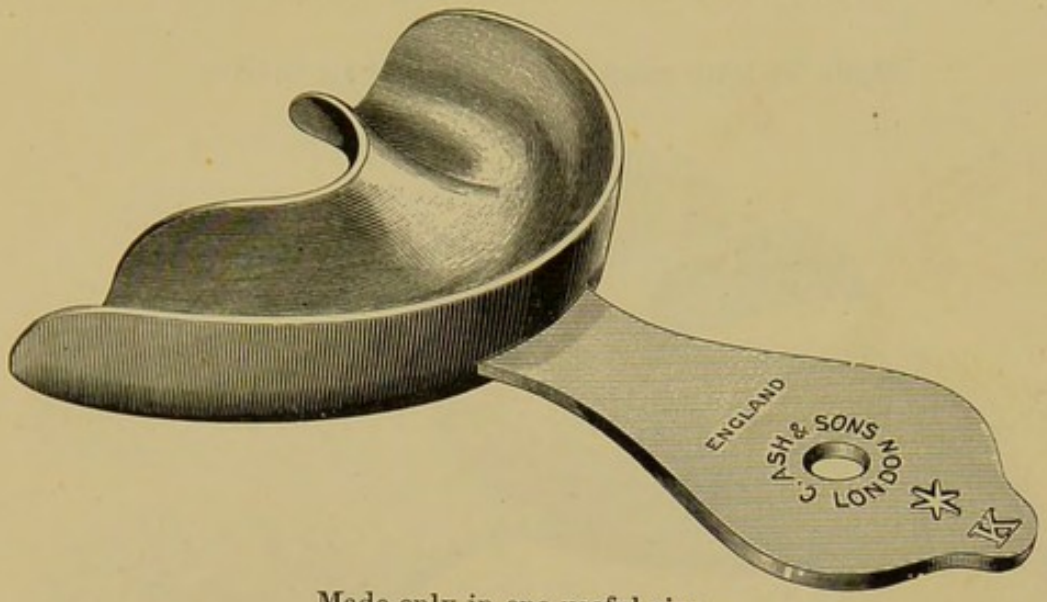




	s.	*d.*
In German Silver, Nickel-plated, Sizes 0, 1, 2 .. each	1	9
In Aluminium, Sizes 0, 1, 2 .. .. „	1	0

IMPRESSION TRAYS.—Form K*.

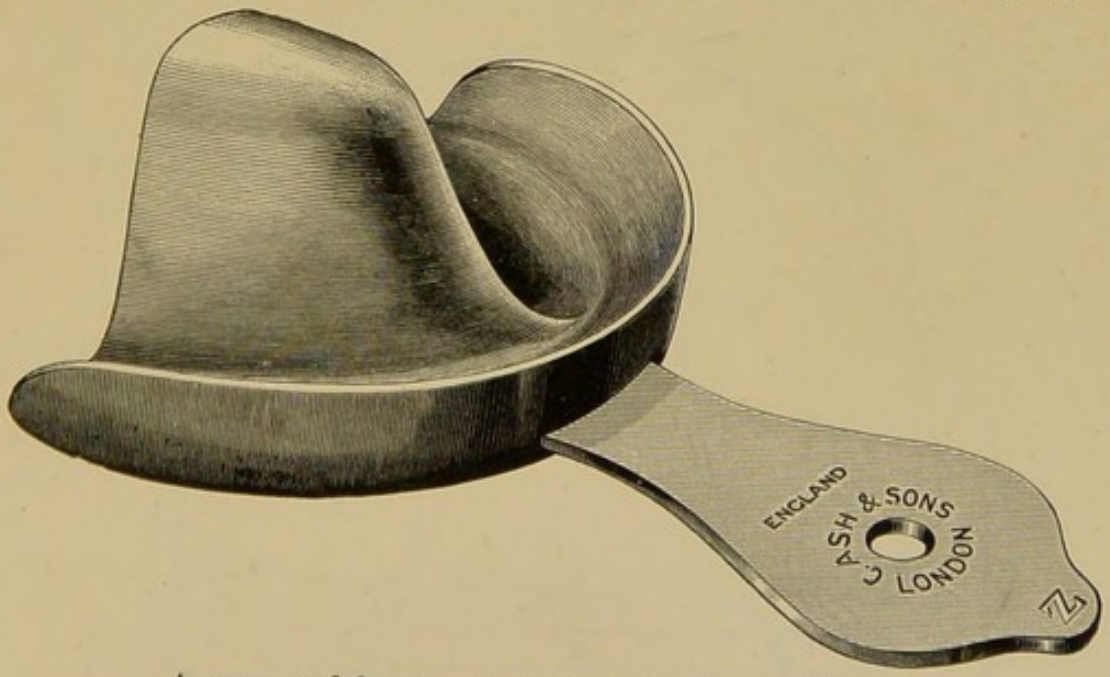
UPPER, FOR FRONT PIECES.



Made only in one useful size.

		s.	d.
In German Silver, Nickel-plated	each	1	9
In Aluminium	„	1	0

UPPER WITH EXTRA HIGH PALATE.—Form Z.

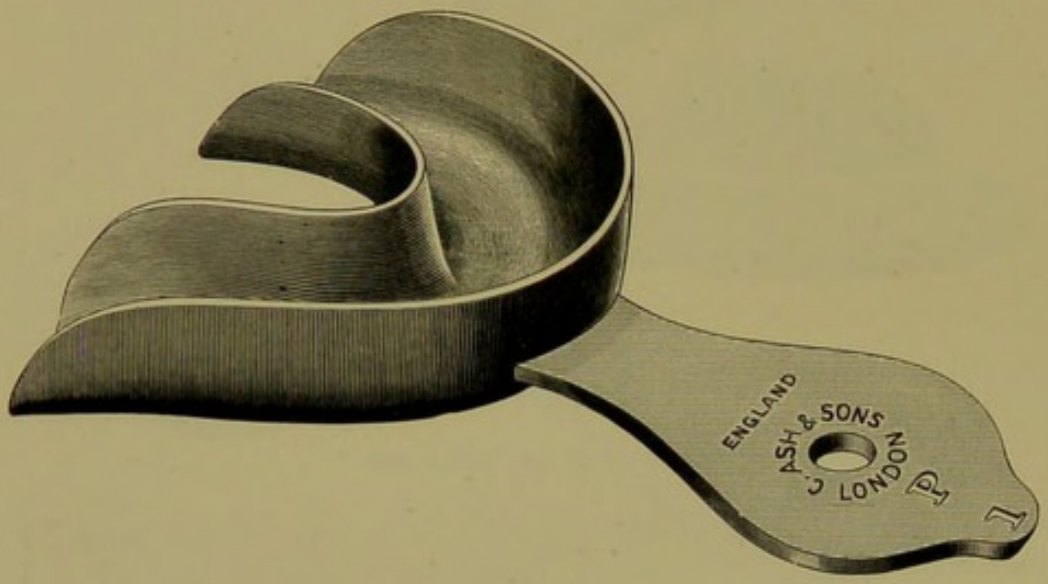


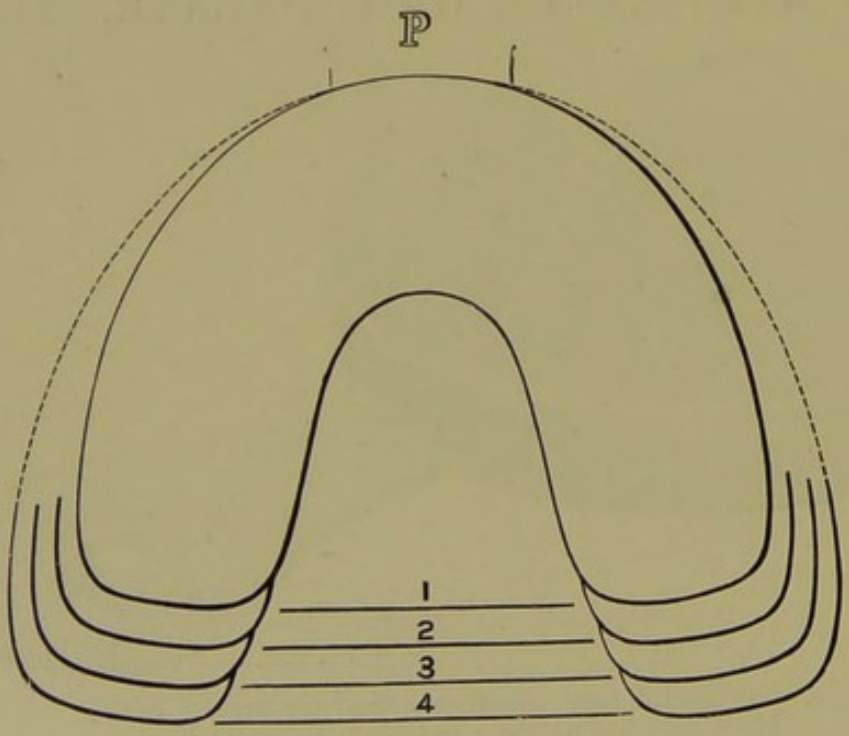
A very useful tray, much esteemed for special cases.
Made only in two sizes, ordinary and extra long.

		s.	d.
In German Silver, Nickel-plated	each	1	9
In Aluminium	„	1	0

LOWER IMPRESSION TRAY.—Form P.

Made in four sizes, shown below in outline.

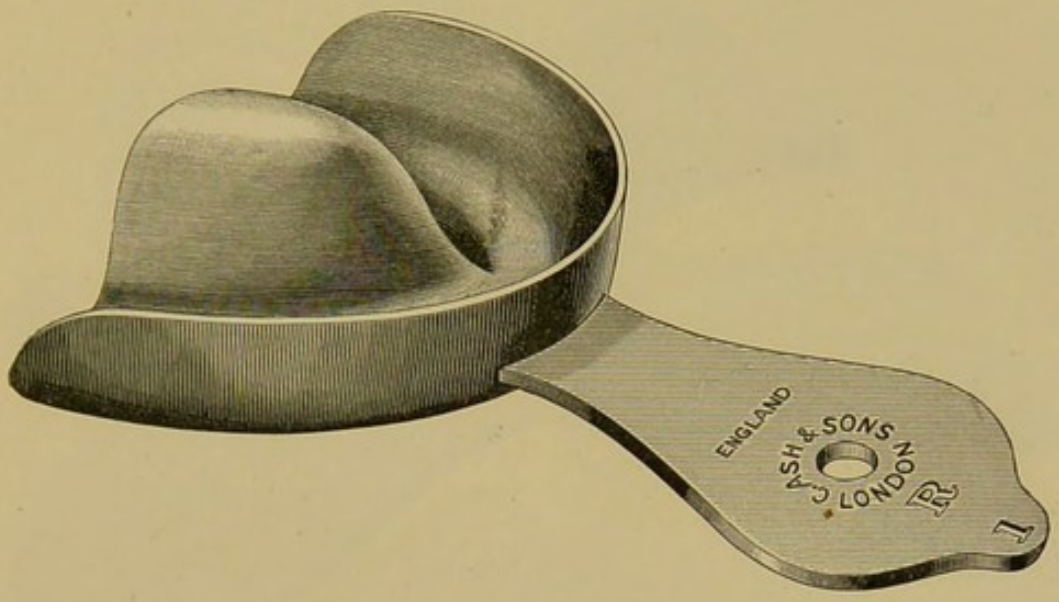




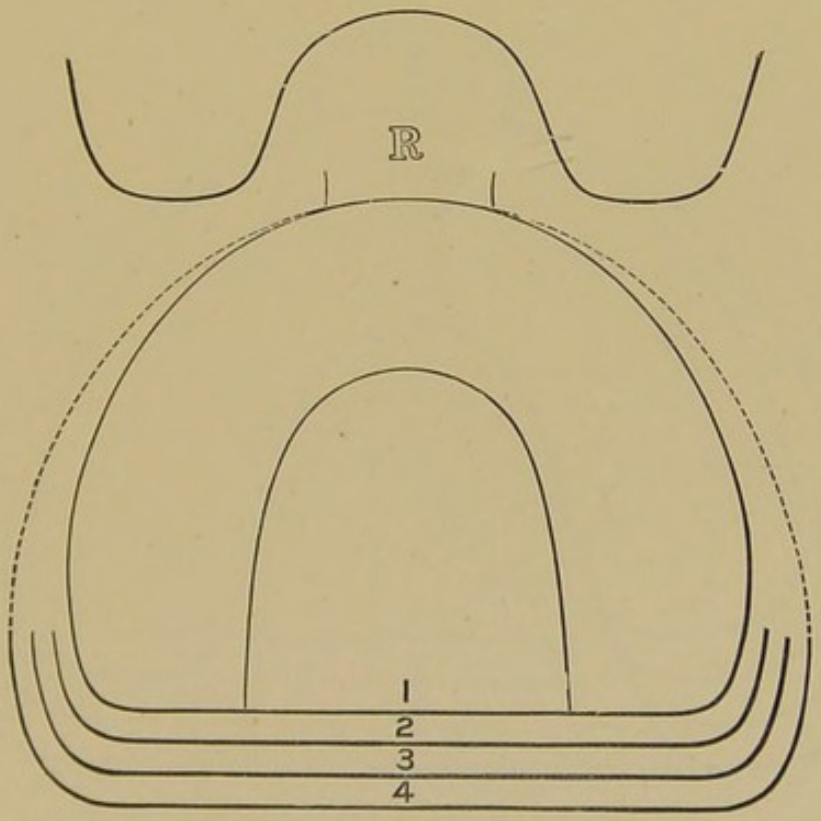
		s.	d.
In German Silver, Sizes 1–4, Nickel-plated	each	1	9
In Aluminium, „ 1–4	„	1	0

UPPER IMPRESSION TRAY.—Form R.

Made in four sizes, shown below in outline.



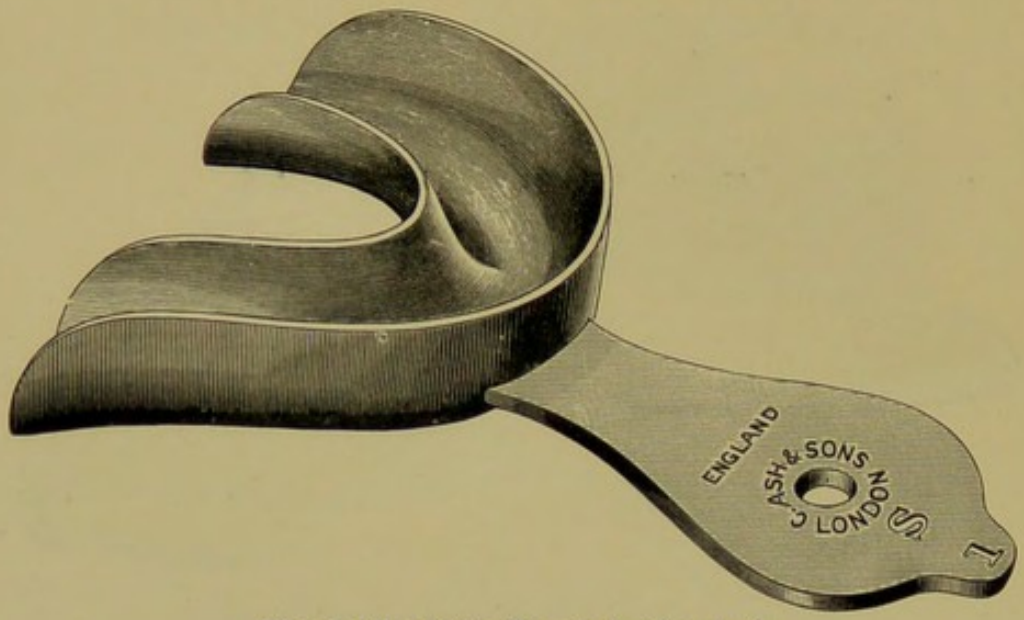
This shows depth of Tray and height of Palate.



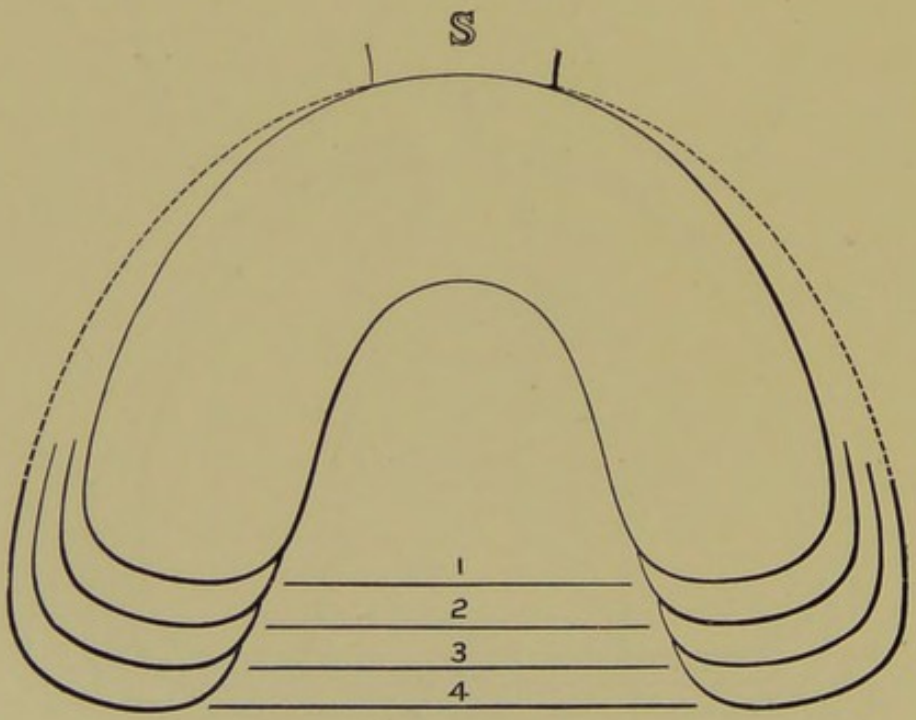
		s.	d.
In German Silver, Sizes 1–4, Nickel-plated	each	1	9
In Aluminium, „ 1–4	„	1	0

LOWER IMPRESSION TRAY.—Form S.

Made in four sizes, shown below in outline;
Size 1 is also made extra long in German Silver.



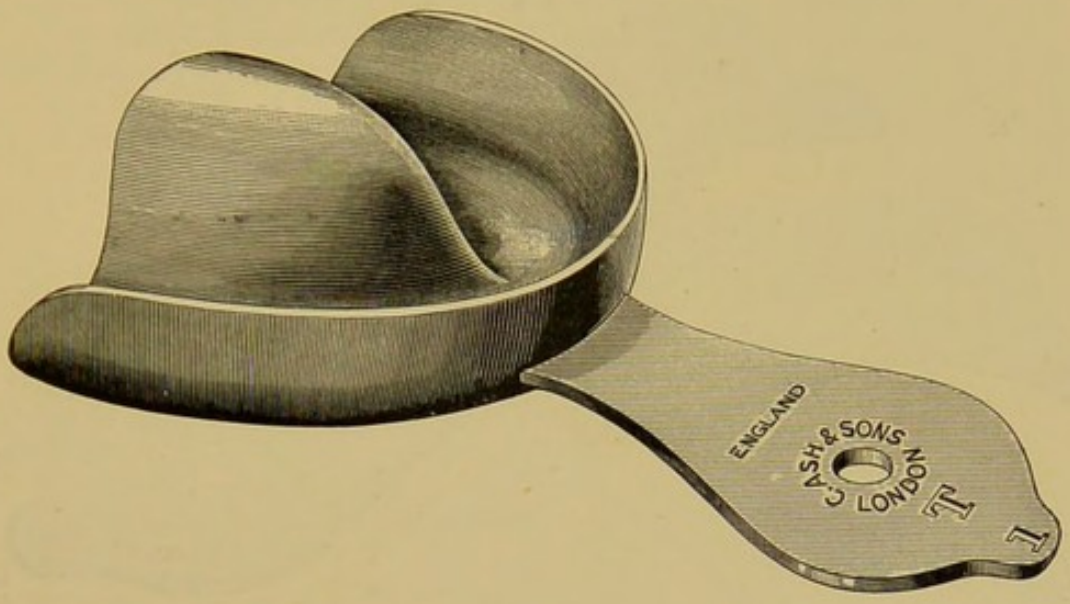
The depth of this Tray is half an inch.



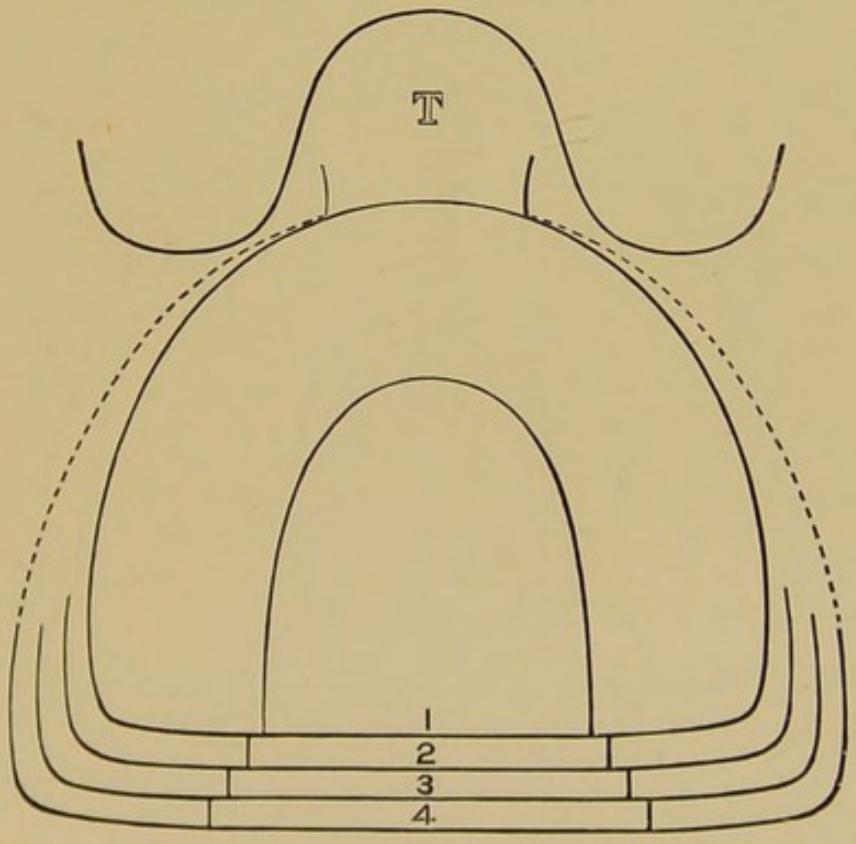
							s.	*d.*
In German Silver,	Sizes 1–4,	Nickel-plated	..	..	each		1	9
„	„	Size 1,	„	extra long	..	„	1	9
In Aluminium,	Sizes 1–4	..	..	..	..	„	1	0

UPPER IMPRESSION TRAY.—FORM T.

Made in four sizes, shown below in outline.



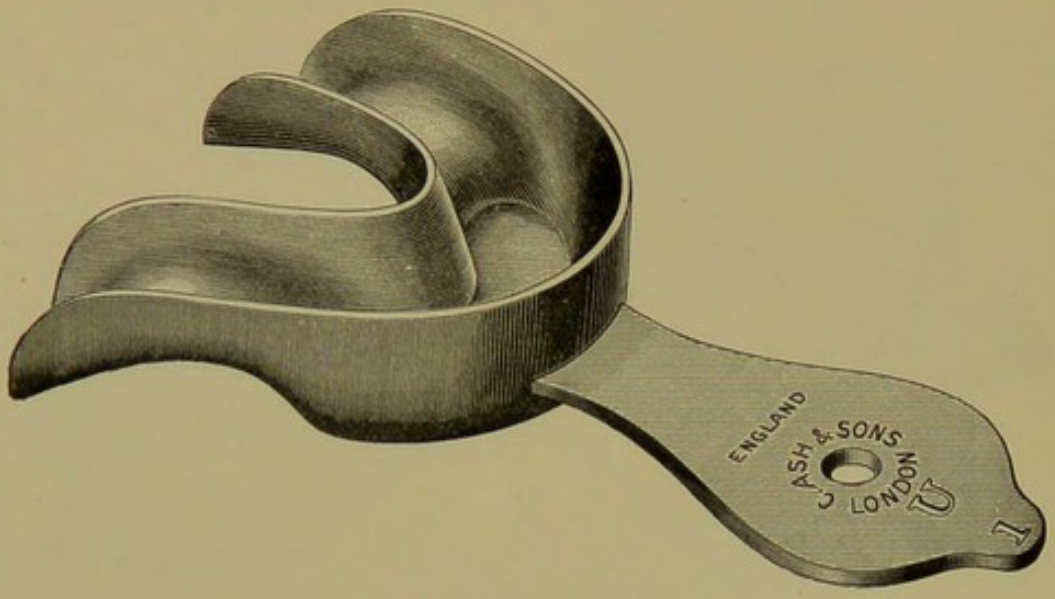
This shows depth of Tray and height of Palate.



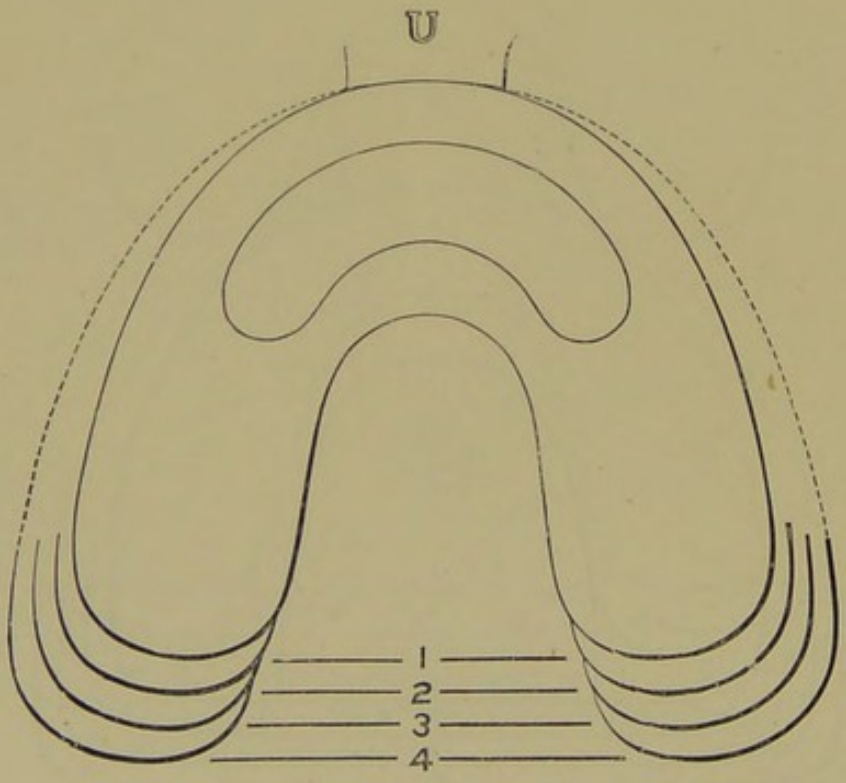
			s.	d.
In German Silver, Sizes 1–4, Nickel-plated	.. ..	each	1	9
In Aluminium, „ 1–4	.. ..	„	1	0

LOWER TRAY WITH WELL IN FRONT.—Form U.

Made in four sizes, shown below in outline.



Depth of ends $\frac{7}{16}$ of an inch. Depth of well $\frac{11}{16}$ of an inch.

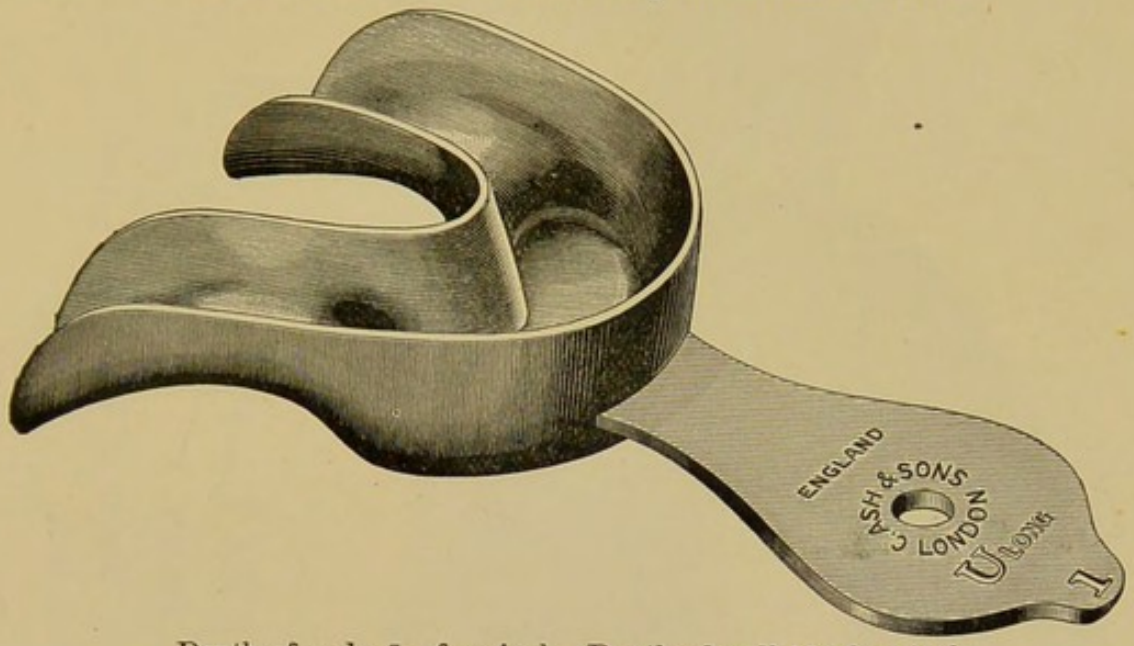


		s.	d.
In German Silver, Sizes 1–4, Nickel-plated	each	1	9
In Aluminium, „ 1–4	„	1	0

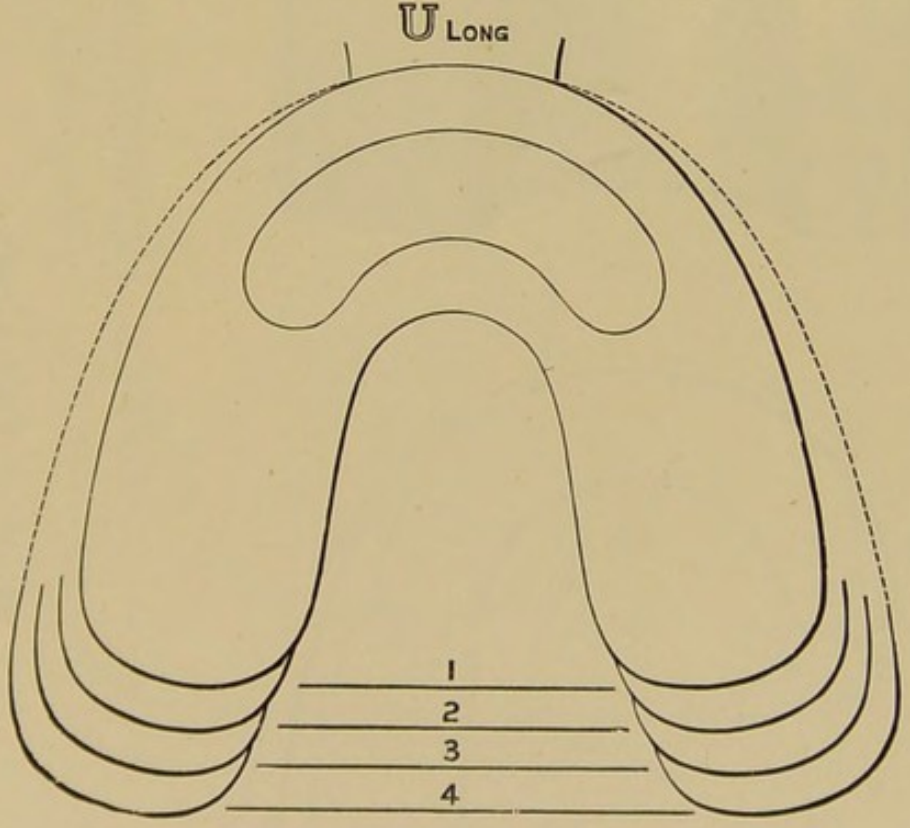
LOWER TRAY WITH WELL IN FRONT.

Form U long.

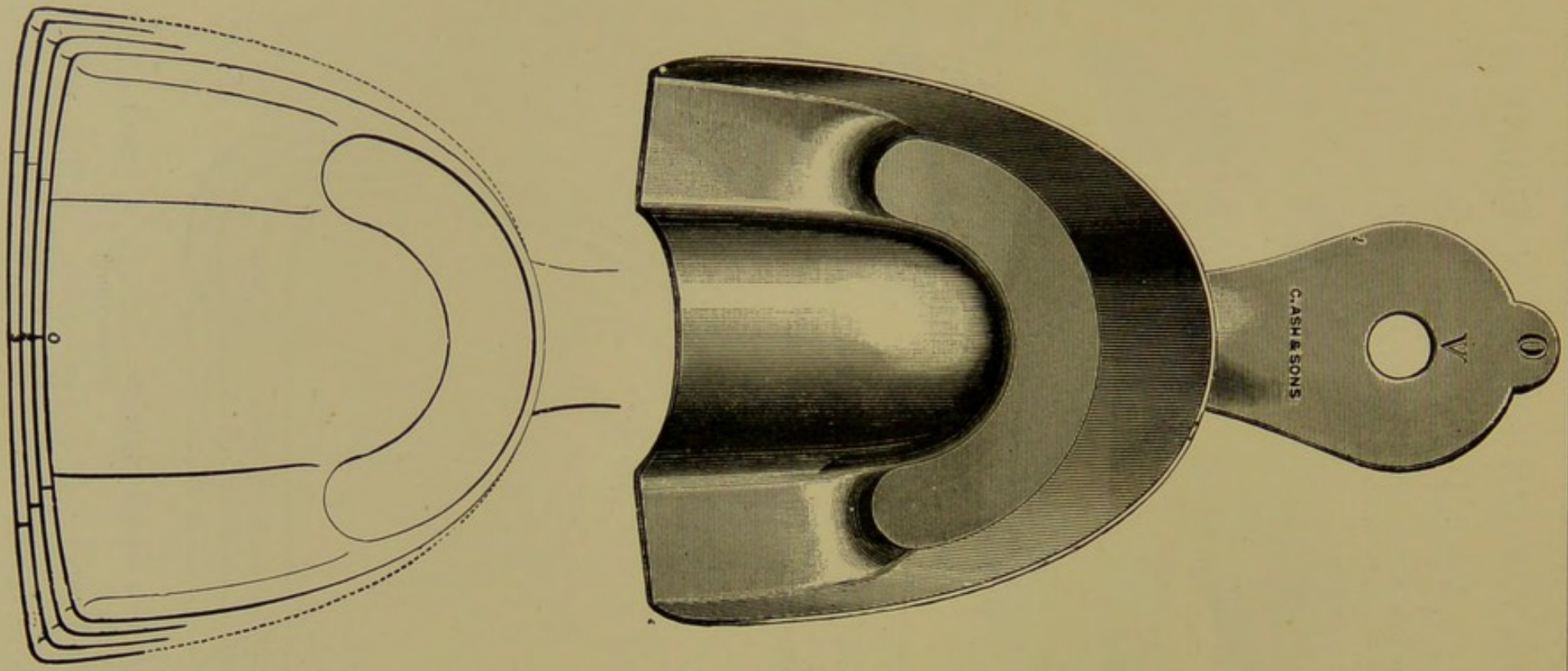
Made in four sizes, shown below in outline;
Size 1 is also made extra long in German Silver.



Depth of ends $\frac{7}{16}$ of an inch. Depth of well $\frac{11}{16}$ of an inch.



			s.	d.
In German Silver, Sizes 1–4, Nickel-plated	each		1	9
„ „ Size 1, „ extra long ..	„		1	9
In Aluminium, Sizes 1 and 2	„		1	0



UPPER IMPRESSION TRAY.—Form V.

WITH WELL IN FRONT.

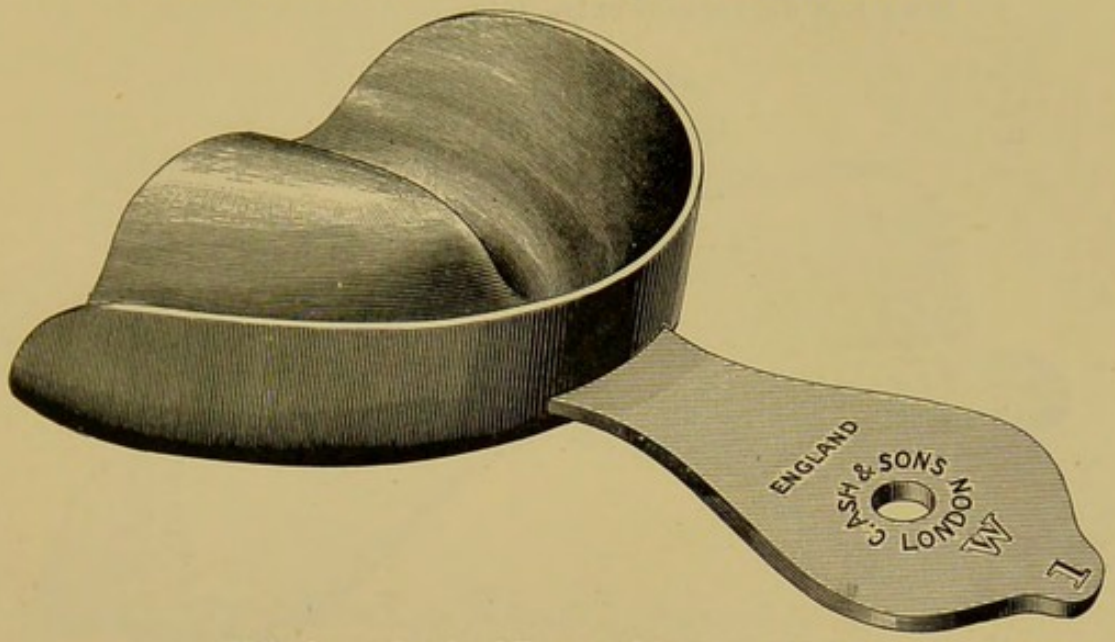
Depth of Tray $\frac{5}{8}$ inch. Depth of Well part $\frac{7}{8}$ inch.

Height of Palate $\frac{1}{2}$ inch.

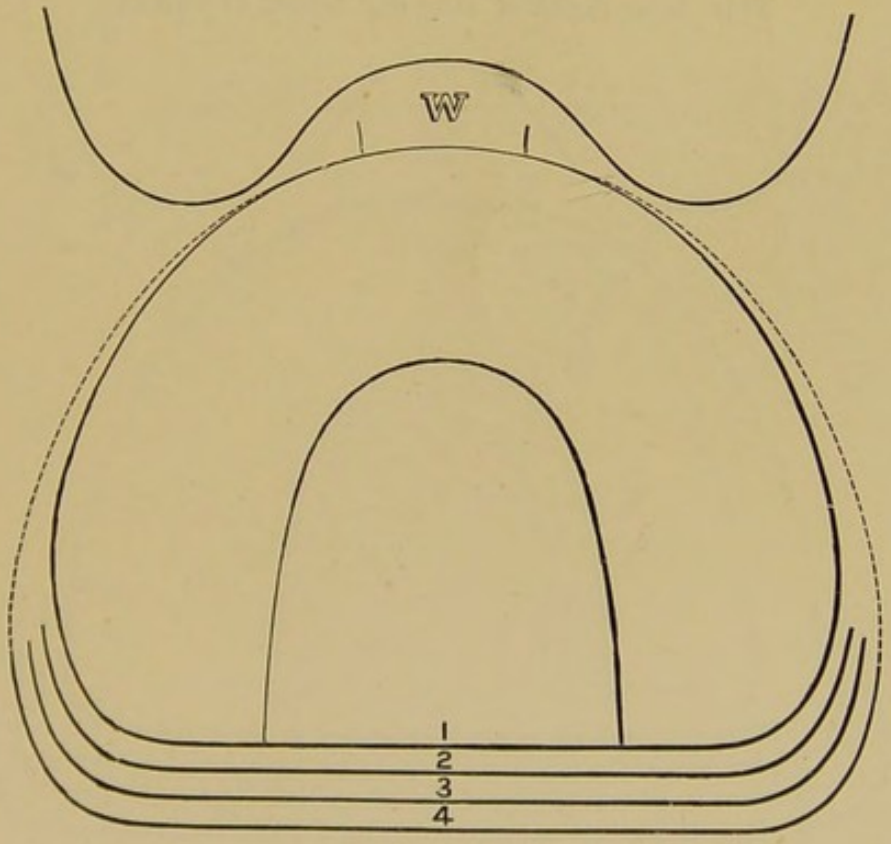
		s.	*d.*
In German Silver, Nickel-plated, Sizes 0, 1, 2, 3	each	1	9

UPPER IMPRESSION TRAY.—Form W.

Made in four sizes, shown below in outline;
Size 1 is also made extra long in German Silver.



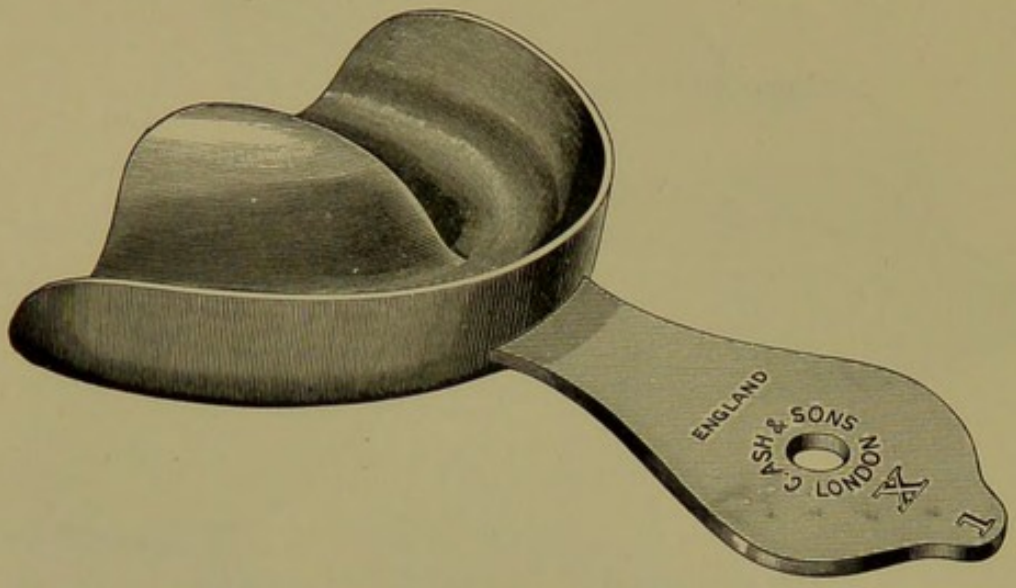
This shows depth of Tray and height of Palate.



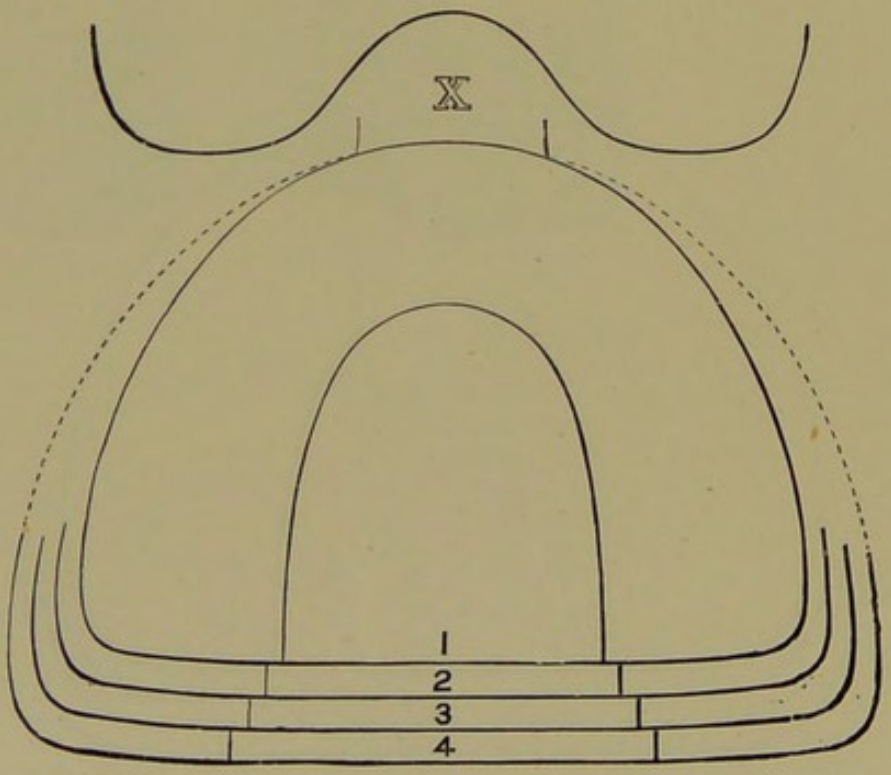
			s.	d.
In German Silver, Sizes 1–4, Nickel-plated	.. ..	each	1	9
„ „ Size 1, „ extra long	..	„	1	9
In Aluminium, Sizes 1–4	.. ..	„	1	0

UPPER IMPRESSION TRAY.—Form X.

Made in four sizes, shown below in outline;
Size 1 is also made extra long in German Silver.



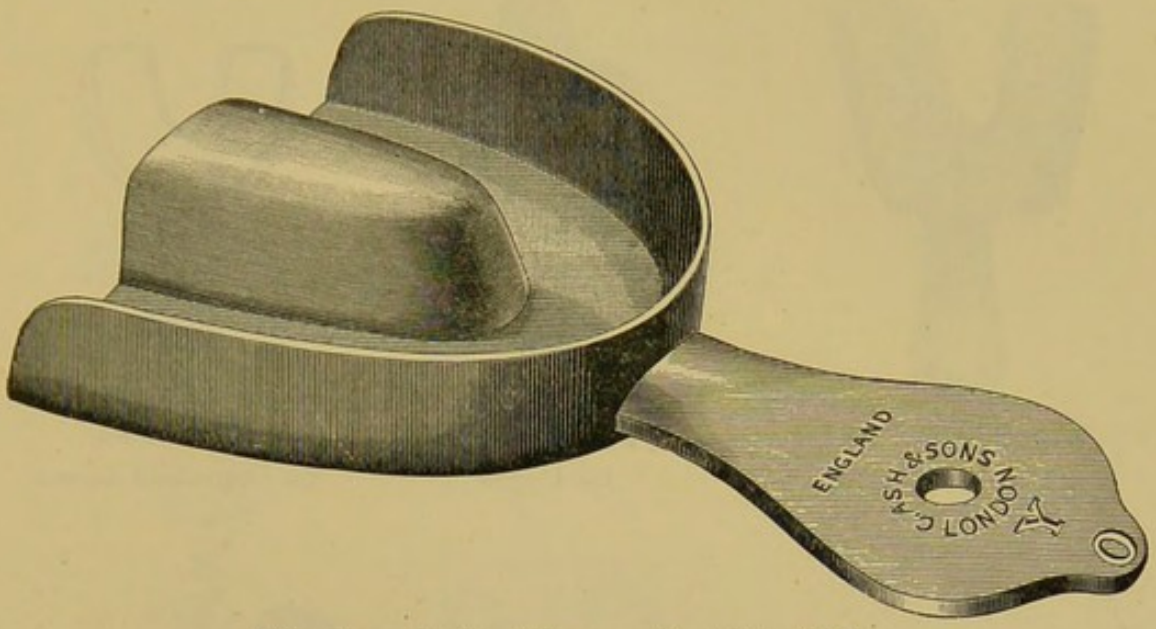
This shows depth of Tray and height of Palate.



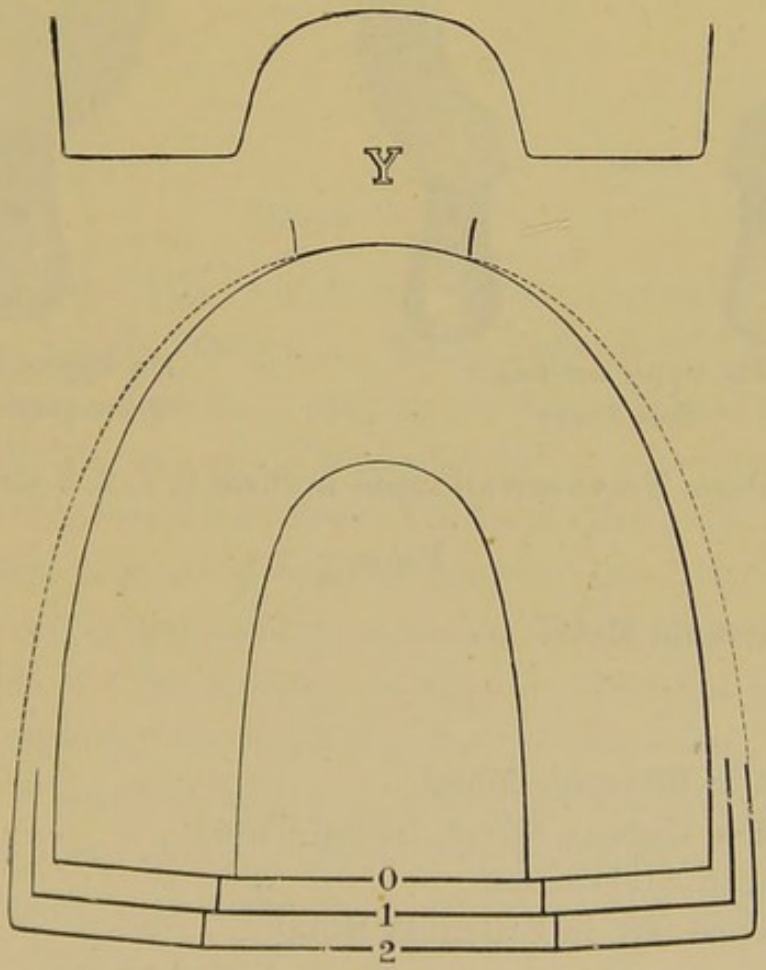
				s.	d.
In German Silver,	Sizes 1–4,	Nickel-plated	each	1	9
„ „	Size 1,	„ extra long ..	„	1	9
In Aluminium,	Sizes 1–4		„	1	0

LONG NARROW UPPER TRAY.—Form Y.

Made in three sizes, shown below in outline.



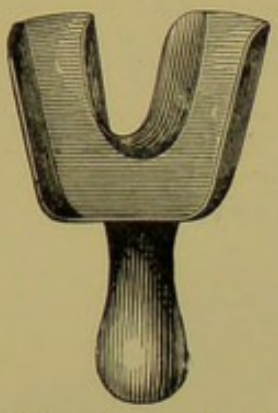
This shows depth of Tray and height of Palate.



	s.	d.
In German Silver, Nickel-plated, Sizes 0, 1, 2 .. .. each	1	9

IMPRESSION TRAYS.—Various Forms.

D.

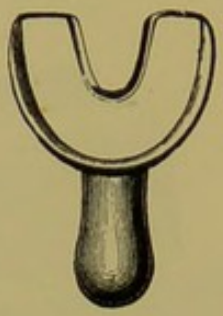


With Square Front,
for Upper and Lower.

H.

Plaster Tray,
for Upper.

I.



Bite Frame,
for Upper and Lower.

L.

M

For Upper and Lower
Side Pieces.

N.

For Upper and Lower
Three-quarter Pieces.

The above Trays are all made in Sizes 0, 1, 2, 3 and 4.

Prices:

		s.	*d.*
Form D in Britannia Metal	each	1	6
„ H „ „ „	„	2	3
„ I „ „ „	„	2	0
„ L and M in Britannia Metal	„	1	3
„ L „ M in German Silver, Nickel-plated	„	1	6
„ L „ M in Aluminium	„	1	0
„ N, right and left, in Britannia Metal	„	1	6
„ N, „ „ „ in German Silver, Nickel-plated	„	1	6
„ N, „ „ „ in Aluminium	„	1	0

IMPRESSION TRAY FOR CROWN WORK.

(Mr. Gilbert Walker's.)

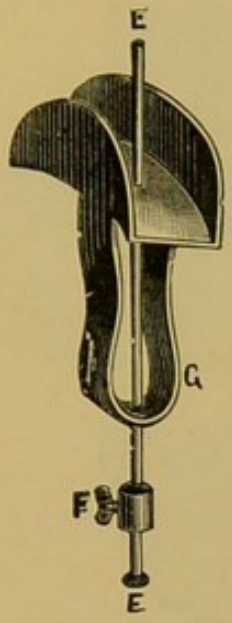


Fig. 1.

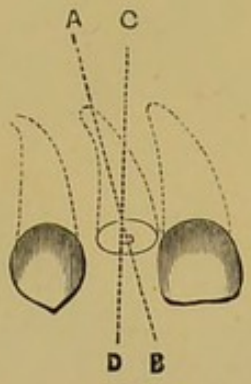


Fig. 2.

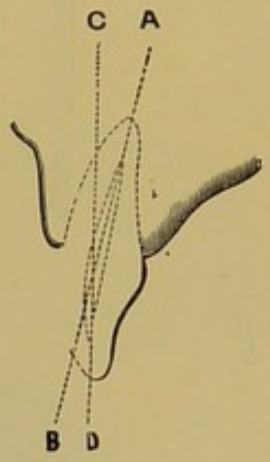


Fig. 3.

Directions for Use.

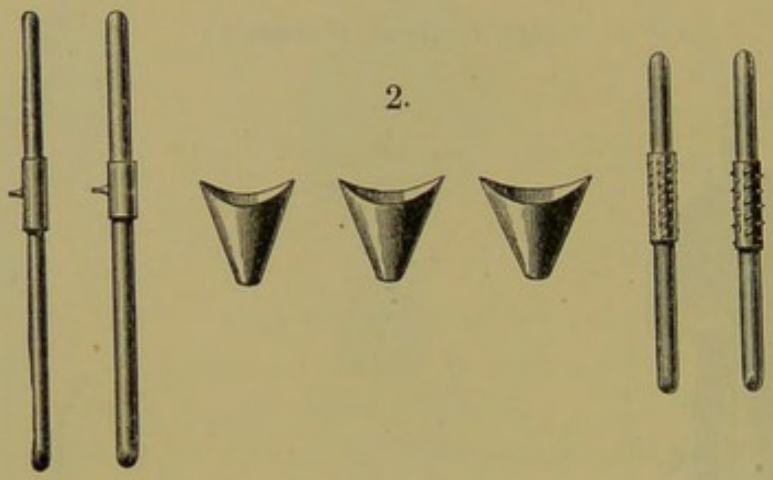
"Fill the Tray (Fig. 1) with impression composition, and press the measuring-pin E right through it. Warm the surface of the composition over a spirit lamp. Pass the measuring-pin E to the top of the root-canal, and gently slide the tray up the pin sufficiently to take a good impression. When hardened, place the set screw F close to the handle of the tray G, and fix it. Withdraw the measuring pin, which can only be done in the direction of A B (Figs. 2 and 3), when the impression may be removed in the direction of C D, avoiding 'drags' or shifting of the hole in the composition made by the measuring-pin. Replace the measuring-pin, which will be found to accurately retain the relative position of the root-canal, with respect to the plane of the root's surface, whilst the set screw F will unerringly adjust the depth of the root-canal."

		s.	*d.*
In German Silver, Nickel-plated	each	3	6

DOWEL-CROWN OUTFIT

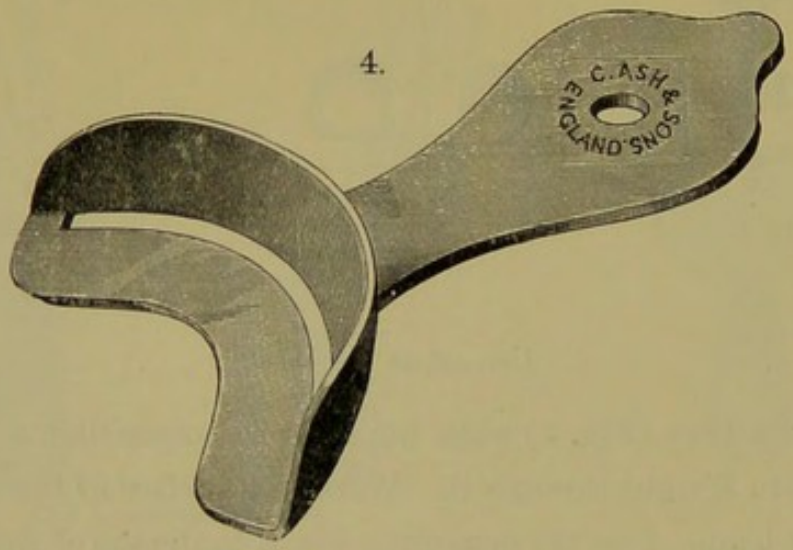
(PATENTED).

1. MR. R. P. LENNOX'S. 3.



2.

4.



This outfit consists of:—

(*a.*) Two measuring posts—one thick and one thin—with slides (Fig. 1) for measuring and fixing the depth of the root-canal.

(*b.*) Small conical caps of three sizes (Fig. 2), each of which is designed for taking an impression of a root-face and protecting it from injury, by dragging against the neighbouring teeth, during the removal from the mouth of the general impression, in which the cap with the root-face impression becomes embedded.

(*c.*) Two root-canal posts—one thick and one thin—(Fig. 3) for giving the direction of the root-canal in the impression. Each of these posts is furnished with a roughened copper tube, which is placed on the root-canal end of the post just before the plaster is poured, for the purpose of forming a metal-lined canal in the plaster-model.

(*d.*) Impression trays (Fig. 4 partial, and Fig. 5 full size) with slots in the floors in front, through which the post (Fig. 3) passes when the general impression is taken.

LENNOX'S DOWEL-CROWN OUTFIT—*continued.*

5.

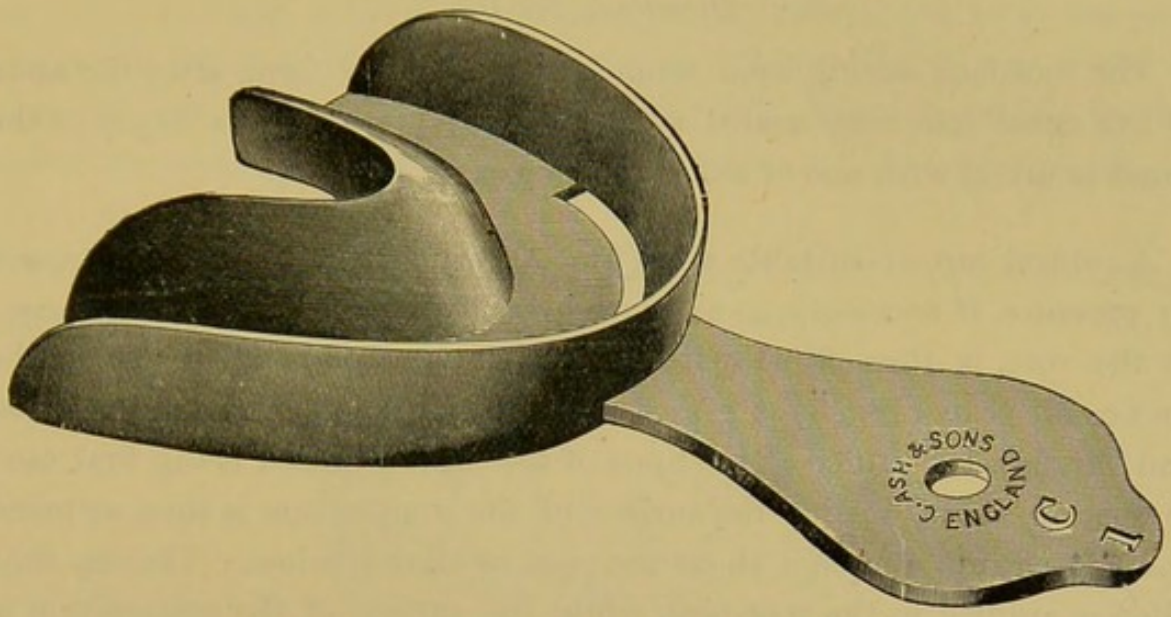
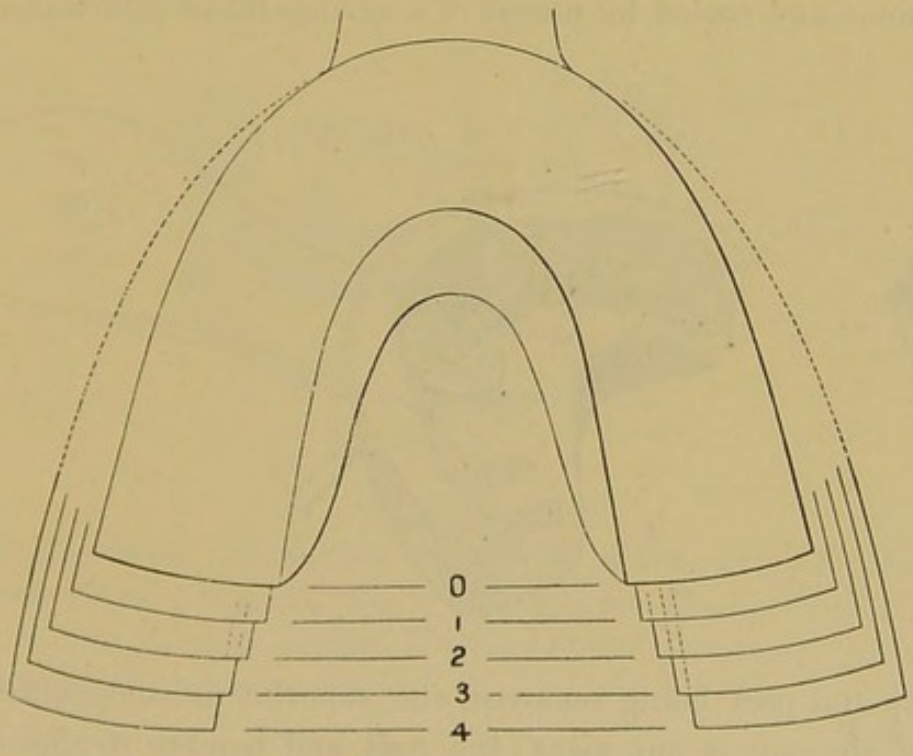


Fig. 5 is made in these sizes :



It may here be stated that, if necessary, an impression of more than one root-face at a time can be taken by Mr. Lennox's method, and that the depth and direction of each separate canal, in such cases, are faithfully and absolutely secured.

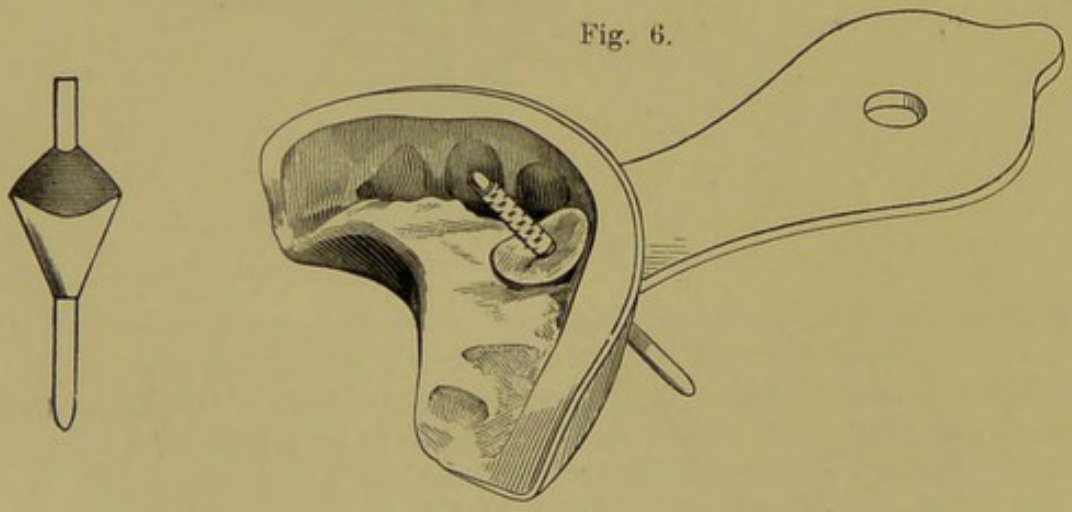
LENNOX'S DOWEL-CROWN OUTFIT—*continued.*

Directions for Use.

The root-face having been trimmed to a convex form, after the apex of the canal has been sealed and the canal prepared, the depth of the canal is taken with one of the measuring posts (Fig. 1).

A conical cap of suitable size (Fig. 2), which can be made narrower by pressure, if necessary, so as to pass readily between the teeth adjacent to the root, is then filled with King's Crown Composition, one of the root-canal posts (Fig. 3) is passed through the middle of the composition and through the orifice at the apex of the cap—a broach being first used to open up a way for it—the surface of the composition is then softened and shaped into a mound about the post, as shown below. The cap thus filled is applied to the root-face, while the surface of the composition is still soft, the post being first passed into the canal, and the cap then pressed home and cooled by means of a syringeful of cold water.

Fig. 6.



The cap and post being removed, the superfluous composition on the outside of the cap is cut away, the post and cap are re-applied to the root, and the general impression is taken with the tray (Fig. 4 or one of the sizes of Fig. 5), during which process the post is made to strike the centre of the composition in a direction towards the front of the tray, which then guides it unerringly through the slot. The impression is again cooled by means of the syringe, the post is removed, and then the

LENNOX'S DOWEL-CROWN OUTFIT—*continued.*

impression. The post is replaced in the impression and fixed with wax applied to the tray, a short roughened copper tube is placed on the end of the post which is to enter the plaster model (see Fig. 6), the model is cast, the post withdrawn, and the copper tube remains behind in the model, forming an indestructible reproduction of the root-canal, as shown at **A**, Fig. 7.

Two or more roots may be treated simultaneously in the same impression, whether it be a partial or a full one (see Fig. 8).

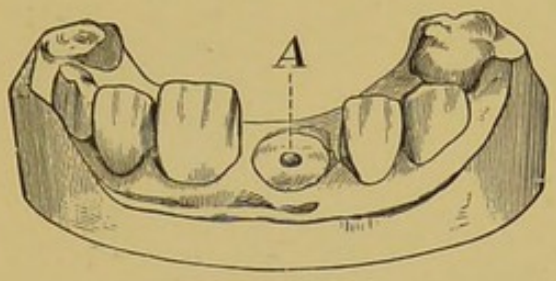


Fig. 7.

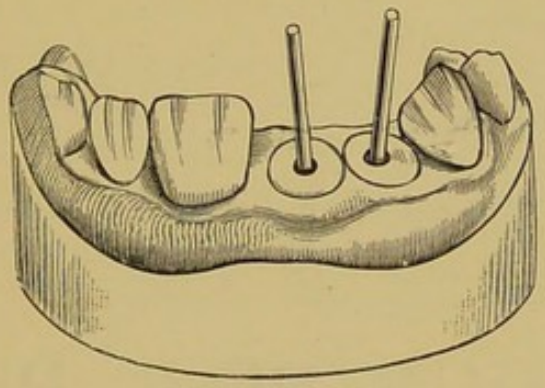


Fig. 8.

Prices :

	s.	d.
Box containing Four Measuring Posts with Slides (Fig. 1), Six Conical Caps (Fig. 2), Four Root-Canal Posts (Fig. 3), Twelve Roughened Copper Tubes for the root-canal posts and Partial Impression Tray	8	0
Separately :		
Partial Impression Tray in German Silver, Nickel-plated (Fig. 4)	2	0
Full-size „ „ „ „ (Fig. 5) each	2	0
* King's Crown Composition in ½-lb. boxes .. .. per lb.	5	0

* This is an excellent material for taking impressions of the mouth; it gives a sharper impression even than plaster, has a delightful aroma when softened, does not adhere to the impression tray, and does not require renovating.

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Parris's Articulator . . 3, 4 of cover
„ Crown Tray . . . 3 of cover
Perfected Impression Compo. . . . 2
Pivot Trays 31–33
Plaster of Paris 3

S

Stents Impression Compound 2 of cover

T

Trays for Crown Work. 31–33, 3 of cover
„ „ Impressions 4–35

W

Walker's Pivot Tray 31
Wax for Impressions 3

ASH'S GUM-PINK RUBBER,

MEDIUM AND LIGHT SHADES.

The claims made for this rubber are:—

1.—That it is by far the strongest pink which has yet been produced.

2.—That it more nearly resembles the colour of the human gum than any facing rubber in the market.

It is very soft in the raw state, therefore easy to pack, and the colour is quickly developed after it leaves the vulcanizer, a few hours' exposure to the light being sufficient to bring out a beautiful gum tint.

It is vulcanized in the same time and at the same temperature as our other Dental Rubbers, viz., in 75 minutes at 315° Fahrenheit.

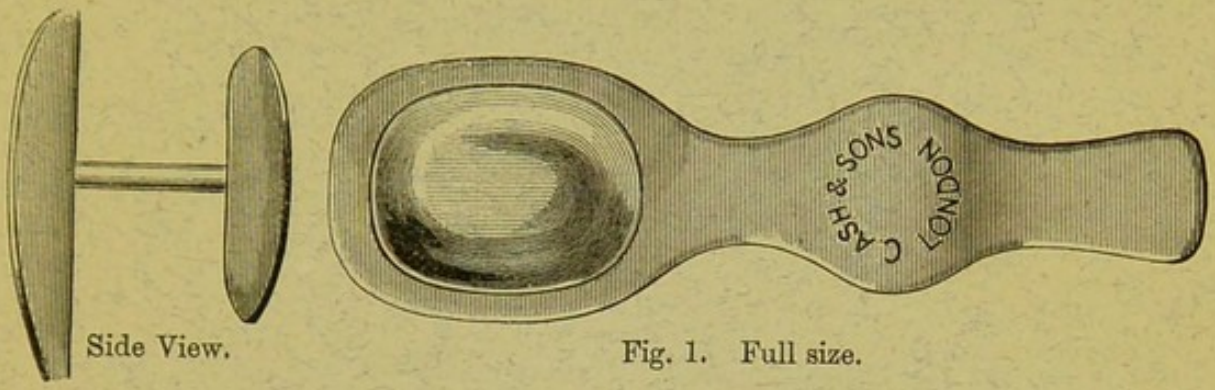
Supplied in 4-oz. packets and ½-lb. boxes. Samples sent on application.

		s.	*d.*
Price, either shade	per lb.	21	0

CROWN TRAY AND IMPROVED CROWN ARTICULATOR.

(Mr. R. S. PARRIS'S.)

By means of the Tray here illustrated, Fig. 1, the time required for taking impressions and casting models, for crowns and bridges of one or two teeth, is considerably shortened.



Side View.

Fig. 1. Full size.

An impression of part of both the upper and lower jaws, as well as the correct bite, is taken at one and the same time with a small piece of composition, the bar of the tray being designed to pass into the vacant space left by the missing tooth or crown.

This double impression is cast and mounted on the Articulator, Fig. 2 with one batter of plaster.

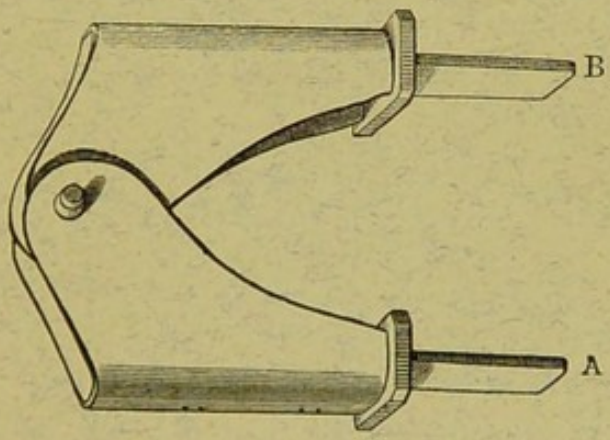


Fig. 2. Two-thirds size.

Two impression trays are necessary—one for the right upper and left lower, and the other for the left upper and right lower sides of the month.

To take an impression place a piece of composition, about the size of a small walnut, round the bar of the selected tray—the tray should be warmed to make the composition adhere; put the bar of the tray across the vacant space where the tooth is missing and tell the patient to close the jaws. The operator can see whether the patient is biting correctly by watching the front teeth.

A very sharp impression is thus obtained, the closing of the upper and lower teeth forcing the composition into all the interstices and

PARRIS'S TRAY AND ARTICULATOR—*continued.*

bringing out the opposing cusps exactly in their correct positions, a point which is so necessary in crown work to secure accurate results.

Before casting, copper amalgam may be packed into the impressions of the cusps, which will prevent them being rubbed while fitting the crown.

To cast and at the same time mount the model on the Articulator:—First tap plaster into both the upper and lower sides of the impression, then place the articulator on a flat surface and build up plaster over the lower arm A.

When this is done, place the tray with the handle pointing outwards, or, if preferred, sideways, on the top of the plaster covering the lower arm; then build plaster over the top arm B, and bevel it off level with the shoulder which is at right angles to the arm. A piece of glass laid on produces a nice smooth surface.

When the plaster has set, remove the composition, trim the casts, and you have an exact representation of both the upper and lower sides of the mouth correctly articulated.

Fig. 3 shows the Articulator, with the casts on the arms, and the copper amalgam used for giving strength to the cusps, &c.

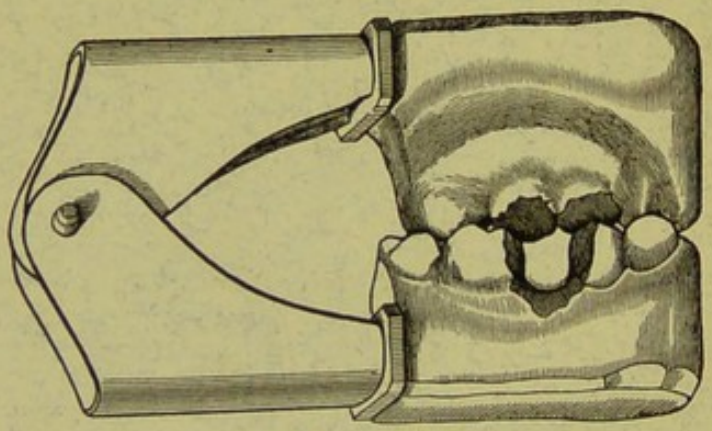


Fig. 3. Two-thirds size.

It occupies almost less time to do the work than it takes to describe the method of doing it.

Prices:

		s.	d.
Articulator, Nickel-plated	each	4	0
Impression Trays „	(set of two) „	1	9

CLAUDIUS ASH & SONS,

LIMITED,

5, 6, 7, 8 & 9, Broad Street, Golden Square,

LONDON, W.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

ANÆSTHETIC APPARATUS.

GENERAL DIRECTIONS FOR ORDERING.

In ordering Apparatus please state whether it is wanted for the administration of Nitrous Oxide Gas only, or of Nitrous Oxide and Oxygen in combination.

Should it be wanted in the United Kingdom or on the Continent for home use, two 100 or two 50-gallon gas bottles fixed to a Twin-Stand are the best; if for patients at their own houses, one 100 or one 50-gallon bottle fixed to a single attachment is most useful. For the administration of the mixture (N_2O and O) a triple gas-stand holding two 100 N_2O gas bottles and one Oxygen bottle is most suitable.

Colonial customers will find 200 and 500-gallon gas bottles, especially the bottles with pedal attachment shown on page 3, very convenient for use at home; and some extra one-hundred size bottles will serve for use when travelling.

It should also be stated of what colour the gas bags required are to be—whether of black rubber, red rubber, check waterproof material, or of coloured silk. The twin gas bags employed for the mixture are only made of black rubber, and of black silk material.

Our stock, which consists of a large and well-assorted variety of the best Anæsthetic Apparatus, enables us to execute orders without the least delay.

In order to avoid disappointment we desire to state that we are unable to lend gas bottles, but to save delay we usually forward **refills** immediately the empty bottles come to hand. In every case, however, we recommend customers to wait for the refilling of their own bottles; this can conveniently be done if one or two extra bottles are owned, and always kept full. We are careful to see that every bottle is perfect, and contains the full weight of gas before it leaves our possession, a practice which forms the most safe guarantee that we can offer to the Profession.

CLAUDIUS ASH & SONS, Limited.

ANÆSTHETIC APPARATUS

INCLUDING

The Most Improved Apparatus

FOR ADMINISTERING NITROUS OXIDE GAS,
NITROUS OXIDE AND ETHER,
NITROUS OXIDE AND OXYGEN;

HIGHLY TESTED AND MOST RELIABLE STEEL AND IRON GAS BOTTLES;

CATTLIN'S BAGS, GASOMETERS, GAS STANDS, GAGS, MOUTH OPENERS, LOCAL ANÆSTHETICS, Etc., Etc.

CLAUDIUS ASH & SONS, LTD.

CENTRAL DEPÔT

5, 6, 7, 8 & 9, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

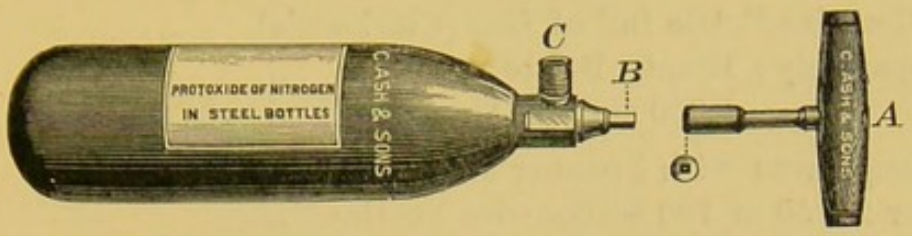
ADDRESS FOR TELEGRAMS: FRENES, LONDON.
TELEPHONE NUMBER: GERRARD 5258.

BRANCHES:

LIVERPOOL	78, MOUNT PLEASANT.
MANCHESTER	118*a*, OXFORD STREET.
PARIS	22, RUE DU QUATRE-SEPTEMBRE.
BERLIN	68, JÄGER-STRASSE.
HAMBURG	62 AND 63, GÄNSEMARKT.
FRANKFURT A/ MAIN	7, BÖRSENPLATZ.
VIENNA	2, SPIEGELGASSE, ECKE GRABEN.
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
STOCKHOLM	9, MALMSKILDNAS GATAN.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

NITROUS OXIDE GAS AND BOTTLES.

(COXETER'S, CLARKSON'S, AND SPURGE'S.)



A. Key for releasing the Gas. B. Tap of Gas Bottle.
C. Male Screw on bottle, to which the union of the Cattlin's Bag is attached.

Present Prices:

		s.	d.
Steel or Iron Bottles, containing 25 gallons of Gas ..	each	25	0
,, ,, ,, ,, 50 ,, ,, ..	,,	28	9
,, ,, ,, ,, 100 ,, ,, ..	,,	35	0
,, ,, ,, ,, 200 ,, ,, ..	,,	60	0
,, ,, ,, ,, 500 ,, ,, ..	,,	95	0
Refilling Steel or Iron Bottles, 25 gallon-size	,,	2	0
* ,, ,, ,, 50 ,, ...	,,	3	9
* ,, ,, ,, 100 ,, ...	,,	7	6
* ,, ,, ,, 200 ,, ...	,,	15	0
,, ,, ,, 500 ,, ...	,,	35	0

*** When the gas in bottles that are refilled at one time amounts to 300 gallons, or more, it is charged at the rate of seven shillings per 100 gallons.**

For 1,000 Gallon-size Bottles see next page.

OXYGEN GAS,

FOR USE IN CONJUNCTION WITH NITROUS OXIDE.

		s.	d
In bottles containing about 30 gallons		31	0
Separately { Bottle		27	6
Separately { Oxygen		3	6
Price for Refilling Bottles with Oxygen		3	6

NITROUS OXIDE GAS—*continued.*

Prices:

	£	*s.*	*d.*
1,000 Gallon-size Bottle full of Gas (Clarkson's)	7	10	0
Separately: Empty Bottle	4	0	0
1,000 Gallons Gas	3	10	0
Foot Arrangement with Spanner and Foot Key—			
For 25, 50 or 100 Gallon-size Bottles	1	1	0
„ 200 Gallon-size Bottles	1	1	0
„ 500 „ „	1	1	0
„ 1,000 „ „	*supplied to order.*		

NOTE.—We have sometimes been asked if Nitrous Oxide Gas deteriorates with age. A reference to some of the old Journals will show that this question has been discussed again and again and decided in the negative.

But, perhaps, the following extract from a letter addressed to us by Mr. T. Jenkin, of Malta, dated October 6th, 1896, affords the most conclusive proof that can be given on this point:—

"I thank you for your remarks concerning Nitrous Oxide Gas. Since writing you on the subject, we have tried the gas you sent to me eighteen years ago, and find it perfectly good."

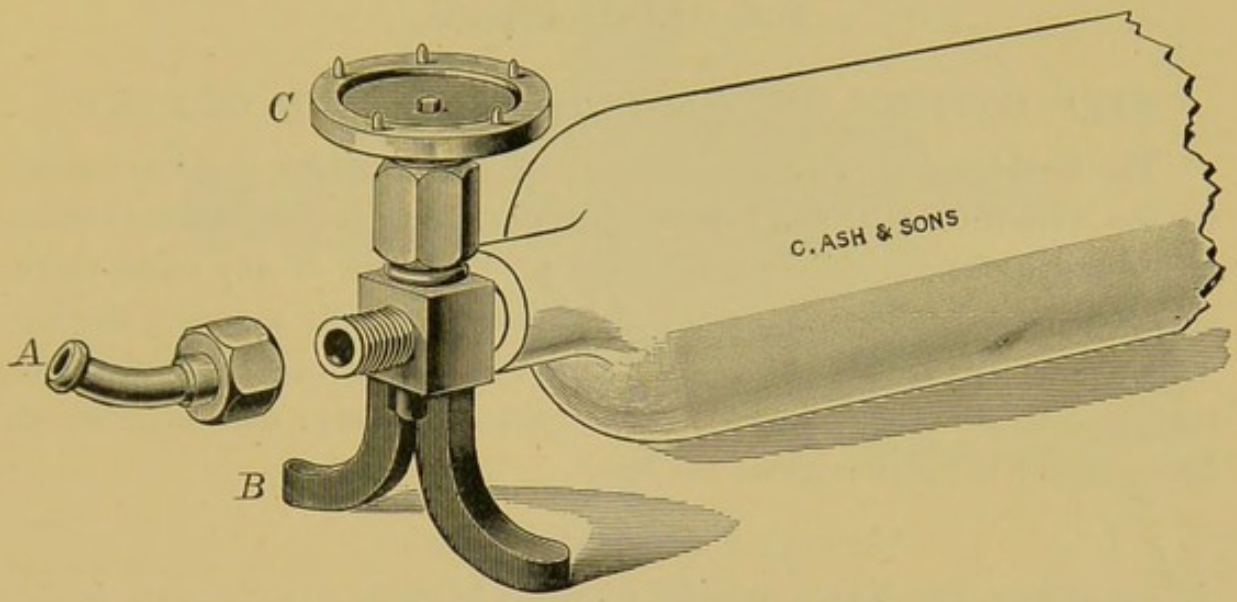
A period of eighteen years is about as severe a test as the gas is ever likely to be put to in actual practice. So far as we are aware, this is the longest time on record that it has been kept by a Dentist and afterwards used.—*C. A. & S.*

SPURGE'S KEY FOR GAS BOTTLES.

	s.	*d.*
Plain Steel, japanned .. .. each	2	6
„ Nickel-plated .. .. „	3	6

ASH'S COMBINED GAS-BOTTLE AND PEDAL ATTACHMENT.

REGISTERED. REG. No. 289,847.



Those dentists who employ Nitrous Oxide Gas have probably felt the need of such a combination as is here shown, viz., a gas bottle and stand joined together so as to form a complete apparatus ready for immediate use without the addition of any other part or parts.

The Stand *B* with Valve is cast in one piece and permanently fitted to the Gas Bottle. The only separate parts are the Union *A* and the Circular Foot Key *C*. By means of the latter the tap is easily opened and closed with a gentle movement of the foot to the left or right. All that the administrator therefore requires to do when he receives the apparatus is to put the Foot Key on the tap as it appears in the illustration, to screw the Union *A* in position, and to slip the end of the India-rubber tubing over the nozzle.

The advantages claimed for the Apparatus are :—

1. Simplicity of construction.
2. Comparative cheapness.
3. Readiness for instant use.
4. Freedom from leakage.
5. Saving of trouble and time.
6. Absence of wear of the parts.

PRICES :

Apparatus as illustrated minus Union *A*, in four sizes, viz., with

	£	s.	d.
Bottle containing 100 gallons of gas	2	2	6
,, ,, 200 ,, ,, ...	3	7	6
,, ,, 500 ,, ,, ...	5	2	6
,, ,, 1000 ,, ,, ...	7	17	6
,, ,, about 30 gallons Oxygen	1	18	6
Union *A* .. .. extra	0	3	6

PLUNKETT AND DONAT'S STAND
WITH
PATENTED SELF-CLOSING VALVES
FOR GAS CYLINDERS.

EASY CONTROL OF NITROUS OXIDE AND OXYGEN.

The Self-Closing Valve, illustrated in Fig. 2, makes it much easier for the Anæsthetist to administer Nitrous Oxide Gas, or Nitrous Oxide and Oxygen, from a cylinder, than he can by means of any other valve and key in existence, owing to the fact that with the Self-closing Valve and Key the outflow of the gas is under easy and absolute control, can be regulated with the greatest nicety, and is shut off immediately the foot releases the key.

ADVANTAGES:

The Valve requires no effort to open.
Its Automatic Action is perfect in closing.
It is simple in construction and always reliable.
It can be fitted to existing cylinders.

Fig. 1.

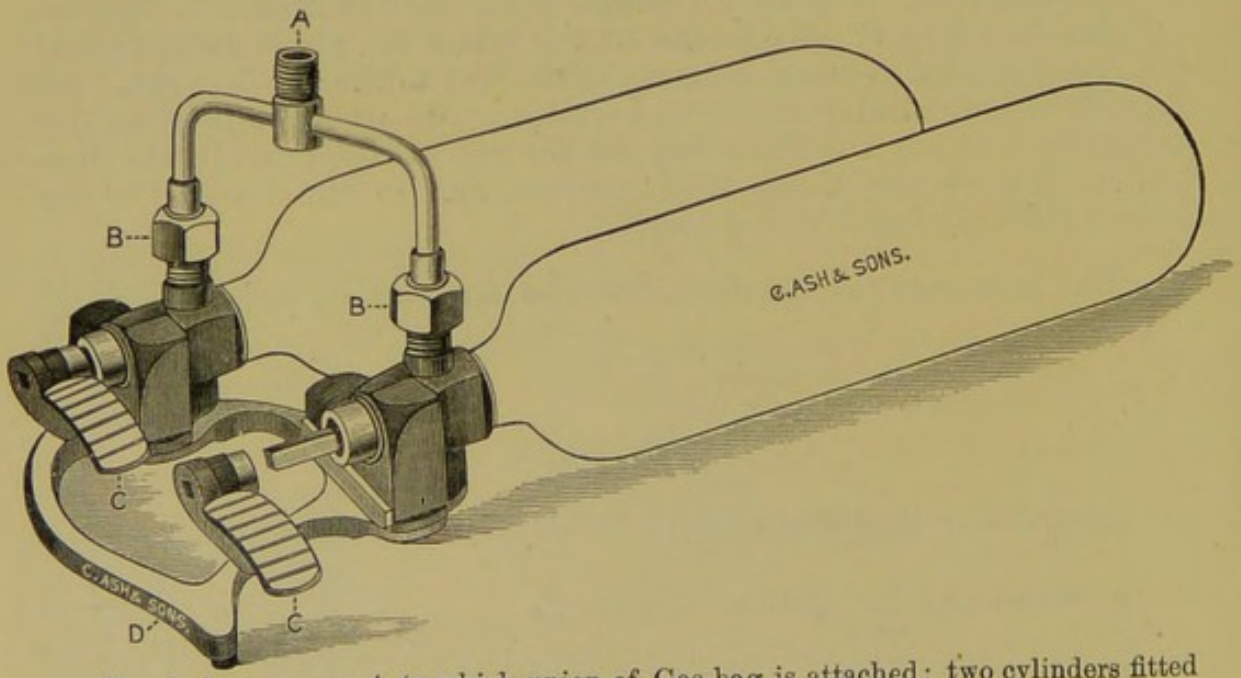


Fig. 1 shows screw *A*, to which union of Gas-bag is attached; two cylinders fitted with Self-closing Valve connected to double union at *BB*; two foot-keys *CC*, which can be set in any position on the taps of the bottles; and Stand *D*, complete.

PLUNKETT AND DONAT'S VALVE.

Fig 2.

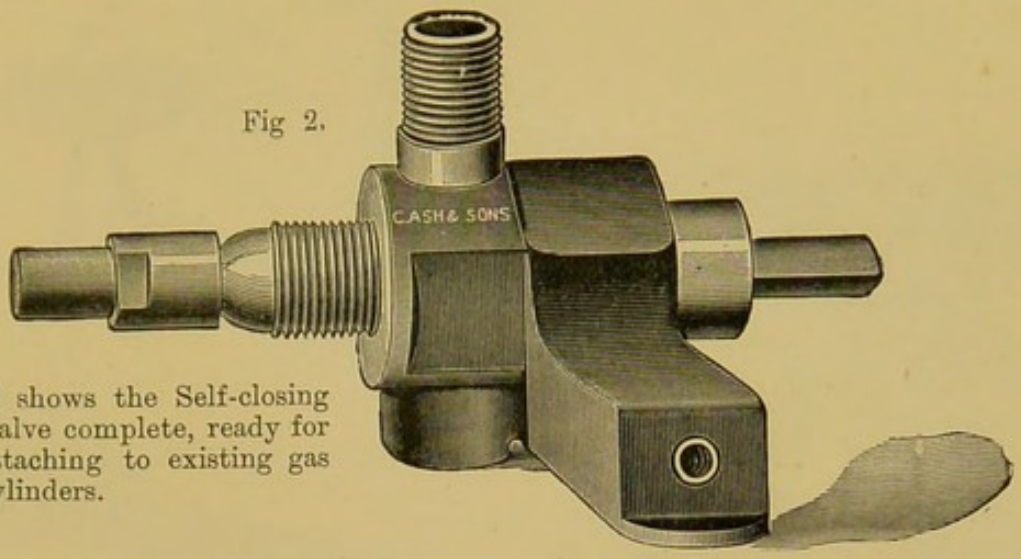
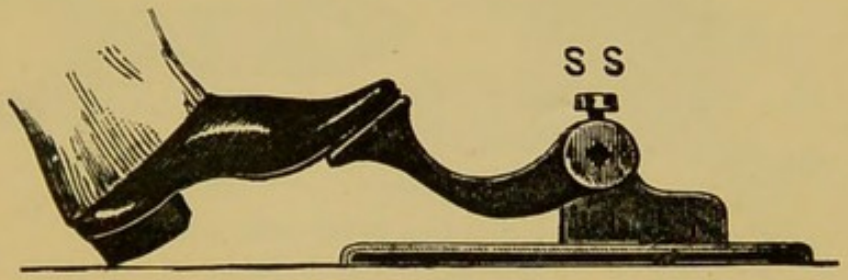


Fig. 2 shows the Self-closing Valve complete, ready for attaching to existing gas cylinders.

DIRECTIONS FOR USE:

To obtain perfect control of the outflow, set the heel **firmly** on the floor and **very gently** depress the Pedal with the foot as shown in this illustration.



The Pedal can be adjusted at any point within its range by means of the Set Screw S S.

Prices:

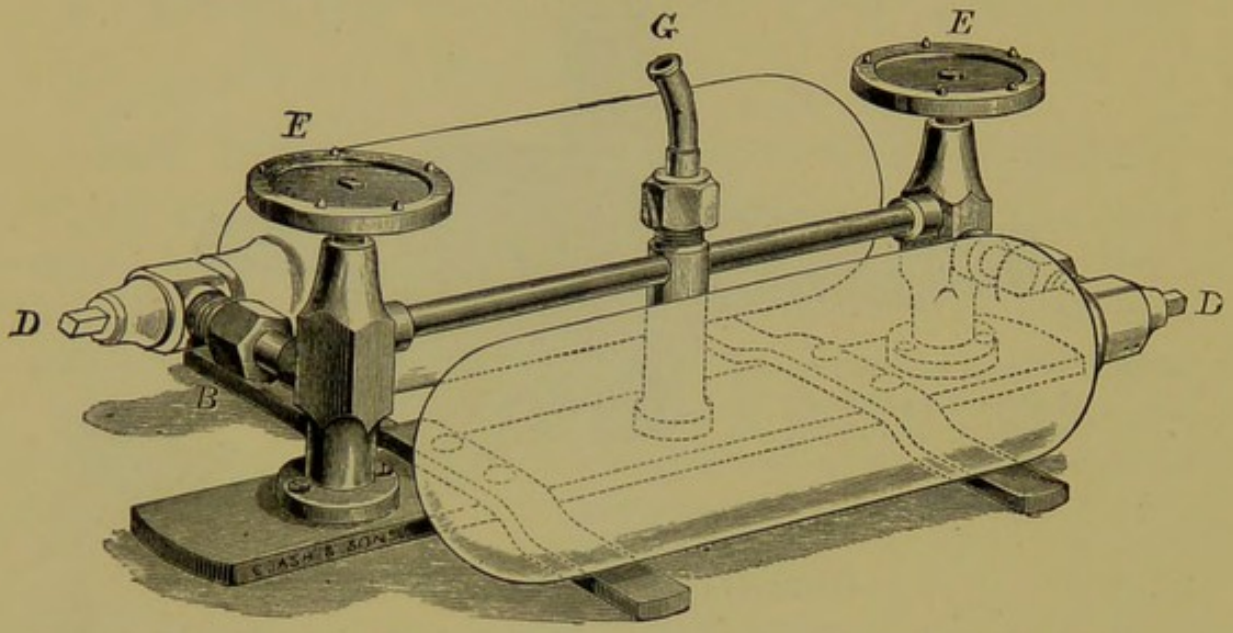
	£	s.	d.
Two one-hundred gallon size cylinders, full of nitrous oxide gas, each fitted with Self-closing Valve, Double Union *A*, two Foot Keys *C C*, and Stand *D*, complete as illustrated ..	5	10	0

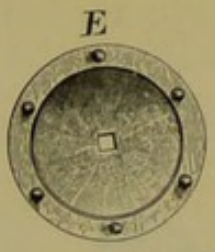
Separately:

100-gallon size full cylinder fitted with Self-closing Valve ..	2	2	6
Foot Keys—*C C*, Fig. 1 .. .. each	0	4	0
Stand to which the cylinders are secured—*D*, Fig. 1 .. „	0	12	6
Double Union—*A*, Fig. 1 .. .. „	0	8	6
Self-closing Valve fitted to existing cylinders .. „	1	0	0

TWIN GAS-BOTTLE STAND.

(WELLER'S.)





Description :

B. Union connecting Gas Bottle with stand.
D. Taps of Gas Bottles.
E. Circular Foot Keys.
F. Spanner for tightening Union B.
G. Union to which tubing of Cattlin's Bag is attached.

Directions for Use :

Fix the two bottles—fifty-gallon or one-hundred-gallon size, steel or iron—by means of the Unions B. Attach the union of the Cattlin's Bag to the stand, as shown under G. Open the Taps D of the bottles.

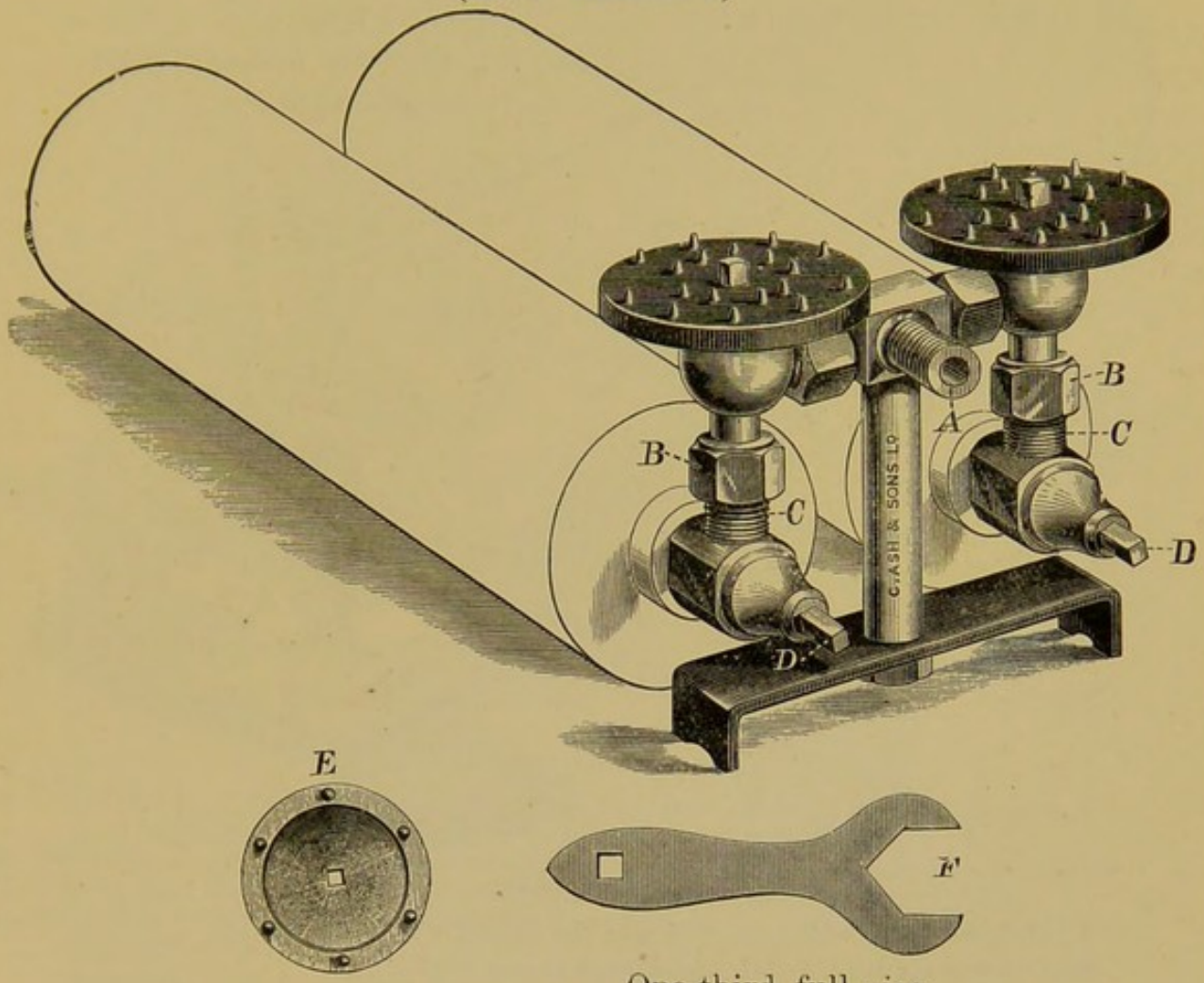
The apparatus is now ready for use. A slight unscrewing movement with the foot on either Foot Key E releases the gas, which will freely enter the Cattlin's Bag, and a gentle screwing-up motion with the foot turns off the gas. Scarcely any force is required to work the Foot Keys.

Prices :

	s.	*d.*
Stand, with two Foot Keys E, and Spanner F, but minus Union G ..	30	0
The same, Nickel-plated	36	0
The same, with Upright Rod, on which there are two Spirals for holding Facepiece, &c.	42	0
Ditto ditto Nickel-plated throughout	57	0
Union G .. .. extra	3	6
Spanner	2	6

PORTABLE PEDAL ATTACHMENT.

(Mr. P. Edgelow's.)



One-third full size.

A. Male Screw to which the Union of the Cattlin's Bag is fixed.
B. Unions for attaching to Gas Bottles.
C. Male Screws on Gas Bottles.
D. Taps of Gas Bottles.
E. Shows one of the Foot Keys as now supplied.
F. Spanner for attaching Unions to Gas Bottles.

In shutting off the gas with this Pedal Attachment no force whatever is necessary. The valve plug is so finely turned that an easy movement closes it effectually. In this respect the Pedal Attachment differs entirely from the taps of gas bottles, which sometimes require considerable force to open and close.

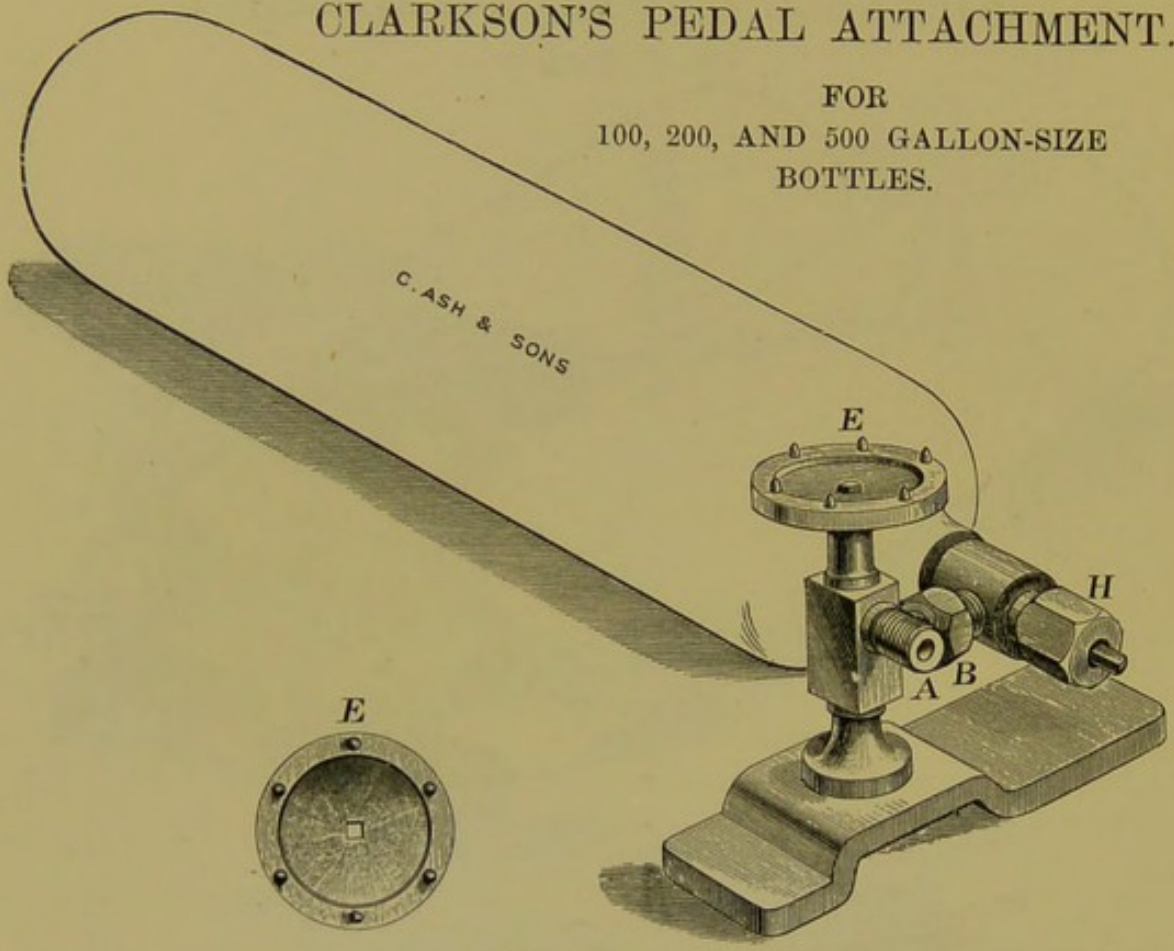
Being portable, it is specially suited for carrying about in the Anæsthetist's Hand-Bag.

	s.	*d.*
Price complete, with Spanner and 2 Circular Foot Keys	30	0

N.B.—This is now made with an improved brass foot, instead of iron.

CLARKSON'S PEDAL ATTACHMENT.

FOR
100, 200, AND 500 GALLON-SIZE
BOTTLES.



Description;

A. Male Screw to which the Union of the Cattlin's Bag is attached.
B. Union connecting Pedal Attachment to Gas Bottle.
E. Foot Key for opening the Tap of the Gas Bottle and releasing the Gas.
H. Brass Washer for protecting the lower part of the Tap on the Gas Bottle.

It is the simplest Pedal Attachment that has yet been introduced for 100, 200, and 500 Gallon-size Bottles.

	s.	*d.*
Price, including Foot Key and Spanner	21	0
Pedal Attachment with Foot Key and Spanner for 50 gallon-size Bottle, same pattern as illustrated but of lighter make	21	0

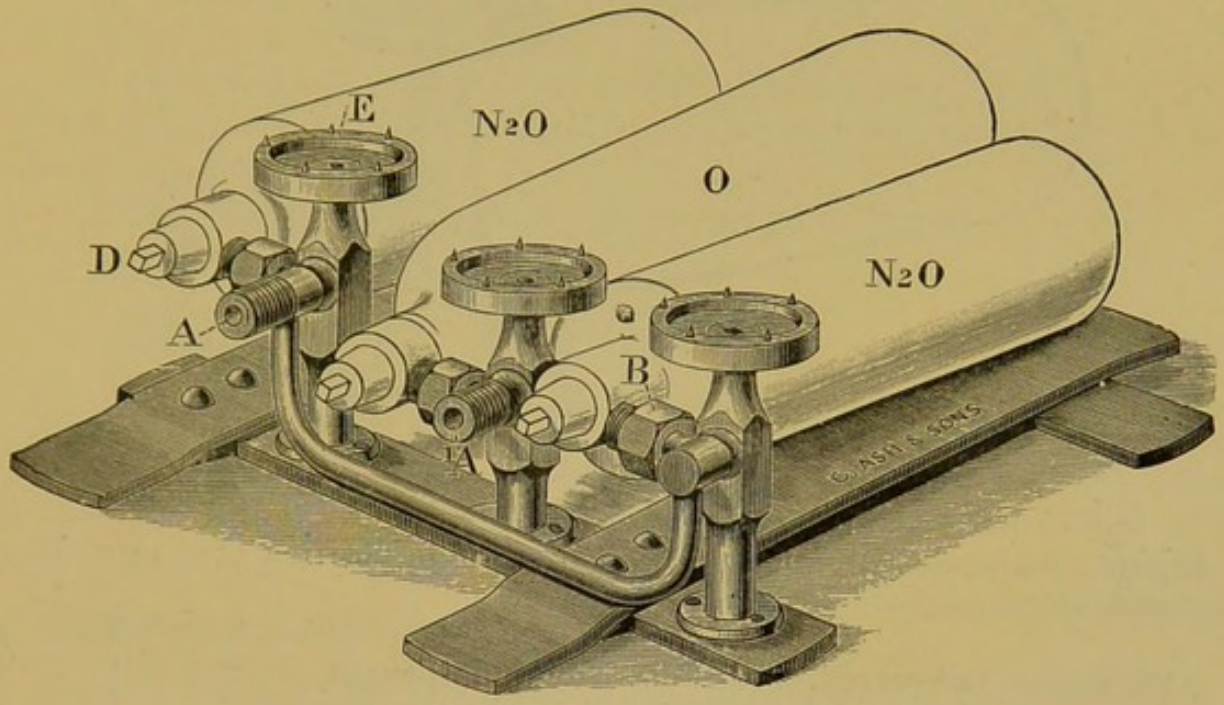
RUBBER APRON,

As used at the Dental Hospital of London, to prevent the garments of patients being soiled during the administration of anæsthetics. The apron is about five feet long by forty-three inches wide, and is provided with weighted flaps, which hang over the shoulders to keep it in position; colour, black outside, light check inside.

	s.	*d.*
Price	14	0

WELLER'S TRIPLE GAS-BOTTLE STAND.

FOR TWO NITROUS OXIDE AND ONE OXYGEN BOTTLE.



Description :

A. Outlet for the Nitrous Oxide from the two bottles marked N_2O. The corresponding part in the middle of the Stand shows the Oxygen outlet.
B. Male Tap on Bottle showing how each of the three Bottles is secured to the Stand.
D. Tap on each Bottle by means of which the Gas is released from the Bottles.
E. Foot Key on each Bottle for admitting the Gas into the Cattlin's Bags. This Foot Key also fits the tap D.

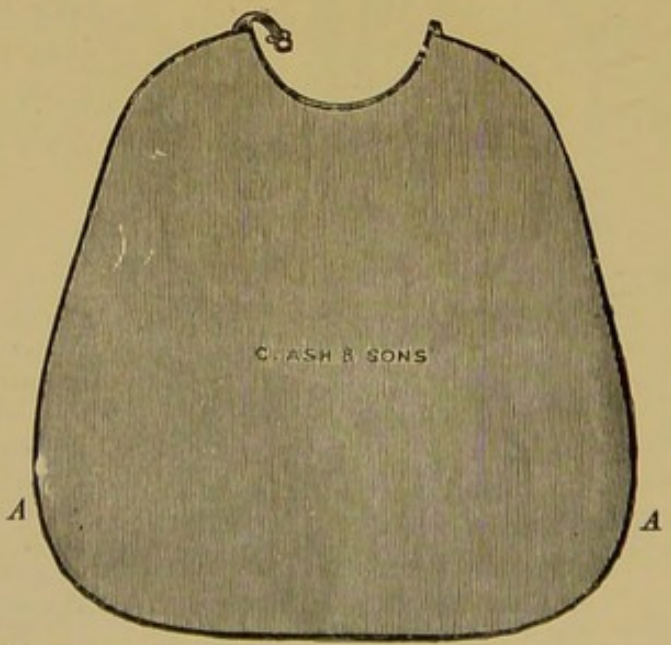
	s.	*d.*
Stand with three Foot Keys, but without the Gas Bottles	50	0

WATERPROOF APRON.

FOR USE IN THE OPERATING ROOM.

The Apron here illustrated will be found most valuable for protecting the patient's dress during dental operations, for which purpose it has been specially designed. It is durable, light, neat in appearance, and can be as readily washed as a serviette.

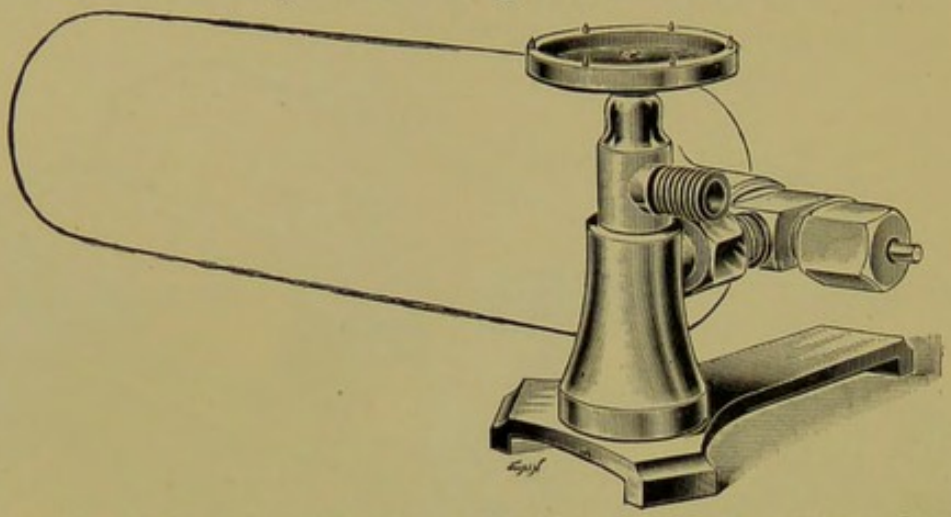
	s.	*d.*
Price	3	6



LENGTH, 34 INCHES; WIDTH AT *A A*, 34 INCHES.

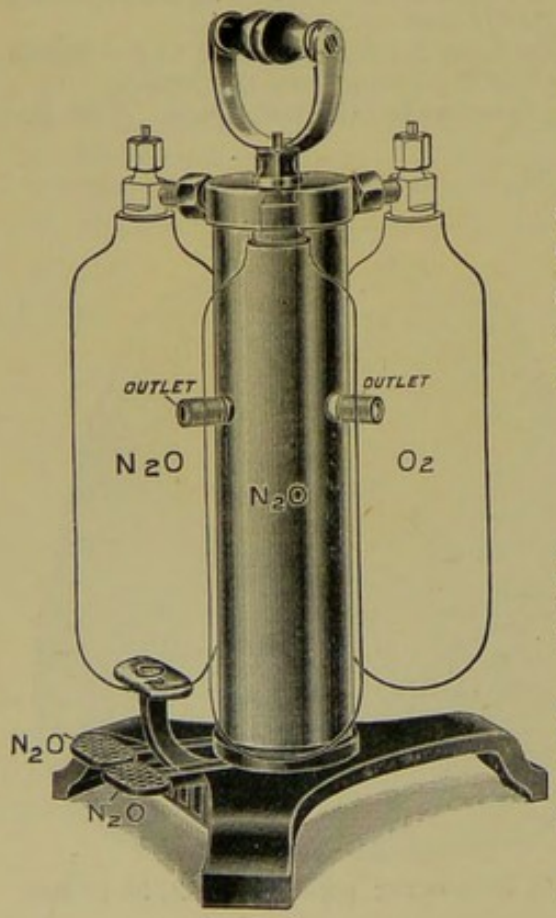
SPURGE'S PEDAL ATTACHMENT.

Registered. Reg. No. 319712.



It is claimed that this Attachment is the strongest yet introduced. It is neat and elegant in appearance, more rigid in position than any other, comparatively light and most durable.

	£	s.	d.
Attachment Lacquered, with Foot Key and Spanner	1	1	0
„ Nickel-plated, with Foot Key and Spanner ..	1	5	0



SPURGE'S TRIPLE GAS-CYLINDER STAND.

This Stand is arranged for two one-hundred gallon size Nitrous Oxide Gas Cylinders and one thirty gallon size Oxygen Cylinder, and is fitted with separate pedal valves, each of which gives independent control.

DIRECTIONS.

To prepare for use, couple the cylinders to the unions on the Stand and permanently open the several valves. In coupling-up care should be taken to make the connections so secure that no escape of gas can be detected.

To obtain a supply of Nitrous Oxide, press downwards to its fullest extent the N_2O pedal of the cylinder in use; this will arrest the flow. Then slightly release until the required amount is obtained. When the foot is removed the flow automatically ceases.

To obtain a supply of oxygen, press slightly downwards the O_2 pedal.

SPURGE'S TRIPLE GAS-CYLINDER STAND—

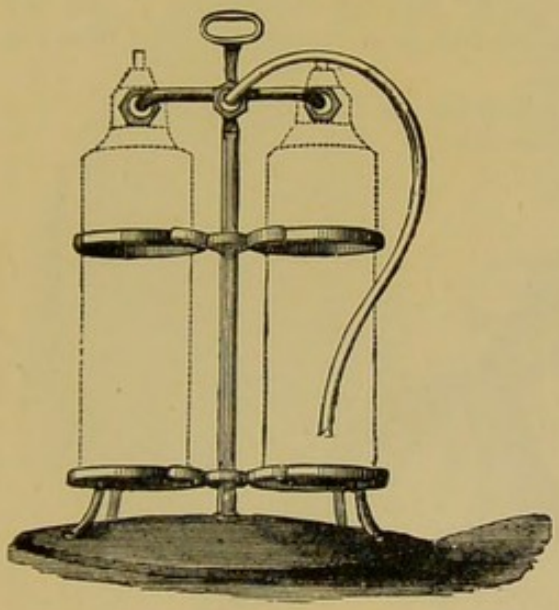
continued.

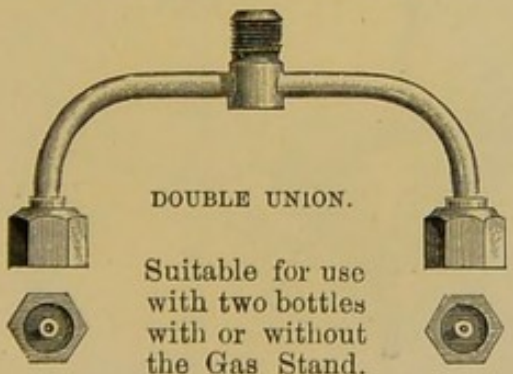
The coupling for the Oxygen Cylinder is at the back of the Stand, and its outlet is on the right-hand side.

The couplings for the Nitrous Oxide Cylinders are towards the front of the Stand, and the outlet, which is common to both cylinders, is above the pedals.

	£	*s.*	*d.*
Price of Stand japanned, bright parts nickel-plated, with Spanner	4	10	0

NAPIER'S GAS BOTTLE STAND.





DOUBLE UNION.

Suitable for use with two bottles with or without the Gas Stand.

This Apparatus will hold **two bottles** of Liquid Gas—which are secured in position by rings and screws—and is fitted with a **double union** which connects both bottles with the Facepiece.

By this arrangement the bottle in use can be entirely emptied without fear, for should there not be sufficient gas in it to complete an operation, it is only necessary to turn on the other bottle.

After the operation is completed, if another full bottle is not at hand, the double union can be removed, and the **union** of the Cattlin's Bag fixed to the remaining bottle, while the empty one is being refilled.

The Stand is made of iron, japanned, and the Union of gun-metal; the whole being light and portable.

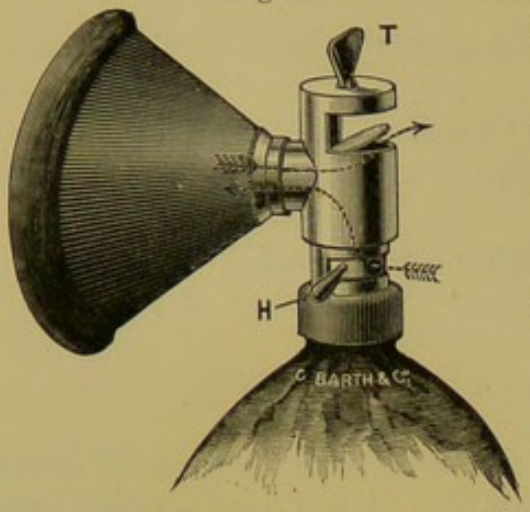
	s.	*d.*
Stand to hold two 50-gallon Bottles, with Double Union, complete	30	0
„ „ two 100-gallon „ „ „ „	30	0
Double Union only, as illustrated, for two 50-gallon Bottles ..	8	6
„ „ „ „ 100-gallon „ ..	8	6
Long Gas Key	5	6

In ordering, please state whether the Stand and Union are required for two 50 or two 100-gallon Bottles.

Dr. HEWITT'S APPARATUS

FOR THE ADMINISTRATION OF NITROUS OXIDE AND NITROUS OXIDE AND ETHER.

Fig. 3. (Barth's Make.)



Description:

T. **Tap controlling Valves.**—When it is turned as shown in Fig. 3 the valves in the stopcock act and all expirations escape.

H. **Handle which determines whether Air or Nitrous Oxide is breathed.**—When H is arranged as in Fig. 3 the air-hole is open and air is breathed; when it is turned so that the air-hole closes, Nitrous Oxide is breathed instead of air.

N.B.—Should the Nitrous Oxide fall short, or should the administrator wish to convert the gas-bag into a "Supplemental Bag," the valves can at once be thrown out of action by turning the handle T, and the patient will then breathe into and from the bag.

Fig. 3.—Facepiece, Stopcock, and Gas Bag for the administration of Nitrous Oxide Gas only.

Fig. 4.

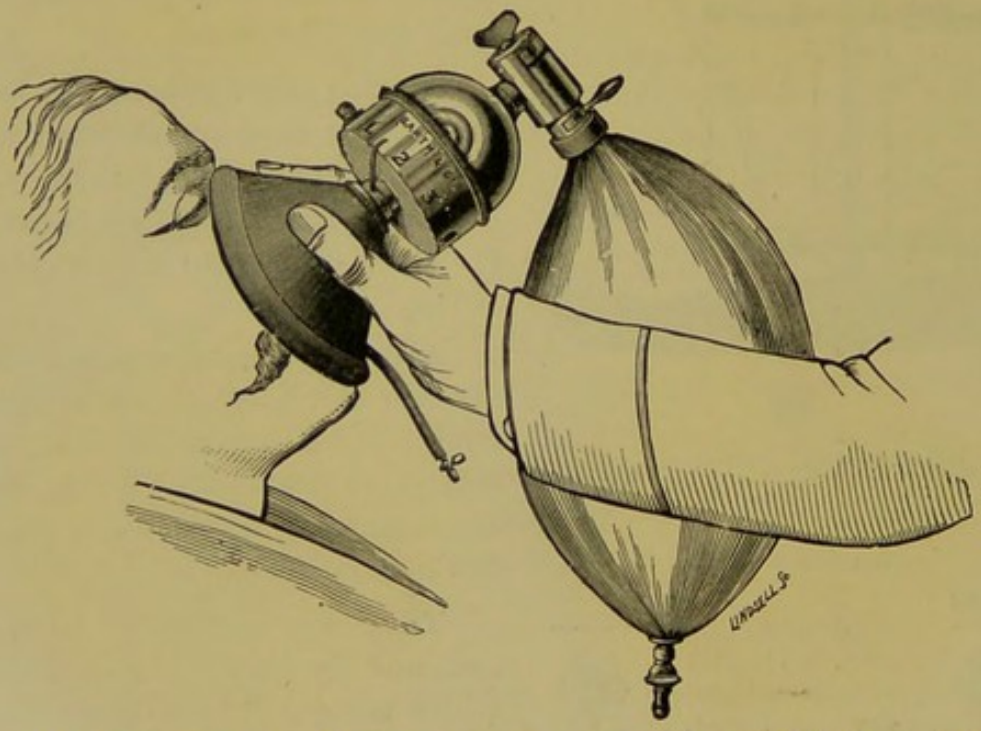


Fig. 4.—Facepiece, Clover's Ether Chamber, Stopcock, and Gas Bag for the administration of Nitrous Oxide and Ether.

When the Ether Chamber is used, Nitrous Oxide with a small quantity of Ether may be administered, or gas only may be given as a preliminary to deep etherisation.

Prices:

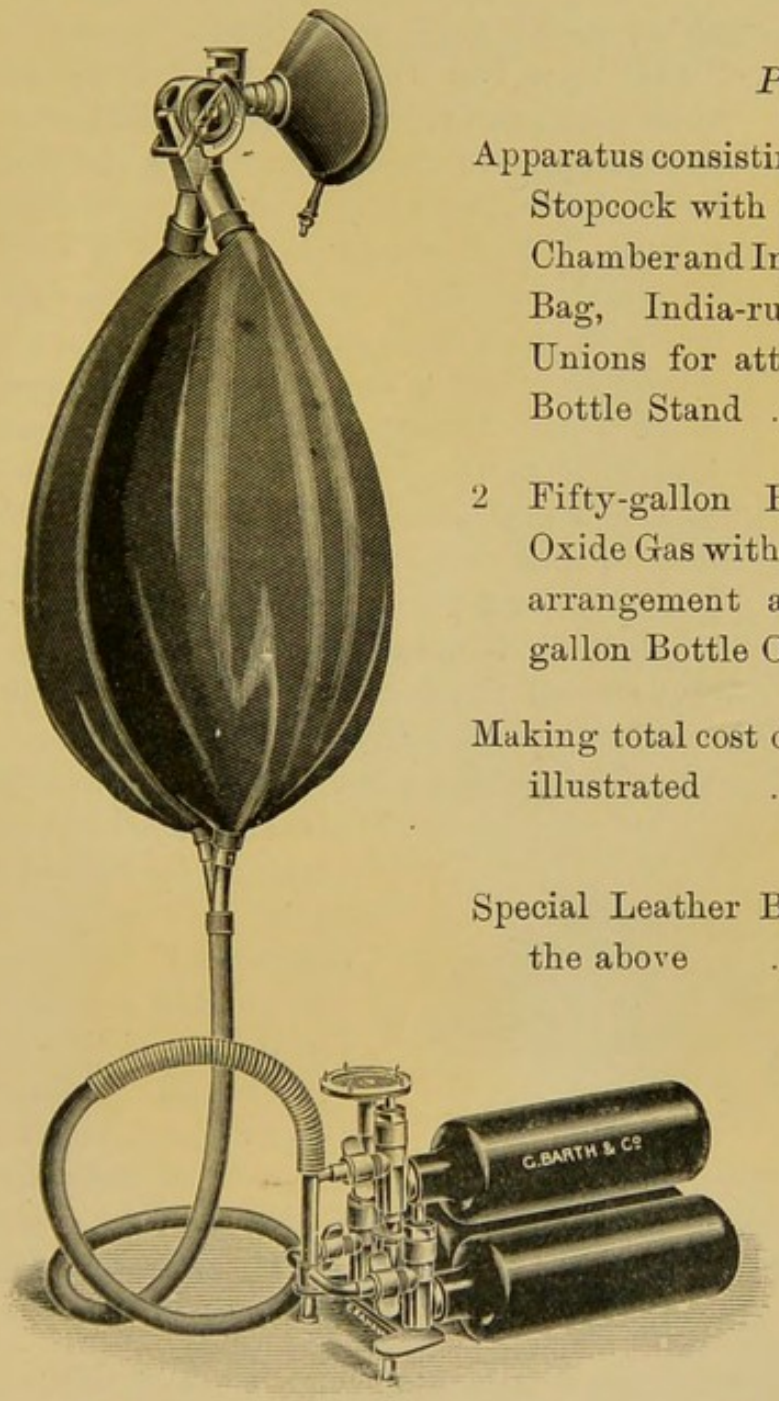
	s.	*d.*
Facepiece, Rubber	10	6
„ Celluloid	13	6
Clover's Ether Chamber	40	0
Stopcock	30	0
Gas Bag, black Sheet Rubber	12	6
Five feet Tubing and Single Union	7	0

Metal parts lacquered or nickelled.

HEWITT'S PORTABLE APPARATUS,

FOR ADMINISTERING NITROUS OXIDE AND OXYGEN.

IMPROVED FORM.



PRICES:

	£	*s.*	*d.*
Apparatus consisting of Facepiece, Stopcock with Valves, Mixing Chamber and Indicator, Double Bag, India-rubber Tubing, Unions for attaching to Gas-Bottle Stand	4	2	6
2 Fifty-gallon Bottles Nitrous Oxide Gas with complete Pedal arrangement and 1 Fifteen-gallon Bottle Oxygen ..	5	14	3
Making total cost of Apparatus as illustrated	£9	16	9
Special Leather Bag to hold all the above	4	10	0

N.B.—This is the apparatus which Dr. Hewitt at present uses.

HEWITT'S NEW SIMPLIFIED PORTABLE APPARATUS

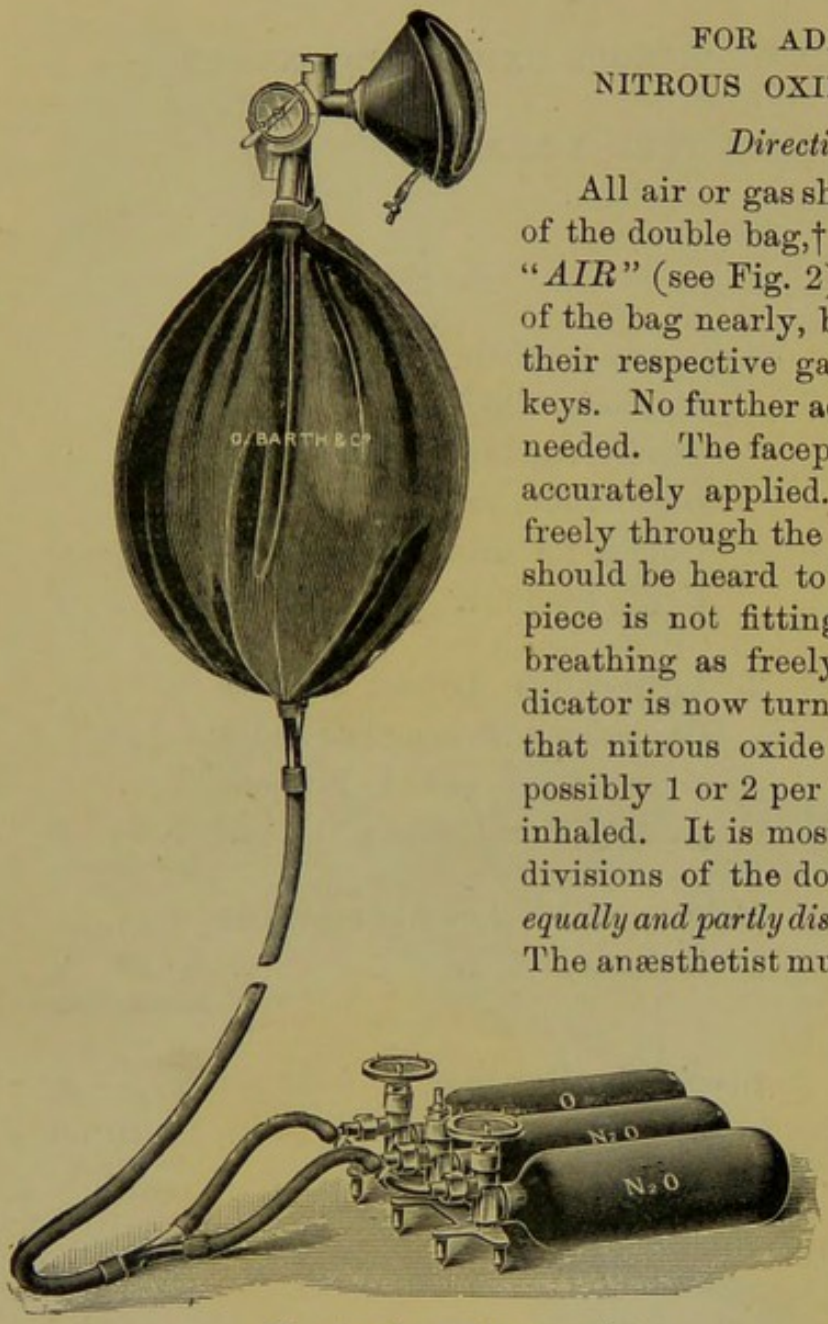


Fig. 1.—Apparatus complete.

FOR ADMINISTERING NITROUS OXIDE AND OXYGEN.*

Directions for use.

All air or gas should first be pressed out of the double bag,† the indicator turned to "*AIR*" (see Fig. 2), and the two divisions of the bag nearly, but not quite, filled with their respective gases, by rotating the foot keys. No further addition of oxygen will be needed. The facepiece should then be very accurately applied. Air will be breathed freely through the apparatus. The valves should be heard to act, otherwise the facepiece is not fitting, or the patient is not breathing as freely as he should. The indicator is now turned to "1," which means that nitrous oxide with a small quantity, possibly 1 or 2 per cent., of oxygen will be inhaled. It is most important that the two divisions of the double bag should be kept *equally and partly distended*, as shown in Fig. 1. The anæsthetist must therefore keep his foot almost constantly turning the nitrous oxide foot key in order that the two parts of the bag may remain equal in size throughout. After two or three breaths at "1" the indicator should be turned to "2," and progressively, after every two or three breaths, to "3," "4," "5," "6," "7," "8," "9," or "10," according to the type of patient. In children and very anæmic persons the

* See Dr. Hewitt's Paper on "**Further Observations on the use of Oxygen with Nitrous Oxide**" in *The Journal of the British Dental Association* for June 15th, 1894.

† It is not advisable to press the bags too tightly, as the suction caused by the sides adhering together has a tendency to draw the valves in the delivery tubes through to the wrong side.

HEWITT'S PORTABLE APPARATUS—*continued.*

indicator may be placed at "2," "3," or even "4," to start with, and turned to a fresh number every breath or two. But in adults in good health less oxygen must be given.

IMPORTANT.

As it is essential to the proper working of the apparatus that all the four valves act well, and the ten oxygen inlets be kept entirely clear, it is recommended that the apparatus be taken apart from time to time and the condition of these ascertained.

To Examine Oxygen Inlets.—Take out the three milled head screws, remove the indicator handle with detent spring, replace the centre screw in dial side of stopcock, and pull out the inner drum. If any of the openings appear to be clogged, pass a piece of metal wire of suitable size through each one until quite clear.

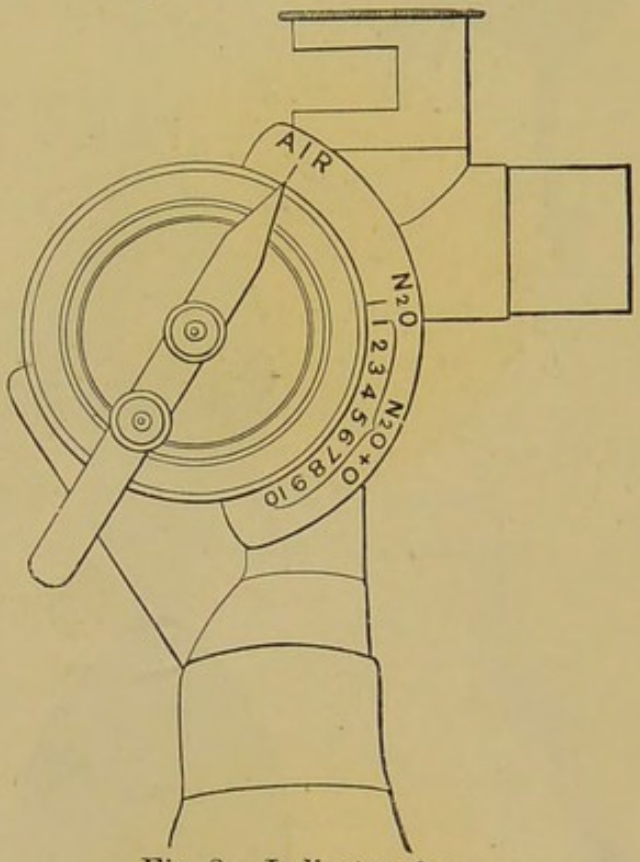


Fig. 2.—Indicator, &c.

Lubricating Inner Drum.—It is very important that no grease or oil be put on that part of the drum which revolves immediately over the oxygen inlets. Any neglect of this will cause them to get choked up, and render it necessary to take the apparatus to pieces again.

To Examine Valves in Delivery Tubes.—Slip off the necks of gas bag one after the other, the valves can then be drawn out of the tubes by the finger. In replacing them always have the inlets to mixing chamber open to avoid the rubber discs being forced through to the wrong side.

N.B.—The centre screw, which keeps in position and regulates the tension of the detent spring, will in time get somewhat slack; it should then be screwed up again to the necessary degree of tightness.

Price:

	£	*s.*	*d.*
Apparatus consisting of Facepiece, Stopcock with Valves, Mixing Chamber and Indicator, Double Bag, India-rubber Tubing, Unions for attaching to the Gas-Bottle Stand ..	4	2	6

The Gas-Bottle Stand and Bottles are charged extra.

FACEPIECES, &c.

Fig. 2.

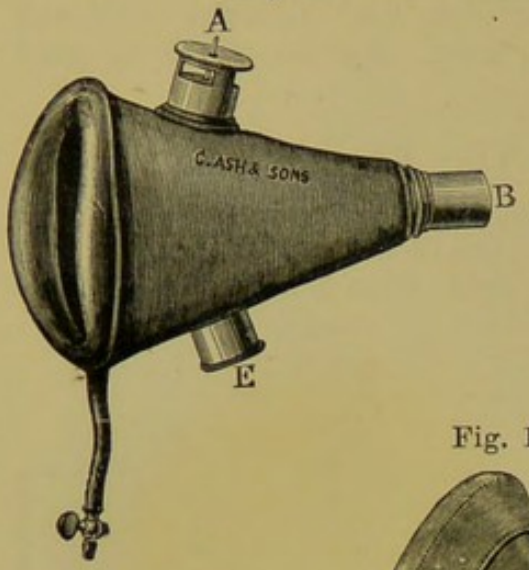


Fig. 3.

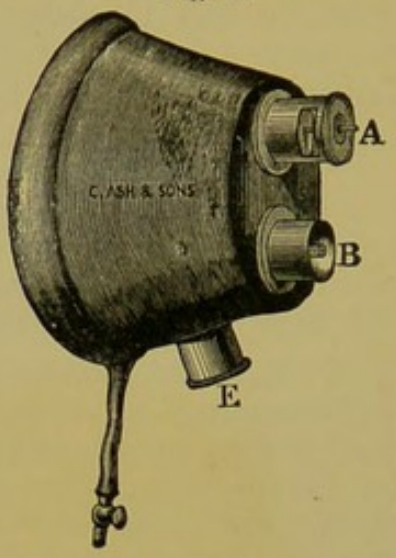


Fig. 1.

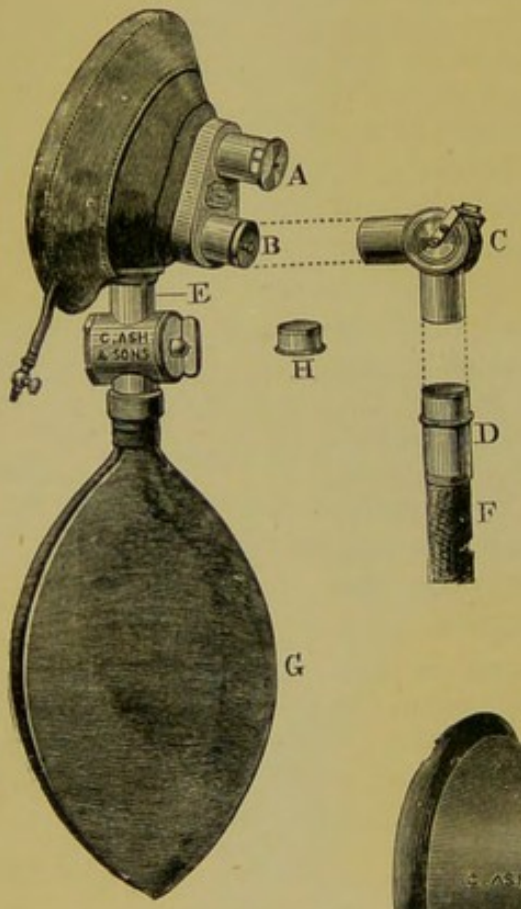


Fig. 5.

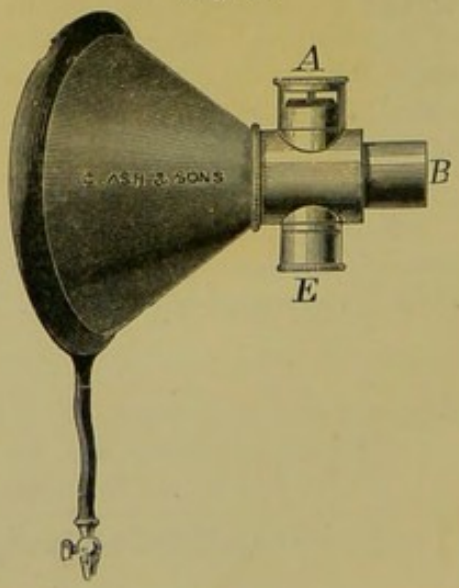
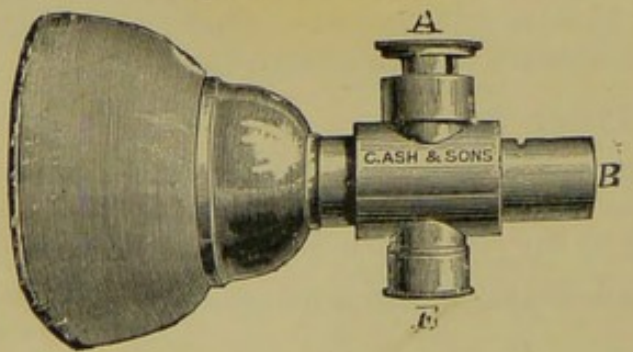


Fig. 4.



FACEPIECES, &c.—*continued.*

Description :

A. Expiratory Valve.
B. Inspiratory Valve.
C. Two-way Stopcock for connecting Facepiece with Gas-Bag, or Gasometer.
D. Mount attached to Worsted Tubing.
E. Mount for holding either an Ether or a Supplemental Bag.
F. Worsted Tubing leading to Gas-Bag, or to Gasometer.
G. Ether Bag or Supplemental Bag.
H. Cap to cover Mount when the Ether or Supplemental Bag is not used.

FACEPIECES.

	s.	d.
Fig. 1. (Clover's) with Mount E, large, medium, or small each	21	0
„ 1. „ without „ „ „ „ „	17	6
„ 2. Funnel-shaped with „ „ „ „ „	21	0
„ 2. „ without „ „ „ „ „	17	6
„ 3. Flexible with „ „ „ „ „	21	0
„ 3. „ without „ „ „ „ „	17	6
„ 4. American pattern with Dr. Redman's improvements, with or without Mount E	27	0
The Rubber Cup of this Facepiece can be removed for cleaning.		
„ 5. With perforated disc protecting valves, with or without Mount E	23	0

Facepieces with stuffed pads—

For hot climates, minus mount E .. .. .. each	17	6
„ „ with „ .. .. .. „	21	0
Facepieces Figs. 1, 2, 3, 4, and 5 may be had to order with the metal parts nickel-plated instead of lacquered, at an extra cost of .. .. each	2	6

Air Caps as fitted to Braine's facepiece (see illustration, A, B, on page 19) can be fitted to facepieces Figs. 1, 2, and 3, at an extra cost of .. .. .. each 5 6

FACEPIECE PADS, &c.

	s.	d.
Facepiece Pads, best sheet rubber, with Tap, for Fig. 1 Facepieces each	6	0
„ „ „ „ without Tap „ „ „	4	0
Stuffed Facepiece Pad, best sheet rubber, for hot climates „	4	0
Two-Way Stopcocks—C, Lacquered .. .. „	7	6
„ „ „ Nickel-plated	9	0
Mount D for Worsted Tubing, Lacquered .. .. „	1	6
„ „ „ Nickel-plated .. .. „	1	9

CELLULOID FACEPIECES.

(WELLER'S.)

Fig. 1.

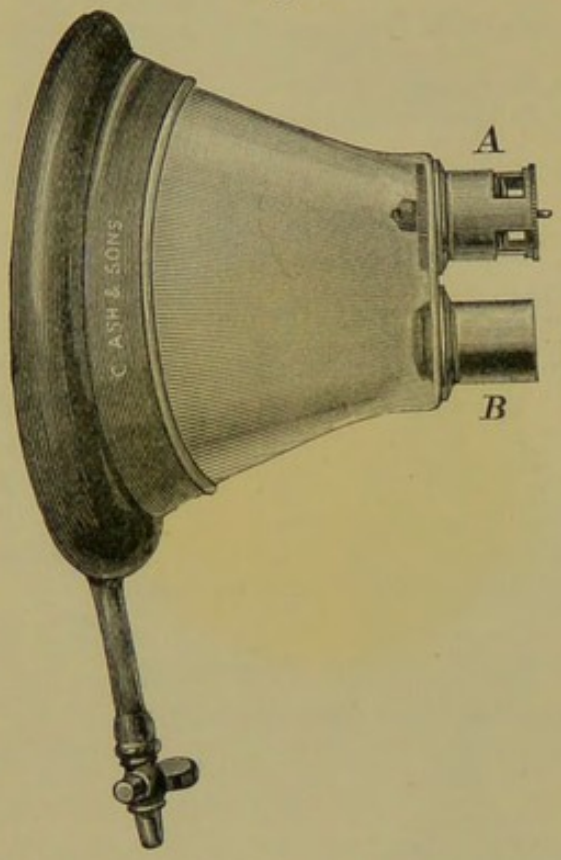
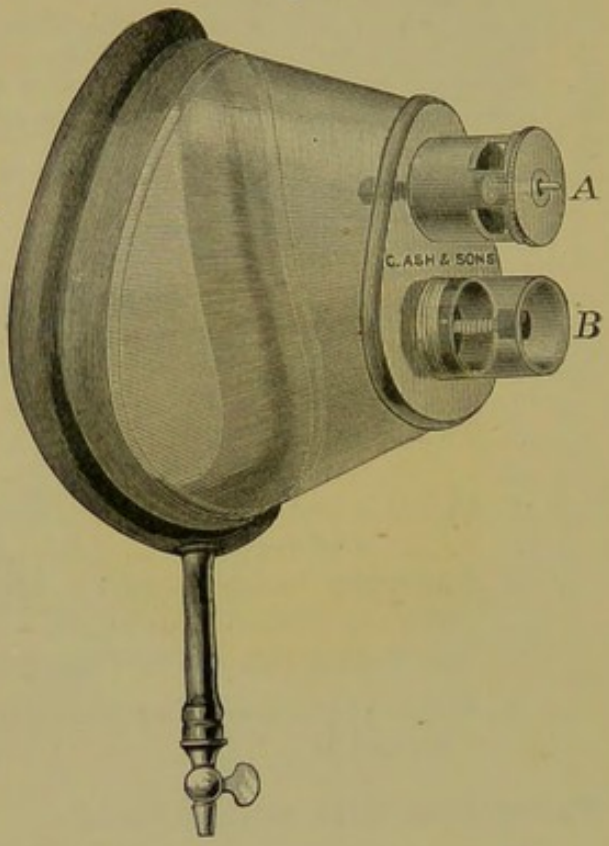


Fig. 3.



We were the first to introduce **Celluloid Facepieces** to the Dental Profession, and so rapidly have they been adopted that they are now used in all parts of the world.

Weller's Improved Seamless Celluloid Facepieces with valves are stronger and much more durable than the pure rubber Facepieces hitherto supplied.

In addition to the form here illustrated, we likewise stock Facepieces made of Celluloid in the same shapes as Figs. 2 and 5, shown on page 16.

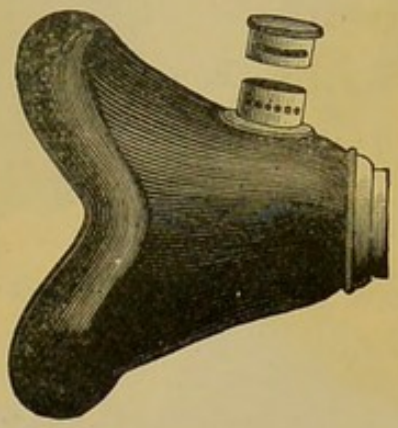
Prices:

		s.	*d.*
Fig. 1. Seamless Facepiece with Valves		22	6
„ 3. Facepiece with Valves		22	6
Either kind with Mount for Ether or Supplemental Bag		25	0
(These Prices also apply to the other Shapes referred to above.)			
Celluloid Facepieces without Valves for Dr. Hewitt's Apparatus	each	13	6

FACEPIECE FOR ADMINISTERING AIR IN COMBINATION WITH NITROUS OXIDE GAS.

(Introduced by Mr. C. Carter Braine, F.R.C.S.)

For full description and advantages of Mr. Braine's method of combining air with nitrous oxide gas, and the construction of this facepiece, see pages 205 to 207 of the June, 1895, number of the Quarterly Circular.



A. Cap with slot.
B. Mount with six holes for admitting varying proportions of air.

Mr. Braine gives the following directions for administration: Commence with all the holes covered, and after the patient has taken two, or perhaps three, inspirations of gas, and the gas-bag has become lax, turn on one or two of the air-holes. Do not allow the gas-bag to become distended, or very little, if any, air will enter through the perforations. Turn on more holes according to your patient's condition; thus, children and anæmic women require more air, and the powerful adult less. Should too many holes be exposed, and the patient fail to become anæsthetised, then rotate the cap in the opposite direction and lessen their number.

It will be understood that air by this method is administered with the gas continuously, almost from the very commencement of the inhalation, and, speaking from my own experience, the results have, so far, been better than when the intermittent administration of air has been employed. When nitrous oxide and oxygen is not available, the administration of nitrous oxide and air will be found to yield the next best results in the great majority of dental cases.

	s.	*d.*
Price of Facepiece	23	6
Air caps similar to *A*, *B* in above illustration can be fitted to ordinary facepieces, Figs. 1, 2, 3 (see page 16), at an extra cost of .. .. each	5	6

BARTH'S FACEPIECES

WITH PATENTED COMBINATION

STOPCOCKS AND VALVES.

Fig. 1.

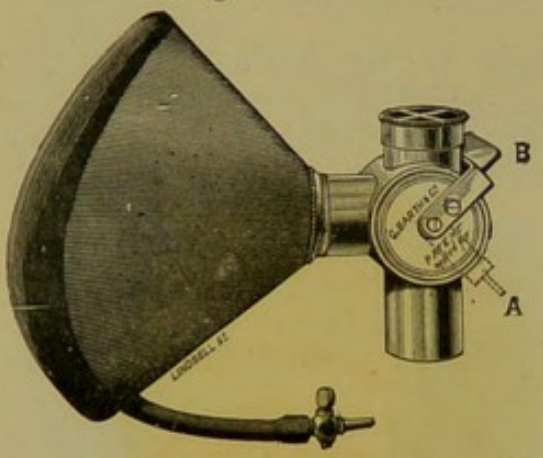
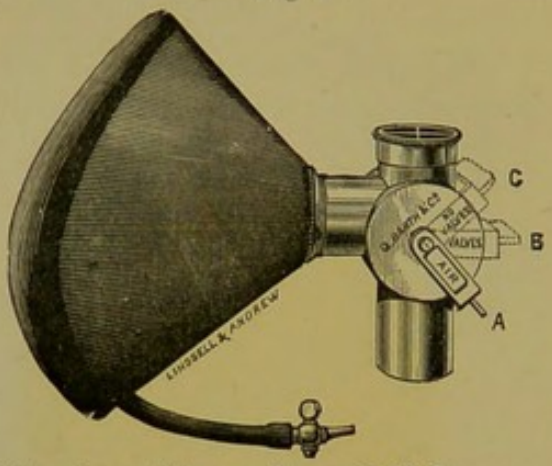


Fig. 2.



The following advantages are claimed for these Stopcocks and Valves :—

1. Simplicity.
2. Compactness.
3. Non-liability to get out of order.
4. Lightness.
5. Diminished cost.
6. Economy of Gas when required.

The essential feature in the invention is this : The Valves, instead of being attached to the facepiece, are fixed in the stopcock, and are consequently available for any number of facepieces. A clear saving of expense is thus effected, which will be readily appreciated when it is stated that a new facepiece, as shown above without valves, costs rather less than half the amount of one with valves. These combined stopcocks and valves are made in two forms.

Fig. 1 has two movements. When the handle of the stopcock is placed at A, communication with the gas-bag is shut off, and air is admitted ; when the handle is placed at B, communication with the gas-bag is opened, and the gas is inhaled through the inspiratory valve, and exhaled through the expiratory valve.

Fig. 2 has three movements, two of which correspond with the two in Fig. 1—marked A (air) and B (valves) in the above illustration, Fig. 2. By raising the handle to C (marked no valves) the valves are thrown out of action, and the gas is breathed from and re-breathed into the bag in just the same manner as when a supplemental bag is used with the old form of facepiece.

The Combination Stopcocks and Valves can be fitted to any form of Facepiece, but the two shown above, for which they are especially designed, are made of rubber, with fixed india-rubber pads.

BARTH'S FACEPIECES—*continued.*

Prices:	£	*s.*	*d.*
Fig. 1.—Stopcock, Nickel-plated—minus Facepiece	1	0	0
„ Lacquered brass „ „	0	18	6
Fig. 2.—Stopcock, Nickel-plated—minus Facepiece	1	2	6
„ Lacquered brass „ „	1	1	0
If fitted with Barth's Improved Hair-spring Valves extra	0	2	0
Facepieces for Figs. 1 and 2 Stopcocks, large, medium or small, with Nickel-plated or with brass mounts extra each	0	10	6
Celluloid Facepieces, ditto, ditto .. .. „ „	0	13	6

BARTH'S FACEPIECE
WITH
PATENTED THREE-WAY VALVED STOPCOCK.

DESCRIPTION.

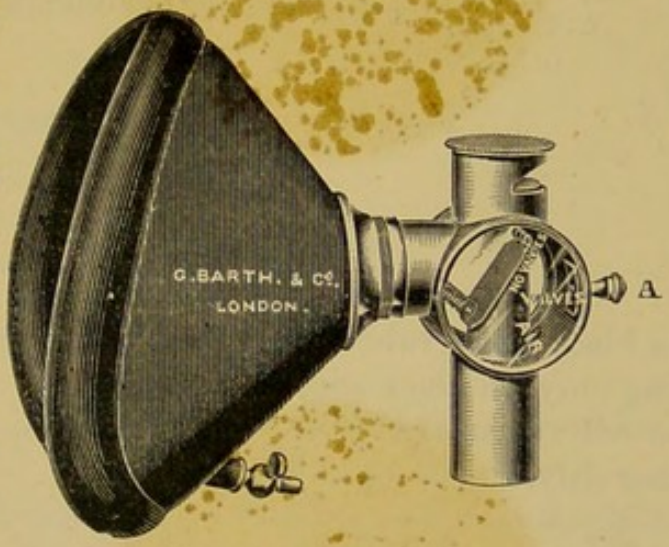
Fig. 2.—Stopcock with Facepiece complete.

A—Handle which turns the revolving drum.

The circular tube in which the drum revolves is fitted with glass sides through which the action of the inspiratory valve can be seen.

The glass side visible in the engraving is marked **Air, Valves, No Valves.** When the handle is set at **Air,** only air is admitted. When the handle is raised to **Valves,** as shown in the illustration, communication with the gas-bag is opened, the gas is inhaled through the inspiratory valve, and the exhalations pass through the expiratory valve. By raising the handle to **No Valves** the valves are thrown out of action, and the gas is breathed from and re-breathed into the bag, in the same manner as when a supplemental bag is used with the old form of facepiece.

FIG. 2.—NEW MODEL.



ADVANTAGES OF THE STOPCOCK:

1.—The flap or hinge valves are non-perishable, and will therefore stand all climates—hot equally as well as temperate or cold.

2.—Respiration is much freer than with the usual form of Stopcock, on account of the larger airways which this new model possesses.

Prices:	£	*s.*	*d.*
Stopcock, Nickel-plated—minus Facepiece	1	7	6
„ Lacquered brass „ „	1	6	0
Facepieces for Stopcock, large, medium or small, with Nickel-plated or with brass mounts, extra .. .. .. each	0	10	6
Celluloid Facepieces, ditto, ditto .. .. .. „	0	13	6

CATTLIN'S BAGS, &c.

		s.	d.
3 Gallon size,	in black sheet rubber, with tubing and mounts	26	0
3 „	„ „ complete with quieter ..	34	0
3 „	„ „ minus tubing and mounts	15	0
5 „	„ „ with tubing and mounts	31	0
5 „	„ „ complete with quieter ..	39	0
5 „	„ „ minus tubing and mounts	20	0
3 „	in red vulcanized rubber:—		
	with tubing and mounts	22	0
3 „	„ „ complete with quieter ..	30	0
3 „	„ „ minus tubing and mounts	12	6
5 „	„ „ with tubing and mounts	26	0
5 „	„ „ complete with quieter ..	34	6
5 „	„ „ minus tubing and mounts	16	6
3 „	light check bags for hot climates, „ „ „	14	6
5 „	„ „ „ „ „ „	18	0

For Silk Cattlin's Bags see next page.

SUPPLEMENTAL BAGS.

	s.	d.
In black sheet rubber, complete with stopcock	14	0
Bag only, in black sheet rubber	7	0
In red vulcanized rubber, complete with stopcock	14	0
Bag only, in red vulcanized rubber	7	0
In check material, complete with stopcock	14	0
Bag only, in check material	7	0

METAL PARTS FOR GAS BAGS,

IF SUPPLIED SEPARATELY.

		s.	d.
Single Union for Cattlin's Bag	Lacquered	3	6
„ „ „ „	Nickel-plated	4	0
Gas Quieter with unions for attaching to the India-rubber tubing of Cattlin's Bag, and the outlet tap of Gas Bottle	Lacquered	8	0
„ „ „	Nickel-plated	9	0
Mount with Stopcock for Supplemental Bag ..	Lacquered	7	0
„ „ „ „ ..	Nickel-plated	8	0

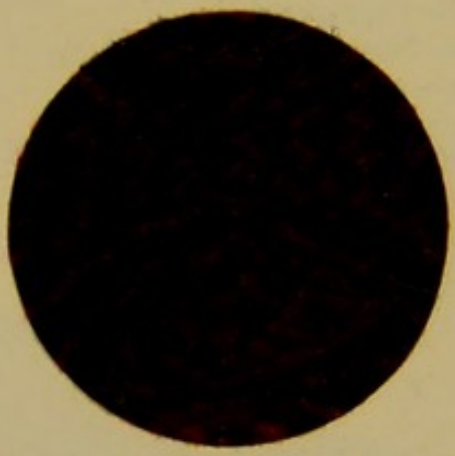
SILK CATTLIN'S BAGS.

These Bags are made in four patterns of special waterproof silk, actual samples of which are given below.

They are light, cleanly, attractive, durable, and quite suitable for all climates.

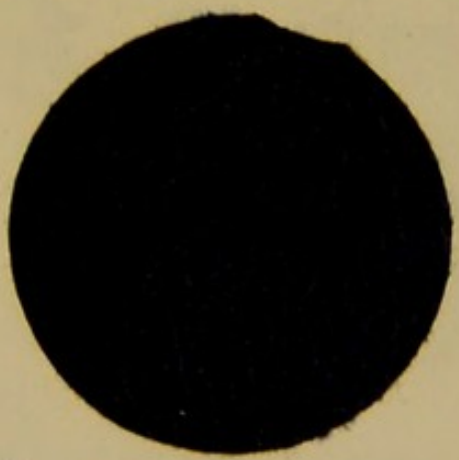
700.

700 *A*.



700 *B*.

700 *C*.



Prices :

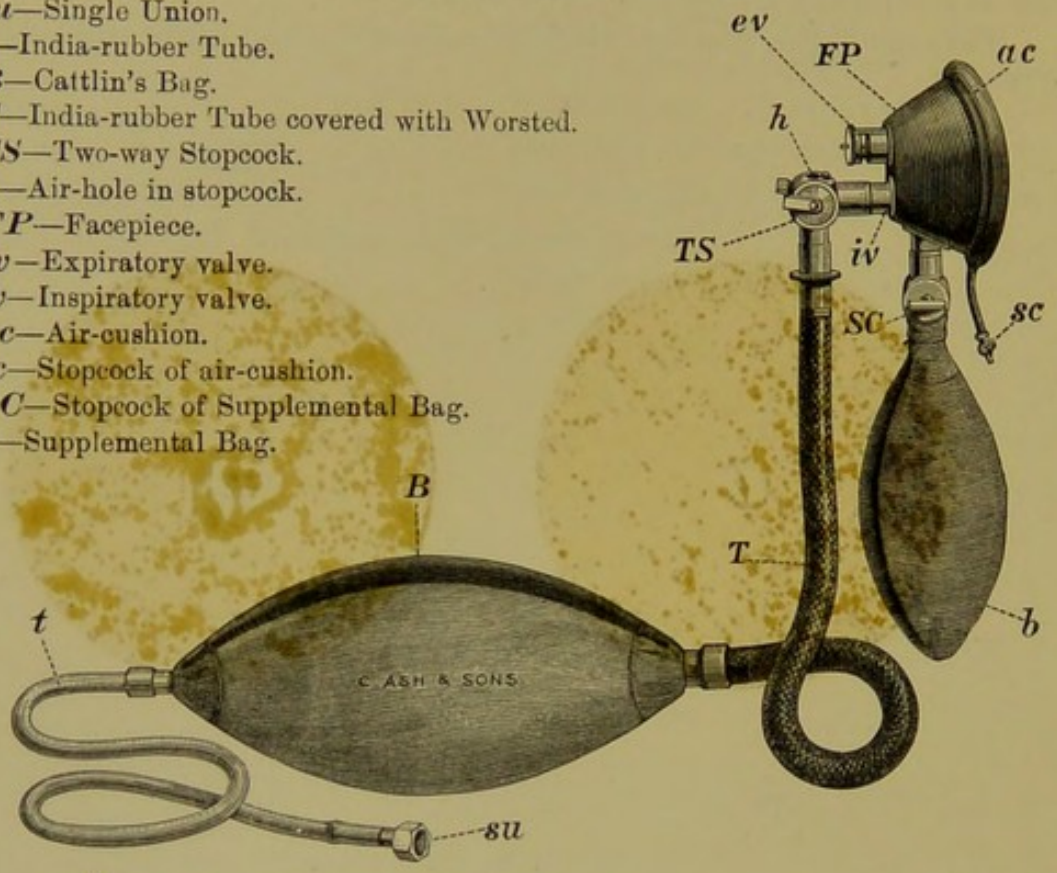
			s.	d.
3 gallon-size with Tubing and Mounts	complete		23	6
5 „ „ „	„		26	0
3 „ Bag only			12	6
5 „ „			15	0

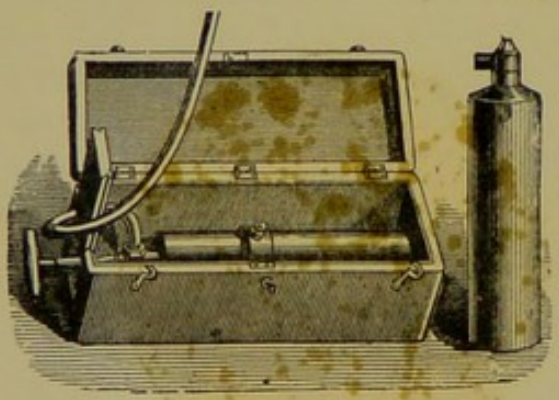
PORTABLE LIQUID GAS APPARATUS.

FOR THE ANÆSTHETIST WHEN VISITING.

DESCRIPTION:

su—Single Union.
t—India-rubber Tube.
B—Cattlin's Bag.
T—India-rubber Tube covered with Worsted.
TS—Two-way Stopcock.
h—Air-hole in stopcock.
FP—Facepiece.
ev—Expiratory valve.
iv—Inspiratory valve.
ac—Air-cushion.
sc—Stopcock of air-cushion.
SC—Stopcock of Supplemental Bag.
b—Supplemental Bag.





In addition to the Bags, Facepiece, and Tubings shown above, the Leather-covered Case here illustrated will hold a bottle of Gas, with Key, a second Facepiece, a set of Gags, etc.

NOTES.

"One great advantage of the Supplemental Bag is that while it continues to empty itself and refill, there can be no doubt that respiration is being properly performed; it is an unfailing index of the state of this all-important function."—*A. S. Underwood.*

Mr. Braine says:—"It may be urged against this method that the patient rebreathes the carbonic acid of his own expired air, and this is true; but from the length of time I have employed this plan, and from never having seen any deleterious results from it, I do not attach any importance to the objection."

The Supplemental Bag is, however, less frequently used than it formerly was, most practitioners having abandoned the to-and-fro breathing method.—*C. A. & S.*

PORTABLE LIQUID GAS APPARATUS—*continued.*

Prices:

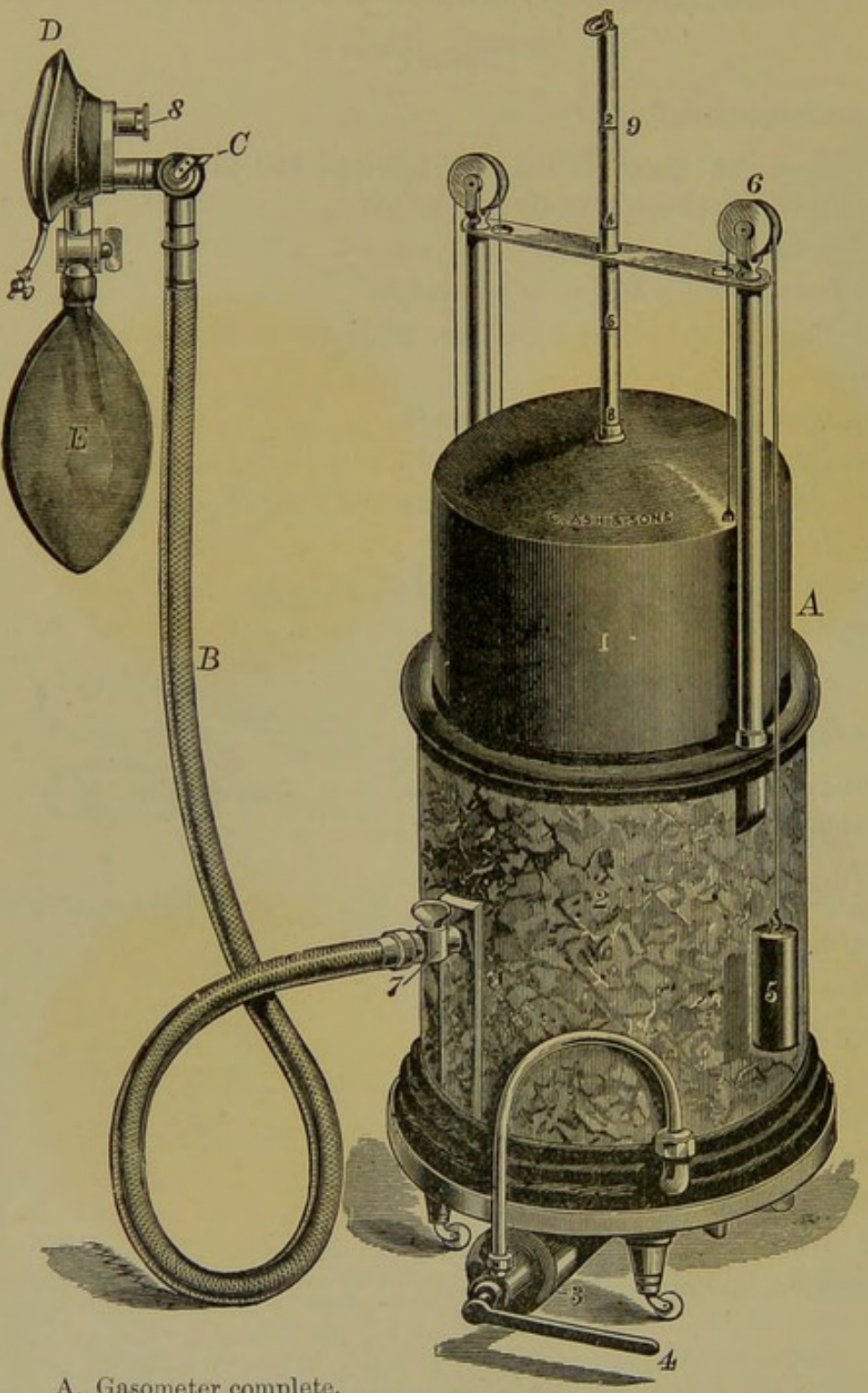
Apparatus, consisting of—	£	s.	d.
Wrought-Iron or Steel Bottle, containing 100 Gallons of Coxeter's, Clarkson's, or Spurge's Gas	1	15	0
Gas Key	0	2	6
Spanner for attaching Union to gas-bottle	0	2	6
Cattlin's Bag to hold about 3 gallons, with Brass Mount and Union	1	6	0
Two Facepieces, large, medium or small	2	2	0
Supplemental Bag with Stopcock	0	14	0
Two-way Stopcock to connect Facepiece and Cattlin's Bag ..	0	7	6
Set of 3 simple Gags	0	3	9
Leather-covered Case (16¾ by 6¾ inches), with Lock and Key, to hold all the above apparatus	1	0	0
Complete	7	13	3

Apparatus, consisting of—			
Wrought-Iron or Steel Bottle, containing 50 Gallons of Coxeter's, Clarkson's, or Spurge's Gas	1	8	9
Gas Key	0	2	6
Clarkson's Pedal attachment for a single bottle, with Spanner	1	1	0
Cattlin's Bag, to hold about 3 Gallons, with Brass Mount, Union and Gas Quieter	1	14	0
Two-way Stopcock	0	7	6
Two Fig. 3 Facepieces, minus Mount E, large, medium, or small	1	15	0
Dr. Hewitt's fixed Gag	0	4	6
Mr. Braine's Tongue Forceps	0	9	0
Leather Hand-Bag, with Lock and Key, made of the best Cow-hide, to hold the above outfit	1	4	0
Complete	8	6	3

Anæsthetist's Leather Hand-Bag, Black or Brown, to hold one Gas Bottle	1	4	0

GASOMETER FOR LIQUID GAS,

FOR USE IN THE OPERATING ROOM.



A. Gasometer complete.
B. Worsted Tubing leading from Facepiece, &c., to Gasometer.
C. Two-way Stopcock connecting Facepiece with Worsted Tubing.
D. Clover's Facepiece with movable India-rubber Pad.
E. Supplemental Bag attached to Facepiece.

1. Drum of Gasometer.
2. Water Holder.
3. Gas Bottle.
4. Key for releasing the Gas.
5. Weights for raising the Drum
6. Pulleys and brass Uprights.
7. Outlet Tap of Gasometer.
8. Expiratory Valve of Facepiece.
9. Centre brass Indicating Rod.

GASOMETER FOR LIQUID GAS—*continued.*

The Gasometer shown on the previous page is made expressly for holding Nitrous Oxide Gas to be used in the Operating Room. It is illustrated with all the necessary parts attached that are required to make it complete and ready for use. Before the Gas is admitted, the Drum, No. 1, should be pressed down as far as it will go, and the Water Holder, No. 2, should be filled with pure water up to within about an inch of the top. The water requires renewing about every two months.

The centre brass rod, which is divided into intervals of two gallons each, indicates the quantity of Gas in the Gasometer at any given time. To ensure having sufficient for each operation, the Gasometer should be filled for each patient.

When the Gas bottle is empty, it can be replaced by a full one in a few minutes.

Prices:

	£	s.	d.
Gasometer, made of zinc and tastefully japanned in imitation of marble, to hold 8 gallons of Gas	5	0	0
Bottle containing 100 gallons of Coxeter's, Clarkson's, or Spurge's Liquid Gas	1	15	0
Gas Key	0	2	6
Six feet of India-rubber Tubing, ¾-inch diameter, covered with worsted and wired inside	0	11	0
Two-way Stopcock in lacquered brass	0	7	6
Mount for upper part of worsted tubing	0	1	6
Two Clover's Facepieces, large and medium	2	2	0
Supplemental Bag, with Stopcock	0	14	0
Set of Gags, three sizes	0	3	9
Spanner	0	2	6
Complete	10	19	9
Gasometers, as illustrated, 12-gallon capacity .. .. each	5	10	0
Either size Gasometer fitted with two sets of rings underneath for holding two bottles of Gas, and bent pipe with double union for connecting them, at an extra cost of	0	10	6

The Apparatus can be varied to any extent that may be desired.

APPARATUS FOR MANUFACTURING AND ADMINISTERING NITROUS OXIDE GAS.

The following nine pages are inserted for the information of those Dentists who manufacture their own Nitrous Oxide Gas. We have merely shown and enumerated the articles necessary for this purpose, and for administering the Gas after it is made, our object being to call attention to the latest prices, rather than to reproduce the full details given in our large Catalogues. Although there are not many Dentists now who care to make their own Gas, we find there are some still residing in out-lying districts in Colonial and other distant places who are obliged to make it, and to such the apparatus which are given in the following pages will be of service. In every case, however, where it is possible, we recommend the large steel cylinders, containing 1,000, 500, or 200 gallons of Gas, mentioned on pages 1 and 2.

CLAUDIUS ASH & SONS, LIMITED.

NOTE.—Special Terms are given to Dental and General Hospitals for Liquid Nitrous Oxide Gas in Iron or Steel Bottles.

OUTFIT AS GENERALLY SUPPLIED.

Manufacturing Apparatus, pages 30–33 :

	£	s.	d.
Japanned Zinc Gasometer, 50 gallons capacity (see Fig. 1)	7	0	0
*Ash's Thermo-Regulator .. .. .. („ 3)	0	15	0
*Kirby's Gas-Extinguisher .. .. (see B C Fig. 2)	0	15	0
*Standard Rose Bunsen Gas Burner on Stand (see page 33)	0	4	0
Wooden Shield with Tin lining and Zinc Tray (see Fig. 2)	0	18	0
Three Wash-Bottles, Nos. 1, 2, 3, with fittings („)	1	10	0
Four Glass Flasks, each 100 oz. capacity .. („)	0	6	0
Wire Hook for suspending Glass Flasks .. („)	0	0	6
Three India-rubber Bungs for „ .. („)	0	3	6
Two long bent Glass Tubes .. .. („)	0	5	0
Wooden Union for attaching to the bent Glass Tube on the third Wash-Bottle	0	0	6
Six feet $\frac{5}{8}$-in. India-rubber Tubing for connecting the Wooden Union and the Gasometer	0	7	0
*Twelve feet $\frac{5}{16}$-in. India-rubber Tubing for connecting the Thermo-Regulator with the Gas Burner, &c. ..	0	6	0
Nitrate of Ammonia, best quality, $\frac{1}{2}$ cwt.	2	5	0
Two Jars containing ditto	0	8	0
Proto-Sulphate of Iron in bottles, 2 lbs.	0	2	8
Caustic Potash in bottles, 1 lb.	0	2	6

Administering Apparatus, pages 34 and 35 :

Two Clover's Facepieces, large and medium, with mount E	2	2	0
Supplemental Bag G	0	14	0
Two-way Stopcock C	0	7	6
Mount D for Worsted Tubing F	0	1	6
Six feet Worsted Tubing, wired inside	0	10	6
Complete	19	4	2

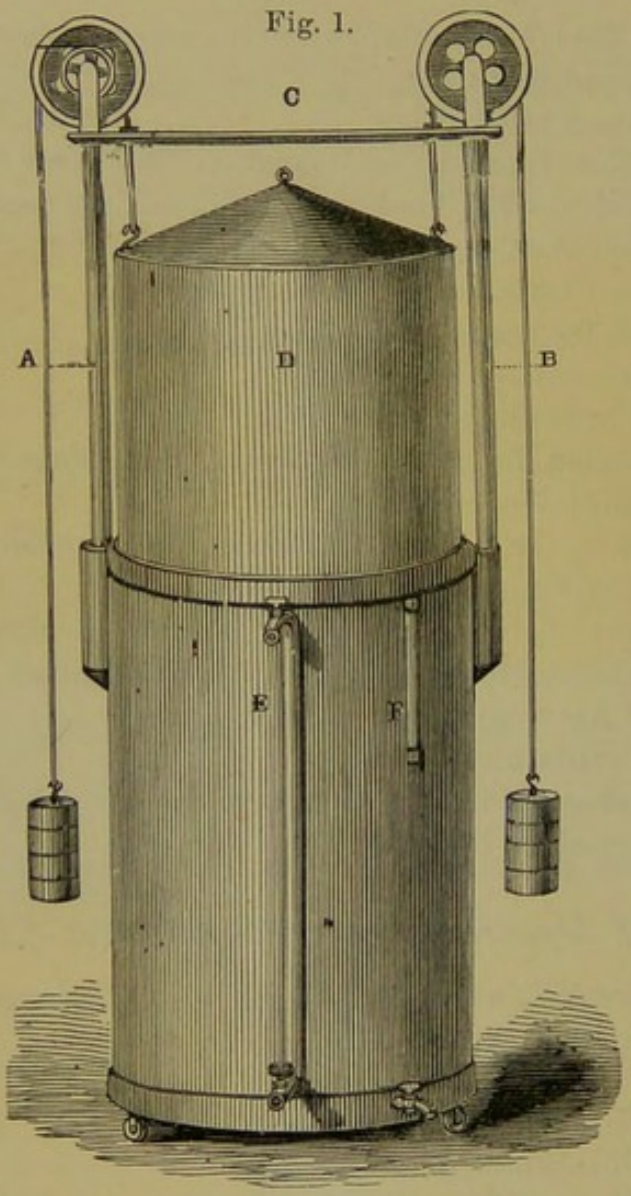
Packing Cases for above Apparatus, extra, from 30/-

* Dentists residing in places where coal-gas cannot be obtained can have the Spirit Lamp—6*s.* (shown on page 33), for heating the ammonia; then the Gas Burner, the Thermo-regulator, Gas Extinguisher, and 12 feet of small India-rubber tubing, not being required, the total cost would be 31*s.* less than above. The Apparatus can be varied if desired.

MANUFACTURING APPARATUS.

GASOMETER.

Fig. 1.



After having fitted up the Gasometer, as illustrated, according to the directions which accompany each Manufacturing Apparatus, fill up the lower half with water to within an inch of the top of the glass tube or water-gauge F. Before using it, press down the holder D as far as it will go, so as to empty it as much as possible of the atmospheric air. Then shut the top tap on pipe E, and open the bottom tap through which the Nitrous Oxide Gas passes from Wash-Bottle No. 3, shown on the next page.

The tap to the right, on the bottom rim of the Gasometer, is for running off the water when a fresh supply is required.

MANUFACTURING APPARATUS—*continued.*

ARRANGEMENT FOR GENERATING THE GAS.

Fig. 2.

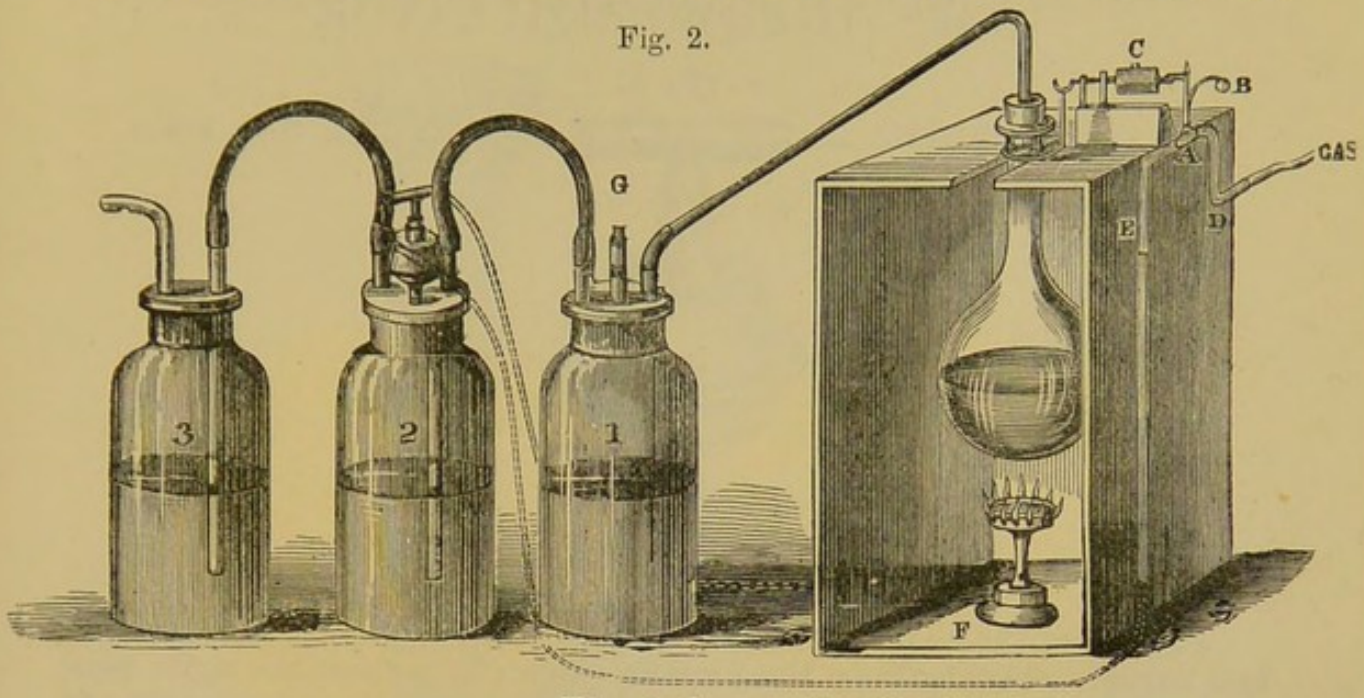


Fig. 2 shows :

Wash-Bottles, Nos. 1, 2, 3, containing water and the two solutions mentioned in the working directions. They are connected with each other by means of short lengths of Williamson's India-rubber Tubing.

Ash's Thermo-Regulator fitted in Wash-Bottle No. 2.

Vacuum Valve G fitted in Wash-Bottle No. 1.

Bent Glass Tube which unites Wash-Bottle No. 1 with the Glass Flask suspended over the Burner F.

Glass Flask with India-rubber Bung; also the **Wire Hook** which holds the Flask in position.

Fletcher's Standard Rose Bunsen Gas Burner F.

Wooden Shield with Tin lining, and Zinc Tray under Burner.

Kirby's Gas Extinguisher B C, and

India-rubber Tubing leading from the coal-gas supply pipe on Kirby's Extinguisher to Thermo-Regulator, and from the Thermo-Regulator to the Gas Burner F.

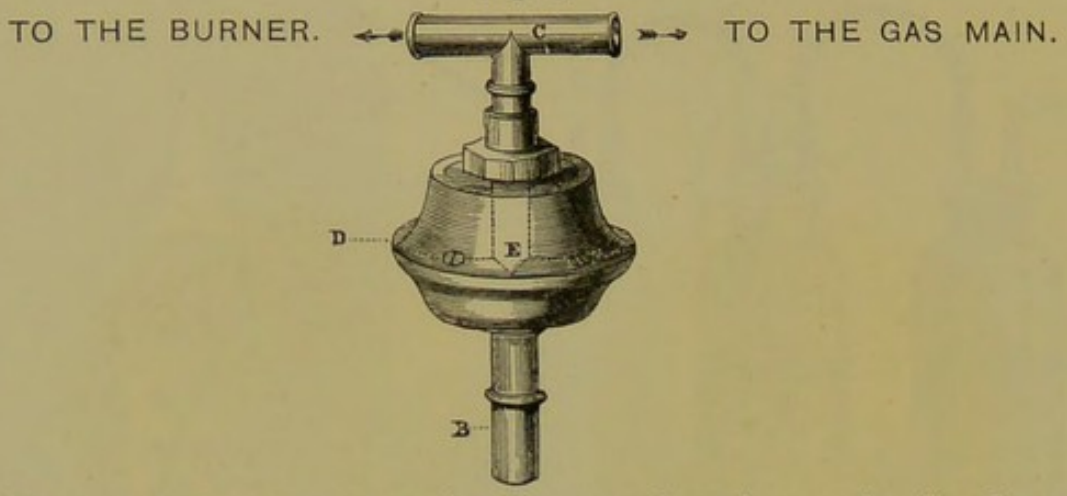
Full working details are sent with each manufacturing apparatus.

To connect the Gasometer Fig. 1 with Wash-Bottle No. 3 : Take two or three inches of Williamson's Tubing and pass one end over the bent glass tube of Wash-Bottle No. 3, and the other over the small part of the wooden union, which we supply with the apparatus. Then take a sufficient length of $\frac{5}{8}$-in. India-rubber tubing—we usually send six feet for this purpose—and push one end on the large part of the wooden union and the other end over the mouth of the bottom tap on pipe E of the Gasometer.

MANUFACTURING APPARATUS—*continued.*

ASH'S THERMO-REGULATOR.

Fig. 3.



The use of the above invention is to regulate the supply of coal-gas to the burner, when making the nitrous oxide gas, so that the right temperature may always be kept in the flask, thus ensuring pure nitrous oxide being made, and also preventing breakages as far as possible.

Full description and directions for using the Thermo-Regulator are sent with it.

MR. S. A. KIRBY'S GAS EXTINGUISHER.

(See B, C, on Fig. 2.)

The use of this self-acting apparatus is to shut off the coal-gas from the burner when the nitrate of ammonia in the flask is reduced to six ounces. It is considered desirable never to have less than this quantity in the flask, for heat acts so rapidly upon a small quantity that, without constant watching, the temperature rises quickly to 500° Fahrenheit, and the consequence is the generation of nitrous or nitric acids, ammoniacal gases, or other impurities.

Directions for using the Extinguisher are sent with it.

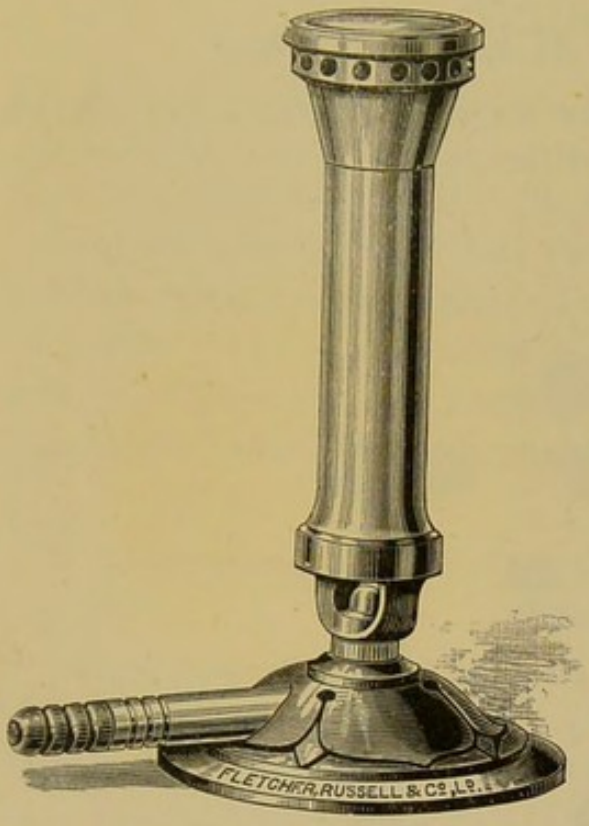
THE VACUUM VALVE.

(See G, on Fig. 2, page 31.)

The vacuum valve is placed in the first bottle, so that in the event of the heat being suddenly shut off from the flask, sufficient air will be admitted through it to fill up the vacuum that would otherwise draw the liquids from one bottle to the other, and lastly into the flask itself, and cause it to burst.

MANUFACTURING APPARATUS—*continued.*

BURNER FOR HEATING GLASS FLASKS.



FLETCHER'S

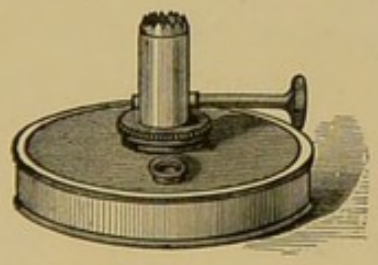
STANDARD ROSE

BUNSEN BURNER.

No. 5, on brass stand.

Height	.. ..	5 inches.
Diameter	.. ..	1 ,,
,,	of Flame	$2\frac{1}{2}$,,

	s.	*d.*
Price	4	0



5 inches high.
5 ,, diameter.

SPIRIT LAMP.

The spirit holder of this lamp is 2 inches deep. It is intended for use in places where coal-gas cannot be obtained. Price 6/-.

Other Burners supplied to order.

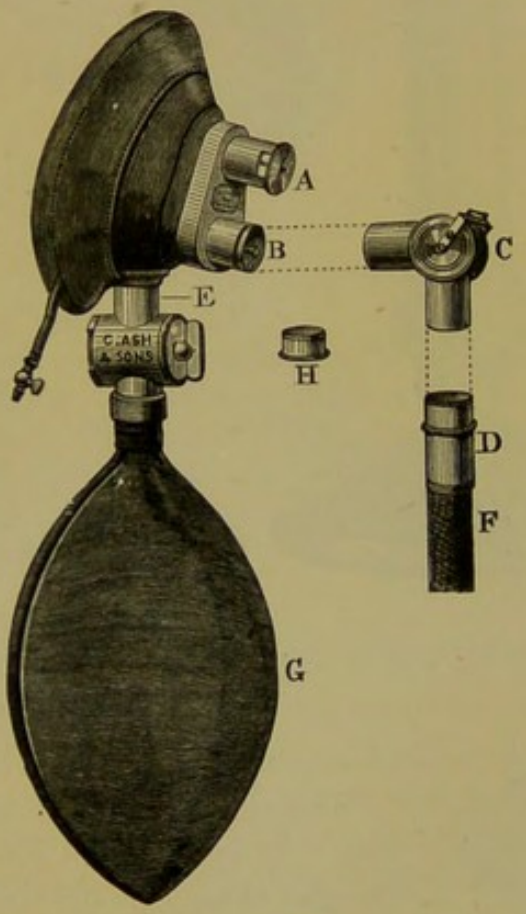
In first applying the heat to a Glass Flask, when it is cold, there is some danger of breaking it. To overcome this danger Dr. C. H. Stokes recommends the insertion of a thin plate of sheet-iron, for a few minutes, between the Burner and the Glass Flask. Simple supports for the iron plate may be made inside the wooden shield by fixing three screws, or driving three nails, level with each other, through the tin lining, on both sides.

When the Glass Flask is thoroughly warmed, the iron plate can be readily withdrawn with a pair of large pliers or small crucible tongs.

ADMINISTERING APPARATUS.

Mr. CLOVER'S FACEPIECE, &c.,

FOR USE IN CONNECTION WITH THE MANUFACTURING APPARATUS SHOWN ON PAGES 30-33.



Description :

A. Expiratory Valve.

B. Inspiratory Valve.

C. Two-way Stopcock for connecting Facepiece and Gasometer.

D. Mount attached to Worsted Tubing which leads to the Gasometer.

E. Mount for holding either an Ether or a Supplemental Bag.

F. Worsted Tubing leading to Gasometer.

G. Ether or Supplemental Bag.

H. Cap to cover Mount E when the Ether or Supplemental Bag is not used.

ADMINISTERING APPARATUS—*continued.*

Mr. CLOVER'S FACEPIECE.

This well-known Facepiece is made of soft metal, which can readily be moulded to fit any face, covered with leather and provided with movable india-rubber pad. To Dentists residing at a distance, who cannot conveniently send their Facepieces to be repaired, it is the most suitable form, because a new pad can at any time be fitted in a few moments. It is kept in stock in two sizes (large and medium), which are found to meet the requirements of nearly every case that arises, but other sizes (small or extra large) are supplied to order.

Directions for connecting the Facepiece, &c., to the Gasometer.

First close the bottom tap on pipe E of the Gasometer, Fig. 1, shown on page 30, and slip the plain end of the Worsted Tubing over the top tap. This tap must of course be kept closed until everything is in readiness for the Gas to be administered to the patient.

Then push the tube of the Stopcock C—shown on page 34—on to the tube B of the Facepiece and connect the Mount D to the vertical tube of the Stopcock. Having done this, the union between the Facepiece and Gasometer is complete.

After the Gag has been placed in the mouth, adjust the Facepiece, and allow the patient to breathe pure air through it for a few inspirations. This will beget confidence, and give the Anæsthetist time to assure himself that everything is in proper working order. Then close the air-hole in the Stopcock by an upward movement of the slide near C.

When the Supplemental Bag is used to economize the gas, it is attached to tube E as shown in the illustration. After four or five inhalations of gas open the tap of this bag, and close the expiratory valve A by placing the finger upon it. This will cause the expired gas to be breathed into and from the Supplemental Bag.*

* This system of re-breathing has now been generally abandoned.

APPARATUS FOR MANUFACTURING AND ADMINISTERING NITROUS OXIDE GAS.

Full List of Prices:

		£	s.	d.
Ammonia, Nitrate of, best quality	per cwt.	4	10	0
„ „ „	per lb.	0	0	10
Supplied in Jars containing 7, 14 and 28 lbs. Jars charged extra: 7-lb. size, 1s.; 14-lb. size, 2s.; 28-lb. size, 4s.				
Ash's Thermo-Regulator	each	0	15	0
Caustic Potash, in ½-lb. bottles	per lb.	0	2	6
Facepieces—see pages 12—21.				
Gags „ 40—42.				
Gas Burner:				
Fletcher's Standard Rose Bunsen on Stand, page 33	each	0	4	0
Gasometers:				
Japanned Zinc, without core, 150 gallons capacity	„	15	0	0
„ „ „ 50 „ „	„	7	0	0
Glass Flasks:				
50-oz. size, with flat bottoms	„	0	1	0
100-oz. „ „ „	„	0	1	6
140-oz. „ „ „	„	0	2	3
160-oz. „ „ „	„	0	2	6
Glass Tubes:				
Long, bent, for connecting Glass Flask with first Wash-bottle	„	0	2	6
Straight, for second and third Wash-bottles ..	„	0	1	6
Bent, for the third Wash-bottle	„	0	1	3
Short, for first and second Wash-bottles	„	0	0	9
Short, with Valve for first Wash-bottle	„	0	2	0
India-rubber Tubing:				
Williamson's, for connecting Wash-bottles, specially made to withstand heat, ½-in. diam.	per foot	0	0	10
Small, $\frac{5}{16}$ inside, for connecting Coal-Gas Pipe with Thermo-Regulator	„	0	0	6
Large, $\frac{5}{8}$ inside, for connecting Gasometer with last Wash-bottle	„	0	1	2
Covered with Worsted, wired inside	„	0	1	10
„ „ „ smooth	„	0	2	9
Small red tubing for connecting Gas Bag with bottles	„	0	0	10

APPARATUS, &c.—*continued.*

		s.	*d.*
India-rubber Bungs, for Flasks	each	1	2
,, ,, for Wash-bottles	,,	2	3
Kirby's Gas Extinguisher	,,	15	0
Proto-Sulphate of Iron, in ½-lb. bottles	per lb.	1	4
Spirit Lamp, for heating Flasks, &c.	each	6	0
Stopcock, and Mount for Worsted Tubing	,,	9	0
Supplemental Bag	,,	14	0
Thermo-Regulator (Ash's)	,,	15	0
Vacuum Valves, in Glass Tube, for No. 1 Wash-bottle ..	,,	2	0
Wash-bottles, mounted ready for use, with Glass Tubes fixed in India-rubber Bungs	,,	10	0
Wire Hook, for suspending Glass Flasks	,,	0	6
Wooden Shield, with Tin Lining and Zinc Tray	,,	18	0
Wooden Union, for attaching to the bent Glass Tube on the third Wash-bottle	,,	0	6

NOTES.

Nitrate of Ammonia.—One pound of nitrate of ammonia will yield twenty gallons of pure Nitrous Oxide Gas.

Proto-Sulphate of Iron.—The iron solution for Wash-bottle No. 2 is made by dissolving one ounce of proto-sulphate of iron in every pint of water which is put into the Wash-bottle.

Caustic Potash.—The potash solution for Wash-bottle No. 3 is made by dissolving one-third of an ounce of caustic potash in every pint of water which is put into the Wash-bottle.

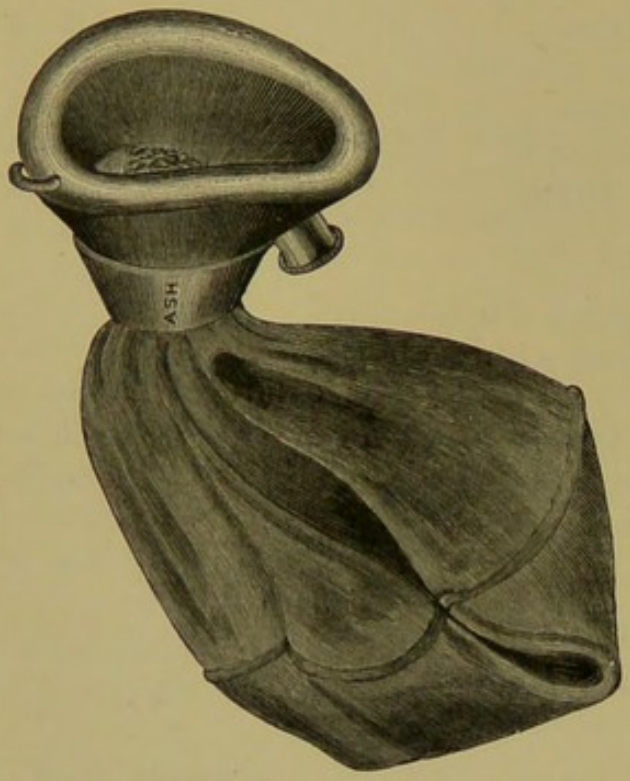
Each of the Wash-bottles should be half-filled, No. 1 with clean water, No. 2 with the iron solution, and No. 3 with the potash solution.

All kinds of Nitrous Oxide Gas and Ether Apparatus promptly repaired at moderate charges.

Gasometers any size, between 150 and 50 gallons capacity, made to order.

ORMSBY'S ETHER INHALER,

WITH LARGE BAG INTRODUCED BY MR. WOODHOUSE BRAINE.



For description of this Inhaler and its advantages see pages 86 to 88 of the second edition of

Underwood & Braine's Notes on Anæsthetics in Dental Surgery.

"It is an exceedingly useful one, very simple in construction, has no parts to get out of order, and is not liable to be damaged by a struggling patient. It consists of a Facepiece, to which is affixed a wire cage bearing an ordinary sponge, and of a respiratory bag drawn over the cage.

"Fitted on to the Facepiece is a brass cap, covering a funnel-shaped opening leading down to a lead tube, which bifurcates, enclosing the sponge. This tube is punctured with many openings, and is intended to facilitate the pouring on of ether without removing the Facepiece."

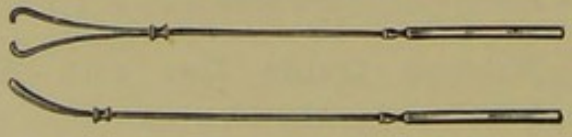
As here illustrated it is provided with a Bag 12 inches in diameter, which is "quite large enough to hold an expiration without any distension of the bag."

"To use Inhaler, choose a good open sponge—one that can be breathed through easily—and place it in the cage loosely, entirely filling up the opening at the commencement of the cage. Then pour on ʒij. ether" (anhydrous ether, specific gravity 0·720), "and gradually apply to face. Very soon ether may be increased by another ʒij., and with care the patient can be anæsthetised as quickly and comfortably as with a Clover Inhaler, and remain a better colour throughout." . . . . . Moreover, "a stronger ether vapour can be obtained with it than with the Clover, and there are fewer after-effects when it has been used."

		s.	*d.*
Ormsby's Ether Inhaler, complete as illustrated		26	0
Extra Facepiece Pads, without Taps	each	4	0
Anhydrous Anæsthetic Ether (specific gravity 0·720)	per pint	7	0

ASEPTIC SPONGE HOLDERS.

FOR HAND, WITH SLIDING RING.



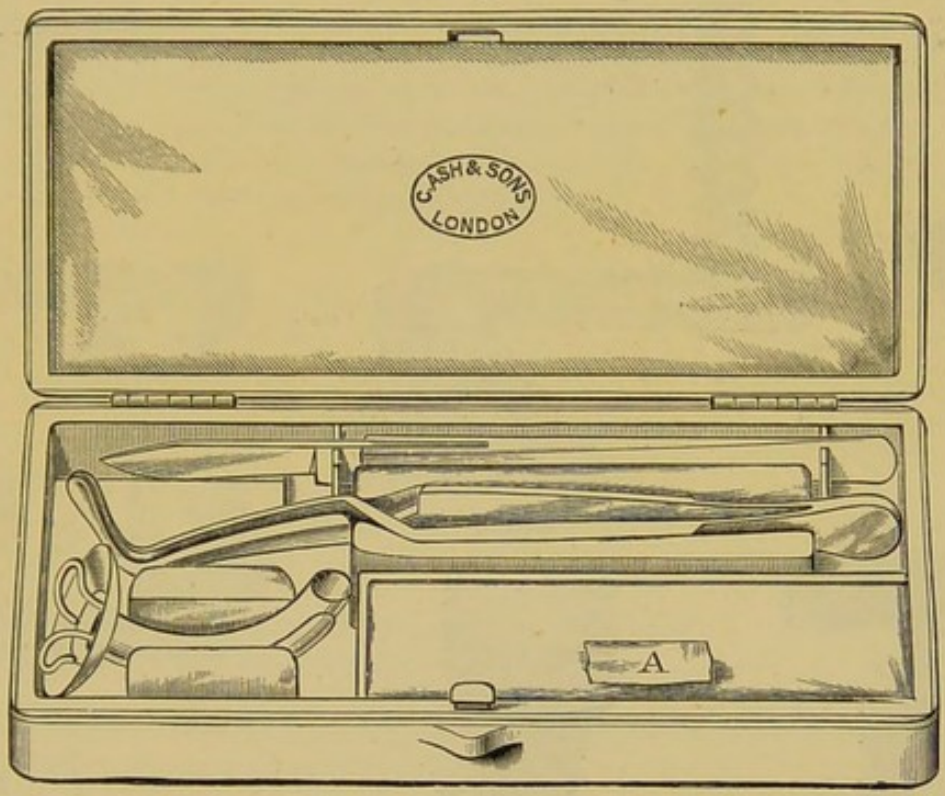
	s.	*d.*
Straight or Curved, Nickel-plated throughout, as illustrated, each	2	0
Straight, with three Prongs and Ebony handle .. .. „	3	6

EMERGENCY CASE,

FOR THE OPERATION OF TRACHEOTOMY.

(Suggested by Mr. WOODHOUSE BRAINE, F.R.C.S.)

Every Dentist who is in the habit of administering anæsthetics should have such a Case as this always at hand, and ready for use in the event of any untoward circumstance arising.*



The Case contains :—

1 Ivory-handled Scalpel,
1 Dilating Forceps,
1 Silver Tracheotomy Tube, and
A space, marked A, for holding a supply of Nitrite of Amyl Capsules.

	s.	*d.*
Price, in leather, complete with Instruments	28	0

For Nitrite of Amyl Capsules, see page 49.

Emergency Cases to hold the above Instruments, &c., and other needful appliances, made to order.

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* A very interesting account, illustrative of the value of an Emergency Case, of an operation performed by Dr. F. Hewitt, one of the Anæsthetists at the Dental Hospital of London, is recorded in the April, 1888, number of *The Journal of the British Dental Association*. The Paper is entitled: "A case of Laryngeal Spasm under Nitrous Oxide in a Patient with old-standing Arthritis of the Lower Jaw, Cervical Vertebræ, and other parts; Laryngotomy; Remarks." The operation was so successful that "the wound completely healed in a week's time, and the patient made an excellent and uninterrupted recovery."

GAGS, OR MOUTH PROPS.

Fig. 1.

Fig. 2.

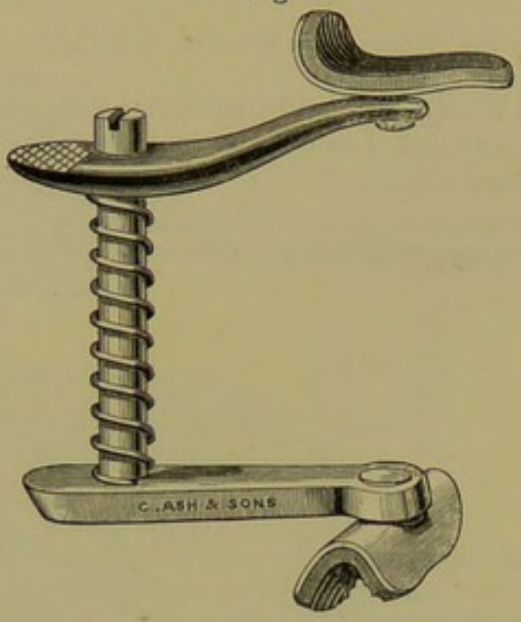


Fig. 5.

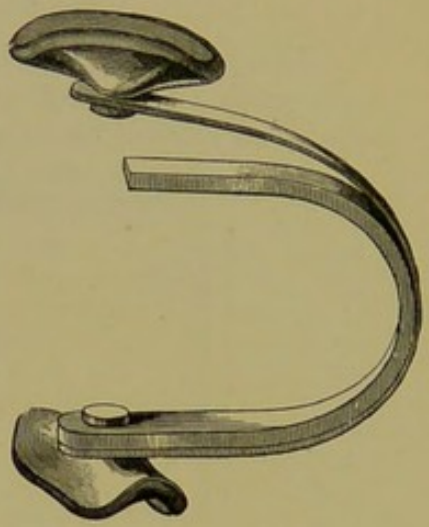


Fig. 8.

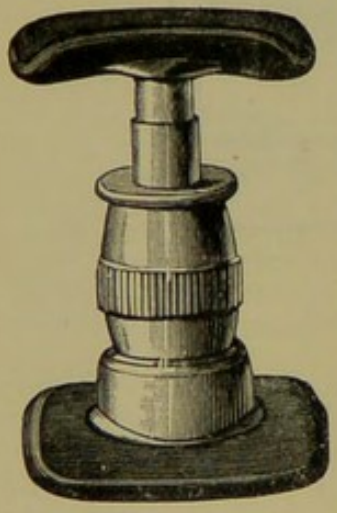


Fig. 9.

Fig. 10

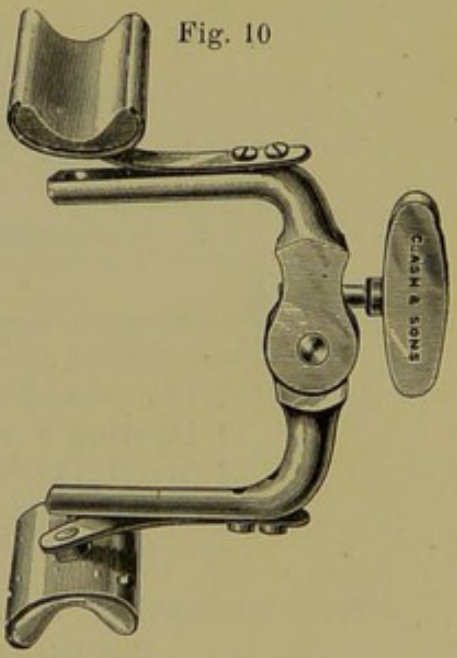


Fig. 11.

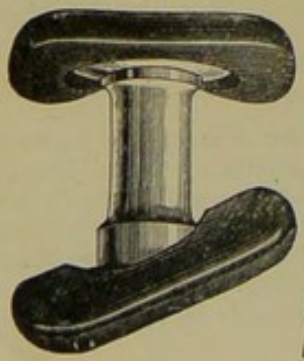
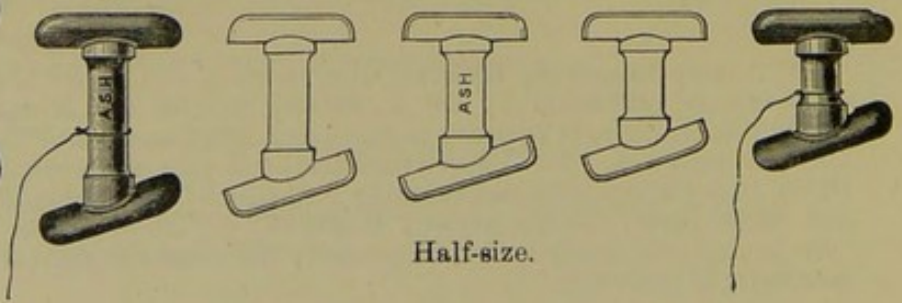


Fig. 11 is made in the five sizes here shown :—

1. 2. 3. 4. 5.



Half-size.

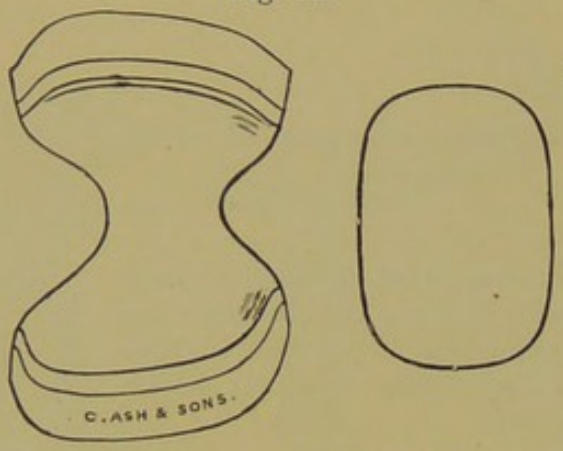
GAGS, OR MOUTH PROPS.

Prices :

	s.	d.
Fig. 1. Spring Gag in steel, Nickel-plated, with gutta-percha pads and adjusting screw. Made in two lengths—long and short .. .. each	5	6
Fig. 2. Hinged Gag (Mr. Brunton's) in steel, Nickel-plated, with india-rubber pads on the plates and spring on rod. It works very smoothly, can be quickly applied or removed and swung against the cheek on either side of the mouth out of the way of the Operator when the patient in under the influence of the anæsthetic. Price, as illustrated .. .. each	10	6
Fig. 5. Hinged Gag (Mr. Hutchinson's) in steel, Nickel-plated, with spring and gutta-percha pads. Price, as illustrated .. .. each	6	0
Fig. 8. Spring Gag (Mr. Buck's) in steel, Nickel-plated, with adjusting screw, india-rubber pads and knuckle-joint. Made in two sizes, large and small .. .. each	7	6
Extra pads for ditto .. .. per pair	0	6
Fig. 9. Simple Gag in Vulcanite with soft india-rubber pads. Made in three sizes—long, medium, and short .. .. .. each	1	3
Fig. 9 is also made of hard vulcanized rubber throughout, in the four following sizes—long, medium, short, and extra short .. .. each	1	0
Fig. 10. Adjustable Gag in steel, Nickel-plated, with regulating thumb-screw and gutta-percha pads. This Gag, like Figs. 2 and 5, can be fixed on either side of the mouth and swung against the cheek out of the way when it is applied. Price, as illustrated	14	0
Fig. 11. Fixed Gag (Dr. Hewitt's) made in Aluminium and Celluloid, in five lengths, known as sizes 1–5. Size 1 is $1\frac{3}{8}$ inches long in the centre, and sizes 2, 3, 4, 5 are respectively $1\frac{1}{4}$, $1\frac{1}{8}$, 1 and $\frac{7}{8}$ in. They are light in weight, enormously strong, cleanly in use, and fitted with soft India-rubber pads for the patient to bite upon, which can be renewed as often as necessary. They are readily applied, being so constructed that they adapt themselves to the wedge-shape space between the upper and lower jaws which is formed on opening the mouth; they should be placed as far back as possible to obtain a perfectly secure hold.		
Price in Aluminium or Celluloid, any size .. .. each	3	6
Extra India-rubber pads .. .. per pair	0	6

GAGS—*continued.*

Fig. 12.



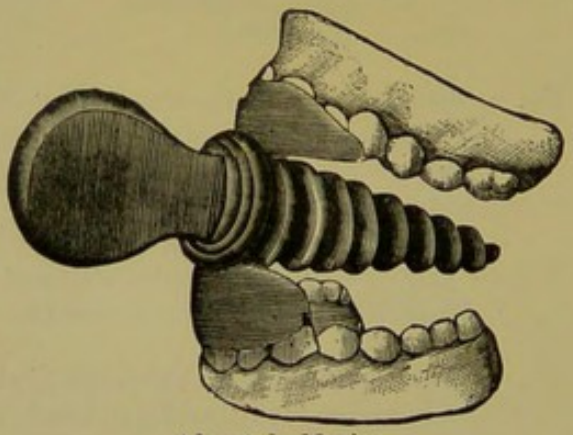
Extra stout Vulcanite Gag, with soft rubber pads, rounded or square edges (Fig. 12) .. each — *s.* 3 *d.* 0

Lignum Vitæ Wood Gags, same shape as Fig 9, shown on page 40, long, medium and short each — *s.* 0 *d.* 9

MAUNDER'S SCREW GAG.

For rapidly forcing open the mouth. Mr. Salter, on page 234 of his book on "Dental Surgery and Pathology," in speaking of this appliance, says:—"Upon introducing the point" of the Gag "between the incisors or canines or præmolars, and slowly turning the instrument, it evenly and regularly progresses, separates the jaws, and, as I have thought, with quicker results than any other method."

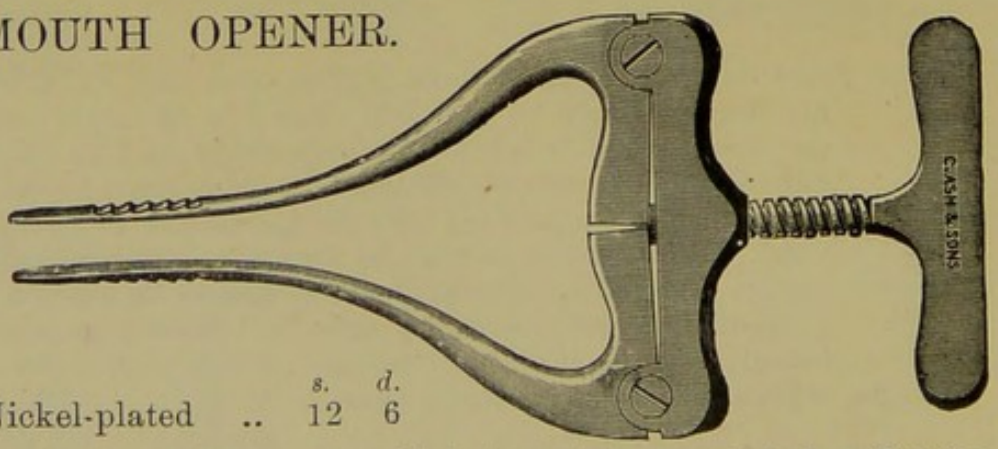
In the illustration the Gag is shown in use in a case of partial closure, where the front teeth are protected by vulcanite plates, but such plates cannot of course be employed in cases of complete closure. The late Mr. Salter used the Gag without anything to protect the teeth.



About half size.

	s.	*d.*
Made of boxwood	2	3

MOUTH OPENER.

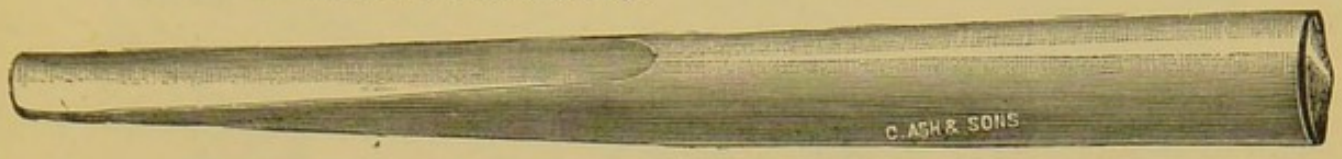


	s.	*d.*
In Steel, Nickel-plated ..	12	6

"It is usually advisable to introduce this instrument at some point where there is a tooth deficient, but should there be no gap, it is possible with care to insinuate the thin blades between closed teeth."—**See Underwood's Notes on Anæsthetics.**

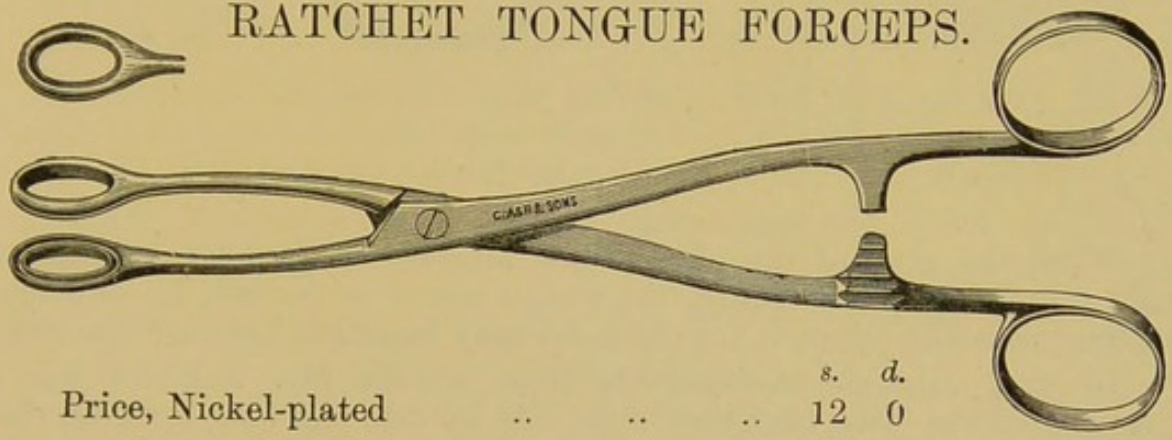
SIMPLE MOUTH OPENER.

For inserting between the teeth, when the jaws are tightly closed, to gain sufficient room for the introduction of Mason's Gag.



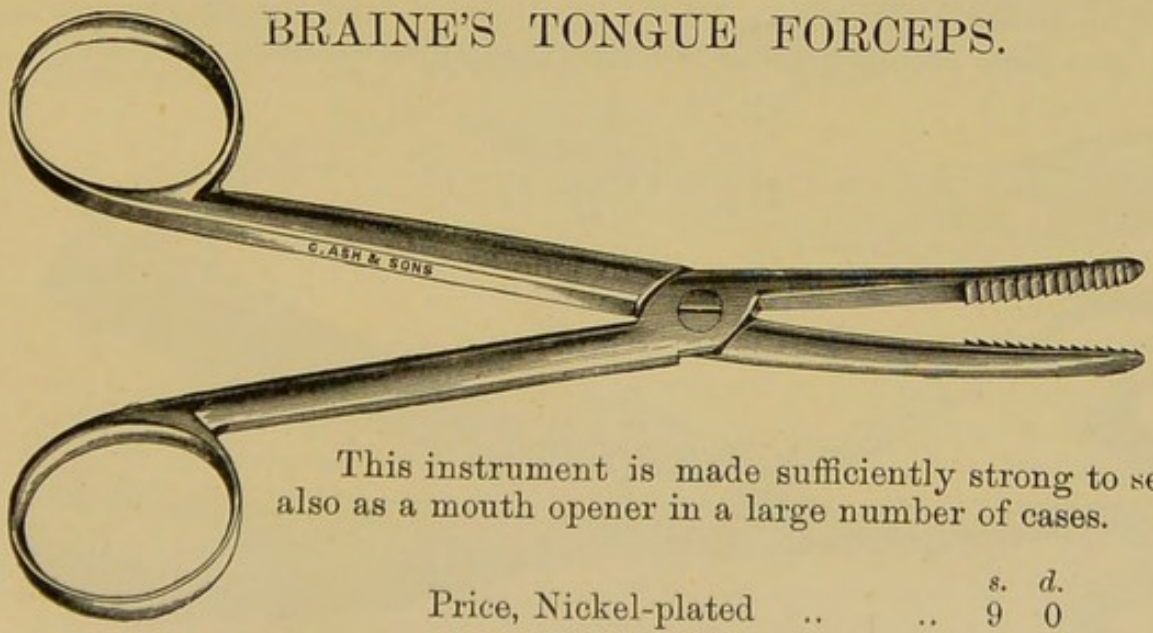
	s.	d.
Price in boxwood	0	6

RATCHET TONGUE FORCEPS.



	s.	d.
Price, Nickel-plated	12	0

BRAINE'S TONGUE FORCEPS.



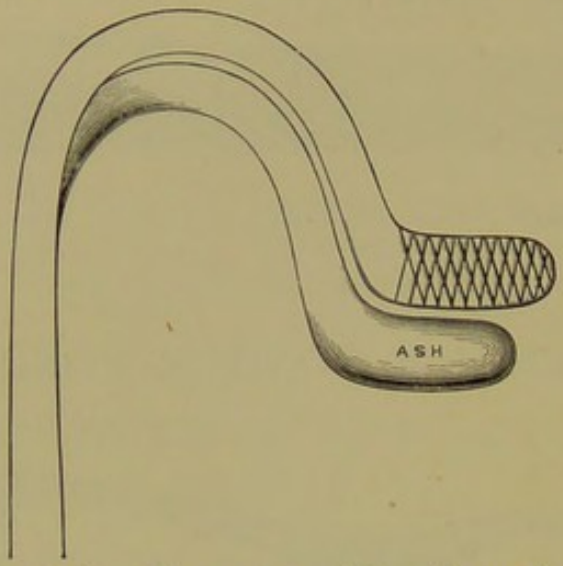
This instrument is made sufficiently strong to serve also as a mouth opener in a large number of cases.

	s.	d.
Price, Nickel-plated	9	0

"Should the breathing stop during the administration of Nitrous Oxide Gas, or any other anæsthetic, the forcible pulling forward of the tongue, and the administration of nitrite of amyl within a few seconds after unmistakable signs of something unusual in the breathing have appeared, will in almost every case remove the difficulty, and the slight puncture made by the forceps will probably assist the reflex stimulus."—**See Underwood and Braine's Notes on Anæsthetics. 2nd edition.**

ADJUSTABLE GAGS

WITH MR. W. R. ACKLAND'S IMPROVED JAWS.

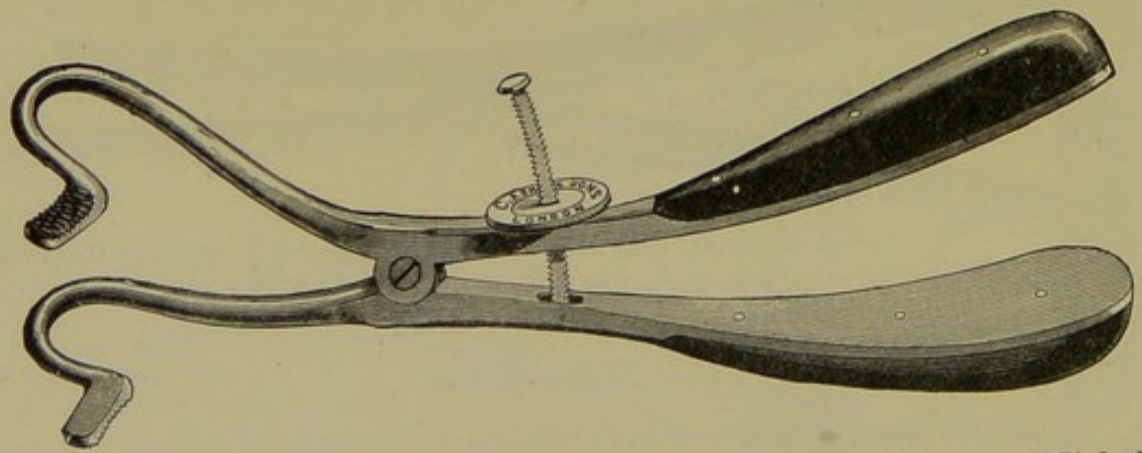


When the jaws of the old pattern Mason's and such-like Gags are used for opening the mouth, the wedge which is formed, by one beak closing upon the other, is too thick for easy insertion between the teeth.

In the valuable modification here shown Mr. Ackland has so constructed the jaws that they close side by side and form a wedge half the thickness of the old style and double the width, two points which will be warmly appreciated by anæsthetists.

The Mason's gag shown below, the Buxton's and the Fergusson's on the next page are all now made with these improved jaws.

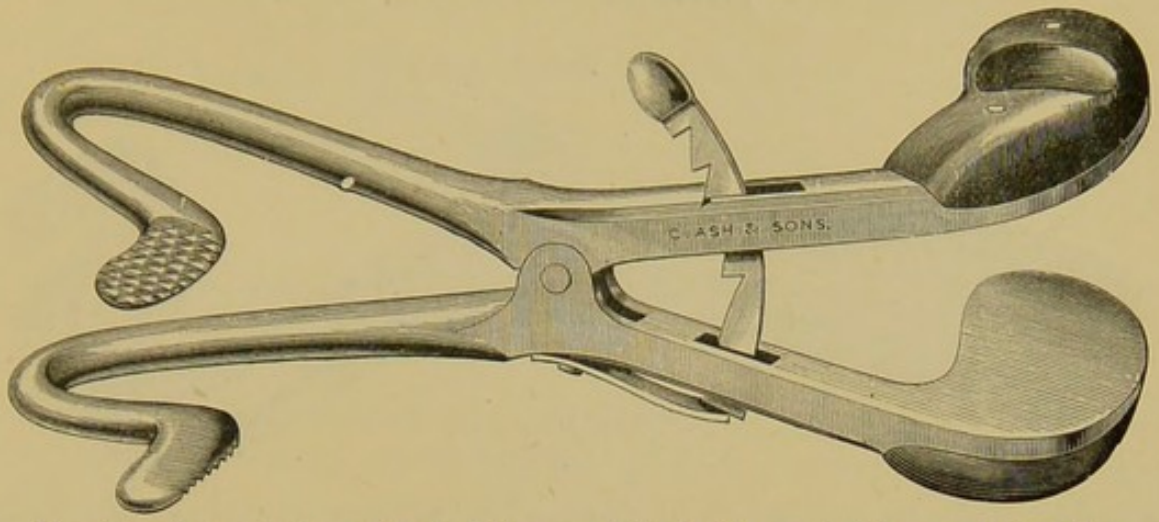
MASON'S GAG.



Made with long Ebony handles as illustrated, all bright parts Nickel-plated, and supplied with India-rubber pads for patients to bite upon.

		s.	d.
Price, with Long or Short Handles	each	16	6

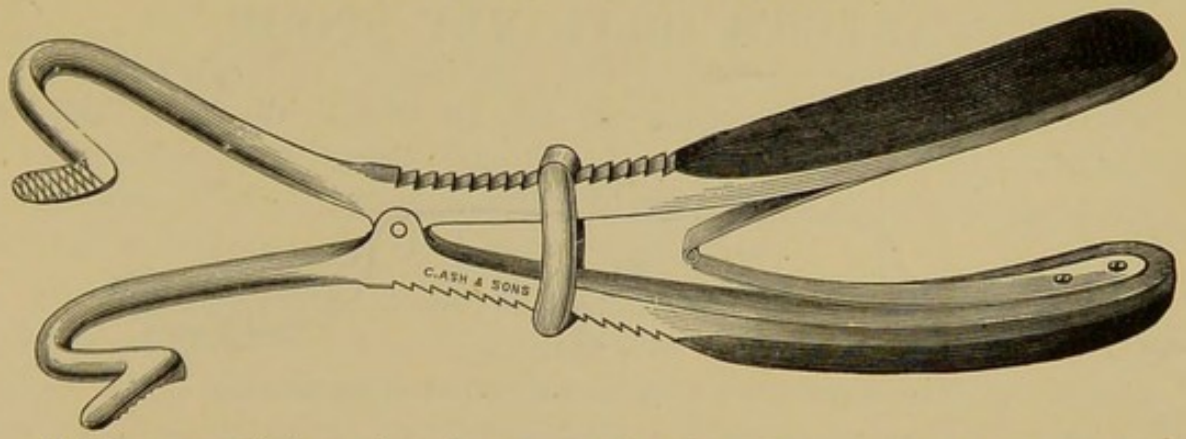
BUXTON'S GAG.



Dr. Buxton claims that this modified Mason's Gag, with Hinged Ratchet Bar, can be much more rapidly applied and removed than the old form. It can easily be worked and controlled with one hand.

	s.	*d.*
Price, Nickel-plated, with Ackland's Improved Jaws and Ebony Handles	16	6

FERGUSSON'S GAG.



With powerful spring between the handles, and adjustable loop which holds the jaws of the instrument open at any desired point.

Owing to the great rapidity with which the Gag can be worked, it is much appreciated by Anæsthetists.

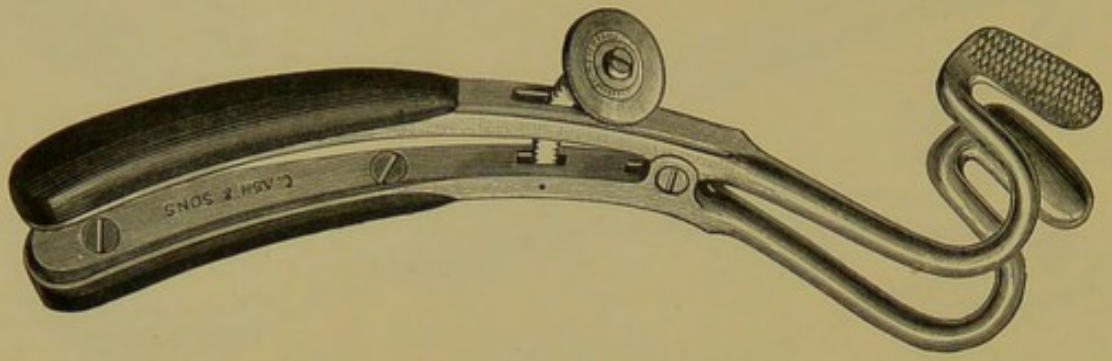
	s.	*d.*
Price, Nickel-plated, with Ackland's Improved Jaws and Ebony Handles	18	0

Mason's Gag, and the two on this page, which may be described as Emergency Gags, "will be found very useful when the ordinary gag slips, and the mouth spasmodically closes, and also when the Operator desires to extract on both sides at one sitting, and success depends upon the rapidity with which the gag can be changed from one side of the mouth to the other."—**See Underwood and Braine's Notes on Anæsthetics. 2nd edition.**

These gags are now universally used by all Anæsthetists, no outfit being complete without one.

ALBERT'S GAG.

REGISTERED. REG. NO. 337,077.

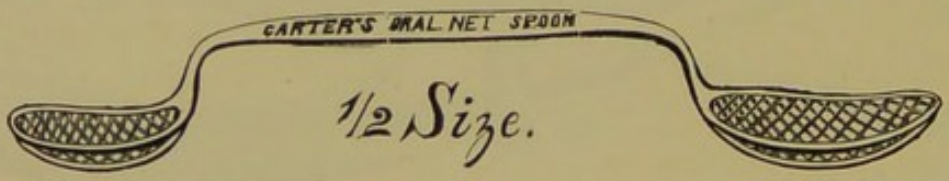


In this instrument the jaws are parallel with the handles, broader and longer than in the ordinary Mason Gag, and consequently cover at least three teeth when in the mouth. Mr. Albert says the liability to slip or shift in any way is thus minimised. He finds in actual practice that the Gag in most cases retains the position in which it is placed.

	s.	*d.*
Price, Nickel-plated, and with Ebony handles . .	20	0

CARTER'S ORAL NET SPOON.

(WITH IMPROVEMENT SUGGESTED BY DR. DUDLEY W. BUXTON.)



FOR USE DURING EXTRACTIONS UNDER ANÆSTHETICS.

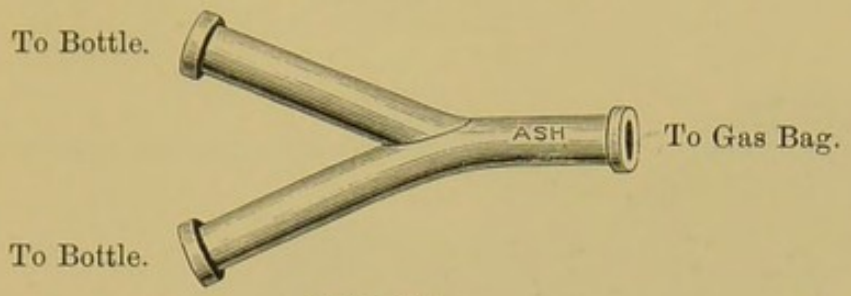
Mr. Carter says: "Owing to the increasing use of Anæsthetics for dental purposes, a serious danger has arisen, viz., that of a tooth or stump escaping from the forceps and passing into the larynx when the patient is in a recumbent position and under the influence of an anæsthetic. The position favours its falling backwards, and the loosened sensibility of the glottis, added to the rush of the current of air during an inspiration, renders the patient particularly liable to the occurrence of an accident of this kind.

By the use of this instrument, not only may an obvious danger be avoided, but a great source of anxiety is removed from the mind of the operator."

To prevent all fear of a bowl being broken off while the spoon is in the patient's mouth, Dr. Dudley Buxton has had the handle carried underneath the gauze at both ends. He claims that it thus lends support to the frame of each bowl, and makes the spoon more serviceable.

	s.	*d.*
Price	6	6

UNION FOR GAS BOTTLES.



HALF SIZE.

Two Gas Bottles, like the one shown on page 3, can be joined together by attaching short lengths of India-rubber tubing to their outlet valves *A*, and slipping the free ends over the two tubes marked "To Bottle" of the Y-shaped union here illustrated.

A reserve supply of gas can thus be kept in constant readiness for turning on, should occasion arise through the bottle in use being emptied before an administration is completed.

	s.	*d.*
Price of Union, in lacquered brass	2	6

WOODEN CASES FOR GAS BOTTLES.

These Cases are made of stout deal, iron hooped, and with reversible screw lids. They are intended for the conveyance of Nitrous Oxide Gas Bottles by Rail, etc., and will stand rough usage.

One side of the lid is reserved for the name and address of the dentist and the other for our own, so that all that need be done—say, when an empty bottle is to be returned to us—is to turn over the lid, screw it on, and the case is ready for forwarding. The trouble of writing and affixing a label each time is thus saved; the case can be sent to and fro a great many times before it is worn out, and the lid always bears the name and address of the owner, so that there can never be any doubt where it comes from.

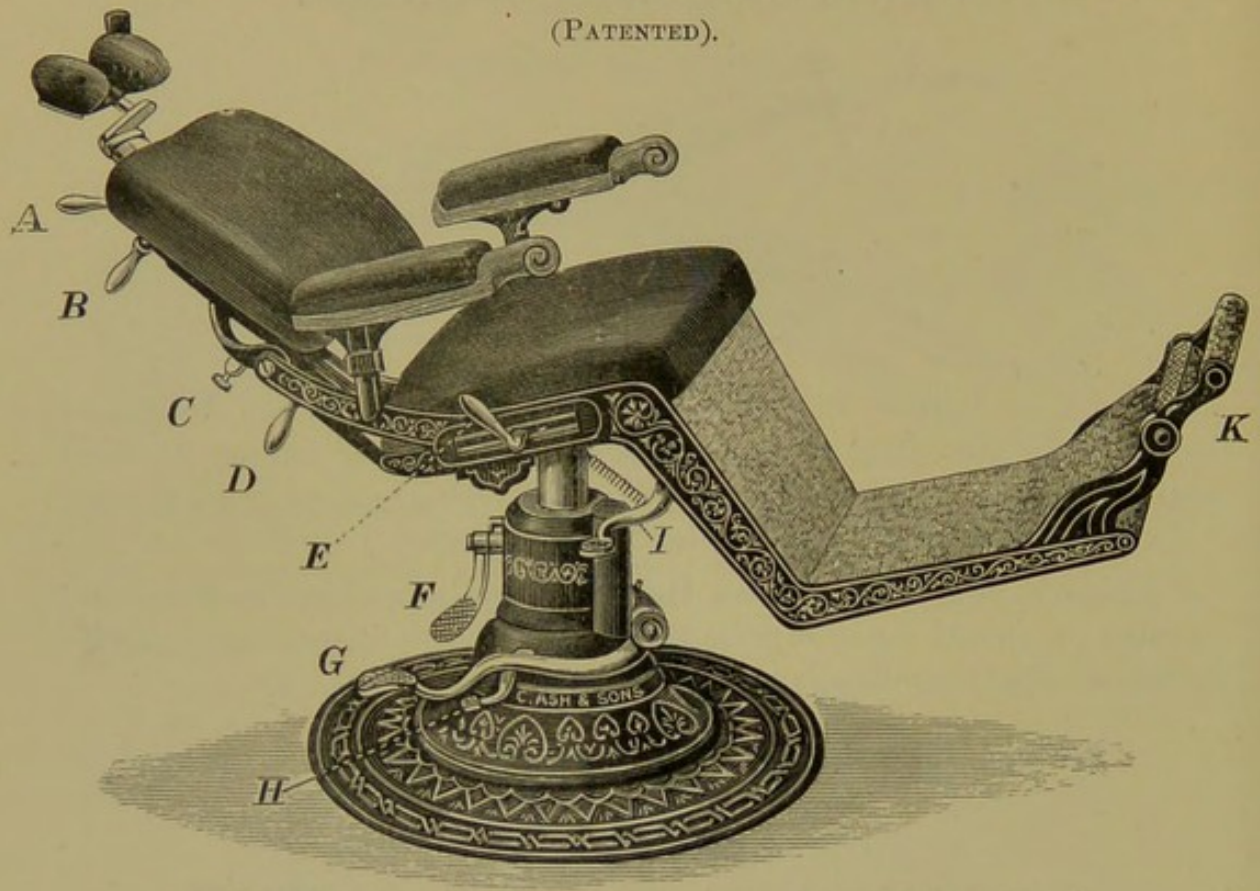
We can speak from experience of their durability.

Prices:

	s.	*d.*
Case to hold one 50 gallon bottle	1	9
,, ,, two ,, ...	2	3
,, ,, one 100 ,, ...	2	3
,, ,, two ,, ...	2	9

ASH'S FIG. 39 HYDRAULIC PUMP CHAIR

(PATENTED).



Highest position of seat	..	..	29 inches.
Lowest ,, ,,	..	..	20 ,,
Width of seat between the arms	..		21 ,,

The chair can be set at any point between the vertical and horizontal positions, it is therefore a most useful anæsthetic chair; in the above illustration it is shown tilted about midway within its range.

DESCRIPTION:

A.—Lever for adjusting the movements of the Head-Rest.

B.—Handle which controls the upward and downward movement of the bar on which the Head-Rest is fixed.

C.—Ratchet by means of which the lower part of the Back can be fixed in five different positions to adjust it to the patient's back.

D.—Handle for regulating the upward and downward movement of the Back.

E.—Handle for fixing the Back at any point between the vertical and horizontal position.

F.—Rotary and Clamping Lever.

G.—Raising or Pedal Lever.

H.—Lowering Lever.

I.—Tilting Lever.

K.—Adjustable part of Foot-Rest.

ASH'S (FIG. XXXIX.) HYDRAULIC PUMP CHAIR —*continued.*

Prices :

	£	*s.*	*d.*
Chair in plain maroon or green plush, with ordinary head-rest	21	0	0
,, ,, ,, with Wilkerson's head-rest, as illustrated ..	22	0	0
,, ,, ,, with No. 1 Extending head-rest	22	5	0
If covered with figured instead of plain plush .. .. extra	0	15	0
,, ,, morocco leather instead of plain plush ,,	0	15	0
Packing Case	1	0	0

Full amount allowed for Packing Case if returned carriage paid in good condition.

NITRITE OF AMYL CAPSULES.

(As recommended by Mr. Woodhouse Braine.)

Encased in cotton-wool and silk, 3 minims in each.

Mr. Braine says :—"Should much pallor be present, or syncope appear imminent, a few whiffs of Nitrite of Amyl furnish the quickest means of reaching the heart's action ; the most convenient form for carrying it is in little glass capsules."

Price :

	s.	*d.*
In Boxes containing 12 capsules .. .. per box	2	6

AMYL NITRITE PALATINOIDS.

Each containing 3 minims in a Jujube Cachet, from which the contents may be easily squeezed upon a handkerchief for inhalation. They prevent any risk of injuring the hand, as sometimes happens when glass Capsules are employed.

Palatinoids of Amyl Nitrite are one-third the Cost of Glass Capsules.

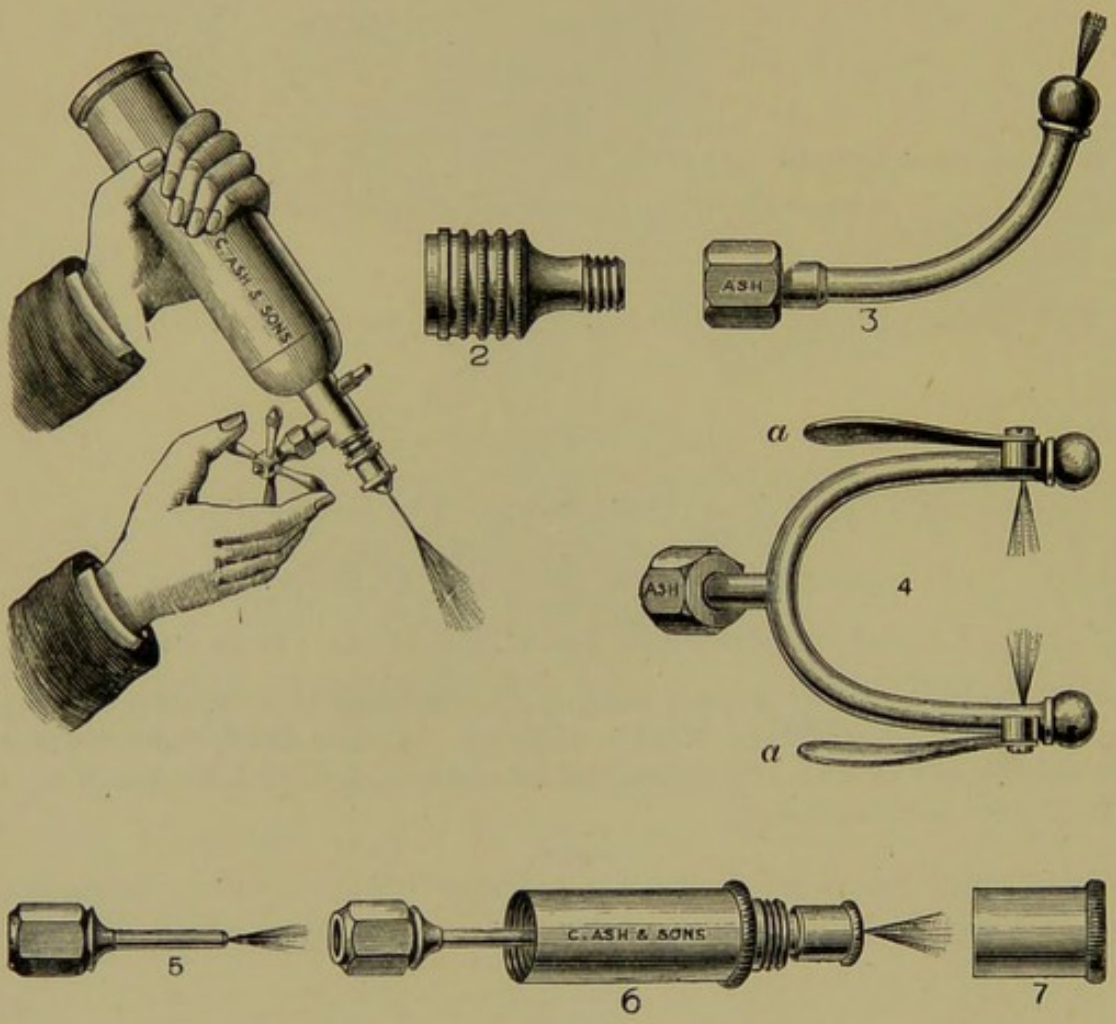
Supplied in stoppered bottles of thirty.

	s.	*d.*
Price .. .. per bottle	2	0

CORYL: A LOCAL ANÆSTHETIC.

(A Compound of Chloride of Methyl and Chloride of Ethyl.)

ADMINISTERING APPARATUS.



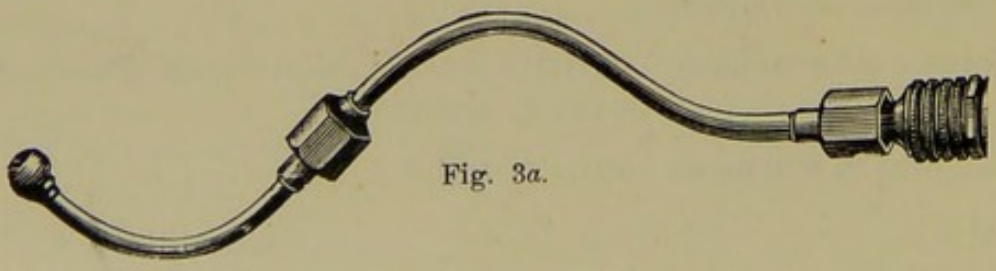


Fig. 3*a*.

CORYL-CORYLEUR :

ADMINISTERING APPARATUS—*continued.*

Description :

Fig. 1. Coryleur, shown in the position in which it should be held.
„ 2. Connection for nozzles, Nos. 3 & 4.
„ 3. Curved Nozzle, single.
„ 4. Double „ with Tongue and Cheek Guards.
Fig. 5. Ordinary Straight Jet.
„ 6. Very fine Straight Jet, which is screwed on the Coryleur over Fig. 5, when a well-spread fine spray is required.
„ 7. Cap for closing the outlet.

Fig. 3*a*. Connection Fig. 2, long stem, and curved Nozzle Fig. 3.

The advantage of having the long stem between Figs. 2 and 3, or any other Nozzle, is that it breaks the force of the Coryl as it issues from the Coryleur : it thus promotes atomization and renders the application of the Coryl much more effective and agreeable to the patient; moreover it permits of the nozzle being turned to any point for directing the Coryl either to the upper or the lower jaw. This long stem can be had separately, as stated below under Prices.

Prices:

		£	*s.*	*d.*		£	*s.*	*d.*
Coryleur, 100-gramme size, empty ..	(Fig. 1)	1	5	0				
*100 grammes Coryl	..	0	6	6	Complete ..	1	11	6
Coryleur, 50-gramme size, empty ..	(Fig. 1)	1	5	0				
*50 grammes Coryl	..	0	3	6	„ ..	1	8	6
Coryleur, 25-gramme size, empty ..	(Fig. 1)	1	5	0				
*25 grammes Coryl	..	0	2	0	„ ..	1	7	0

Each Coryleur includes parts 5, 6 and 7. Coryleurs refilled with Coryl at the above rates.

Extra Parts :

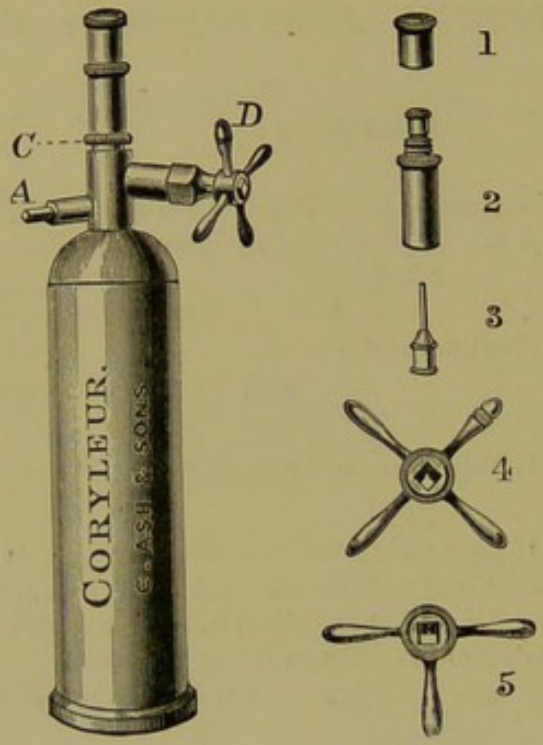
			s.	*d.*
Connection	(Fig. 2)	each	1	6
Curved Nozzle, single	(„ 3)	„	4	8
Double „ with Tongue and Cheek Guards	(„ 4)	„	7	8
„ „ without „ „ „	(„ 4)	„	5	8
Connection, long Stem and curved Nozzle	(„ 3*a*)	„	8	8
Long Stem only for fixing between existing Connections and Nozzles		„	2	6

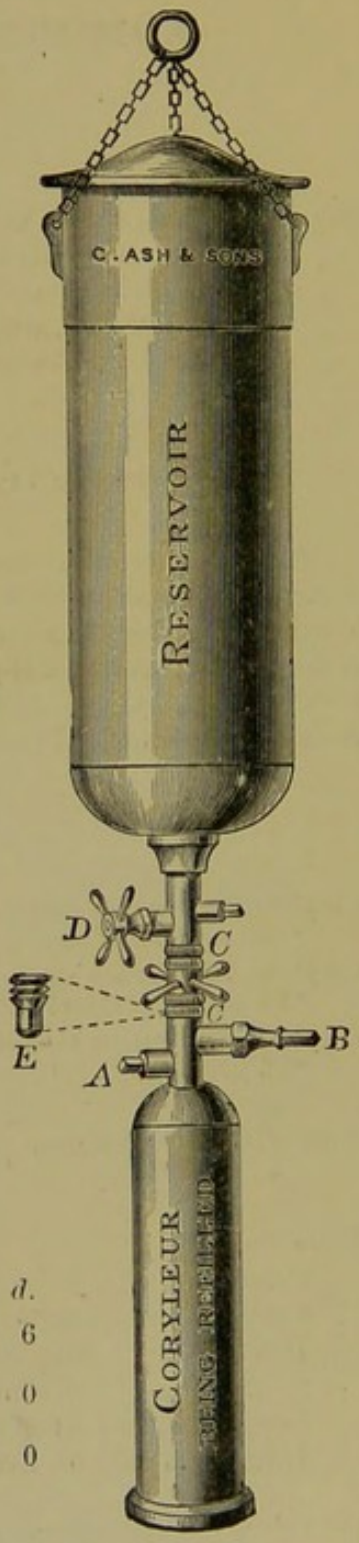
* Coryl is charged by weight, and the amount that can be put in a Coryleur varies according to the temperature of the atmosphere; therefore, when these quantities are exceeded or not attained, a proportionate charge is made for the Coryl.

CORYL: A LOCAL ANÆSTHETIC—*continued.*

REFILLING APPARATUS.

Pamphlet on Coryl, with index of the uses to which it can be put in Minor Surgery and in Dental Surgery, containing tabulated results of experiments made with Coryl and plates illustrating apparatus for holding and administering it, **sent, post free, on application.**





The Reservoir shown in the illustration on the right-hand side of this page is intended for holding a supply of Coryl to meet the needs of those who wish to refill their own Coryleurs, and for the convenience of those who reside in places not within easy and rapid reach of a Dental Depôt where Coryl is stocked. By means of the directions which are furnished with the outfit, it is an extremely simple matter to refill a Coryleur from the Reservoir, and as these directions refer to all the figures shown on this page, it is here unnecessary to explain them in detail. The Reservoirs are supplied in the following sizes:—1 Kilo (1,000 grammes), 2 Kilos (2,000 grammes), 5 Kilos (5,000 grammes).

Prices:

	£	*s.*	*d.*		£	*s.*	*d.*
1-Kilo Reservoir, empty ..	2	5	0	Complete,	5	6	6
* 1,000 grammes Coryl ..	3	1	6				
2-Kilo Reservoir, empty ..	2	10	0	„	8	12	0
* 2,000 grammes Coryl ..	6	2	0				
5-Kilo Reservoir, empty ..	3	15	0	„	18	18	0
* 5,000 grammes Coryl ..	15	3	0				

Reservoirs re-filled with Coryl at the above rates.

* Coryl is charged by weight, and the amount that can be put in a Reservoir varies according to the temperature of the atmosphere; therefore, when these quantities are exceeded or not attained, a proportionate charge is made for the Coryl.

BENGUÉ'S ANESTILE.

IN METAL CYLINDERS.

A mixture of Ethyl and Methyl Chloride, which evaporates at a lower temperature than Ethyl Chloride, produces local anæsthesia more rapidly and over a more extended surface.

Fig. 1.

Fig. 2.

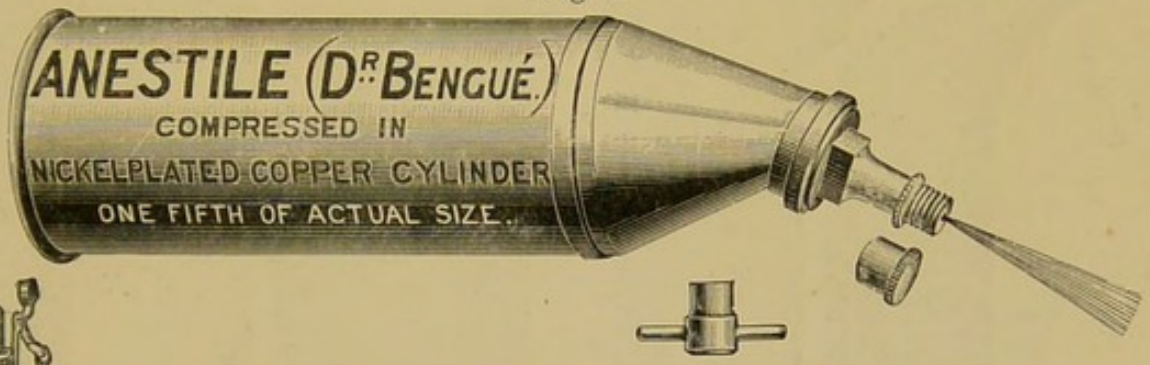


Fig. 3.

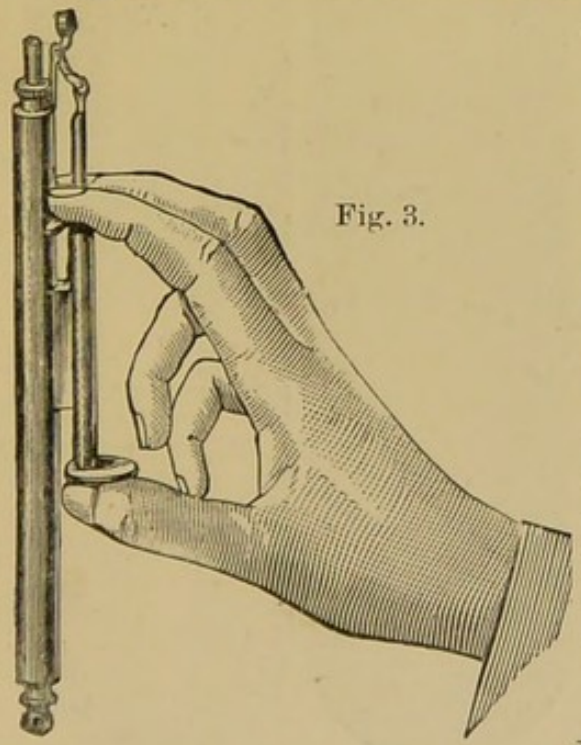


Fig. 3 represents an Anestile Cylinder with Automatic Cap. This cap is held securely in position over the outlet of the Cylinder by a spring inside the tube between the thumb and fingers. When the spring is compressed the Cap is raised, as shown in the engraving, and allows the Anestile to issue from the Cylinder. The Cylinder is thus always ready for instant use, it requires no attention from the operator when anæsthesia is reached, but can be laid down at once without fear of the Anestile escaping.

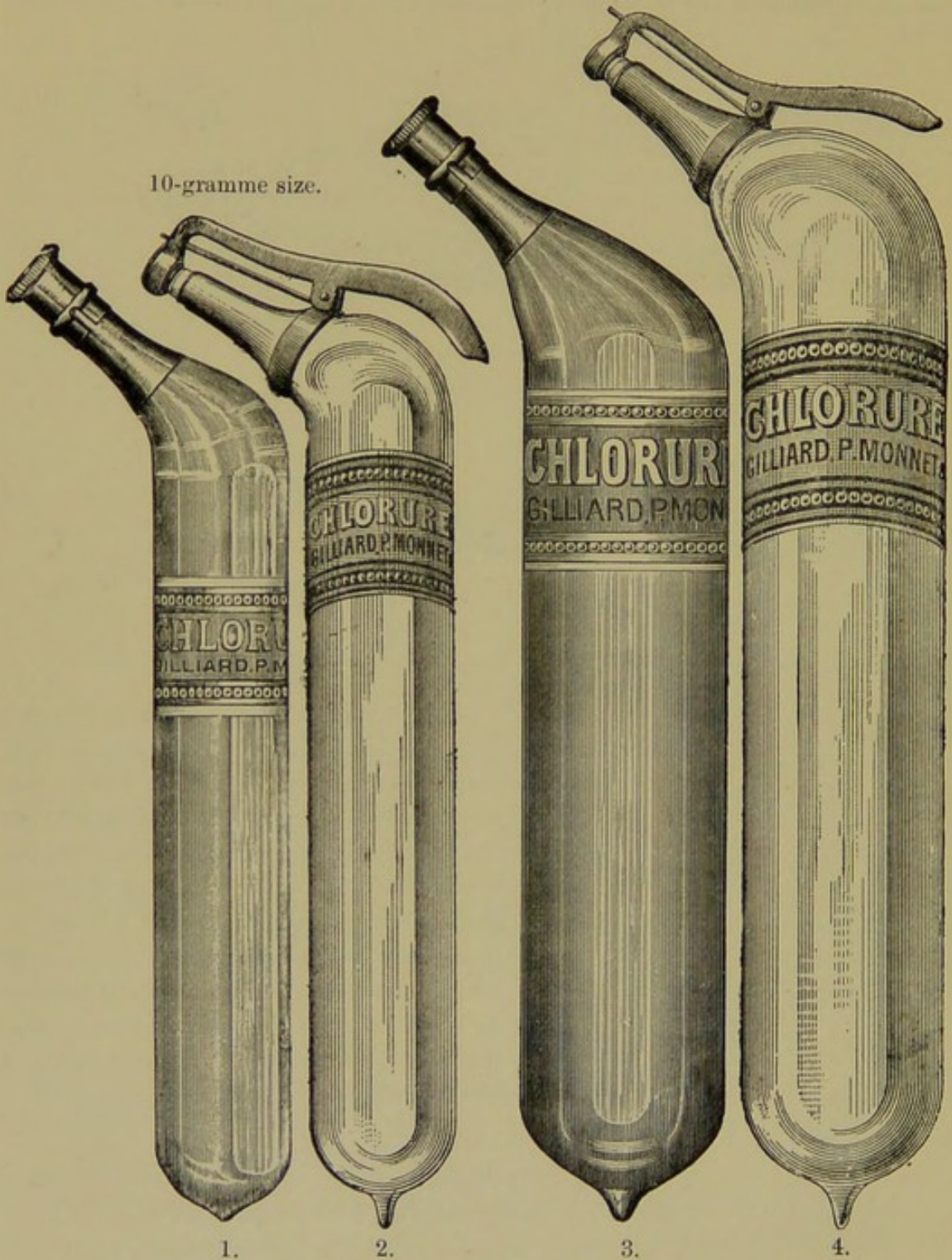
Prices :	*s.*	*d.*
Fig. 1, with interchangeable jets, containing 140 grammes ..	12	6
Refilling same	7	0
Fig. 2, with straight or curved nozzles, containing 140 grammes	10	6
Refilling same	7	0
Fig. 3, with automatic stopper, containing 70 grammes	14	6
Refilling same	5	0

KELENE: PURE CHLORIDE OF ETHYL.

(GILLIARD, P. MONNET AND CARTIER'S.)

30-gramme size.

10-gramme size.



1. 2. 3. 4.

Figs. 1 and 3 show tubes with metal caps.
„ 2 „ 4 „ „ spring „

For prices see next page.

KELENE : PURE CHLORIDE OF ETHYL.

(GILLIARD, P. MONNET AND CARTIER'S.)

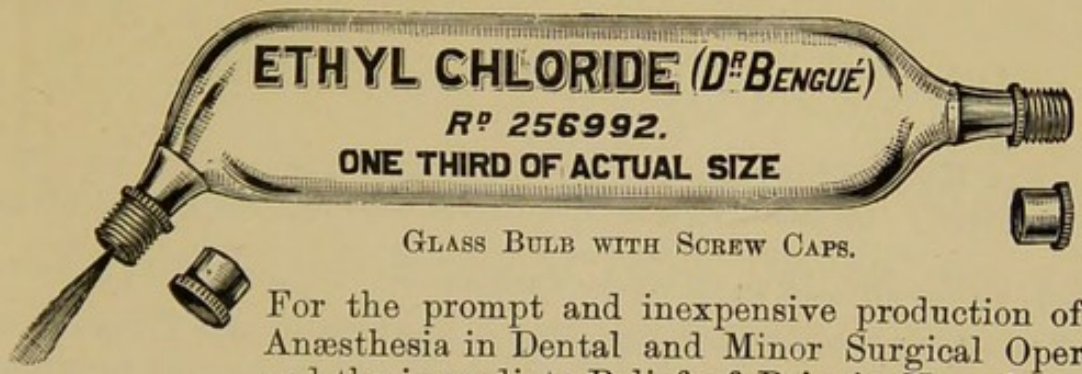
A most reliable Local Anæsthetic for Dental Extractions and Operations in Minor Surgery. Used by thousands of Operators with satisfaction. Supplied in Glass Tubes as illustrated, with Metal Caps and with Spring Caps. For illustrations see previous page.

Prices :

			s.	d.		s.	d.
In boxes containing ten tubes :							
10 gramme size, with metal caps..	per box		11	8	per tube	1	6
10 „ „ spring „ ..	„		15	0	„	2	0
In boxes containing three tubes :							
30 gramme size, with metal caps..	per box		8	0	per tube	3	3
30 „ „ spring „ ..	„		10	0	„	4	0

CHLORIDE OF ETHYL.

(DR. BENGUÉ'S.)



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The Bulb here illustrated, *with straight and curved necks*, shows the latest improvement introduced by Dr. Bengué. The combination serves two purposes :

1. It enables the operator to use the neck most suitable for the work in hand.
2. He always has another spray ready should the one in use, for some reason or other, become temporarily stopped.

Prices :

	s.	d.
Glass Bulb, containing 40 grammes	3	0
„ „ „ per box of three	7	9
(Glass Bulbs cannot be refilled).		
Metal Cylinder, containing 50 grammes	4	0
Refilling same	3	3
Metal Cylinder, containing 100 grammes	7	6
Refilling same	5	6

COCAINE IN POWDER.

Pure Soluble Hydrochlorate of Cocaine, specially prepared for dental purposes, supplied as under:—

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In small glass tubes containing one grain each ..	.. per doz.	2	0
„ „ „ half a grain each	.. „	1	6
In bottles containing 15 grains	.. per bot.	1	9

WYLEY'S COCAINE PELLETS.

Each Pellet consists of ½ grain of pure hydrochlorate of cocaine, compressed without the addition of any other substance.

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Dissolve half a grain in 10 minims of warm water, and inject half the solution in the gum on each side of the tooth.

		s.	d.
Price per tube, containing 12 Pellets	each	0	8
„ per box, containing 6 Tubes	„	3	6

COCAINE AND EUCAINE TABLETS.

(o. s. & co's.)

Cocaine Hydrochlorate, supplied in ¼-grain and ½-grain Tablets; can very readily be dissolved in the barrel of the syringe in warm water.

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Eucaine Hydrochloride. Eucaine is a substitute for Cocaine; is said by experts to be less toxic in effect; can therefore be used in larger quantities if desired. Its action and indications are almost identical with those of Cocaine. Supplied in ¼-grain or ½-grain Tablets; dissolved in the same way as Cocaine.

		s.	d.
Price, either size, in tubes of 20 Tablets ..	per tube	1	0

EUCAINE POWDER AND TABLOIDS.

		s.	d.
Powder, in one-gramme bottles	per bottle	0	8
Tabloids, ⅓-grain size, in tubes containing 12 tabloids	per tube	0	7
„ „ „ „ „	per doz. tubes	6	0

EUCAINE—COCAINE TABLOIDS.

	s.	d.
In bottles containing 25 1-grain compressed tabloids, each tabloid consisting of Eucaine Hydrochloride ½ grain, and Cocaine Hydrochloride ½ grain .. .. per bottle	2	6

DR. CREAGER'S ANÆSTHETIC PENCIL.

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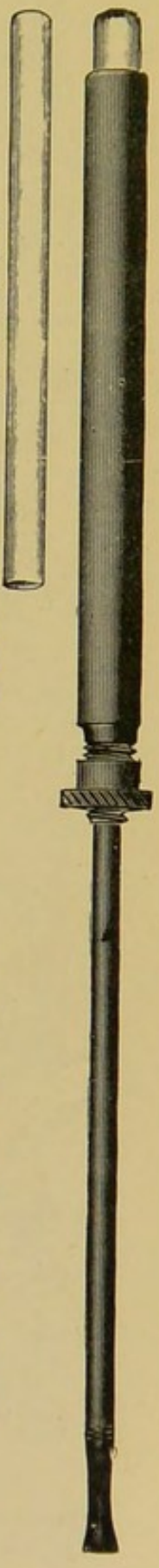
FOR THE PAINLESS EXTRACTION OF TEETH AND MINOR SURGICAL OPERATIONS.



Its simplicity and manner of application command particular attention. Nothing to frighten the child or add to the fears of the parent. No sloughing of the gums. No elaborate or pain-giving apparatus to shock the whole of the nervous system. It is simply a pencil which is **applied directly to the SPOT**, without fear or apprehension. *Full Instructions and also a Statement of the Ingredients accompany every Outfit.*

Prices:

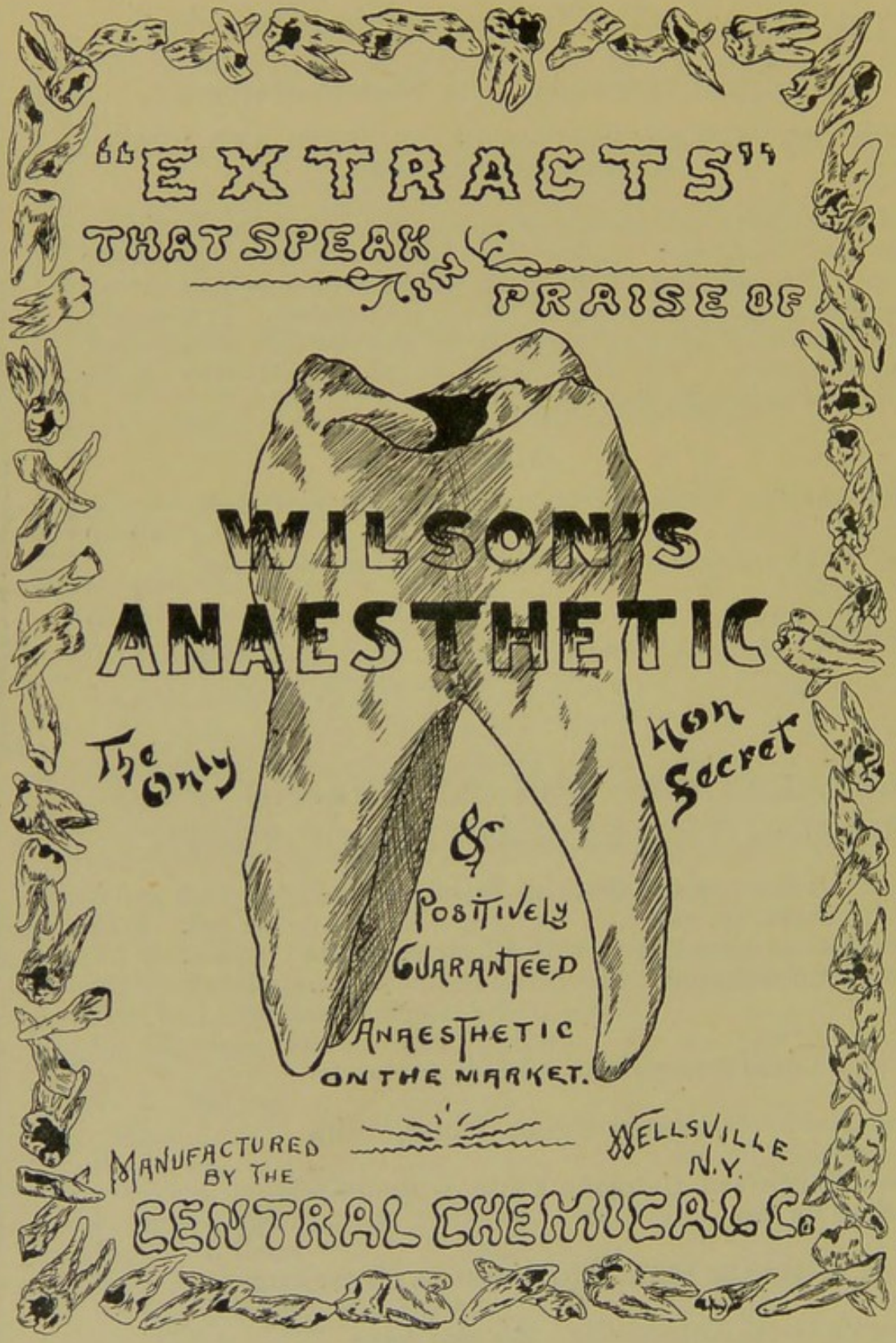
		s.	d.
Outfit complete, consisting of one Holder and four Medicated Points		10	0
Trial Outfit, consisting of one Holder and one Medicated Point		4	0
Separately { Holder		2	0
Separately { Medicated Points	each	2	0

PREPARATIONS FOR ANNULLING PAIN DURING THE EXTRACTION OF TEETH.

		s.	d.
Baldock's Permanent Cocaine Solution, with directions for use	per bot.	4	0
Barr's Local Anæsthetic, with directions for use	per bot.	3	2
Davis's Eucathymen, with directions for use ..	small bot.	2	6
" " " for Hospital use	large "	11	0
" " " " extra	" "	21	0
Marsh's Local Anæsthetic, with directions for use	per bot.	3	6
Robertson's Nepenthe-Calor Fluid, with directions for use	" "	6	0
Scott's Improved Calorific Fluid, with directions for use	large "	4	6
" " " " "	small "	2	6
Snape's Calorific Fluid, with directions for use	large "	7	6
" " " " "	small "	4	0

Wilson's Local Anæsthetic. *See next page.*

Directions for Use: Inject from five to fifteen minims deeply into the gum on each side of the tooth to be extracted. When the gum is white as far as the apex of the root anæsthesia is complete, and the tooth should be immediately extracted.



	s.	d.		s.	d.
One-ounce bottle	4	0	Six ounces	20	0
Two-ounce bottle	8	0	Twenty ounces	60	0

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BY

J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S.,

Dental Surgeon and Lecturer on Dental Surgery at Charing Cross Hospital; Assistant Dental Surgeon at the Dental Hospital of London.

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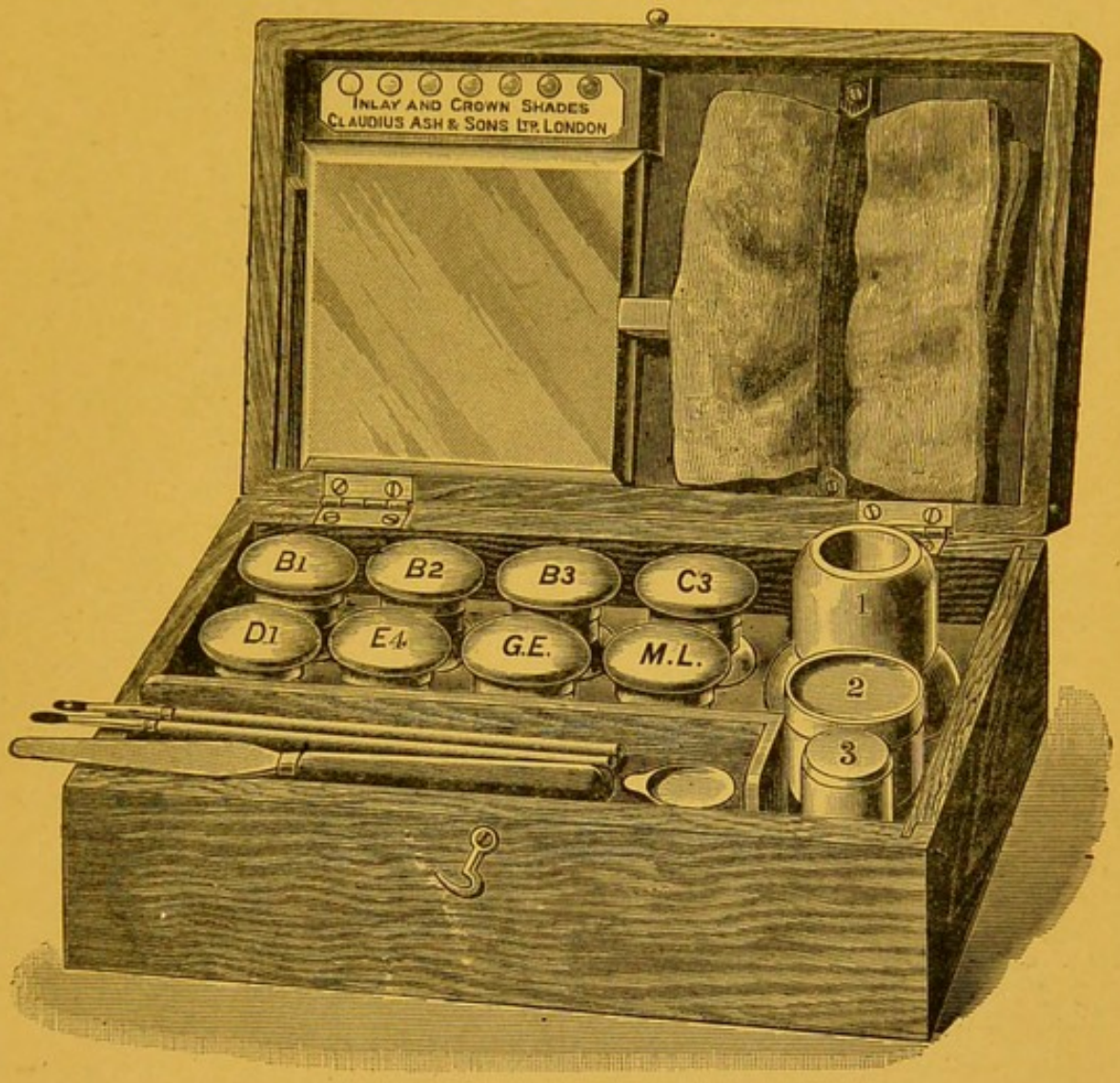

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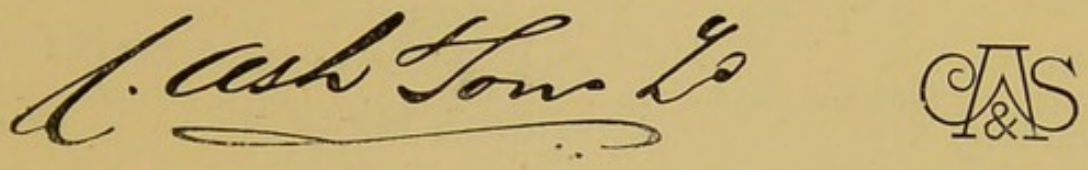
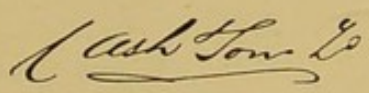


and one of the pieces of cloth in which each sheet of rubber is packed bears this signature—



in addition to the name of the rubber.

For Full List of our Dental Rubbers, see next page. Any kind there mentioned can be had, rolled *extra thin*, at an additional charge of 2*s*. per lb.

The Coating, Special, and White Rubbers are supplied in ½-lb. Boxes and 4-oz. Packets, and all the other kinds in ½-lb. Boxes.

In vulcanizing all our Dental Rubbers, except Vela, from 30 to 45 minutes should be occupied in very gradually raising the temperature to 315° Fahrenheit, when a Thermometer is used, or 100 lbs. pressure, when a Steam Gauge is used, and this temperature or pressure must be maintained for a further period of 75 minutes to complete the vulcanizing process. 315° Fahrenheit are equal to 157° Centigrade and 126° Reaumur.

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Improved Pink, Shade No. 1	Medium	per lb.	25	0
,, ,, ,, ,, 2	Light	,,	25	0
N.V., without Vermilion	Medium	,,	21	0
New Pink	,,	,,	21	0
No. 1x ,,	,,	,,	21	0
,, 1 ,,	Light	,,	21	0
Gum-Pink	Medium	,,	21	0
,, ,,	Light	,,	21	0
No. 2x Pink	Medium	,,	18	0

FOR BASE.

	COLOUR.		s.	d.
S. P.	Deep Pink	per lb.	16	0
White, for Side Blocks, &c.	Bone	,,	16	0
Child's G.	Bright Red	,,	16	0
A. E. Elastic	Dark Brown	,,	16	0
W. Elastic	,, ,,	,,	16	0
Whalebone, No. 1	,, ,,	,,	16	0
,, ,, 2	Light ,,	,,	14	0
Solid Base	Pinkish Brown	,,	14	0
Dark Red	—	,,	12	0
Flexible Base	Light Brown	,,	12	0
Dark Elastic	Brownish Black	,,	12	0
Red	—	,,	10	0
Orange	—	,,	10	0
Black	—	,,	10	0
Dark Brown	—	,,	10	0
Brown	—	,,	10	0
Improved Black	Jet Black	,,	10	0

SPECIAL—FOR TENDER GUMS, &c.

	Degrees Fahrenheit.	Time. H.	M.		s.	d.
Soft Pink, for lining Palates	315	1	15	per lb.	21	0
Soft Dark Red ,, ,,	315	1	15	,,	12	0
Vela, for making artificial Palates	270	6	0	,,	21	0

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WROUGHT-COPPER VULCANIZERS.

(C. ASH & SONS'.)

In order to prevent, as far as possible, the recurrence of explosions, so dangerous to human life, we have for a great many years past been manufacturing Vulcanizers which are estimated to bear upwards of 1,000 lbs. pressure upon every square inch. These Vulcanizers are made under our most careful supervision, and are tested before leaving our manufactory to 600 lbs., or seven times the pressure required for perfect vulcanization. The chambers are made of **wrought copper,** nearly a quarter of an inch thick, and strengthened at the top with a strong band or ring.

The cover is held down by means of a centre screw * and a strong **wrought-iron cramp,** which is made to clip the under part of the strong copper ring that is securely fastened to the chamber; the cramp is made to turn back, in order to facilitate the removal of the cover and flasks.

The thermometer registers up to 350° Fahrenheit, and the small fusible metal plug inserted in each cover will only blow out when that degree of heat is exceeded.

A temperature of from 310° to 320° Fahrenheit is sufficient to vulcanize any rubber when a Thermometer is used, and a pressure of from 95 to 105 lbs. when a Steam-Gauge is used.

The india-rubber packing should be thoroughly chalked on the surface every time it is used, to prevent adhesion. It requires to be renewed occasionally, to keep the chamber steam-tight. The stands of the Vulcanizers are available for either a gas-burner or a spirit-lamp.

The tube in which the thermometer is placed should be half filled with mercury, so as to surround the bulb and thereby ensure a correct register of the heat.

* "One may with some confidence assert that there are few who have had experience of the working of the *centre screw* Vulcanizer who would willingly use one of any other design. In effectively doing its work it equals, if it does not *excel*, all others, and the facility with which it is fixed and unfixed is an obvious advantage."—*Hunter.*

If a safety valve is attached to the Vulcanizer, the valve and plug should be wiped each time with a clean oily rag, as the least particle of dirt will allow the steam to escape, and so spoil the work.

The inside boiler measurements of all our Vulcanizers are noted on the following pages.

Each Vulcanizer consists of Stand and Chamber as illustrated; Thermometer or Steam-Gauge; Gas-burner or Spirit-Lamp or Paraffin Stove; Spanner and Packing-remover, &c.; but **Flasks are charged extra.**

Printed directions for using Gartrell's Patent Steam-Gauge will be found on page 9.

If wet plaster only is used for the generation of steam, the quantity contained in two Flasks will be found sufficient, but if only one Flask is put in the Vulcanizer, a lump of wet plaster should be added. When free water is employed, a quarter of a pint is sufficient for all our wrought-copper Vulcanizers. We may, however, add that we consider wet plaster far preferable to free water when the Vulcanizer is in good order. If the Vulcanizer be faulty, wet plaster will not serve the purpose, nor can any given quantity of water be mentioned which would be uniformly suitable.

In addition to the Fusible Plug which we fix in the lid of our wrought-copper Vulcanizers, we now fit a second plug in the side of the chamber, which will not fuse until a higher temperature is reached than is ever required for vulcanizing dental rubber.

Judging from the many inquiries we receive, there seems to be a growing desire to curtail the time recommended for vulcanizing the various kinds of rubbers, and we fear that a large percentage of the failures which occur are due to careless and hurried heating of the Vulcanizer.

To obtain satisfactory results, it is very important that the remarks on vulcanizing, in the last paragraph on page 1, be most carefully observed, for, from numberless experiments which we have made, we find that the time and temperature or pressure there recommended are the best that can be employed for producing the greatest possible amount of strength and elasticity in the dental rubbers of our manufacture.

CLAUDIUS ASH & SONS, Limited.

PORTABLE
WROUGHT-COPPER VULCANIZERS.

(ASH'S ENGLISH MANUFACTURE.)

FIG. 1,
WITH THERMOMETER.

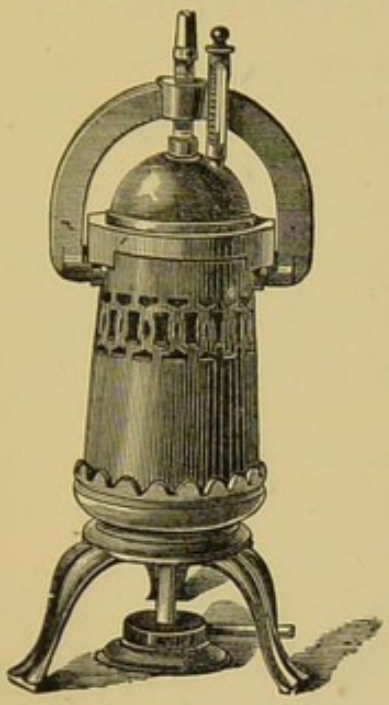
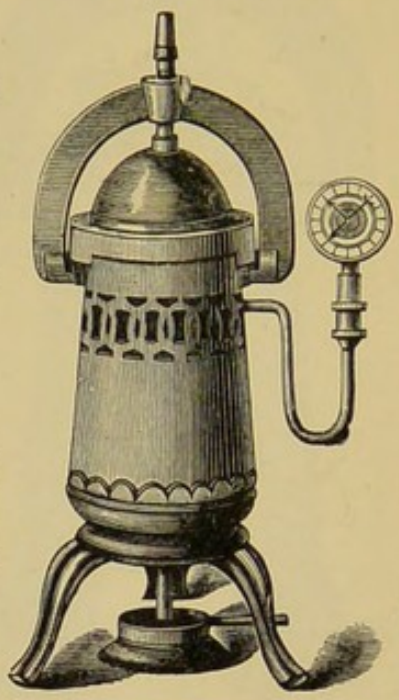


FIG. 1,
WITH STEAM-GAUGE.



Dimensions of Boilers, Inside Measurements.	Full height of Vulcanizers.
	Deep. Diameter.
2 Flask	$5\frac{1}{8} \times 4\frac{1}{4}$	$21\frac{1}{2}$ ins.
3 ,,	$7\frac{3}{4} \times 4\frac{1}{4}$	24 ,,
4 ,,	$9\frac{1}{2} \times 4\frac{3}{4}$	26 ,,

The Vulcanizers will take all the Flasks shown on the following pages except those marked.*

Prices, including Spanner, Packing-Remover, Six Fusible Plugs, Bunsen Burner, or Spirit Lamp or Paraffin Stove :—

Size—	2-FLASK. £ s. d.	3-FLASK. £ s. d.	4-FLASK. £ s. d.
*With Thermometer for Gas or Spirit or Paraffin .	5 5 0	5 10 0	6 10 0
* ,, Simple Gauge instead of Thermometer for Gas or Spirit or Paraffin	6 0 0	5 0	7 5 0
,, Gartrell's Gauge instead of Thermometer, for Gas only	6 12 6	6 17 6	7 17 6
,, ,, ,, and Alarm Clock . . .	7 7 6	7 12 6	8 12 6

Flasks are charged extra.

	s. d.
Any of the above Vulcanizers, fitted with Steam Tap . . . . . extra	5 0
,, ,, ,, ,, Safety Valve . . . . . ,,	17 6

FIG. 1.- ADDITIONAL SIZE, WITH STEAM TAP.

Inside Boiler measurements, 8-in. deep by 5-in. diameter.
Will hold three of the largest Flasks made.
Prices, with the accessories mentioned above :—

	£ s. d.
*With Thermometer, for Gas or Spirit or Paraffin	5 0 0
* ,, Simple Gauge instead of Thermometer, for Gas or Spirit or Paraffin .	5 15 0
,, Gartrell's Gauge instead of Thermometer, for Gas only	6 7 6
,, ,, ,, and Alarm Clock	7 2 6

Flasks are charged extra.

* In ordering a Vulcanizer with Thermometer or with Simple Steam Pressure Gauge be sure to state whether it is required for use with Gas or Spirit or Paraffin.

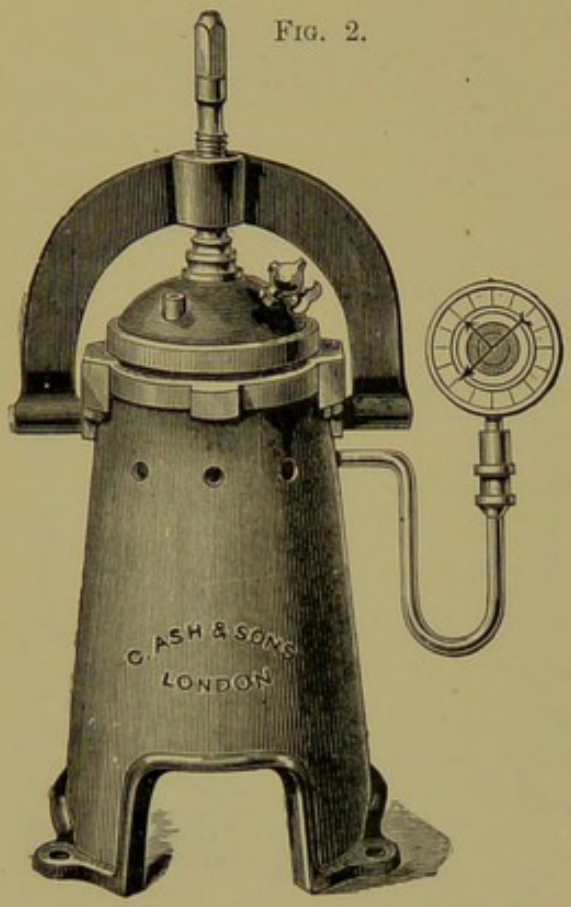


Fig. 2.

EXTRA LARGE WROUGHT-COPPER VULCANIZER,

WITH STEAM TAP.

(Ash's English Manufacture.)

This Vulcanizer will take four of the largest Flasks made. As shown in the illustration, it is supplied with strong cast-iron jacket.

Dimensions of Boiler, Inside Measurements.

10 inches deep.
$5\frac{3}{4}$ „ diameter.

Full Height of Vulcanizer:
$25\frac{1}{2}$ inches.

Prices, including Spanner, Packing-Remover, Six Fusible Plugs, Bunsen Burner or Spirit Lamp or Paraffin Stove.

	£	*s.*	*d.*
*With Thermometer, for Gas or Spirit or Paraffin . .	8	15	0
*With Simple Gauge instead of Thermometer, for Gas or Spirit or Paraffin	9	10	0
With Gartrell's Gauge instead of Thermometer, for Gas only.	10	2	6
With Gartrell's Gauge and Alarm Clock	10	17	6

Flasks are charged extra.

This Vulcanizer can be had with Tripod and Sheet-iron Jacket, like Fig. 1, at 20*s.* less than the above prices.

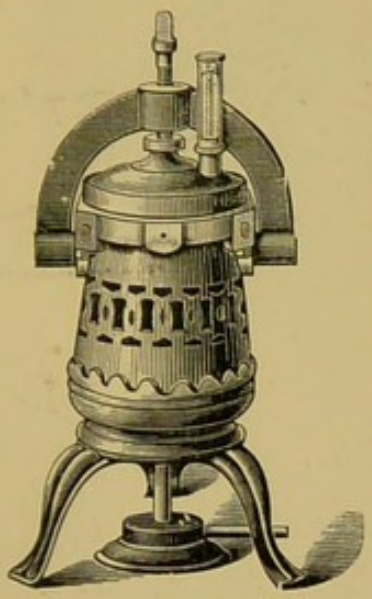
		s.	*d.*
Vulcanizer fitted with Safety Valve	extra	17	6

* In ordering with Thermometer or with Simple Steam Pressure Gauge, be sure to state whether it is required for use with Gas or Spirit or Paraffin.

PORTABLE WROUGHT-COPPER VULCANIZERS WITH STEAM TAP.

(Ash's Berlin Manufacture.)

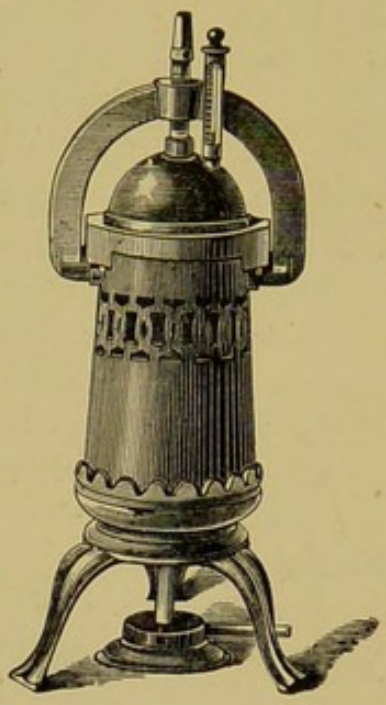
Fig. 3.



These Vulcanizers have a large sale, and we can guarantee them to give perfect satisfaction in every respect. Each one is tested to 600 lbs. pressure before it leaves our manufactory.

They will take all the Flasks on the following pages except those marked *.

Fig. 4.



DIMENSIONS:

	Boiler, inside measurements.	Height of Vulcanizers.
Fig. 3—One Flask	3¾ in. deep × 4⅜ in. diameter	18 inches
,, 4—Two Flask	5¼ in. ,, × 4⅜ in. ,,	21 ,,
,, 4—Three Flask	8 in. ,, × 4⅜ in. ,,	24 ,,

PRICES, including Spanner, Packing-Remover, Six Fusible Plugs, Bunsen Burner or Spirit Lamp or Paraffin Stove:

Size :—	Fig. 3 One Flask. £	s.	d.	Fig. 4 Two Flask. £	s.	d.	Fig. 4 Three Flask. £	s.	d.
*With Thermometer for Gas or Spirit or Paraffin . . .	3	10	0	4	7	6	4	13	6
*With Simple Gauge instead of Thermometer, for Gas or Spirit or Paraffin	4	5	0	5	2	6	5	8	6
With Gartrell's Gauge instead of Thermometer, for Gas only	4	17	6	5	15	0	6	1	0
With Gartrell's Gauge and Alarm Clock.	5	12	6	6	10	0	6	16	0

Flasks are charged extra.

Any of the above Vulcanizers fitted with Safety Valve, extra, 17*s.* 6*d.*

* In ordering a Vulcanizer with Thermometer or Simple Steam Pressure Gauge be sure to state whether it is required for use with Gas or Spirit or Paraffin.

PARTS OF VULCANIZERS,

FOR RENEWING, ETC.

		s.	d.
Bunsen Burners:			
For Fig. 1, Two, Three, or Four-Flask Vulcanizer		4	6
„ 1, Additional size Vulcanizer		4	6
„ 2, Extra Large „		2	9
„ 3, One-Flask „		3	6
„ 4, Two or Three-Flask Vulcanizer		4	6
Fusible Plugs	per doz.	2	0
India-Rubber Collars:			
For Fig. 1, Two and Three-Flask Vulcanizers	each	0	2
„ 1, Four-Flask Vulcanizer	„	0	3
„ 1, Additional size Vulcanizer	„	0	6
„ 2, Extra Large „	„	0	3
„ 3, One-Flask „	„	0	2
„ 4, Two and Three-Flask Vulcanizers	„	0	3
Jackets:			
For Fig. 1, Two-Flask Vulcanizer	„	6	0
„ 1, Three-Flask „	„	7	0
„ 1, Four-Flask „	„	7	6
„ 1, Additional size „	„	7	0
„ 2, Extra Large „	„	8	6
„ 3, One-Flask „	„	3	0
„ 4, Two-Flask „	„	6	0
„ 4, Three-Flask „	„	7	0
Packing Remover for Vulcanizers	„	0	6
Spanner, double-ended, for Portable Vulcanizers	„	1	3
Spirit Lamp for Vulcanizers	„	6	0
Wick for Spirit Lamp	per 3 yards	0	1
Thermometer for Figs. 1, 2 and 4 Vulcanizers		7	6
„ „ 3 Vulcanizer		6	0
Thermometers repaired, all kinds	each from	4	0
Tube, with Fahrenheit Scale, for above Thermometers		4	0
Thermometers with Centigrade Scale—**to order.**			
Tripods:			
For Fig. 1, Two and Three-Flask Vulcanizers		6	0
„ 1, Four-Flask Vulcanizer		8	6
„ 2, Extra Large „ **not festooned**		6	0
„ 3, One-Flask „		4	6
„ 4, Two and Three-Flask Vulcanizers		6	0

GARTRELL'S

STEAM-PRESSURE AND GAS-REGULATING GAUGE.

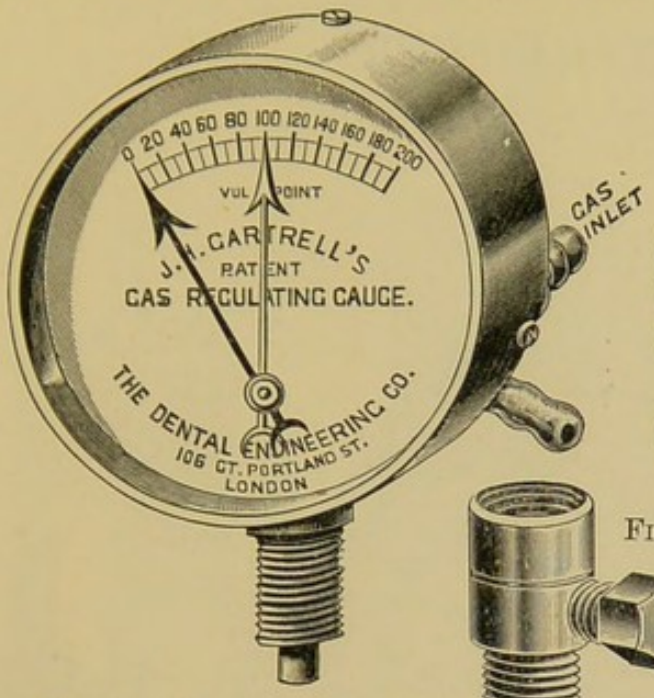


FIG. 1.—FRONT OF GAUGE.

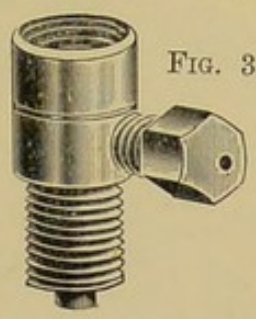


FIG. 3.

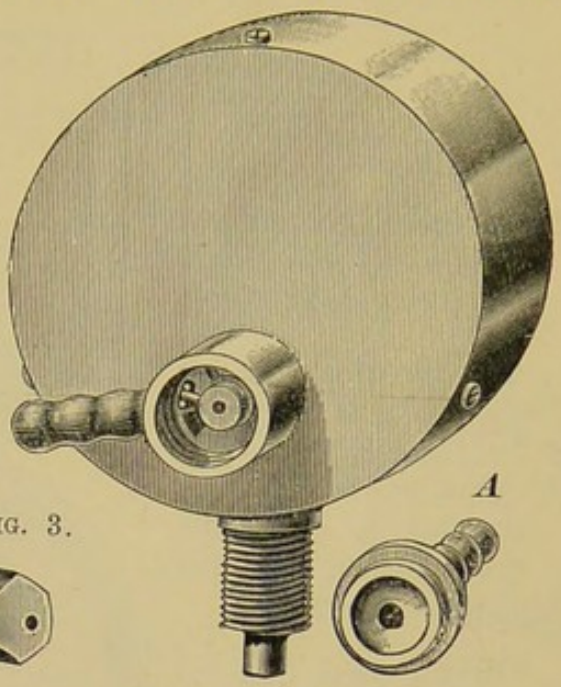


FIG. 2.—BACK OF GAUGE.

Mr. Gartrell's Gauge is now in use all over Europe, the British Colonies, and the United States, and the demand for it is yearly increasing.

Since it was introduced, seventeen years ago, no case is known of a vulcanizer having exploded to which it has been attached ; whereas, on the other hand, during the same period, many explosions of vulcanizers, on each of which a thermometer was used, have been reported.

In the latest form of Gauge, which is illustrated above, the Regulator has been greatly improved by having the valve—shown at ***A***, Fig. 2—made to slide upon the valve seat. This improvement admits of the *red* hand on the dial being turned either forwards or backwards while the Gauge is at work, without injury to the working parts—a feature which was wanting in the old form of Gauge.

To ensure receiving the Gauge possessing this latest improvement, purchasers should see that the words "J. H. Gartrell's Patent Gas-Regulating Gauge" are marked on the dial, as shown in Fig. 1.

Fig. 3 shows a Copper Disc Safety Valve, which is supplied *to order* with the Gauge. When it is used, the Gauge is screwed into the upper part, and the Syphon on to the lower part. Fixed in this position, between the Gauge and the Syphon, it is unaffected by the heat of the Vulcanizer, and is always ready to act with accuracy.

Printed directions for use are given on the back of each Gauge.

PRICES:

		£	*s.*	*d.*
Gauge complete with Syphon		1	15	0
Safety Valve	(Fig. 3) extra	0	3	0
Simple Pressure Gauge		1	2	6
Extra Syphons for either Gauge	each	0	2	6

COMBINED ALARUM CLOCK AND AUTOMATIC GAS EXTINGUISHER.

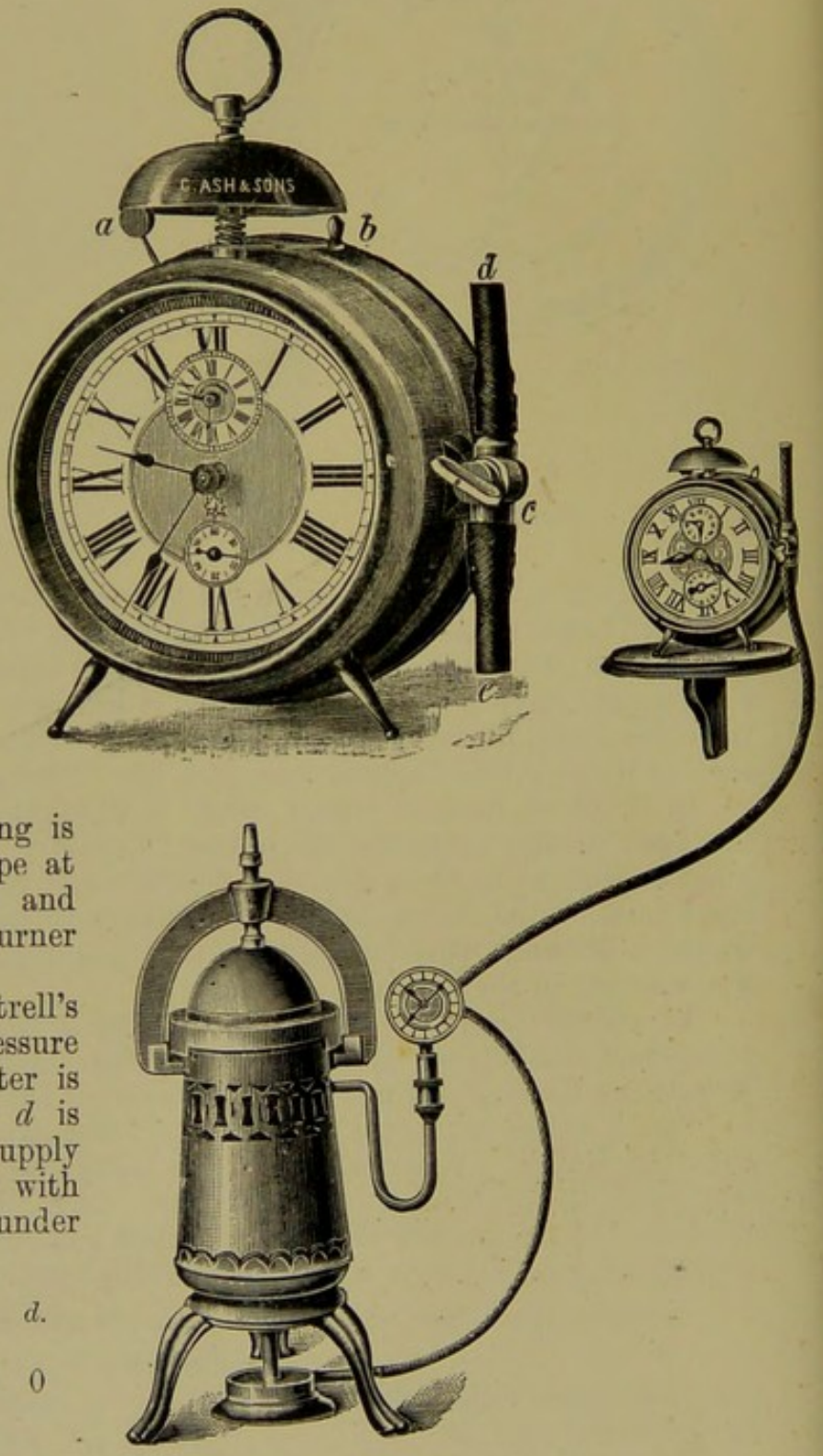
FOR USE WITH VULCANIZERS.

The advantages gained by using this Clock are twofold:

1. The alarm can be set to sound at a given time; and
2. As it goes off it closes the tap *c*, and thus extinguishes the gas at the burner.

When used in conjunction with Gartrell's Gas-regulating Gauge, as shown on the vulcanizer below, the upper nozzle *d* is connected with the gas-supply, and the lower nozzle *e* with one of the pipes at the back of the gauge; a separate length of tubing is attached to the other pipe at the back of the gauge and carried to the gas-burner under the vulcanizer.

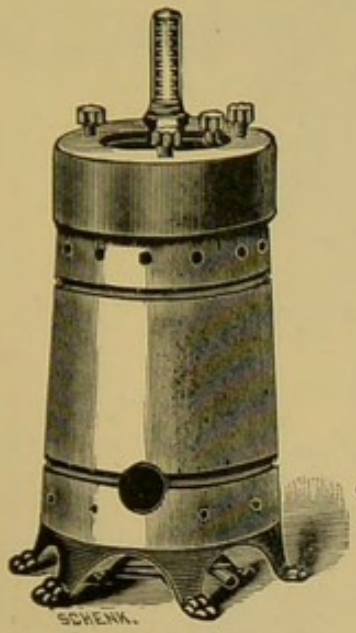
If instead of Gartrell's Gauge a Simple Pressure Gauge or a Thermometer is used, the upper nozzle *d* is connected with the gas-supply and the lower nozzle *e* with the gas-burner which is under the vulcanizer.



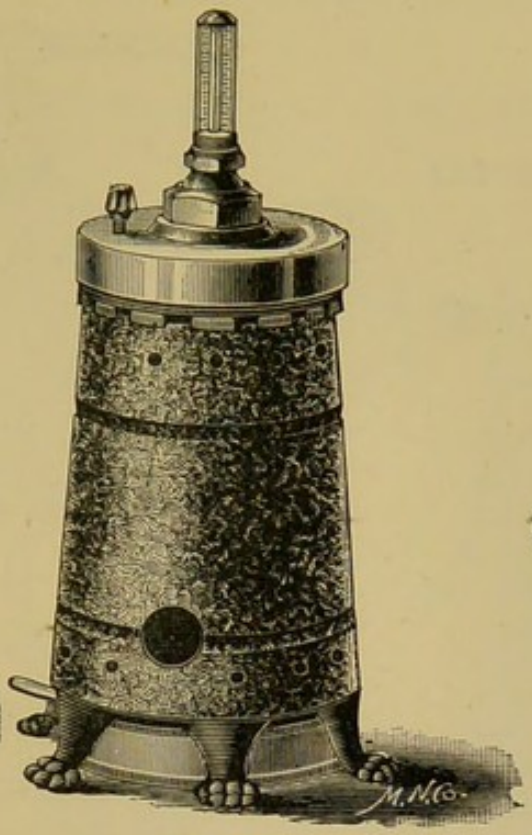
	s.	d.
Price of Clock as illustrated .	15	0

Descriptive Circular sent with each Clock.

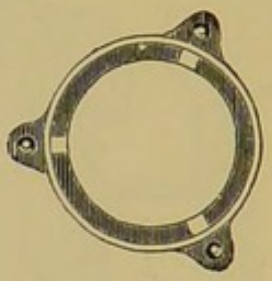
AMERICAN VULCANIZERS, Etc.



Hayes'.



Whitney's.



Wrench and Bed-Plate.

PRICES:

	1 Flask. £	*s.*	*d.*	2 Flask. £	*s.*	*d.*	3 Flask. £	*s.*	*d.*
Hayes' Iron-Clad, for Gas, Spirit, or Paraffin . . .	2	14	0	3	3	0	3	10	0
Whitney's Copper ,, ,, ,, . . .	2	10	0	2	18	6	3	7	0

The above prices include Flasks.

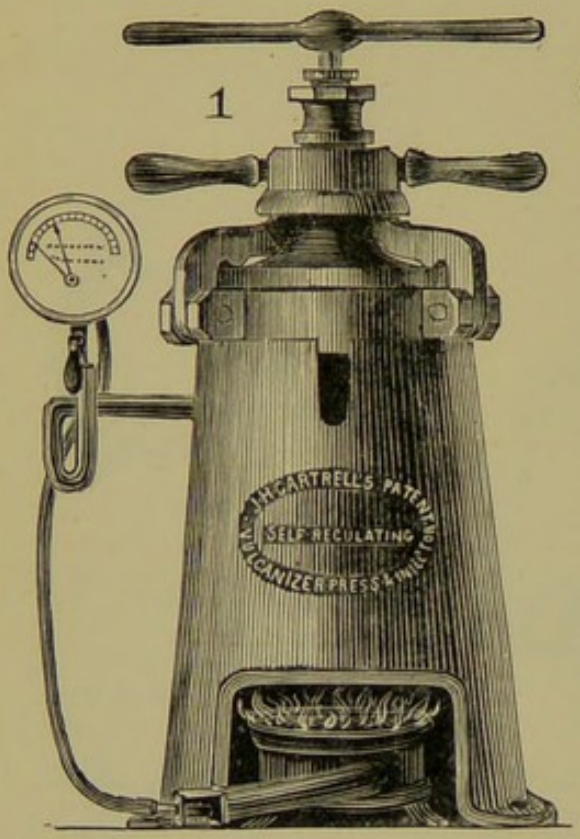
EXTRA PARTS:—

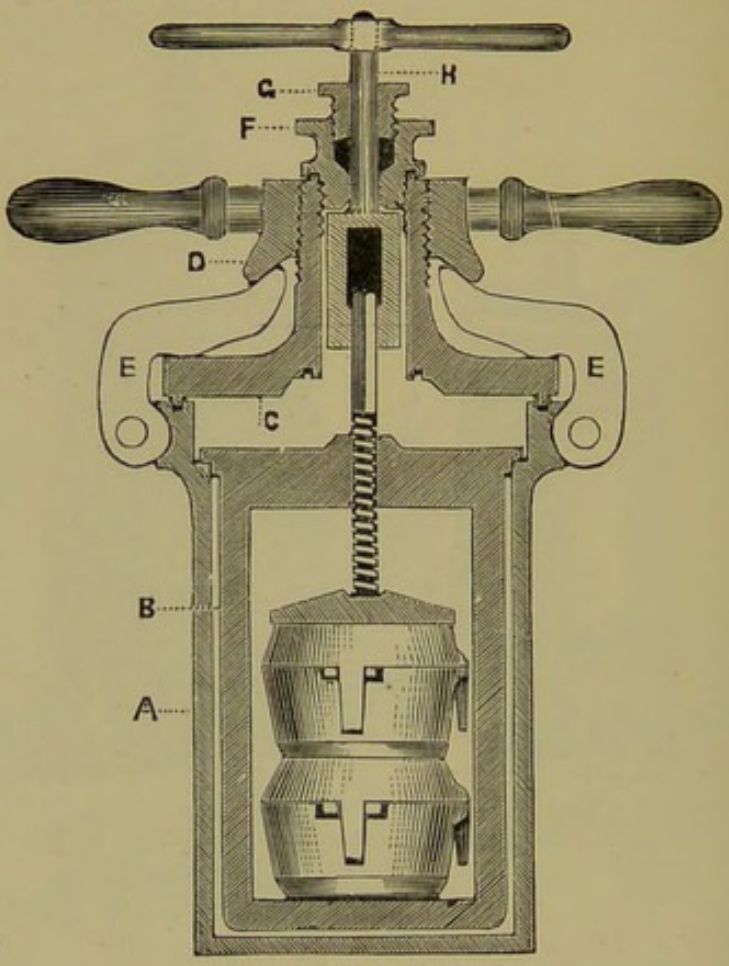
		s.	*d.*
Spirit Lamp, for Vulcanizers	each	2	6
India-Rubber Packings, endless, for Hayes' Vulcanizer	per doz.	5	0
,, ,, ,, Whitney's ,, ...	,,	4	0
Gas Laboratory Lamp	each	2	6
Safety Discs, in packages of 1 dozen, with washers	per pkt.	2	0
Thermometers, Nickel-plated.	each	8	0
Tubes and Scales, for Thermometers	,,	3	6
Wrench for Hayes' or Whitney's Flasks.	,,	0	8
,, for Whitney's Vulcanizer, double-ended	,,	1	3
,, for holding Boiler of Whitney's Vulcanizer	,,	2	3
Wrench and Bed-plate for Whitney's Vulcanizer.	,,	3	3

The Bed-Plate shown in the engraving is usually fastened on the work bench, in which a hole is cut for the Vulcanizer to pass through. Should it be thought undesirable to cut the bench, a **Raised Bed-plate on legs, deep enough to receive the Vulcanizer,** can be had, price 6/3.

VULCANITE AND CELLULOID APPARATUS

(Mr. GARTRELL'S).





	£	s.	d.
Improved Two-Flask Vulcanite and Celluloid Apparatus, with Patent Gas-Regulating and Steam Pressure Gauge, **without Flasks**	8	0	0

PARTS SEPARATELY:—

		£	s.	d.
Flasks in Bronze	each	0	6	0
Asbestos Yarn Packing, in ¼-lb. balls	per ball	0	2	6
Thermometers	each	0	7	6
Clamp for two Flasks with Plate and Stool		0	10	6
Stool only		0	0	10
Gas Burner		0	6	0
Jacket		0	12	6

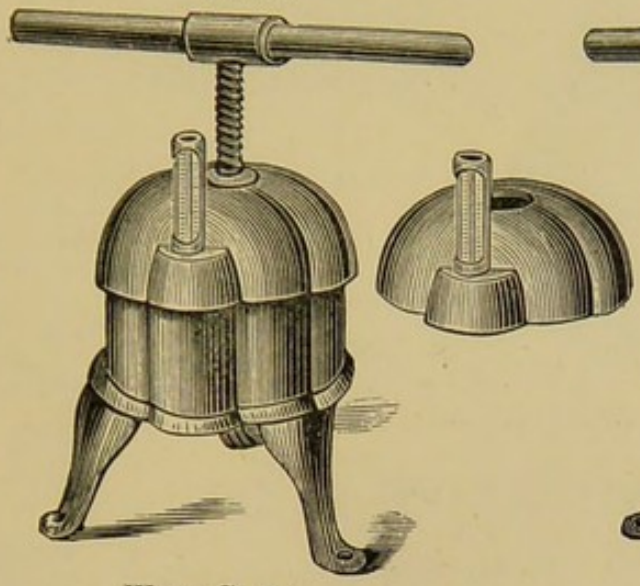
NOTE.—We desire it to be distinctly understood that as we only test Vulcanizers of our own manufacture, we cannot hold ourselves responsible for the strength and safety of any other which we may supply. This statement is made without prejudice.

OTHER VULCANIZERS SUPPLIED TO ORDER.

SIMPLE CELLULOID APPARATUS,

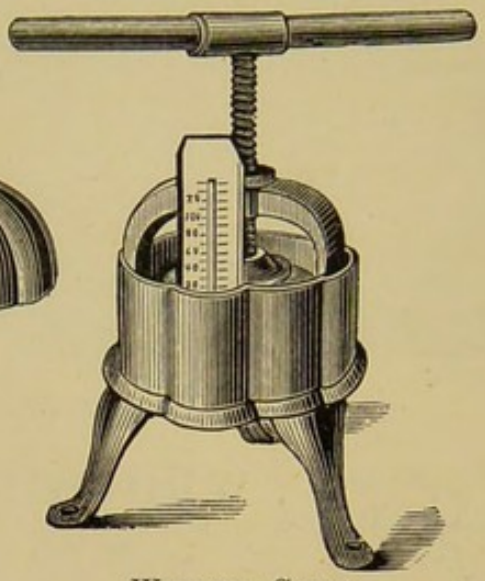
FOR OIL OR GLYCERINE.

FIG. 1.



WITH COVER.

FIG. 2.



WITHOUT COVER.

		£	*s.*	*d.*
Celluloid Apparatus, consisting of Tank and Flask Press.				
Price, with one Flask, Thermometer and Cover .	(Fig. 1)	1	4	0
„ „ „ without Cover	(„ 2)	1	0	0
Parts separately :				
Extra Flasks	each	0	4	0
„ Thermometers, for Fig. 1	„	0	5	0
„ „ „ „ 2	„	0	6	0

CELLULOID PLATES.

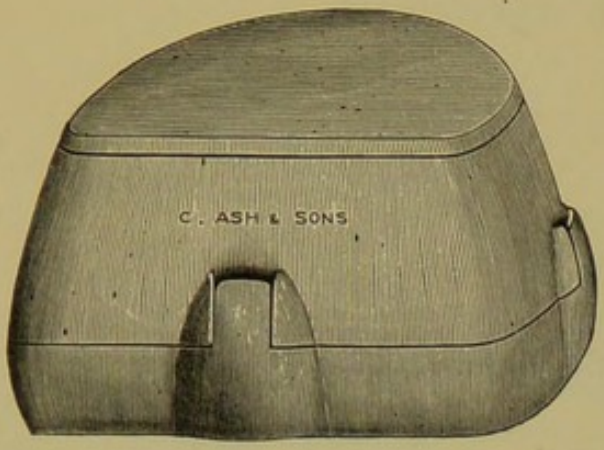
SIZES AND PRICES:

Sizes.	1½	2	2½	3	3½	4	4½	5	5½	6	6½
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Uppers . . .	..	..	..	0 8	0 10	0 9	0 11	0 11	1 0	1 1	1 2
„ "A" . .	..	..	..	0 11	1 0	1 0	1 2	1 3	1 3	1 7	1 9
Lowers . . .	0 6	0 6	0 8	0 7	0 10	0 10	1 1	..	..	..	..
Plumpers . . .	..	..	..	1 1	..	1 6	..	1 9	..	1 5	..

Sizes.	5	6	7	8	9	10
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Partials	0 4	0 5	0 6	0 8	0 7	0 9

Other Celluloid Apparatus supplied to order.

ASH'S Fig. 90 FLASK.



In three parts, simple, compact and strong; much liked and extensively used on account of its general utility.

PRICES:

	Large.		Small.	
	s.	*d.*	*s.*	*d.*
In Gun-Metal. .	5	6	4	6
In Iron . . .	4	6	4	0

WROUGHT-IRON RING,

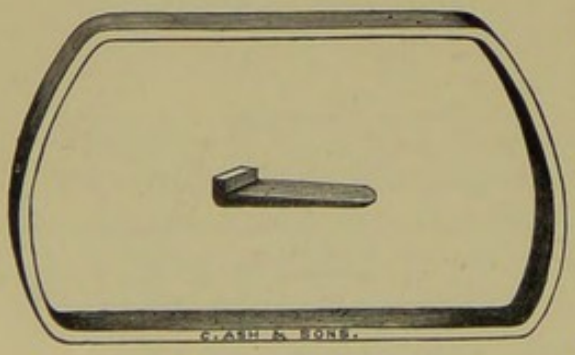
WITH THUMB SCREW.

For Ash's Fig. 90 Flask shown above, and for other Flasks.

Made in two sizes, large and small.

	s.	*d.*
Price, either size . . each	3	6

Both sizes of Fig. 90 Flask when employed in conjunction with this Ring and Thumb Screw are too large for our Portable Vulcanizers; if either is required to go in these Vulcanizers, the Clamp and Wedge shown below must be used with it.



WROUGHT-IRON CLAMP,

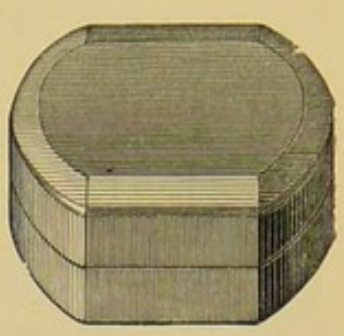
WITH WEDGE.

For Ash's Fig. 90 and other Flasks.
Made in two sizes, large and small.

	s.	*d.*
Price, either size . . each	2	0

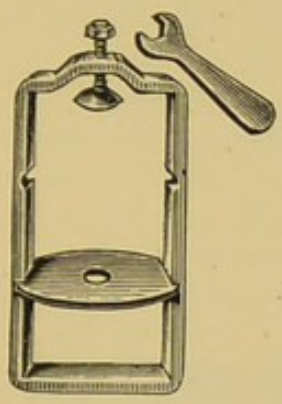
ASH'S BERLIN PATTERN FLASK.

DESIGNED FOR USE WITH CLAMPS, SUCH AS THE ONE ILLUSTRATED BELOW.



PRICES:

	s.	d.
In Iron	5	0
In Gun-Metal	7	6
„ „ Deep	9	0



WROUGHT-IRON CLAMPS,

WITH NUTS AND SPANNERS FOR USE WITH OUR BERLIN PATTERN FLASKS.

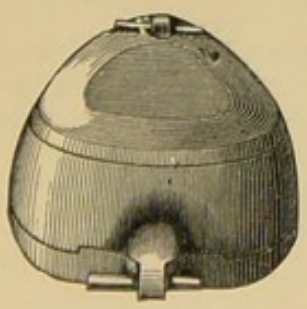
These are made in the three following sizes: For one, for two, and for three Flasks. The illustration shows a Clamp, etc., for three Flasks.

PRICES:

	Clamp, &c. s.	d.	Complete with Iron Flasks. s.	d.	Complete with Gun-metal Flasks. s.	d.
Clamp and Spanner for one Flask .	4	6	9	6	12	0
Clamp, Plate and Spanner for two Flasks	5	6	15	6	20	6
Clamp, Plate and Spanner for three Flasks	8	0	23	0	30	6

The Clamps will go in our Portable Vulcanizers.

JORDAN'S PIN FLASK.



This well-known and favourite Flask is made in three sizes, which time has proved to be the most useful for all-round work.

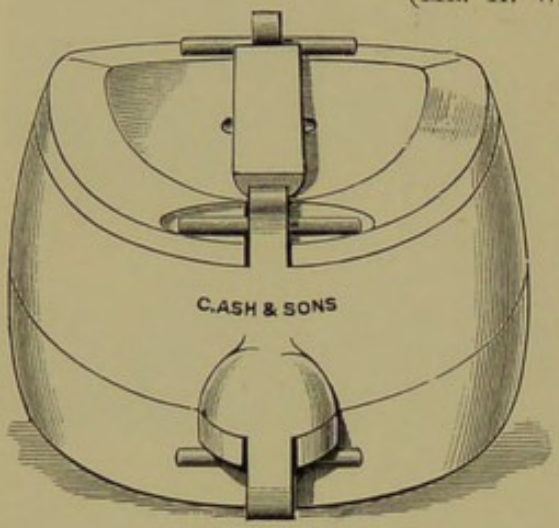
PRICES:

	Iron. s.	d.	Gun-metal. s.	d.
*Extra large	—	—	9	0
Large	4	6	7	6
Medium	4	0	6	0

*** The Extra Large size will not go in our One-, Two-, and Three-Flask Portable Vulcanizers, the Large and Medium will.**

IMPROVED PIN FLASK.

(Mr. A. W. OVERELL'S.)



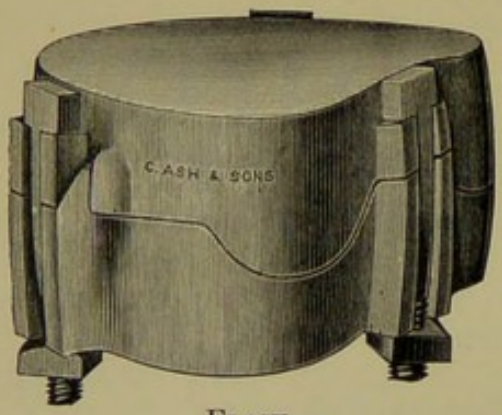
Half size.

This Flask is as large as it can be made for our Portable Vulcanizers, and is specially adapted for wide lowers.

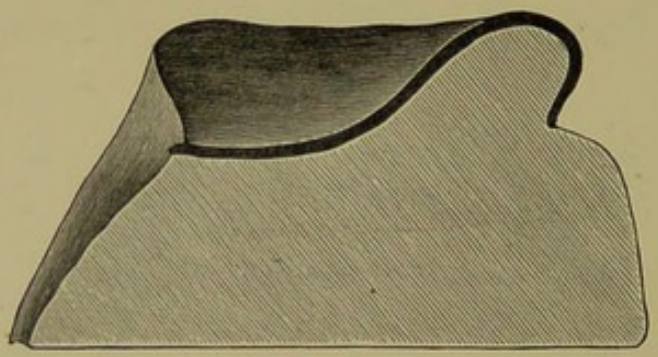
By means of the lug on the lid, which is undercut to admit of being readily grasped with a suitable tool, it can be easily withdrawn from the Vulcanizer.

	s.	*d.*
Price, in Gun-Metal .	7	6

LENNOX'S FLASK.



Flask.



Section of Plate.

In his work on "Some Methods in Operative and Mechanical Dentistry," Mr. Lennox says (p. 34) :—

"When a case is invested in one of the ordinary flasks in the manner described on p. 12, it is difficult, owing to the sides of the flask being equally deep at all points, to get at and remove the superfluous plaster about the extremities of the plate. I have accordingly varied the depth of the rear side of the flask in the manner shown in the illustration.

"A further difference from the ordinary flask is the adoption of guides, the front edges of which slope backwards from the vertical, and so allow the parts of the flask to be brought together in a manner suited to plates in which a section through the central line would present a hooked appearance, as shown to the right of the flask. I have been obliged for many years to file away the ordinary upright guides to meet cases of this sort."

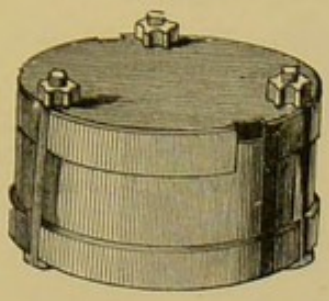
To take up wear in the flask, close the slots for the guides to the requisite extent by a few well-directed blows of a round-faced hammer upon the lugs to the rear of the slots for the bolts.

	s.	*d.*
Flask for Uppers in Gun-Metal.	7	6
„ for Lowers „ „	7	6

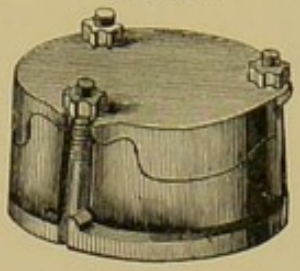
Both will go in our Portable Vulcanizers.

FLASKS WITH BOLTS AND NUTS.

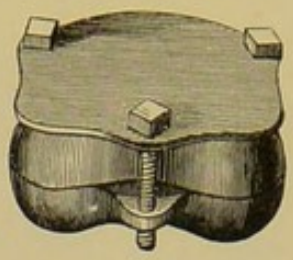
LEWIS'S.



HAYES'.



WHITNEY'S.

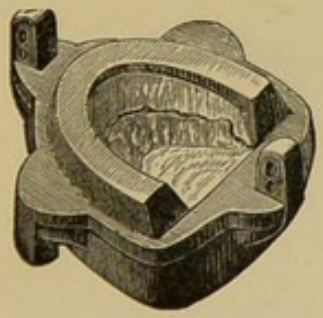


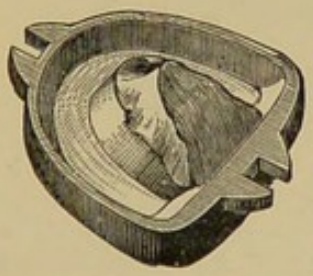
PRICES:

		Iron. s.	Iron. d.	Gun-metal. s.	Gun-metal. d.
Lewis's Large	each	5	3	8	6
„ Small	„	4	3	6	0
Extra Bolts with Nuts for either size	„	0	6	—	
Hayes'—one size only	„	4	0	7	0
Separately Iron Bottom with three Bolts and Nuts	„	2	0	—	
Separately Gun-Metal „ „	„	—		3	6
Separately Extra Bolts with Nuts	„	0	4	—	
Whitney's, ordinary	„	4	0	6	0
„ deep	„	4	0	—	
„ slot	„	4	0	—	
Extra Bolts with Nuts for any form	„	0	2	—	
Spanners for Flasks, double-ended	„	0	8	—	

The above Flasks will go in our Portable Vulcanizers.

THE WHITEHOUSE FLASK.



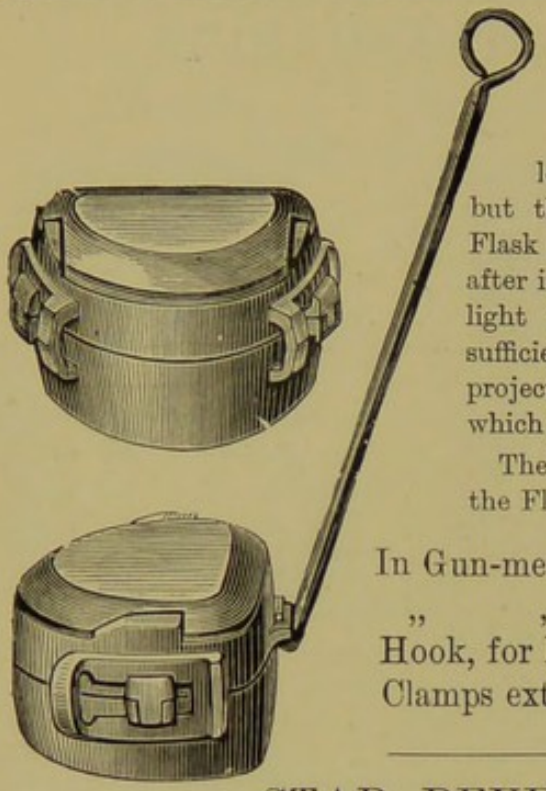


This Flask is designed to give strength to the plaster "capping," the inability of which to withstand the pressure applied in packing and closing the Flask being one of the causes of raised bites; it has also been proved of great service in preventing teeth soldered to plates cracking whilst passing through the vulcanizing process. No extra time or trouble is entailed by the use of the capping, the moment or so required to decide the position of the teeth in relation to the capping being saved in having less plaster to shape and trim up. Sufficient plaster must be heaped on the teeth, and while soft the capping dropped into place and pinned.

PRICES:

			s.	d.
Made in Gun-Metal in three sizes	Small	each	9	6
	Medium	„	11	0
	*Large	„	14	0

*** The Large size will not go in our Portable Vulcanizers, the Medium and Small will.**



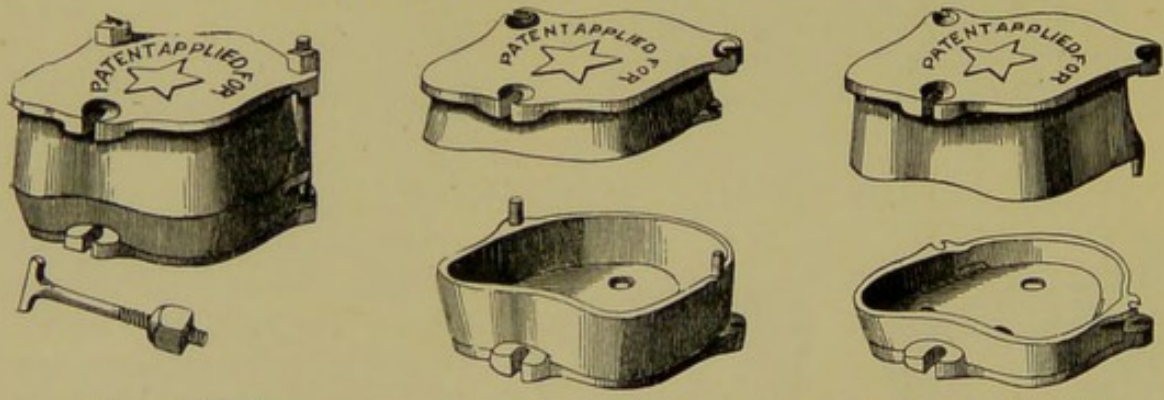
LADMORE'S FLASK.

Consisting of three parts. The upper and lower sections are held together by side clamps, but these clamps are not intended for closing the Flask; they merely serve to keep the parts together after it has been closed in the press or vice. A few light taps with a wooden mallet will be found sufficient to drive them home. There are two projections on the top of the upper part, under which the lid slides and fixes itself.

The hook, shown in the illustration, is for lifting the Flask while hot.

		s.	*d.*
In Gun-metal, large	each	6	6
„ „ small	„	4	6
Hook, for lifting Flasks	„	0	9
Clamps extra	„	0	8

STAR REVERSIBLE FLASK.



The rings of this Flask are of different widths, either of them fitting the top or bottom accurately, as may be required.

By using the wide Ring next to the bottom, an admirable Flask is obtained for deep cases and partial sets, or where the artificial gum rests on the natural. The narrow Ring is used next the bottom plate, for whole dentures, where the parting is at the rim of the Plate. The bottom has three counter-sunk holes, through which the plaster runs, which, when set, holds the accompanying Ring securely to it.

		s.	*d.*
In Brass	each	7	0
„ Iron	„	5	0
Extra Bolts and Nuts	„	0	4
Spanner for Flasks, double-ended	„	0	8
Jeffery's Hinged Flask, in Phosphor Bronze	„	9	0

All the above Flasks will fit our Portable Vulcanizers.

NOTE.—When ordering Flasks separately it is always advisable either to give the inside diameter or the Name of the Vulcanizer for which they are intended.

THE "EMPEROR" FLASK

(Mr. W. STRINGFIELD'S).

Fig. 1.

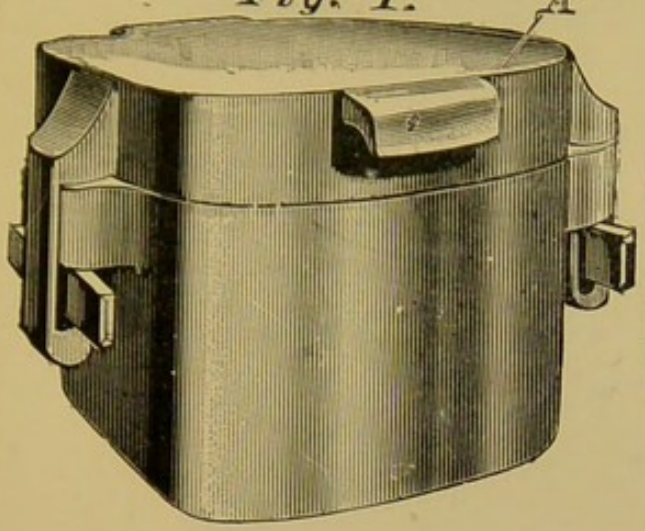


Fig. 2.

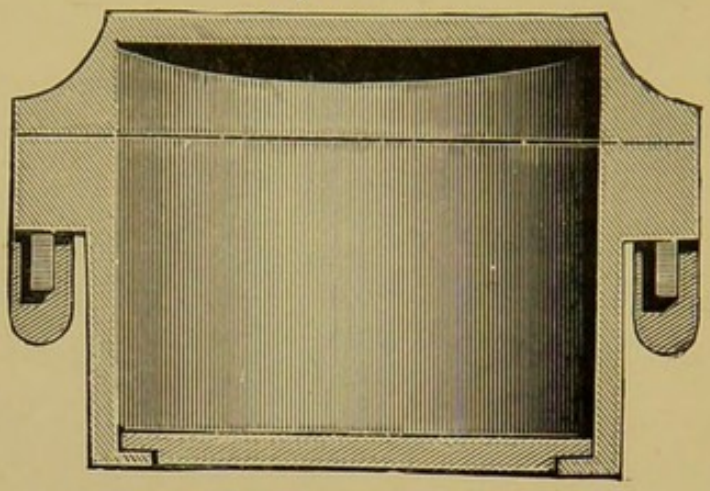
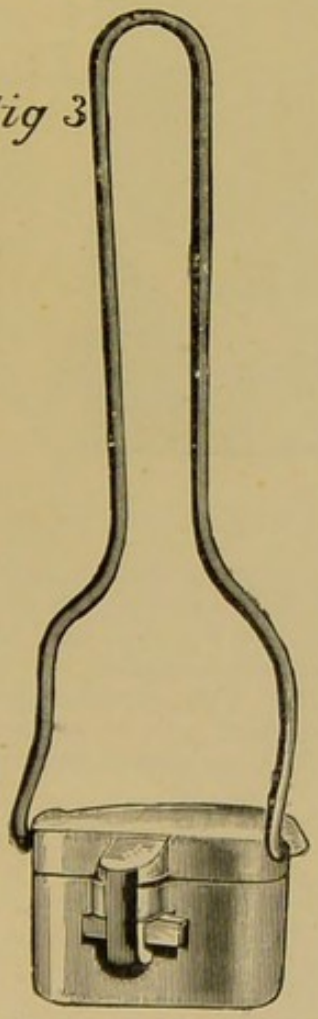


Fig 3



This Flask, as seen by the drawings, consists of three parts—the top, the body, and the bottom, all of which are keyed together by two small iron wedges.

The interior of the Flask being slightly tapered, the bottom (Fig. 2) passes freely upwards, enabling the operator with a few blows of a mallet or the handle of a hammer to remove, as soon as cool enough to hold the whole of the work in a block, and so avoid the necessity of digging out, thus saving a very great amount of time and avoiding the chance of breakage.

Advantages:

1.—Great saving of time.

2.—Two repair cases can be invested at the same time, whilst the top is sufficiently deep for all purposes.

3.—Strength without clumsiness.

4.—The keying slots being long admit of a diaphragm, if desired, with the same wedges slightly narrowed.

5.—No difficulty in keying up, as is sometimes the case with pins.

6.—Facility for placing in and removing from vulcanizer by means of the flanges (A, Fig. 1) and lifter (see Fig. 3).

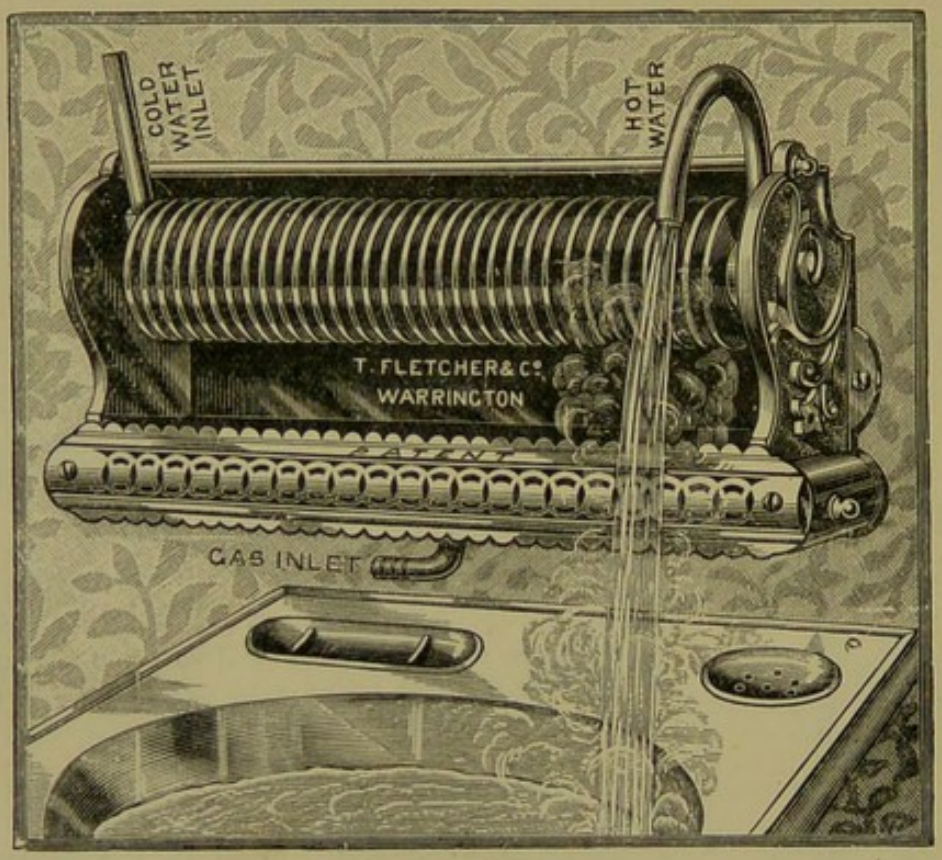
PRICES:

		s.	*d.*
In Gun-metal, ordinary size		7	6
„ „ large size		7	6
Lifter, as shown in Fig. 3		1	0
Extra Wedges	per doz.	2	0

INSTANTANEOUS WATER HEATER.

HORIZONTAL PATTERN.

(Fletcher, Russell & Co.'s.)



For the Dental Laboratory. Messrs. Fletcher & Co. say :—

"The use of Fletcher's Patent Solid Webs for conducting the heat of the burner to the water renders it possible to construct very powerful and efficient water-heaters of an exceedingly small size. This pattern is only 14 inches wide, and 6 inches high over all ; small enough to be fixed behind any lavatory without inconvenience. It will deliver one quart of water per minute, heated from 60° to 125° Fahr. (scalding hot). It is free from drip and mess, and also from smell, unless worked with an excessive pressure of gas, and beyond its intended power ; in this case the tap should be turned down a little until the smell disappears.

"The inlet and outlet are now made at the same end."

A $\frac{3}{8}$-inch clear bore gas supply is quite sufficient for the Heater.

	£	*s.*	*d.*
Price	1	10	0
„ Nickel Plated	1	17	6

Note.—A special pattern is made for flask washing, which gives a steady fine stream of water, nearly boiling—prices same as above.

FLASK PRESSES.

Fig. 1.

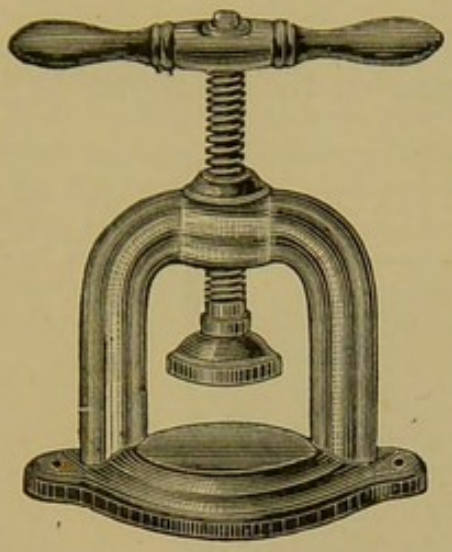
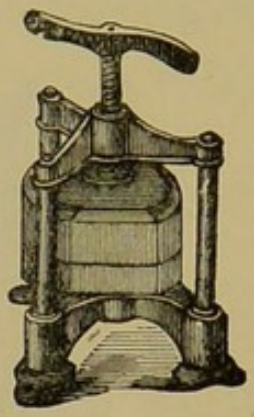


Fig. 2.

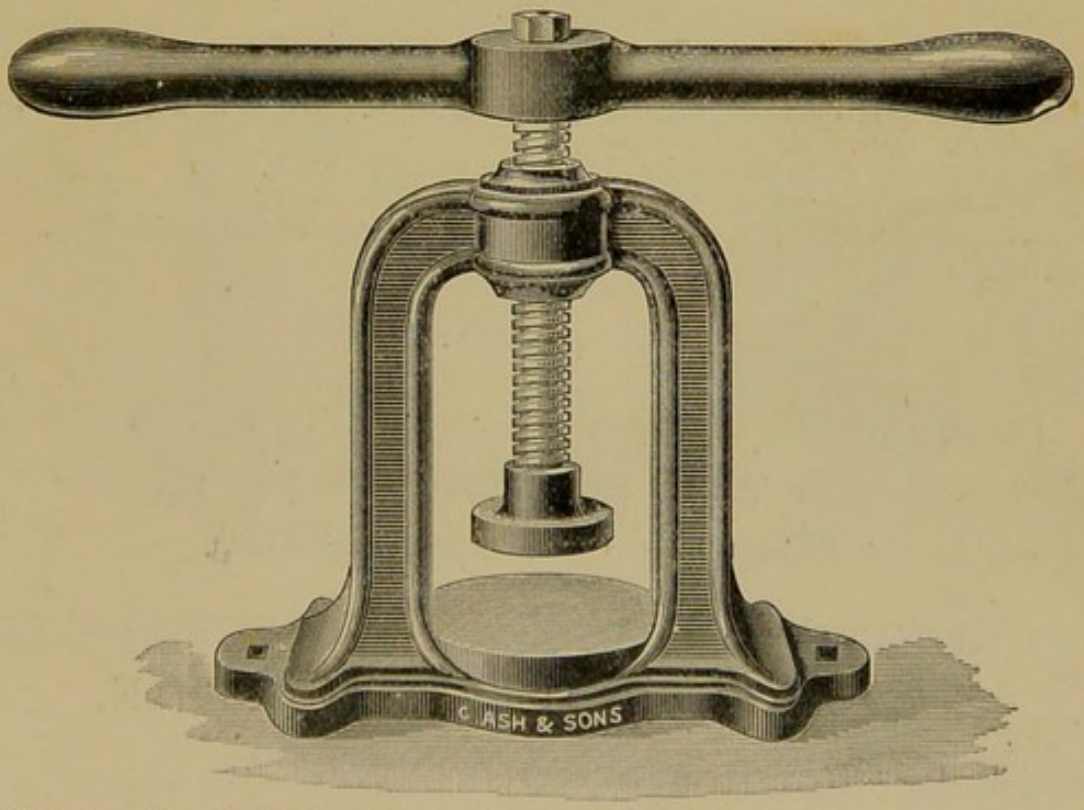


		s.	d.
Iron Press for closing Vulcanite Flasks, with bolts and nuts for fastening to bench	(Fig. 1)	16	0
Handy Flask Press, without Flask	(,, 2)	12	0

ASH'S LARGE PRESS

FOR SWAGING AND FOR CLOSING VULCANITE FLASKS.

Fig. 5.



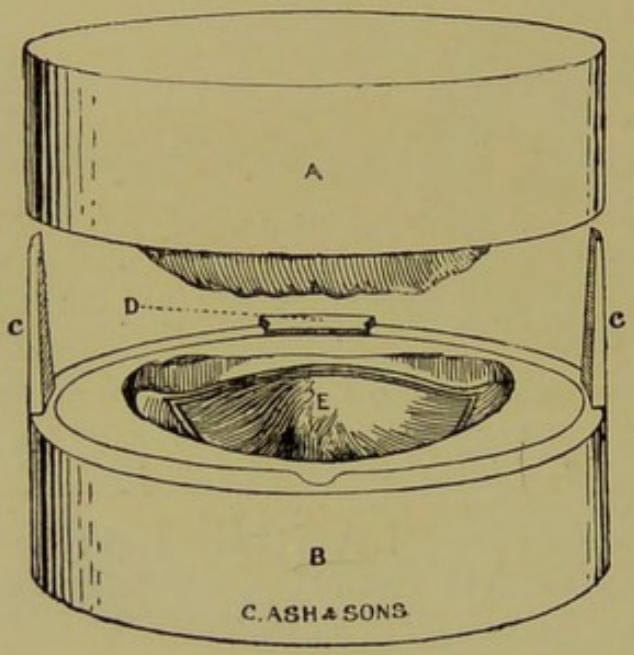
With handle 24 inches long. It is also very useful for working the Rubber-Block Swager shown on page 23.

		s.	d.
Price, as illustrated	(Fig. 5)	45	0

COMPO. SWAGING FLASK.

(Mr. VERNON KNOWLES'S.)

For lining Impressions and for making Trying-in, Base, and Polishing Plates; can be worked in any large Press, like the one shown on page 21, or in a Parkinson's Parallel Vice.



DESCRIPTION:

A.—Upper part of Flask containing reverse of Impression in Extra-hard Swaging Composition.
B.—Impression embedded in Compo. in lower part of Flask.
C, C.—Guide posts which fit in slots in upper part of Flask.
D.—Removable slide in lower part for admitting handle of Impression Tray.
E.—Trial plate of two thicknesses of metal.

PRICE:

	s.	*d.*
Swaging Flask in Gun-metal	16	0

For Ash's Soft Metal—see page 27.

Directions for use sent with each Flask.

EXTRA-HARD COMPOSITION,

FOR SWAGING PURPOSES, Etc.

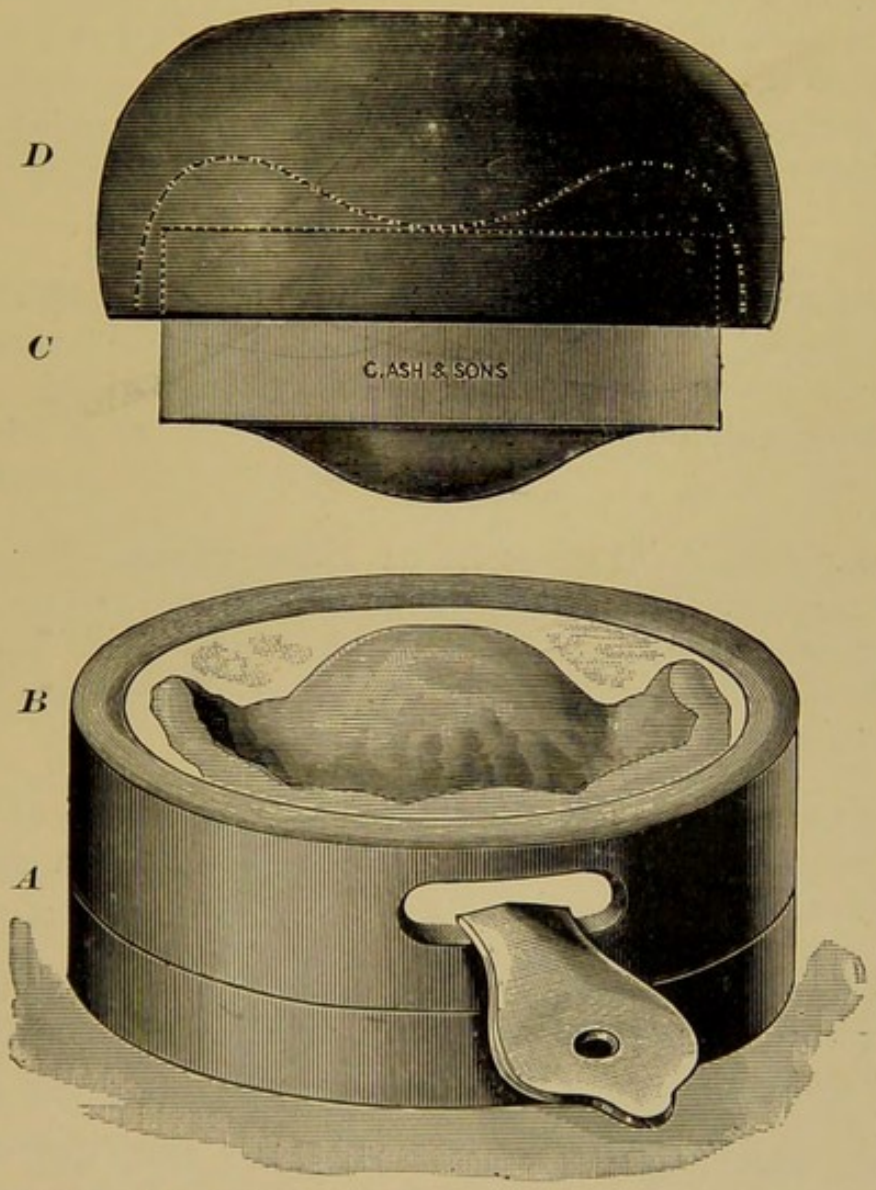
(Suggested by Mr. VERNON KNOWLES.)

	s.	*d.*
Supplied in ½ lb. boxes . . . . . per lb.	5	0

ASH'S RUBBER-BLOCK SWAGER.

(*Registered. Reg. No.* 325,701.)

1. For lining impressions of the mouth with soft metal, so as to obtain metal-faced plaster models.
2. For making trying-in plates and base-plates.
3. For making polishing plates for the lingual and palatal surfaces of vulcanite dentures.
4. For swaging strengtheners or gold facings for vulcanite dentures.



A—Bed Plate. *B*—Metal Cup. *C*—Rubber Block. *D*—Metal Dome.
Outside diameter of Bed Plate, 4¼ inches.

1. How to line an Impression.—After the impression of the mouth has been taken it should be thoroughly cooled under the water-tap, and, while it is still wet, a piece of softened Stents composition should be pressed into it with the fingers to form a reverse, upon which the soft metal lining should be shaped-up before it is placed in the impression.

ASH'S RUBBER-BLOCK SWAGER—*continued.*

The shaping-up is done by embedding the composition reverse in plaster of Paris in the plain cup—not illustrated—or placing it on a bed of coarse sand, which also serves the purpose very well, laying a piece of thin soft metal upon it, and forcing gently downwards dome ***D*** and India-rubber block ***C*** in our Swaging Press or a large Flask Press.

After the soft metal lining has been shaped-up on the reverse it is transferred to the impression ; the impression, with tray, is then sunk in plaster of Paris, as shown in cup ***B***, and the swaging is completed, with the result that the metal is forced into close contact with every part of the impression.

The plaster model is then cast in the usual way, after which the composition is softened in hot water, or preferably in the impression easer which has lately been introduced. Upon being removed, the model leaves the impression with the metal facing intact.

2. To make a Trying-in or Base Plate.—For a trying-in plate, two pieces of thick soft metal are swaged one over the other upon the composition reverse and tacked together with model cement. The wax blocks are then mounted upon this plate of double thickness, and the bite is taken in the usual way.

Such a plate is far superior in strength and appearance to a trying-in plate of Stents or shellac and wax ; it does not alter in shape, and is preferred to either by the patient.

For a base plate, one, two, or three pieces of the thick soft metal are swaged upon the composition reverse as described above ; the thickness which the denture is to be is thus determined.

If, say, three pieces of the soft metal are used, they should vary in length, the second should be slightly longer than the first, and the third than the second, so as to taper off the vulcanite at the back of the plate.

The teeth are then mounted in wax on the base plate, and articulated in the bite block or frame, after which an impression of the lingual side for a polishing plate is taken by squeezing a piece of softened composition into the base plate, as described for the palatal side.—*See under No.* 3.

ASH'S RUBBER-BLOCK SWAGER—*continued.*

3. To make a Polishing Plate for the Lingual Surface.—The impression of lingual side is embedded face downwards in plaster of Paris in cup ***B***. When the plaster has set, the composition is removed, a thin soft metal plate is swaged upon the plaster core, and transferred to the lingual side of the waxed-up base plate.

When this has been done, the model, with the polishing plates in position, is sunk in the lower part of the flask, and the plaster is pared down to the edge of the wax, to ensure the teeth and lingual polishing plate being held in the upper part of the flask, when it is separated and the wax is washed out. The rubber is then packed in the usual way, and vulcanized.

4. To Swage a Strengthener or Gold Facing for a Vulcanite Denture.—Although a strengthener or a gold facing can be swaged on a plaster model, it is always advisable to use in preference a fusible metal model, which can readily be obtained by melting the fusible metal in boiling water, after Mr. Lennox's method, and pouring same into a duplicate of the impression like the plaster model is cast. The fusible metal model is recommended as being very much stronger than a plaster model, moreover it admits of the rugæ being very sharply defined.

Very pretty cases can be made in this way by swaging a thin gold facing of 18 or 20-carat gold in lieu of the polishing plate.

PRESSES.

The best Press for working the Rubber-block Swager is our Swaging Press (see List M.).

With this Press an absolutely perfect fit in all cases can be guaranteed, every kind of work described above can be done without difficulty, and without injuring the most delicate models.

Failing our Swaging Press, any large Flask Press, like Fig. 5, page 21, will serve the purpose, if it be provided with a handle 24 inches long.

PRICES:

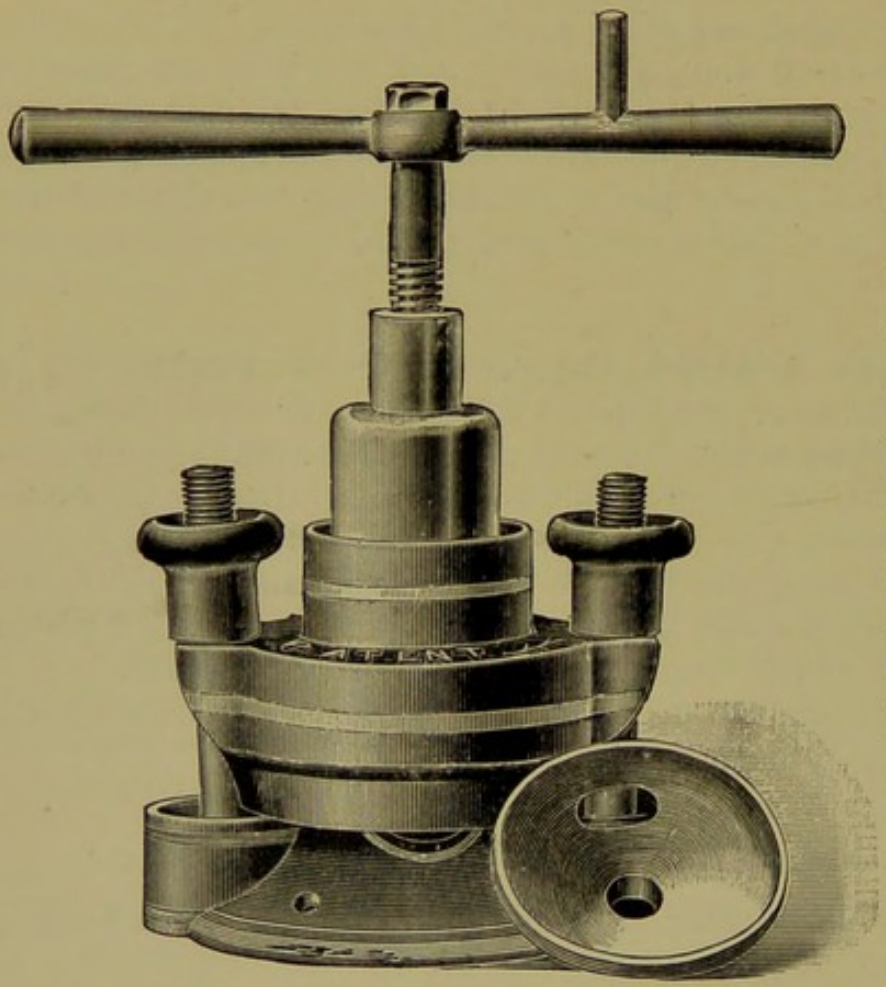
		s.	*d.*
Rubber-Block Swager complete, consisting of Bed Plate, two Metal Cups, India-rubber Block and Metal Dome . . .		15	0
Extra India-rubber Blocks	each	5	0

For Ash's Soft Metal, see page 27.

GRUNDY'S

PATENTED IMPROVED HYDRAULIC SWAGER.

FOR VULCANITE WORK.



SWAGER COMPLETE.

Invaluable for lining impressions of the mouth with soft metal, for making trying-in or base plates, and polishing plates of soft metal; also for swaging strengtheners and gold linings for vulcanite dentures.

Descriptive Circular sent on application.

PRICES:

	£	*s.*	*d.*
Swager, with four Cups—one No. 1, two No. 2, and one No. 3	5	5	0
Extra Cups, with Metal Discs, Nos. 1, 2, and 3 . . . each	0	2	6
Extra Rubber Diaphragms . . . . . „	0	3	0

For Soft Metal, see page 27.

Working Instructions are sent with each Swager.

Specimens of work done in the Swager may be had on application.

ASH'S SOFT METAL,

FOR ASH'S, GARTRELL'S, GRUNDY'S, KNOWLES'S, AND OTHER SWAGERS.

To obtain satisfactory results with a Swager, it is most important that the Soft Metal employed is suitable for the various purposes for which it is intended—many of the failures attributed to the Swagers are due to the harsh and unyielding nature of some of the kinds of metal which are used.

Ash's Soft Metal is beautifully soft and pliable, and does not tear under pressure. It is perfectly adapted for lining impressions, coating models, making base-plates, trying-in plates, etc.; the thick can also be used for swaging-up special impression trays.

		s.	*d.*
Thin for Lining Impressions	per lb.	3	0
Medium for Polishing Plates for lingual surface of palates	„	3	0
Thick for Trying-in and Base Plates	„	3	0
Tin Foil for Vulcanite work	„	3	6
„ „ „ American, No. 60.	per book	2	6

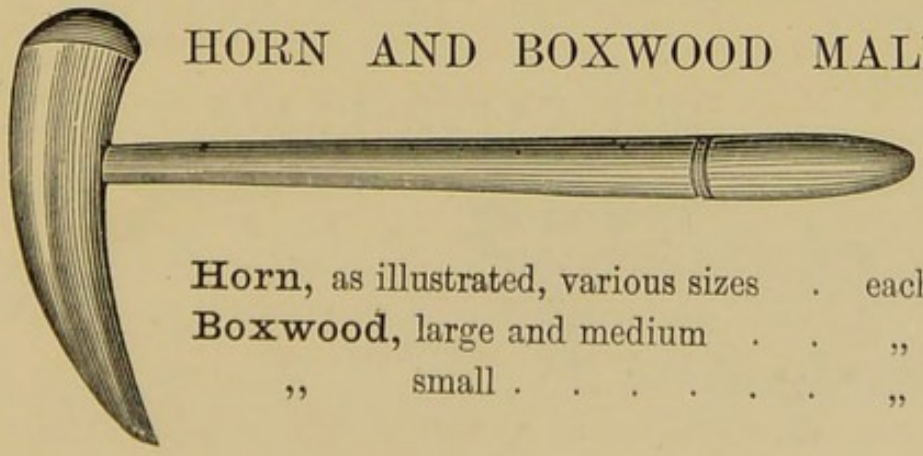
APPARATUS FOR DUPLICATING PLASTER MODELS

(MR. WHITEHOUSE'S).

This apparatus has been considerably improved by the introduction of a waterproof solution, which is used for coating the mould in the gelatine composition, before the duplicate plaster model is poured into it.

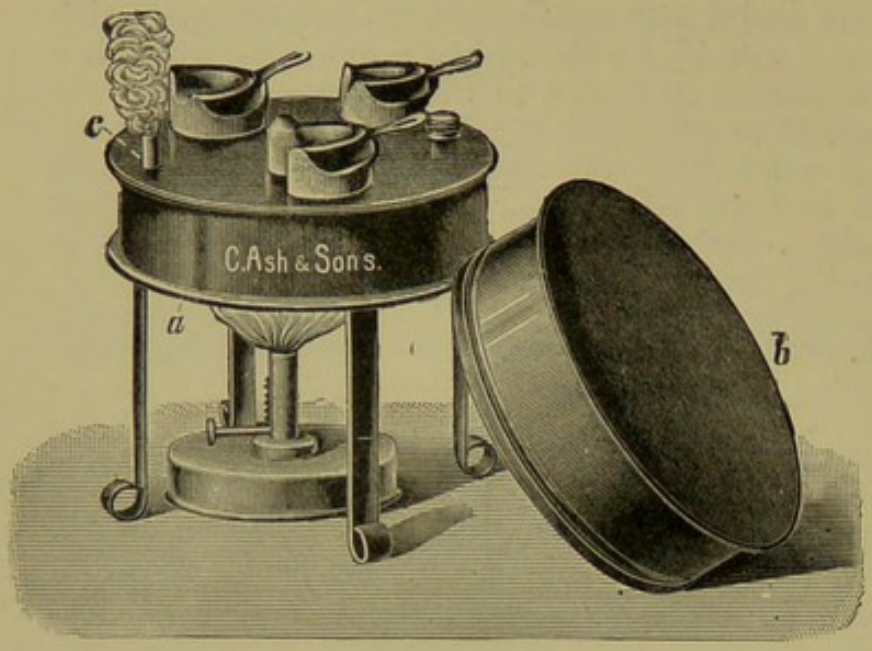
		s.	*d.*
Duplicating Apparatus, complete, with directions for use		10	6
Separately :—			
Gelatine Composition	per packet	3	6
Waterproof Solution	„ bottle	1	6
Clay	„ box	1	0
Large Ring	each	1	3
Small „	„	1	0

HORN AND BOXWOOD MALLETS.



		s.	*d.*
Horn, as illustrated, various sizes .	each	1	6
Boxwood, large and medium . .	„	1	0
„ small	„	0	9

IMPRESSION EASER AND RUBBER SOFTENER.



When a plaster model is immersed in hot water for the purpose of easing the original impression into which it has been cast, prior to removing the impression, the quality of the plaster may be injured, or some of the plaster teeth may be broken off in parting the composition from the model.

This apparatus has been designed for the purpose of doing away with these disadvantages, and of rendering it possible to remove an impression conveniently and with ease.

It is also very useful as a rubber softener.

DIRECTIONS FOR USE.

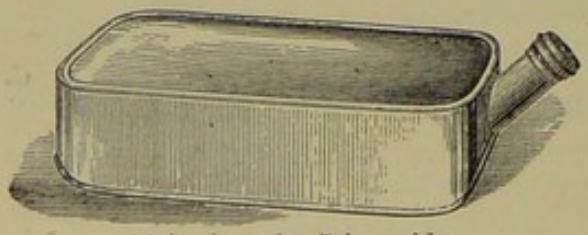
Pour from about a pint to a quart of water into the Reservoir ***a***, place the model on the top and heat up with a Bunsen burner or a spirit lamp. Put on cover ***b*** so as to ensure the composition being uniformly softened by the steam from tube ***c***. When the model and impression are thoroughly warmed, the latter can be easily removed without injuring the most delicate model.

The advantage gained by using the apparatus is that the composition cannot melt and the plaster does not lose its solidity.

The apparatus is substantially made and is round in shape.

	s.	*d.*
Price, with glass on top of lid, not including Lamp. .	12	6

HOT-WATER PLATE.



10 in. long by 7 in. wide.

For softening Dental Rubber previous to packing. Made of block tin, with copper bottom and with screw-capped opening for the water.

	s.	*d.*
Price	5	3

KETTLE AND RUBBER SOFTENER.

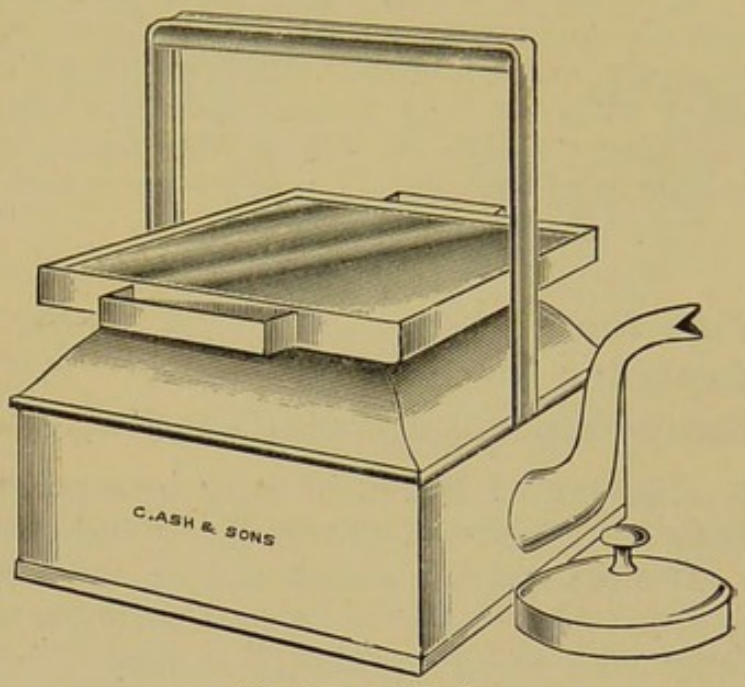
(Mr. V. KNOWLES'S.)

The Kettle holds four quarts of water, and will be found most useful for general purposes in the workshop. It is shown in the engraving with the Rubber Heater in position. This Heater consists of a tin tray with a chamber underneath, and a sheet of plate-glass 7¾ inches square on the top, on which the Rubber is laid.

The handle of the Kettle is purposely made high to give easy access to every part of the sheet of glass during the packing process.

The Kettle will stand firmly on Fletcher's cheap Laboratory Burner, by means of which the heat is quickly raised to boiling-point. It is cleanly in use, and possesses many advantages which we feel sure will be appreciated.

	s.	*d.*
Price, complete . . .	10	6



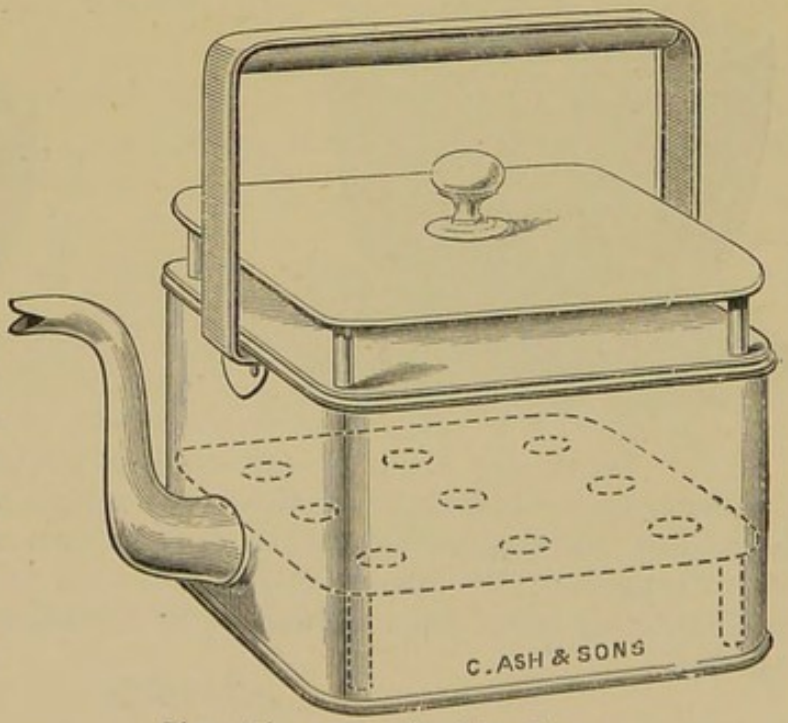
About one-fifth size.

McCARTHY'S PACKING KETTLE.

This apparatus is intended for boiling water, heating flasks, and warming rubber for packing. On the lid there is a raised platform of tin, one inch high, for holding the pieces of rubber which are to be softened ready for packing.

The body of the Kettle and the Stage are made of stout copper, and the lid of tin.

	s.	*d.*
Price	18	0



Size, 8 in. square by 5 in. deep.

"Moist heat is preferred for softening Rubber, as dry heat is liable to injure it by overheating."—Gilbert.

PLASTER OF PARIS,

SPECIALLY PREPARED FOR DENTAL PURPOSES.

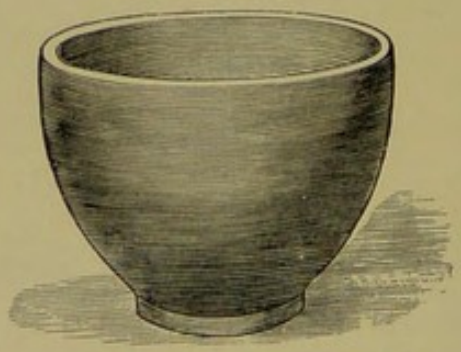
Knowing as we do that good Plaster of Paris is of the utmost importance to dentists, we give the strictest attention to each kind which we supply, and this enables us to recommend it with the fullest confidence. Every lot is carefully tested before it is offered for sale, and it is very gratifying to us to be able to state that our Plaster gives general satisfaction to all who use it, both at home and abroad.

PRICES:		Per bag.		Per cwt.	
		s.	*d.*	*s.*	*d.*
Fine for Models	in 7-lb. paper bags	0	6	5	6
Superfine for Models . . .	,,	0	9	9	6
Extra Superfine for Models and Impressions	,,	1	0	12	6

Plaster of Paris in paper bags, as above, wrapped in waterproof paper and packed for export in tin-lined cases, supplied to order.

Dentists residing abroad and in the Colonies will find this much cheaper than the Tins mentioned on the next page, if they can keep the Plaster in a dry place when they receive it.

RUBBER BOWLS FOR MIXING PLASTER.



These Bowls are made of soft rubber, about one-eighth inch thick. The principal advantages in their use are :—They cannot be broken ; their sides can be pressed together so as to form a lip or spout for pouring out soft plaster ; the plaster that remains in them and becomes set can be thoroughly crushed and removed by squeezing the sides of the bowls together.

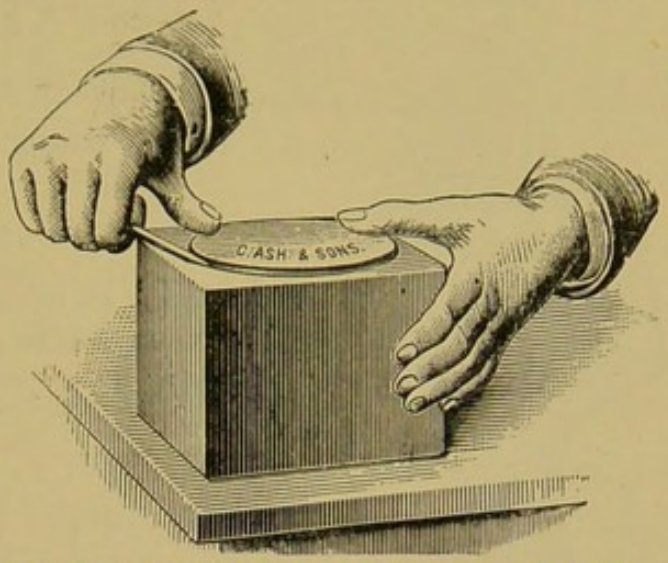
PRICES:

		s.	*d.*
Small Plaster Bowls, 4 in. diameter by $2\frac{3}{4}$ in. deep inside .	each	2	6
Large ,, $4\frac{1}{2}$ in. ,, $3\frac{1}{2}$ in. ,, .	,,	3	4

PLASTER OF PARIS FOR EXPORT,

IN TINS WITH PATENT SELF-OPENING LIDS.

All our Plaster Tins are now fitted with the Patent Self-opening Lid. This Lid is so constructed that it can be removed and replaced any number of times without becoming loose, and it fits the Tin so perfectly that the air is excluded from the Plaster, which can thus be kept good for any length of time.



To open the Tin, lever up the Lid, as shown in the illustration, with the side of a screw-driver, or other suitable tool.

PRICES:

		s.	d.
Plaster of Paris, extra superfine, in 2-lb. Tins, per tin		0	9
" " " " **7-lb.** " "		2	0
" " " " **14 lb.** " "		3	9
" " " " **28-lb.** " "		6	0

Fine and Superfine Plaster supplied in Tins to order.

Stearine, for hardening Plaster Models	per lb.	1	3
Non-Adhesive Liquid, for coating Models .	per bottle	0	6
Collodion, for coating Models	"	2	0

JOHNSTON'S ETHEREAL ANTISEPTIC SOAP.

(PREPARED BY PARKE, DAVIS & CO.)

This Soap is offered in the form of a coloured liquid of pleasant odour. It is readily washed off with cold or warm water, and is a preparation of great value to the dental surgeon.

Its Use in the Laboratory.—Johnston's Ethereal Antiseptic Soap is recommended as a non-adhesive liquid for coating plaster models. It can be readily applied with a camel-hair brush, and owing to rapid evaporation quickly forms a thin uniform coating all over the surface of the model.

PRICES:

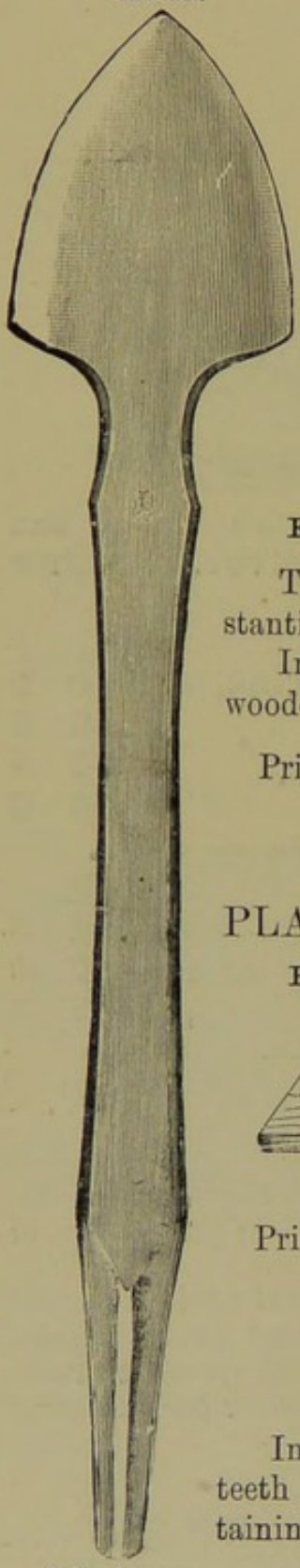
		s.	d.
In 8-fl. ounce bottles	per bottle	2	2
" 16-fl. " "	"	4	0
" ½-imp. gallon "	"	16	3

PLASTER MIXER AND SPATULA.

Made of Aluminium.
Light, strong and durable.

	s.	d.
Price	1	6

Aluminium Plaster Mixer with Wooden Handle . . . . . s. 0 d. 9



Mixer.

9 in. long.

Knife.

7⅜ in. long.

PLASTER KNIFE.

FOR TRIMMING MODELS, &c.

This is a good, strong, well-made, substantial tool.

In steel, with tang covered with riveted wooden scales.

	s.	d.
Price	1	0

PLASTER KNIFE ON BOARD,

FOR TRIMMING MODELS, &c.

16 inches long.

	s.	d.
Price	5	6

PLASTER PINS.

In bright metal, for strengthening the teeth of plaster models. In boxes containing one gross.

		s.	d.
Price	per box	0	8

MODELLING WAX

(C. ASH & SONS').

No. 1.—Made from the purest wax obtainable. It is very tough, and makes good firm models. Supplied in ½ lb. packets, in two colours, Pink and Brown.

		s.	d.
Price, either colour	per lb.	5	0

No. 2.—Recommended as equal to any second quality modelling wax before the profession. The colour is a delicate Pink. Prepared in thin sheets, and supplied in ½ lb. packets.

		s.	d.
Price	per lb.	3	0

No. 3 PINK MODELLING WAX,

FOR VULCANITE WORK.

This is very nice and tough and well suited for the purpose for which it is intended. Supplied in 1 lb. packets.

		s.	d.
Price	per lb.	2	6

PINK PARAFFIN WAX.

		s.	d.
Thin sheets in ½ lb. boxes	per lb.	3	0
Round sticks „ „	„	3	0

WHITE PARAFFIN WAX.

We are prepared to supply this *to order* on condition that not less than one pound is taken at a time.

		s.	d.
Made in sticks, and put up in ½ lb. boxes . .	per lb.	3	0

IDEAL BASE PLATES.

(Dr. HEAD'S.)

		s.	d.
In boxes of one dozen	per box	2	1

GUTTA-PERCHA FOR BASE PLATES.

(AMERICAN.)

		s.	d.
In thin sheets, put up in ½ lb. and 1 lb. packets	per lb.	9	6

WAX SPATULAS AND PACKING TOOLS.

		s.	d.
Wax Knife (Dr. Fahnstock's)	(Fig. 1) each	1	6
„ **Spatula,** steel, single-ended	(„ 2) „	1	0
„ „ „ double-ended	(„ 2A) „	1	4

Dental Rubber Packers:—

In Ebony handle, curved .	(Fig. 3) each	0	9
„ „ straight .	(„ 4) „	0	9
Wax Spatula (Mr. Biss's) .	(„ 6) „	1	9

For Ladmore's Wax Spatula, see page 85.

Other Spatulas, etc., supplied to order.

ASH'S MODEL CEMENT.

An invaluable preparation for :—

1. Firmly securing teeth to Base Plates.
2. Attaching bands to Crowns.
3. Fixing Clasps in position.
4. Tacking swaged plates of soft metal together when more than one is used for a Base Plate.
5. Holding Suction Chamber patterns in place.

And for many other purposes in the Dental Workroom.

Supplied in Sticks as illustrated.

		s.	*d.*
Price	. per lb.	9	0
,, ...	per stick	0	2

ASH'S VULCANITE CEMENT,

FOR TEMPORARY REPAIRS.

DIRECTIONS FOR USE:

To fix a tooth in place of one which is broken off the denture and carries away with it a portion of the vulcanite.—Cut a dovetail on the palatal or lingual surface of the broken space ; take a strip of soft metal of the needful length and width to fit the tooth and dovetail, and punch pinholes in it ; carefully warm the tooth, smear the back with cement, put on the soft metal backing and firmly bend down upon it the pins of the tooth.

When tooth with backing is properly adapted for position, smear broken denture with cement, warm denture and tooth, fix the latter in place by firm pressure and finish off by smoothing cement over backing, also over lower portion of front of tooth and between the necks of it and the adjoining teeth.

To refix a tooth which is forced out of the vulcanite.—Warm the tooth over a spirit flame and smear the back with cement ; next warm the vulcanite where the tooth is to be fixed and smear it with cement ; then melt the cement, by warming both and press them tightly together until the cement is set.

To add to the strength of the repair, warm the front of the denture and smear cement between the necks of the refixed tooth and the teeth adjoining it.

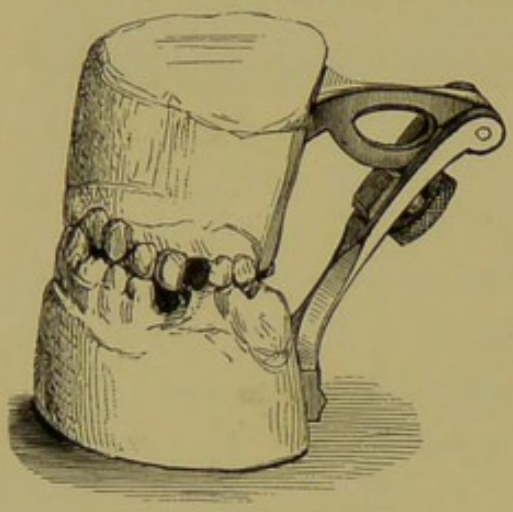
Care must be taken not to burn the vulcanite.

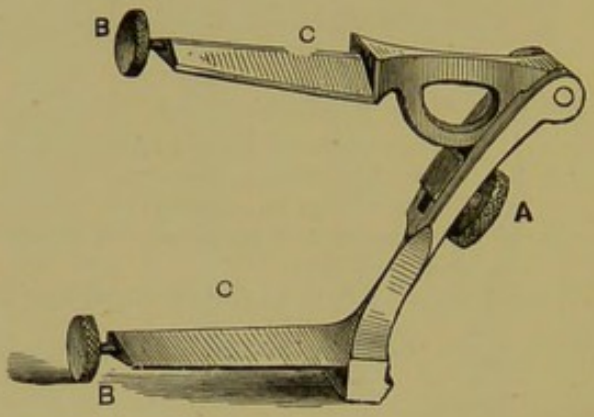
The cement readily melts if held **above** the flame of a spirit lamp or Bunsen burner ; if it be held **in** the flame its properties are injured.

Price per Stick. . . . . 6*d.*

ARTICULATORS.

(GRAHAM AND WOOD'S IMPROVED.)



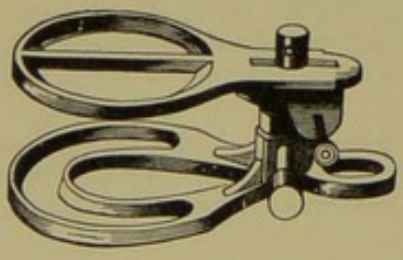


The superiority of this Articulator over others consists in the very little trouble involved in first attaching the models to the frame. Once fixed, they can be removed as often as may be desired, and when done with, taken off the frame, tied back to back, and put away in some convenient place ready for use at any time. The models can always be replaced on the frame with perfect accuracy, should repairs be necessary, or a duplicate set of teeth required, by simply sliding them over the bars ***C,*** and securing them in position by the pins ***B.*** The engraving on the left-hand side shows the models attached to the Articulator. It is supplied with directions for use.

It is simple in construction, easily worked, and very convenient, while the large sale which it has had is a very gratifying proof of its utility.

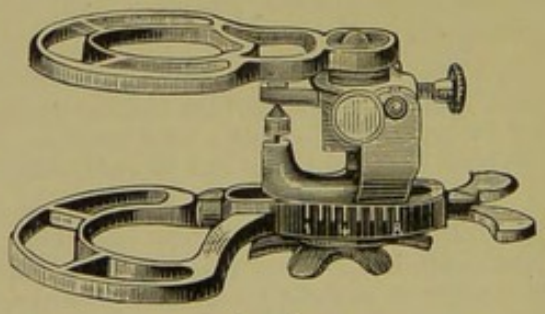
	s.	*d.*
Price	8	0

Snow and Lewis's.



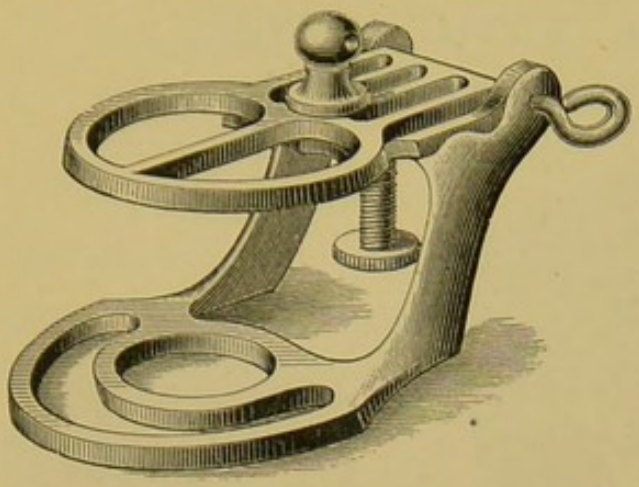
5 inches long.

Hayes'.



5 inches long.

	s.	*d.*
Articulator (Snow and Lewis's), in brass, lacquered, with hollow pillar and set screw for regulating the height, &c. . each	8	0
Articulator (Hayes'), in brass, lacquered, having all the motions of the jaws, and a hinge, so that the two halves when opened at right angles can be separated . . . . „	10	0



Half-size.

PLAIN-LINE ARTICULATOR.

WITH SCREWS FOR REGULATING THE HEIGHT AND ADJUSTING THE BITE.

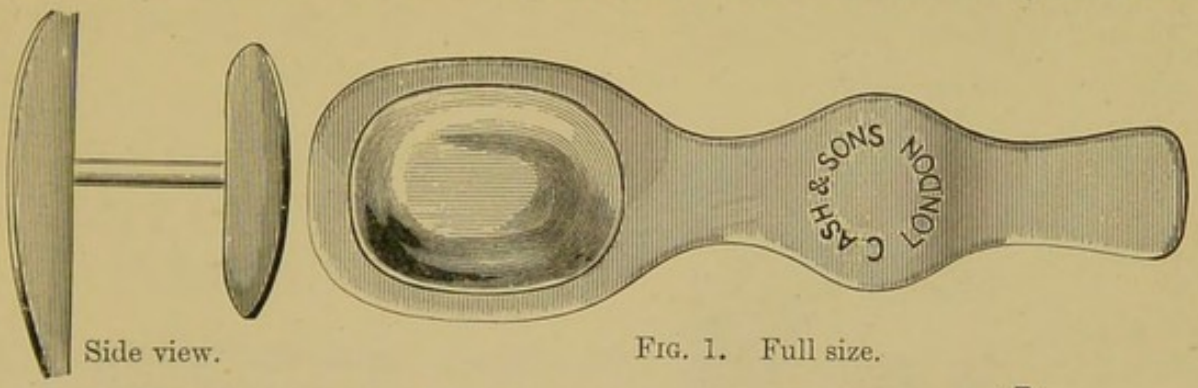
The two halves can be separated by withdrawing the brass pin at the back.

	s.	*d.*
Price	3	9

CROWN TRAY AND CROWN ARTICULATOR

(Mr. R. S. PARRIS'S).

By means of the Tray here illustrated, Fig. 1, the time required for taking impressions and casting models for crowns and bridges of one or two teeth is considerably shortened.



Side view.

Fig. 1. Full size.

An impression of part of both the upper and lower jaws, as well as the correct bite, is taken at one and the same time with a small piece of composition, the bar of the Tray being designed to pass into the vacant space left by the missing tooth or crown. This double impression is cast and mounted on the Articulator, Fig. 2, with one batter of plaster.

Before casting, copper amalgam may be packed into the impressions of the cusps, which will prevent them being rubbed while fitting the crown.

Two Impression Trays are necessary—one for the right upper and left lower, and the other for the left upper and right lower sides of the mouth.

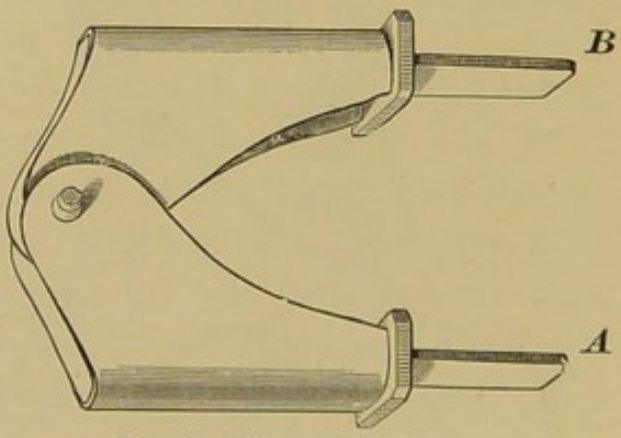


Fig. 2. Two-thirds size.

PRICES:

		s.	*d.*
Articulator, Nickel-plated	each	4	0
Impression Trays „	(set of two) „	1	9

THE EMPEROR ARTICULATOR.

(Mr. A. L. STRINGFIELD'S.)

FIG. 1.

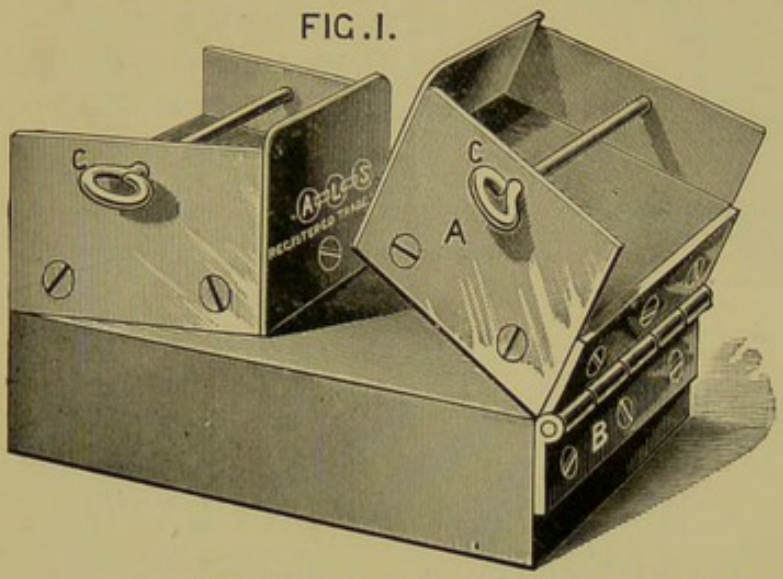
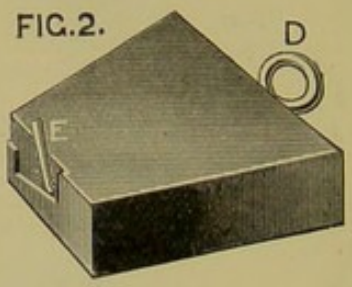


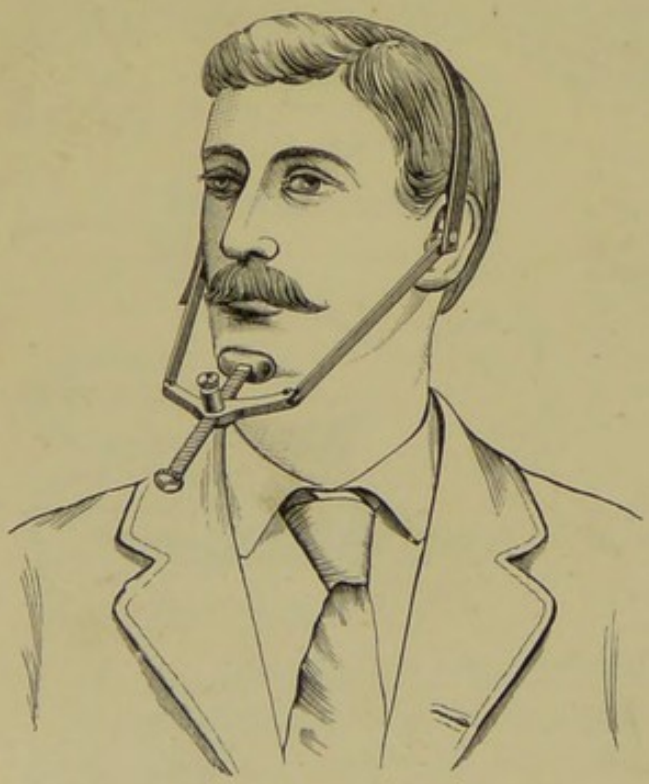
FIG. 2.



Descriptive Circular on Application.

		s.	*d.*
Price as illustrated	(Fig. 1) each	5	0
Iron Wedges	(„ 2) „	0	6

Directions for use accompany each Articulator.



GARRETSON'S ARTICULATING GUIDE,

FOR SECURING A CORRECT BITE.

To apply—Place the rubber tips in the ears, draw the leather strap tightly over the head, so that it will not slip forward or backward, then press the sliding bar *firmly* against the chin—with the mouth open—until the condyles are forced back into their natural position.

There is no danger of too much pressure if there is no pain on closing the mouth.

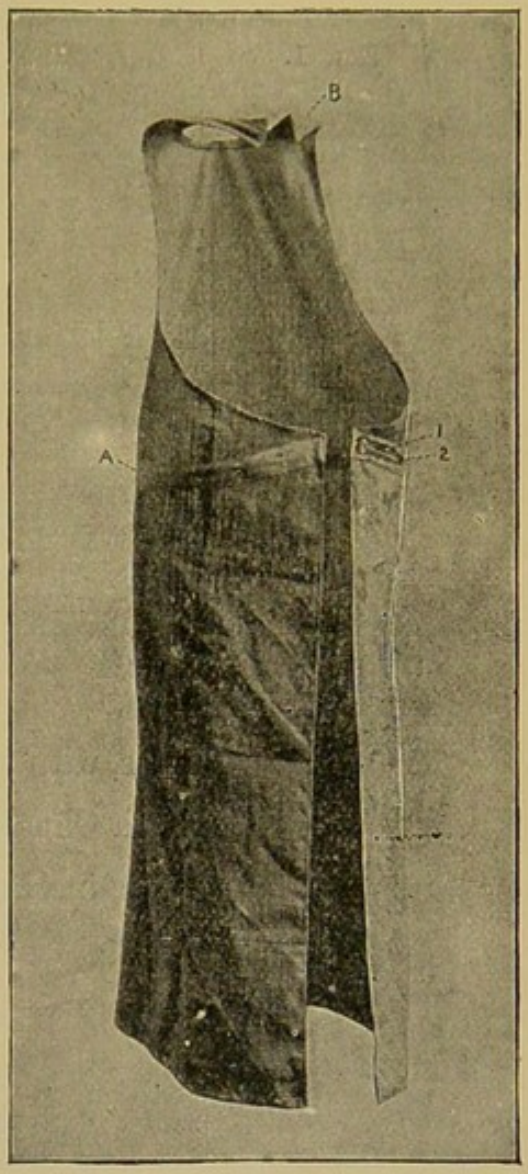
It is well to secure the proper fulness and length of bite, and then to adjust the guide to obtain the correct closure.

To release the chin-plate lift the milled button on the cross-bar.

		s.	*d.*
Price		17	6
Extra Rubber tips .	each	0	6

MOORE'S UNIVERSAL

SPRING APRON.



There are no buttons to fasten on this apron and no strings to tie or untie; it can be slipped on or off in a moment, is very useful for general wear, but invaluable to the dentist who spends a portion of his time in the workroom, and is as easily washed as a handkerchief after the springs are removed from the loops in which they are inserted.

	s.	*d.*
Price.	3	9

OPERATOR'S

SPRING APRON.

In fine quality black or grey cashmere.

For protecting the coat while finishing and polishing fillings, or doing anything about the mouth which causes splashing. It is also equally useful for wear by the patient to protect the dress during operations.

Both kinds are neat and rich in appearance, wash well, and, like the workroom apron shown above, can be put on or removed in a few moments.

In ordering, state whether black or grey is wanted.

		s.	*d.*
Price, either kind	each	3	6
Operator's Spring Apron, in black or grey cashmere, same length as the Workroom Apron shown above . . .	each	5	6

OPERATING-ROOM LATHES.

FIG. 1.

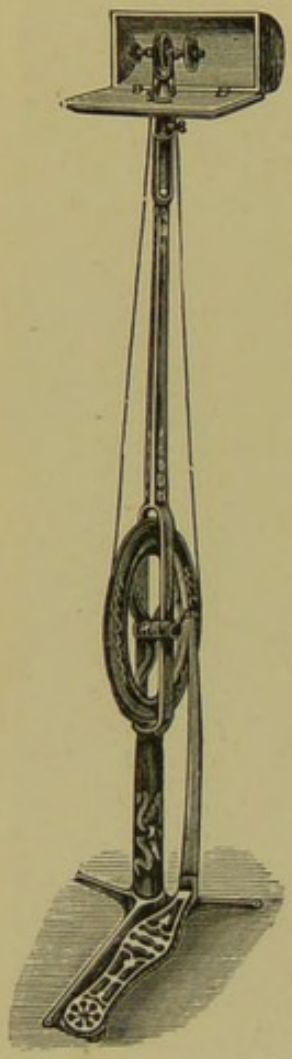


Fig. 1.

FOR GRINDING AND POLISHING.

Suitable for light work in the Operating-Room.

It is 44 inches high to the centre of the pulley-head.

	£	*s.*	*d.*
Price, with Spanner .	3	3	6
Extra Chuck to carry Engine Burs . .	0	3	0

FIG. 3.

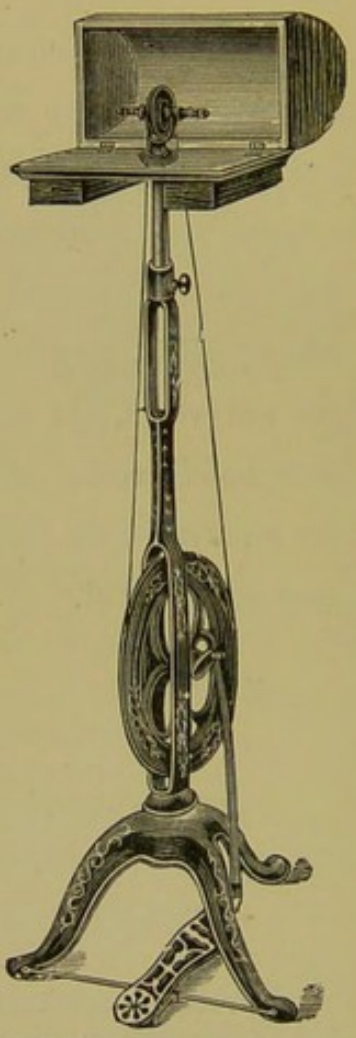


Fig. 3.

LARGE OPERATING-ROOM LATHE.

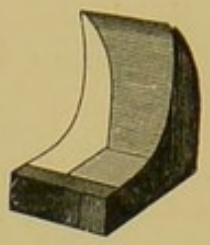
Height to top of Table, 39 inches. Range of Sliding Rod, 5 inches.

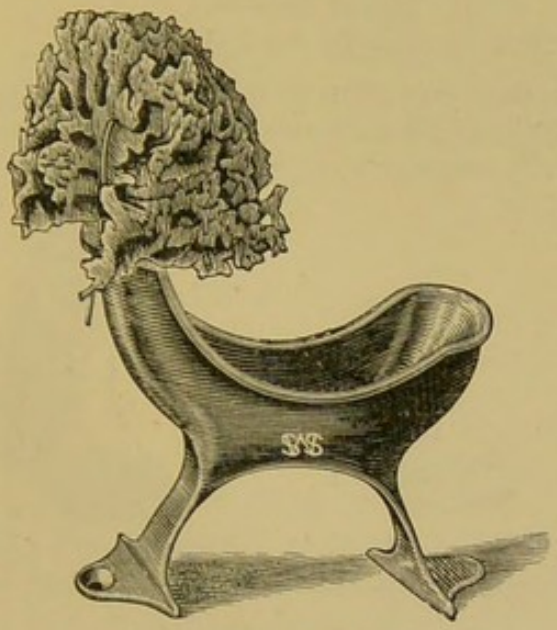
PRICES:

	£	*s.*	*d.*
Stand and Upright, japanned black, relieved with ornamentation, Walnut Table with two Drawers underneath, and Cover to match—with **Lathe Head,** No. 1, page 44	5	0	0
The same with **Lathe Head,** No. 2, page 45 . .	5	10	0
„ „ **Iron** „ „ 3, „ 48 . .	5	5	0
„ „ **Gun-Metal Head,** No. 3, page 48	5	15	0
„ „ **Lathe Head,** No. 7, page 52 . .	5	7	0
„ „ „ „ „ 8, „ 53 . .	5	17	0

WATER APPARATUS.

	s.	*d.*
Small Size for Lathe Fig. 1 on previous page .	2	6
Large Size for Lathe Fig. 3, with well at back and bars across front for holding sponge. Complete with sponge	9	0





DRIP CUP WITH SPONGE.

Suitable for Fig. 1 Lathe.

It is designed to keep the Corundum Wheel wet while in motion, and to catch the drip.

Made of cast-iron, and lacquered to prevent rusting.

	s.	*d.*
Price complete	1	0

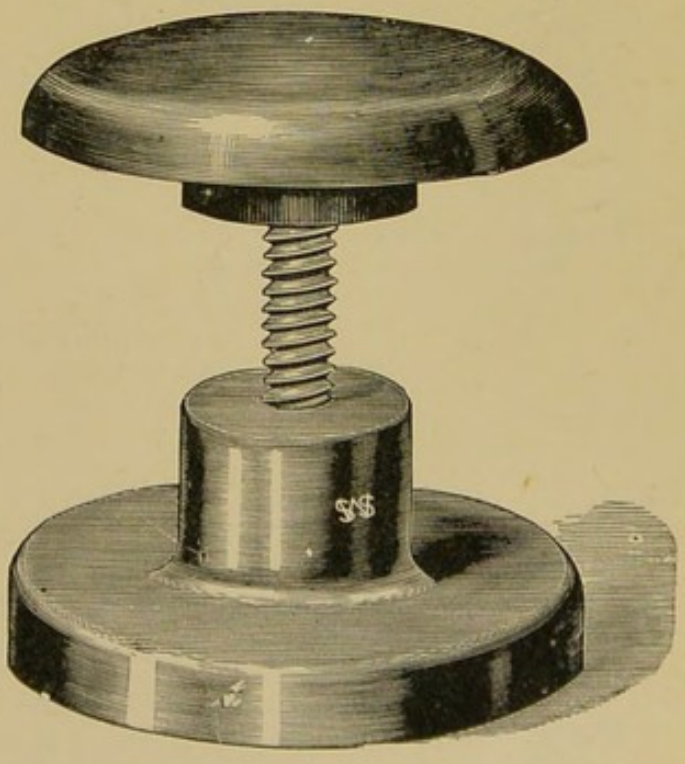
REST OR HAND SUPPORT.

A USEFUL AUXILIARY TO LATHES.

It affords an easy, comfortable support for the hand, as for instance in grinding teeth, and enables the operator to hold the work steadily against the Corundum Wheel of the Lathe. It can be adjusted to the proper height by means of the screw.

Made of metal, Japanned.

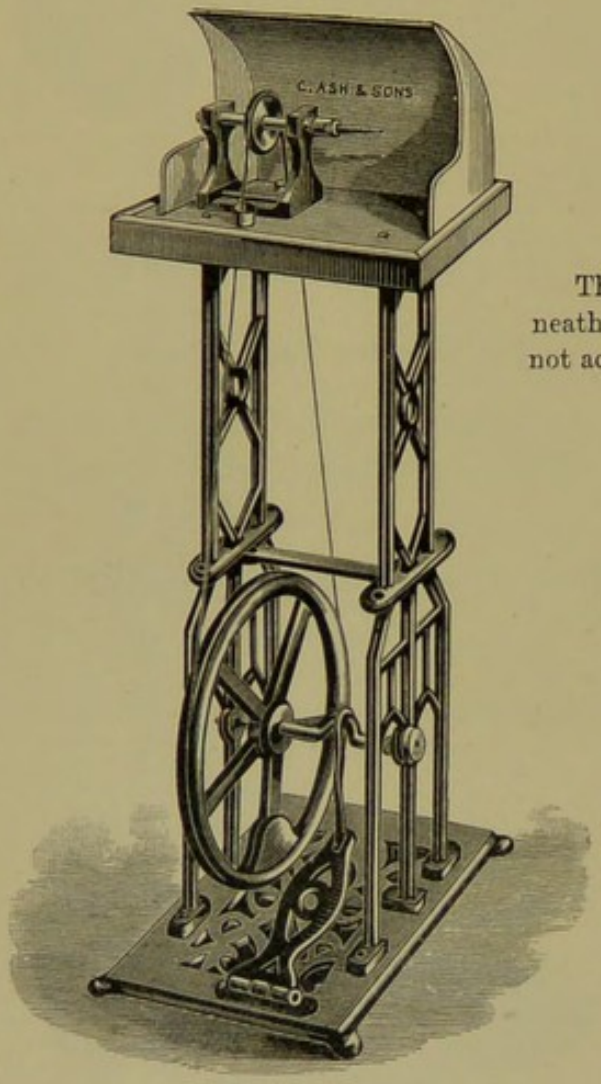
	s.	*d.*
Price complete . . .	1	6



WORKROOM LATHES

(Ash's English Manufacture).

Fig. 4.



Dimensions:

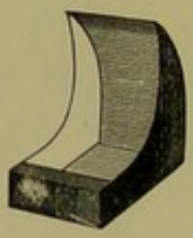
Height to top of Table—
39 inches.

Size of Table—
18½ inches square.

Size of Base—
20 inches long by 18½ inches wide.

There is a drawer, **not illustrated**, underneath the Table for holding such appliances as are not actually required while working.

C



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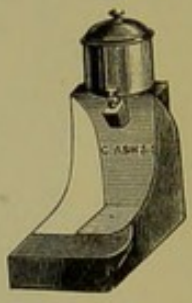


Supplied in two styles as under:—

	£	s.	d.
(1) Base, Driving Wheel, Standards, Zinc-covered Table and Zinc Splash Guard as illustrated, with **Lathe Head** No. 1, page 44 . .	5	0	0
(2) Base, Driving Wheel, Standards and plain Oak Table, as shown on Fig. 4 Lathe, with **Lathe Head** No. 1	4	0	0

Lathes as above:	Style 1. £	s.	d.	Style 2. £	s.	d.
With Head No. 2, page 45	5	10	0	4	10	0
,, ,, 3 ,, 48, in Iron	5	5	0	4	5	0
,, ,, 3 ,, 48, in Gun-Metal	5	15	0	4	15	0
,, ,, 4 ,, 50	4	15	0	3	15	0
,, ,, 5 ,, 50	4	11	6	3	11	6
,, ,, 6 ,, 51	4	7	6	3	7	6
,, ,, 7 ,, 52	5	7	0	4	7	0
,, ,, 8 ,, 53	5	17	0	4	17	0

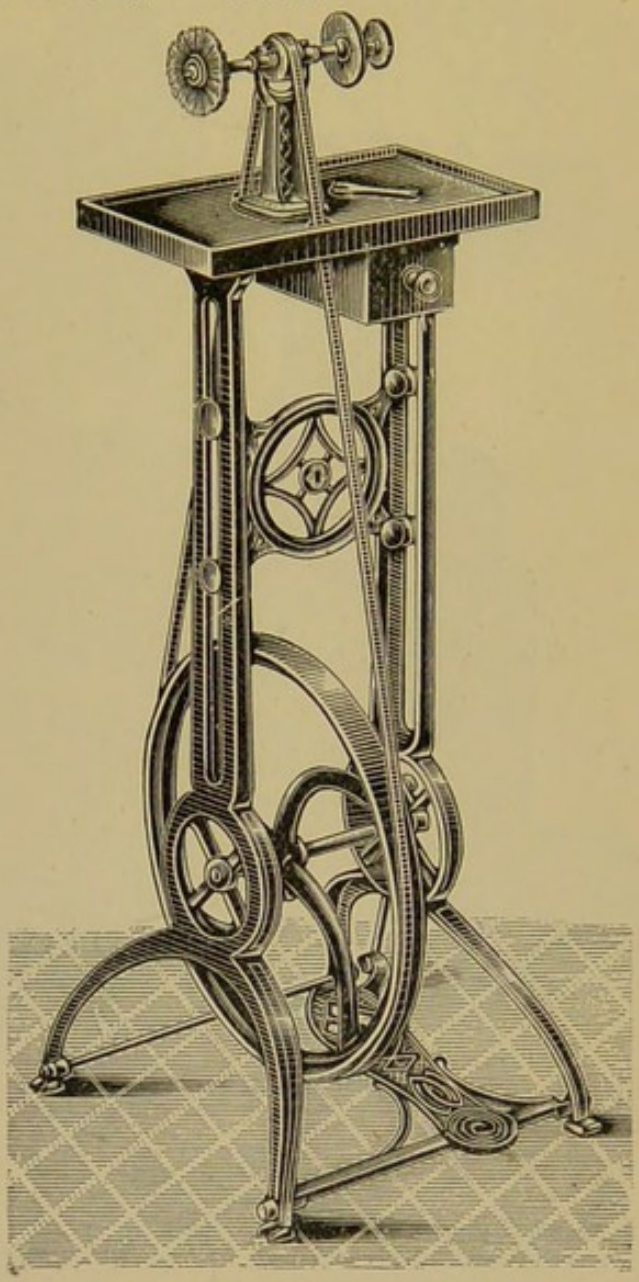
Water Apparatus, consisting of Trough, Sponge Holder and Splash Guard combined. Made of zinc throughout, with Water Tank to slide from right to left; 12 in. high, 6 in. wide, and 9 in. long . . . . (Fig. *D*) extra 0 12 6

The same, without Water Tank . . . . . (Fig. *C*) ,, 0 8 6

Separately { Zinc Splash Guard for Lathe Fig. 4 . . . . . 0 11 6
Covering Table of Fig. 4 Lathe with Zinc 0 10 6

CHEAP WORKROOM LATHES

(Ash's English Manufacture). Fig. 5.



Dimensions :

Height to top of Table—39 inches.

Size of Table—
17 inches long by 12 wide.

There is a drawer underneath the Table, as shown in the engraving, for holding such appliances as are not actually required while working.

Like the Lathe on the previous page, it is supplied in two styles, as mentioned below :—

(1) Driving Wheel, Standards, Zinc-covered Table, Zinc Splash Guard, as shown on Lathe Fig. 4 with **Lathe Head** No. 5, page 50 . . . . . £ 3 *s.* 9 *d.* 0

(2) Driving Wheel, Standards and Plain Oak Table, as illustrated above, with **Lathe Head** No. 5 . . £ 2 *s.* 13 *d.* 0

Lathes as above :—

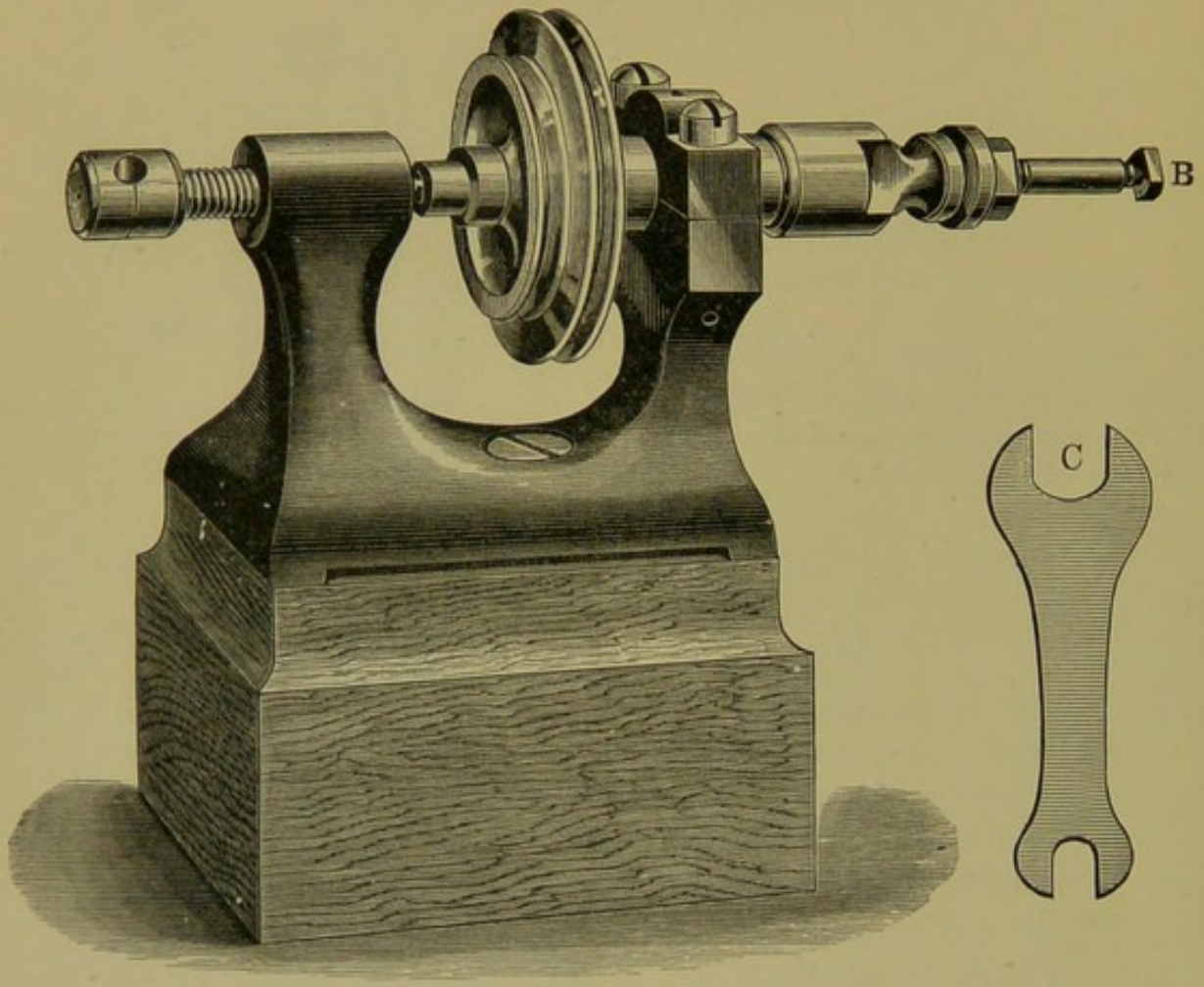
	Style 1. £ *s.* *d.*	Style 2. £ *s.* *d.*
With Head No. 1, page 44	3 17 6	3 1 6
,, ,, 2, ,, 45	4 7 6	3 11 6
,, ,, 3, ,, 48, in Iron	4 2 6	3 6 6
,, ,, 3, ,, 48, in Gun-Metal . . .	4 12 6	3 16 6
,, ,, 4, ,, 50	3 12 6	2 16 6
,, ,, 6, ,, 51	3 5 0	2 9 0
,, ,, 7, ,, 52	4 4 6	3 8 6
,, ,, 8, ,, 53	4 14 6	3 18 6

Separately { Zinc Splash Guard for Lathe, Fig. 5 . . . . . 0 10 0
Covering Table of Fig. 5 Lathe with Zinc 0 7 6

For Water Apparatus see previous page.

LATHE HEAD No. 1

(Ash's English Manufacture).



About half size.

Lathe Head, No. 1, as illustrated, with Grinding Chuck ***B*** and Spanner ***C*** . . . . . £ 1 *s.* 5 *d.* 0

DIAMETERS OF GUT FOR LATHE BANDS.

Supplied in hanks 20½ feet long—sufficient for two bands for our workroom lathes.

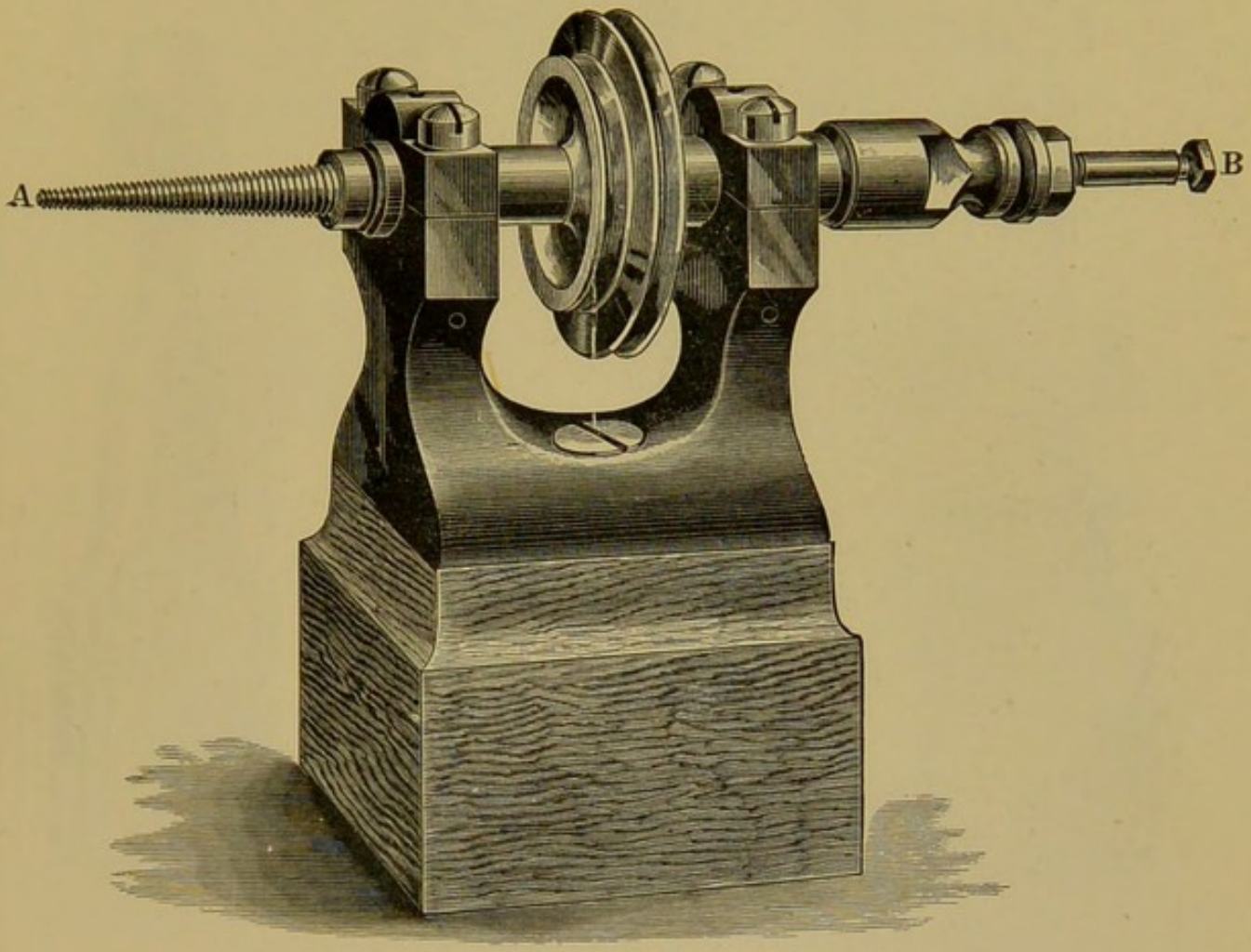
There is no difficulty in furnishing hooks and eyes for any of the sizes illustrated, if they are ordered at the same time as the gut; but when extra hooks and eyes are wanted without gut, a small piece should be sent as a pattern, otherwise we cannot guarantee that the right size hooks and eyes will be sent.

Larger or smaller sizes of gut supplied to order.

For Prices see bottom of next page.

LATHE HEAD No. 2

(ASH'S ENGLISH MANUFACTURE).



Nearly half size.

Lathe Head No. 2, as illustrated, with Polishing Chuck ***A,*** Grinding Chuck ***B,*** and Spanner ***C,*** shown on previous page . . . . . £ 1 *s.* 15 *d.* 0

GUT FOR LATHE BANDS—*CONTINUED.*

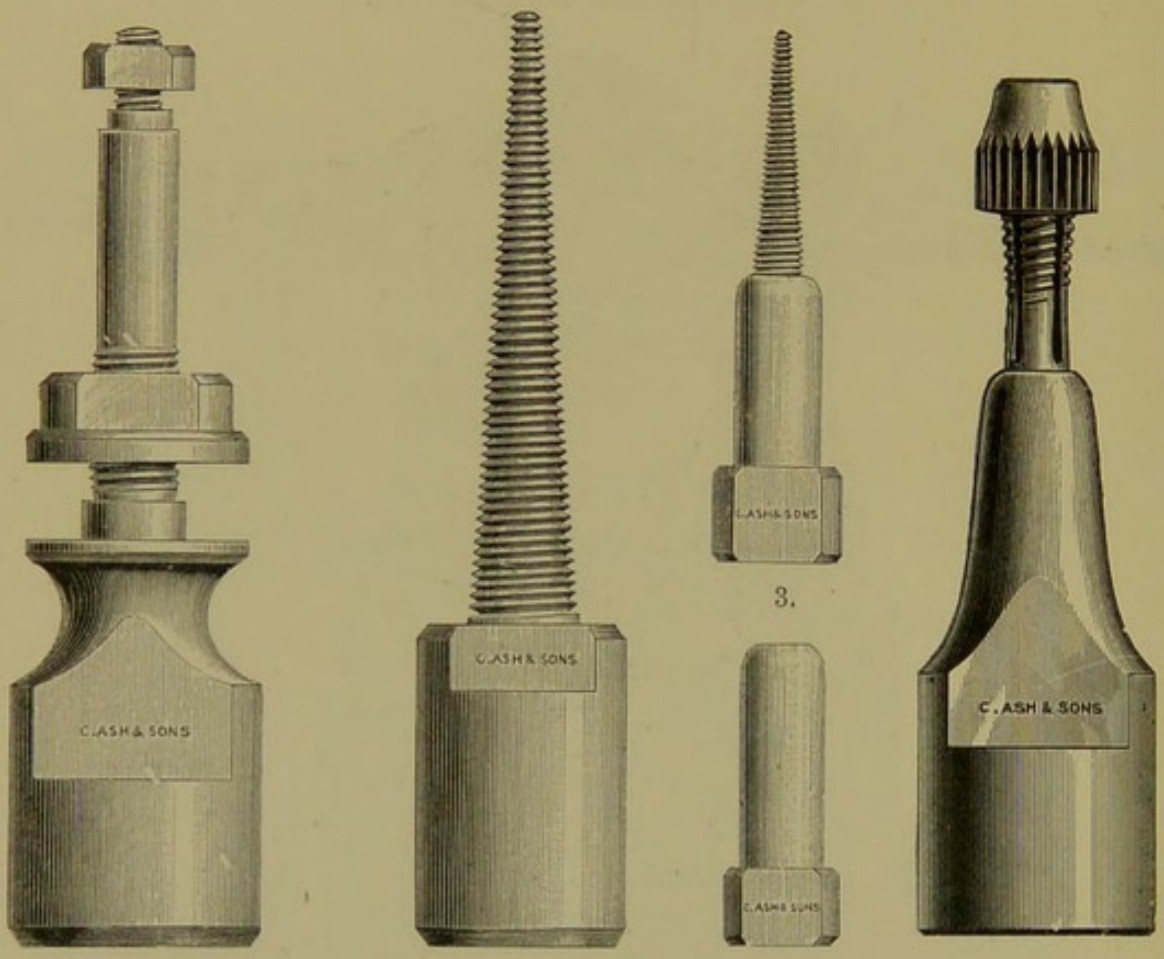
PRICES:

No. . .	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Per hank .	6/0	5/3	4/6	3/9	3/0	2/3	2/0	1/6	1/3	1/0	0/10

For illustrations, etc., see bottom of previous page.

		s.	*d.*
Hook and Eyes, any size	per pair	0	10
Leather Band for Lathes, *recommended* .	„ foot	0	2
Extra Hooks for use with ditto	„ doz.	0	6

CHUCKS FOR LATHE HEADS Nos. 1 and 2.



1. 2. 3. 4. 5.

Full-size.

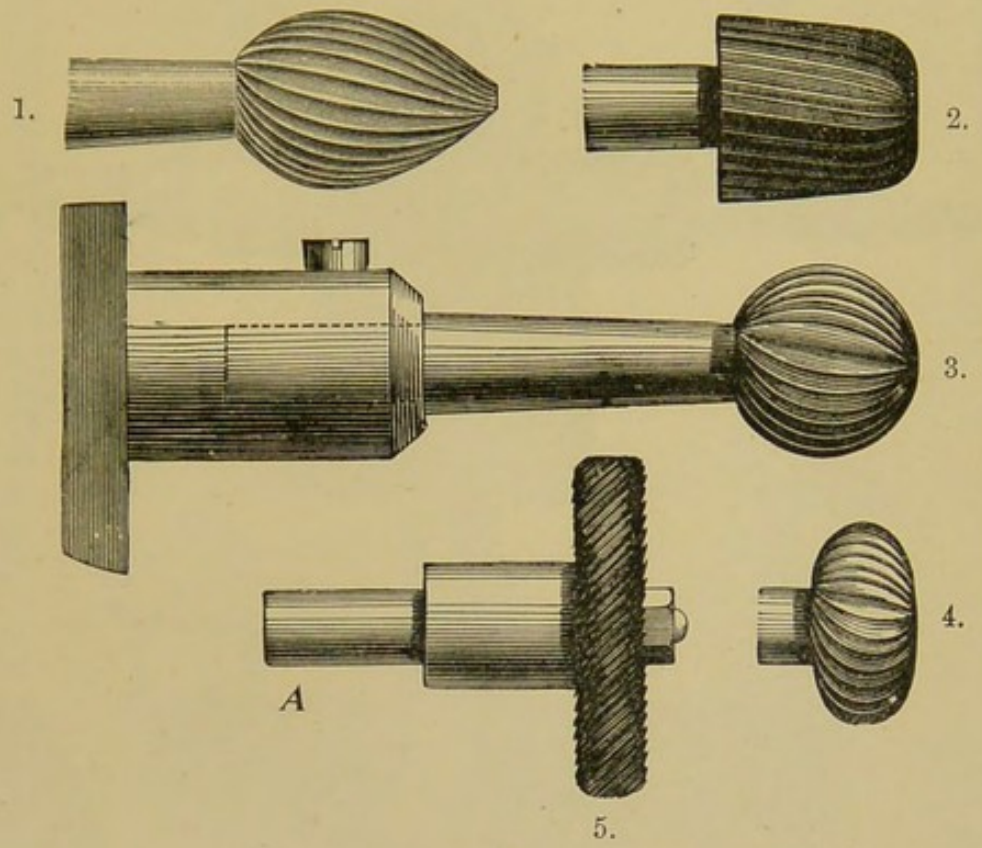
				s.	*d.*
Chuck to carry 2 Corundum Wheels . . .	(Fig. 1)	each		7	0
,, ,, Polishing Brushes	(,, 2)	,,		3	9
,, ,, Steel Burs and Wheels		,,		6	6
,, ,, Small Corundum Wheels and Polishing Brushes . . .	(Fig. 3)	,,		3	0
,, ,, Corundum Countersinks . .	(,, 4)	,,		3	0
,, ,, Engine Burs and Drills, with Screw Clamp.	(,, 5)	,,		10	6

Fig. 5 Chuck can be had to fit any Lathe Head; when ordering please specify for which it is required.

Other Chucks supplied to order.

STEEL BURS AND WHEELS,

FOR VULCANITE WORK, &c.



These Burs and Wheels are useful for cutting Vulcanite or Bone. They are made of the best steel and finished in a superior manner, and will fit Chuck suitable for Lathes and Lathe-heads, pages 44 and 45.

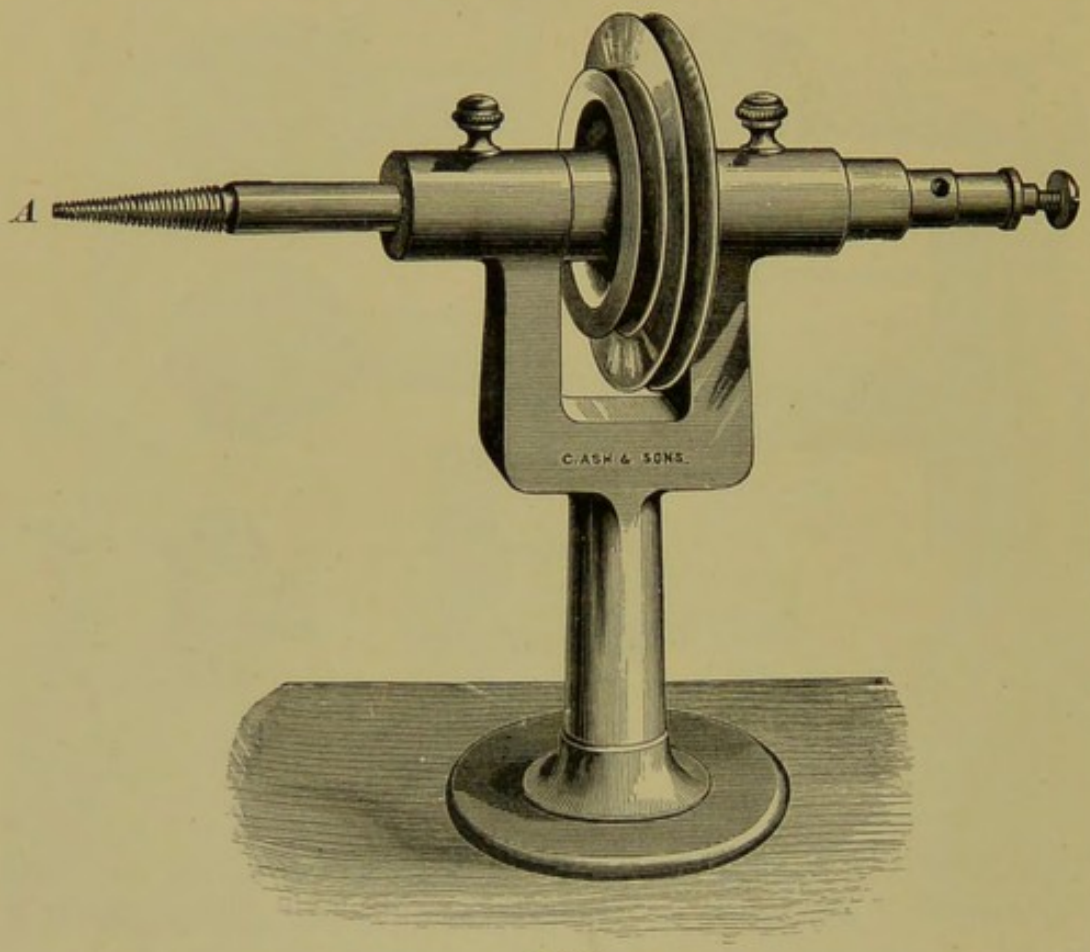
Steel Burs and Wheels to fit Chucks of other Lathes, made to order.

			s.	d.
Steel Burs	. . . .	the exact size and form of (Fig. 1) each	4	0
,,	. . . .	,, ,, ,, (,, 2) ,,	4	0
,,	. . . .	,, ,, ,, (,, 3) ,,	4	0
,,	. . . .	,, ,, ,, (,, 4) ,,	4	0
Steel Wheels,	$1\frac{1}{4}$-in. diameter	,, ,, ,, (,, 5) ,,	4	0
,,	$1\frac{1}{2}$-in.	,, ... (,, 5) ,,	4	6
,,	2-in.	,, ... (,, 5) ,,	5	0
Steel Chuck, to carry the above Burs and Wheels . . .			6	6

One part of this Chuck is shown with Fig. 3 Bur fixed in it, and the other part with Fig. 5 Wheel secured to it. The tang *A* of this latter part fits the socket of the former part when the Bur is removed.

CONE-CHUCK LATHE HEAD No. 3

(Ash's English Manufacture).



Half-size.

The Chucks shown on the next page are all coned like Fig. 1, which is illustrated full-size. The cone insures the chuck running perfectly true.

A good selection of Chucks is provided to admit of each wheel being kept on the one on which it is mounted until it is worn out ; the time usually occupied in changing wheels is thus saved.

The Chucks are all made to a standard gauge, so that new ones which are ordered at any time will not only fit, but also run true on the Lathe Head.

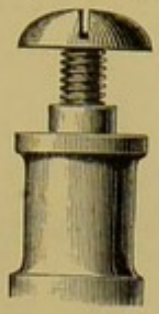
PRICES :

	£	*s.*	*d.*
Cone-Chuck Lathe Head No. 3, with japanned Iron Upright, Steel Mandrel, Polishing Chuck ***A***, Fig. 11 Grinding Chuck and Spanner	1	10	0
The same, with Gun-Metal Upright	2	0	0
Chucks, as shown on next page . . . . (Figs. 1-10) each	0	3	0
„ „ „ „ . . . . (Fig. 11) „	0	6	0

GUN-METAL CHUCKS FOR CONE-CHUCK LATHE HEAD.

1

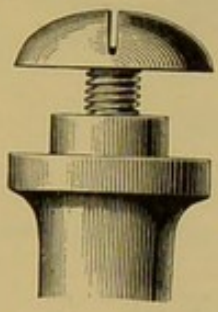
2.



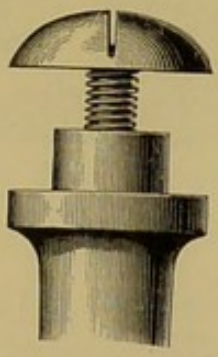
3.

4.

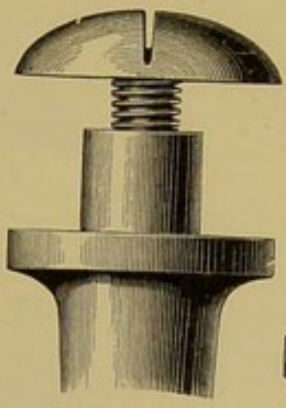
8.



5.

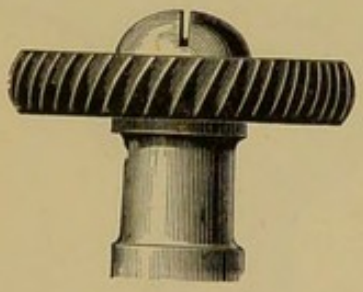


6.



7.

9



10

11

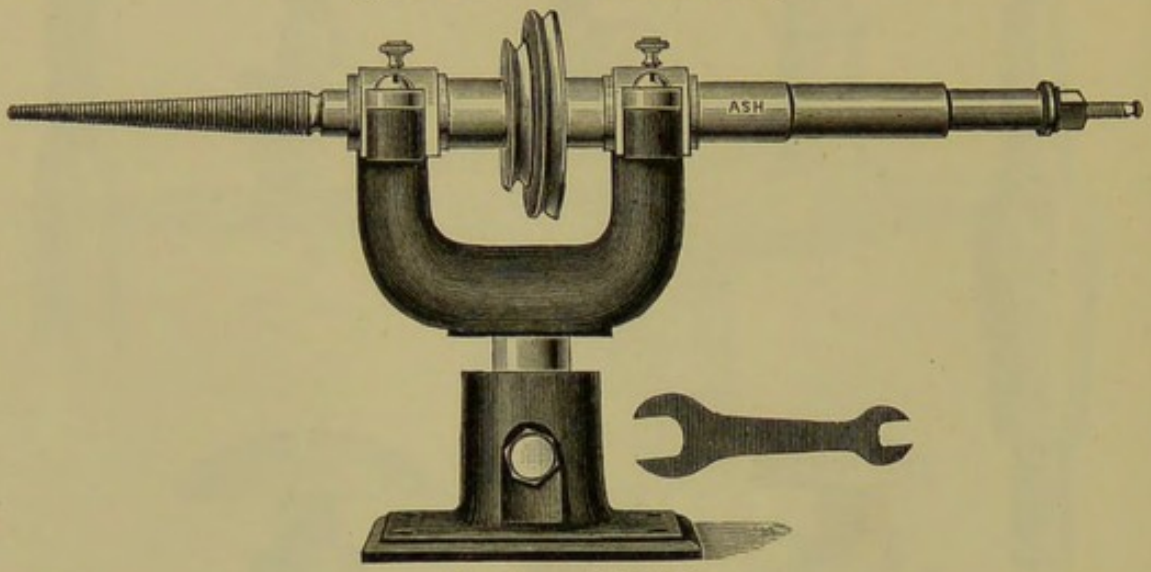
For numbers and sizes of Corundum Wheels, see page 65. The necks of the Chucks represent the size of the middle of the wheels, many of which taper slightly from the centre to the edge.

Fig. 1 Chuck takes our No. 1 Corundum Wheels (it is shown full size).
,, 2 ,, ,, Nos. 2 and 3 Thin ,,
,, 3 ,, ,, ,, 2, 3 Thick, and 4, 5, 6 Thin Wheels.
,, 4 ,, ,, ,, 4, 5, 6 Thick Wheels.
,, 5 ,, ,, ,, 7 Medium Wheels.
,, 6 ,, ,, ,, 7 Thick, and 8 and 9 Thin Wheels.
,, 7 ,, ,, ,, 8 and 9 Thick Wheels.
,, 8 ,, ,, Corundum Countersinks.
,, 9 ,, ,, Steel Burs, Nos. 1–4. See page 47.
,, 10 ,, ,, Steel Wheels in three sizes ,,
,, 11 ,, ,, Nos. 3 and 7 Thin Corundum Wheels.

When ordering, please give the figures of the Chucks required.

ADJUSTABLE LATHE HEAD No. 4

(Ash's English Manufacture).

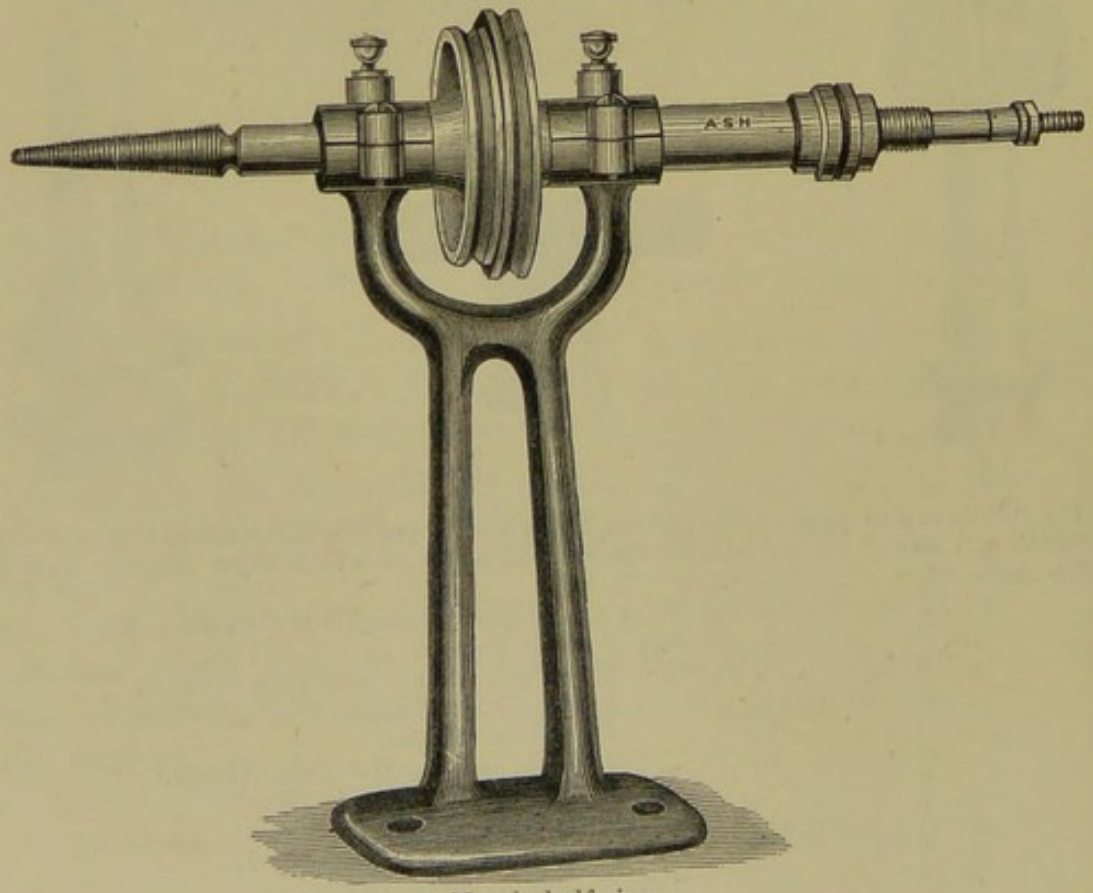


About one-third size.

	£	s.	d.
With Grinding Chuck to carry four wheels, Polishing Chuck and Spanner . .	1	0	0

LATHE HEAD No. 5

(Ash's English Manufacture).

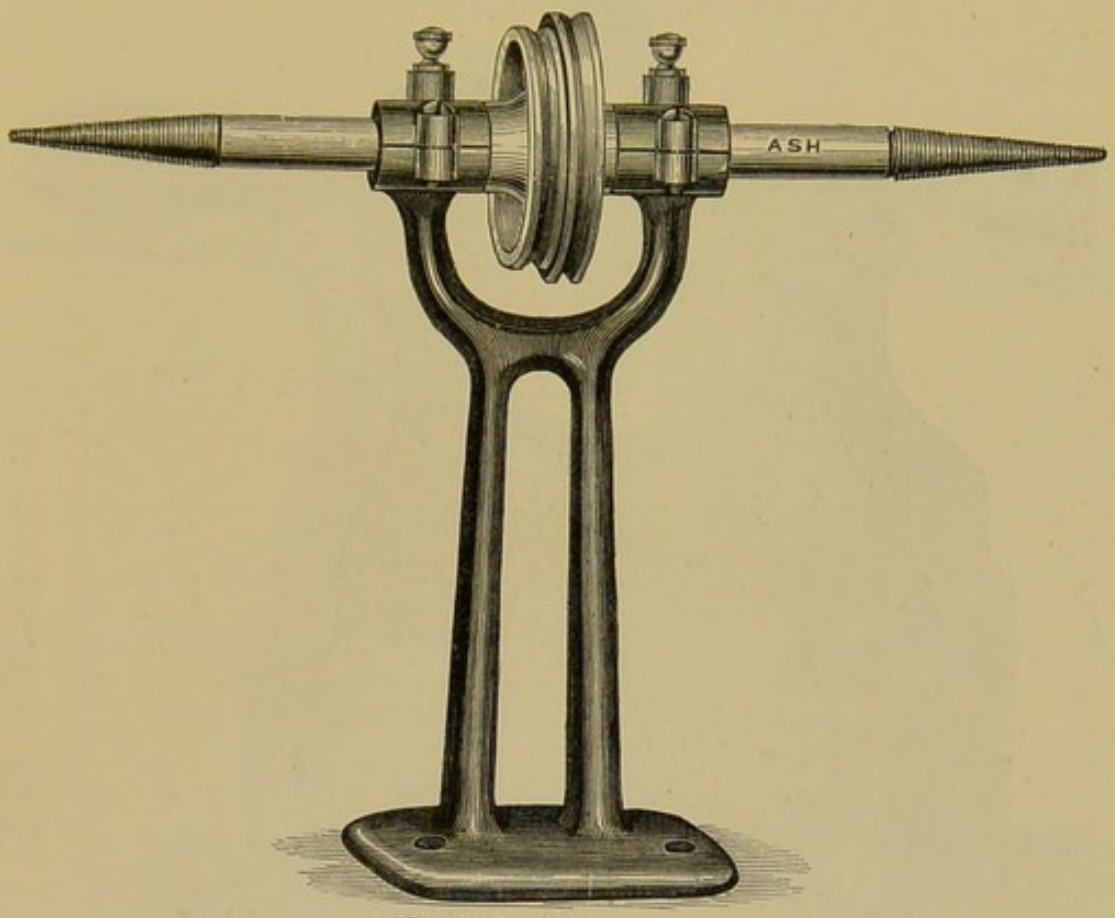


Nearly half-size.

	s.	d
With Grinding Chuck to carry three wheels, Polishing Chuck and Spanner . .	16	6

LATHE HEAD No. 6

(Ash's English Manufacture).



Nearly half-size.

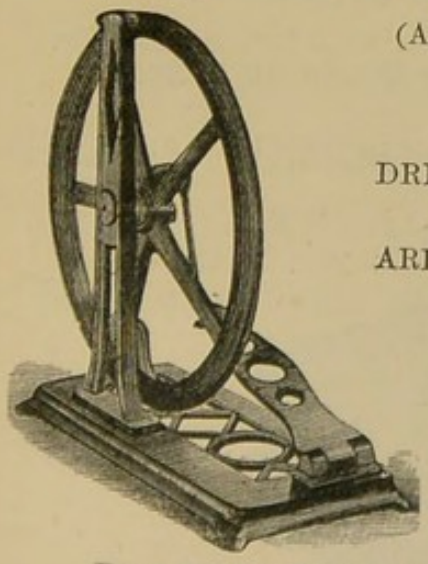
	s.	*d.*
With two Polishing Chucks	12	6

FOOT WHEELS

(Ash's English Manufacture).

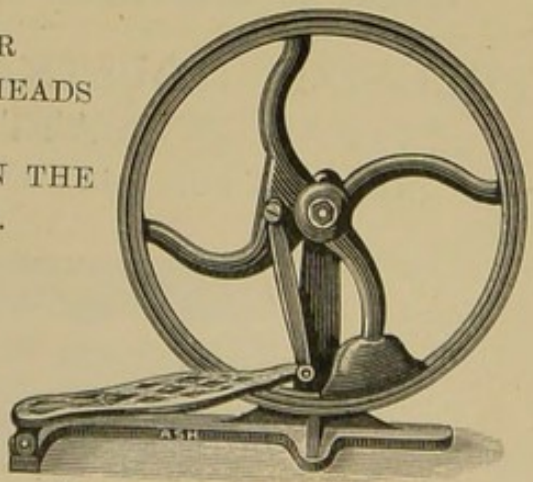
SUITABLE FOR
DRIVING LATHE-HEADS
WHICH
ARE MOUNTED ON THE
WORK-BENCH.

Fig. 1.



Dimensions : 21 ins. high ;
Base 9 ins. wide by 21 ins. long.

Fig. 2.

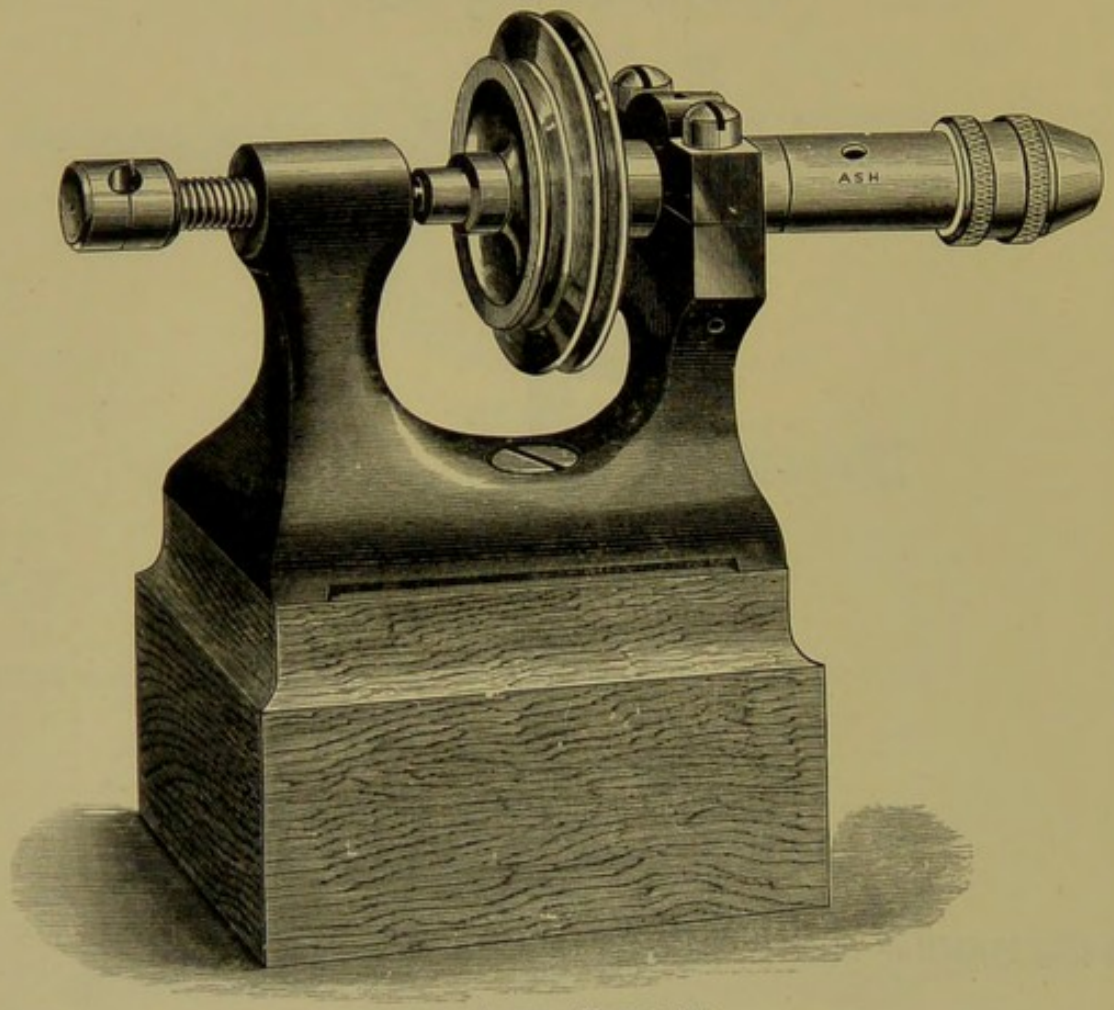


Dimensions : 19 ins. high ;
Base 11 ins. wide by 21 ins. long.

	£	*s.*	*d.*
Price . . . . . (Fig. 1)	1	17	0
,, ... (,, 2)	1	2	6

LATHE HEAD No. 7

(Ash's English Manufacture).



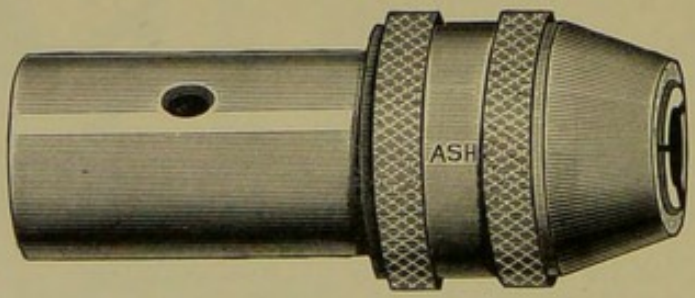
About Half-size.

	s.	*d.*
Lathe Head No. 7, as illustrated, with Screw Clamp Attachment and Spanner	32	0

Chucks for Lathe Heads Nos. 7 and 8 are shown on page 55.

FULL-SIZE ILLUSTRATION OF SCREW CLAMP ATTACHMENT,

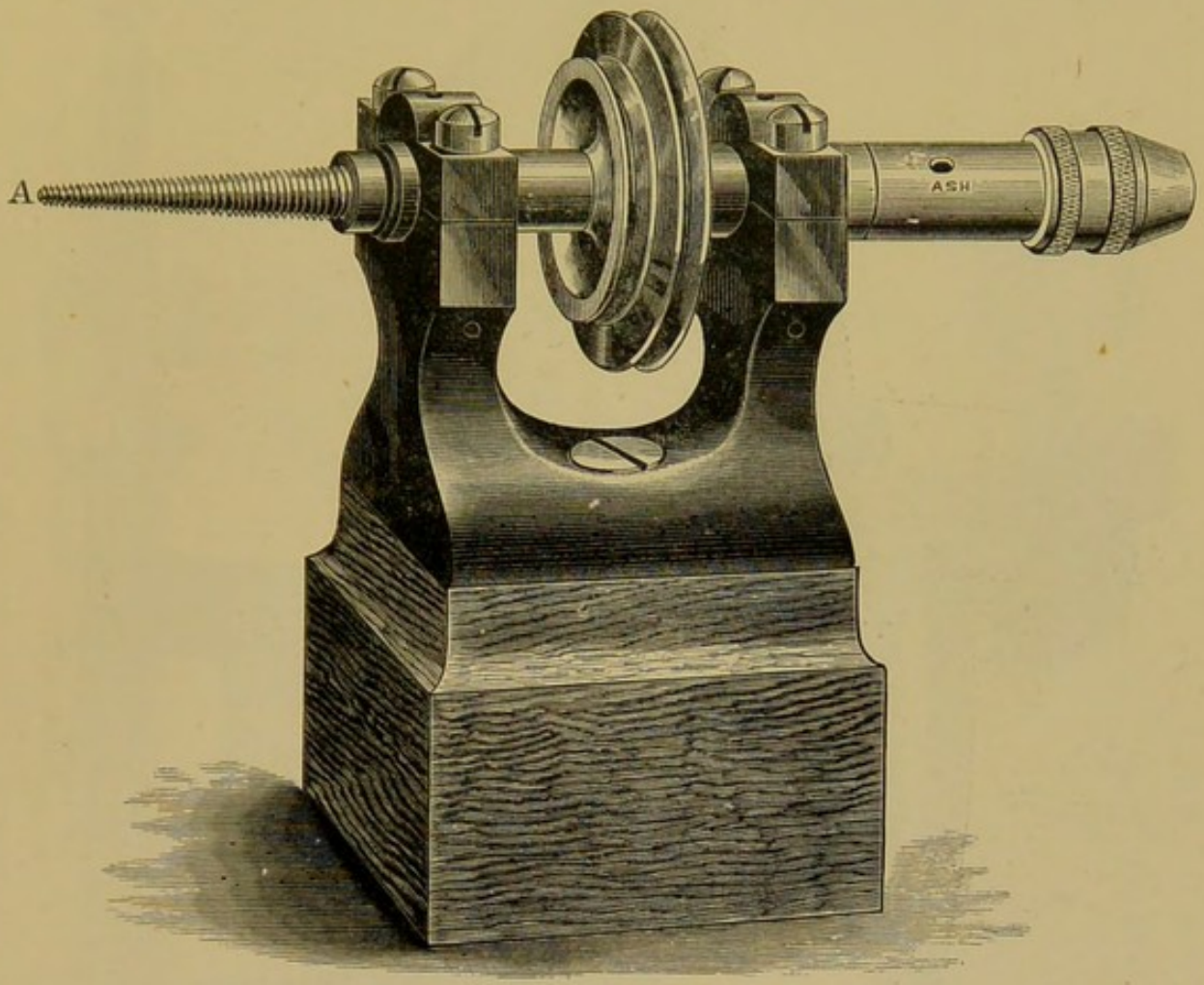
WHICH IS SUPPLIED WITH LATHE HEADS Nos. 7 AND 8.



	s.	*d.*
Price, separately, to fit existing Lathe Heads Nos. 1 and 2 . .	14	0

LATHE HEAD No. 8

(Ash's English Manufacture).



Nearly Half-size.

	s.	d.
Lathe Head No. 8, as illustrated, with Polishing Chuck ***A***, Screw Clamp Attachment and Spanner	42	0

SPYER'S AUTOMATIC SUCTION CAVITY.

	s.	d.
Per box of 12 forms, with directions for use	2	1

SPYER'S ADHESIVE PLATES.

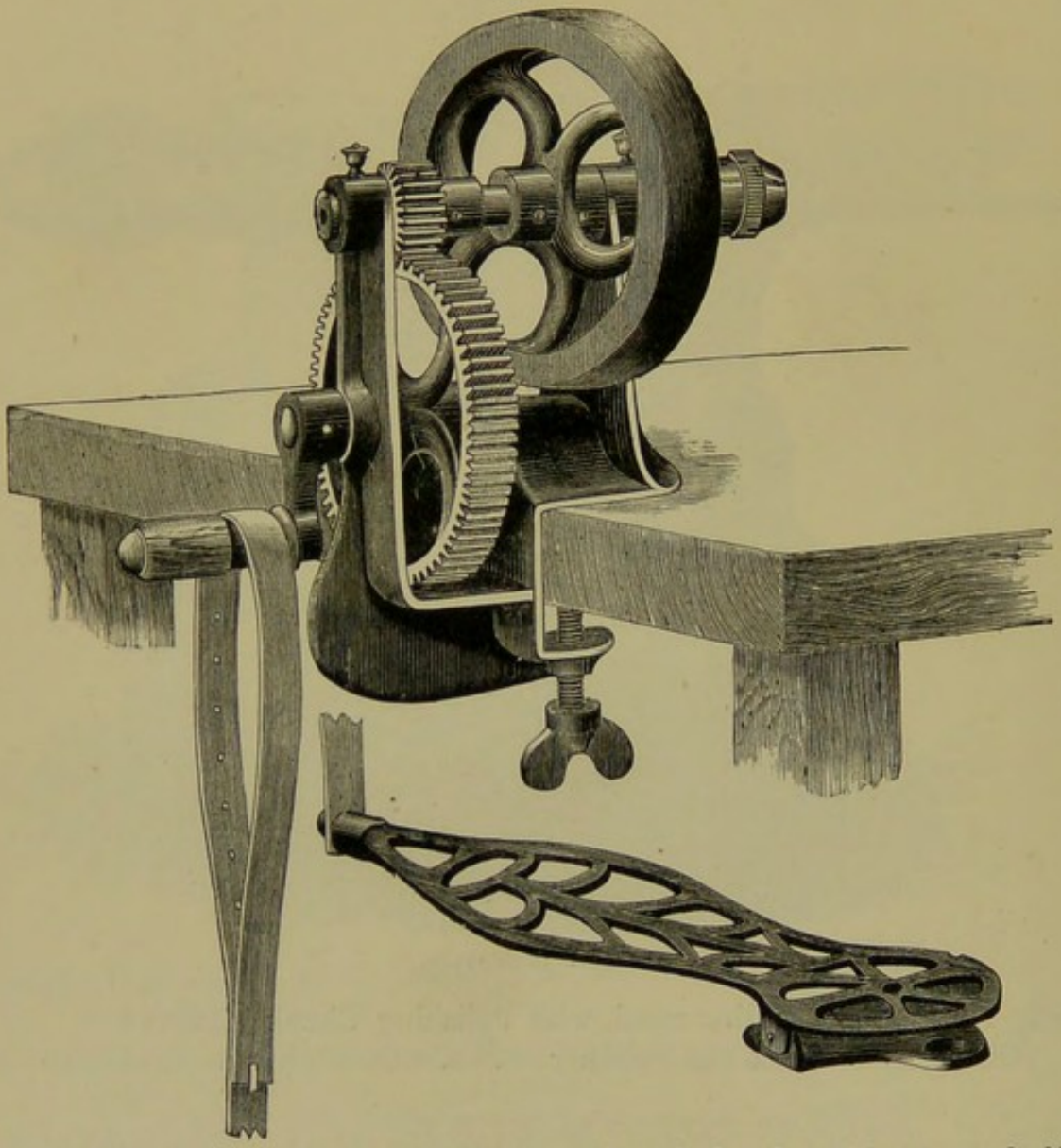
No. 1 in box containing 3 Upper and 3 Lower Plates.
„ 2 „ „ 6 Upper Plates.
„ 3 „ „ 6 Lower „

		s.	d.
Price, any kind, with directions for use	per box	4	2

CONE-JOURNAL HAND AND FOOT LATHE

(Ash's English Manufacture).

Fig. 6.



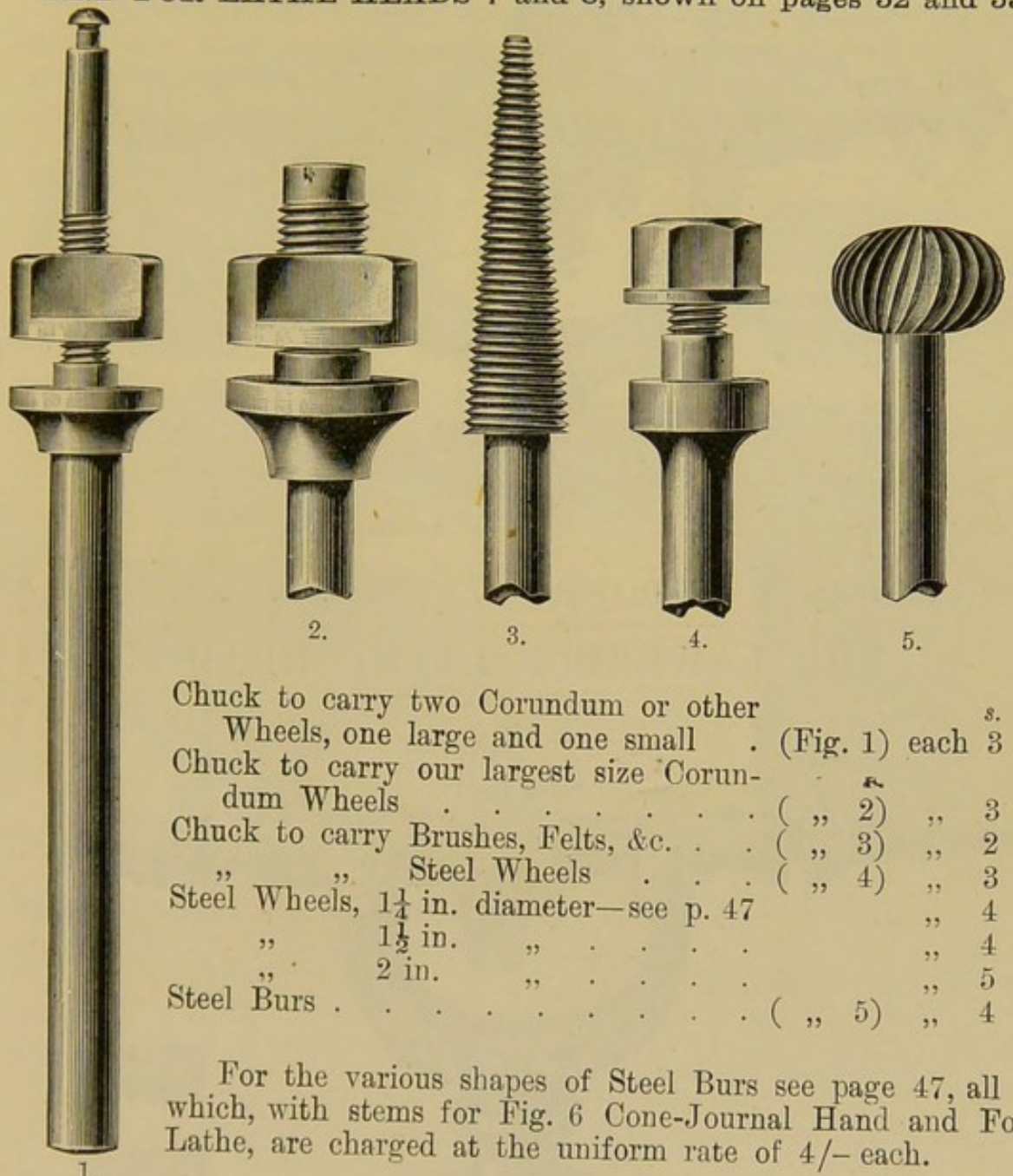
This Lathe is made with an adjustable cone, split at both ends, which acts as a double clamp for holding the stems of the chucks, thus giving them extra long bearings. The working parts are well shown in the cut. It is very suitable for a branch practice or when visiting, and is extremely portable, the total weight being only 8 lbs. We can recommend it as powerful enough for the heaviest work in the dental laboratory.

PRICES:

	£	*s.*	*d.*
Lathe complete, with Treadle and Strap, Spanner and three Chucks, Figs. 1, 2 and 3, shown on next page	1	15	0
The same, minus Strap and Treadle	1	11	6
Parts separately { Adjustable Cone for renewing	0	3	0
Treadle	0	3	0
Strap	0	1	6
Spanner	0	1	3

CHUCKS, ETC.,

FOR CONE-JOURNAL HAND AND FOOT LATHE, Fig. 6, shown on the previous page, AND FOR LATHE HEADS 7 and 8, shown on pages 52 and 53.



1. 2. 3. 4. 5.

			s.	d.
Chuck to carry two Corundum or other Wheels, one large and one small .	(Fig. 1)	each	3	6
Chuck to carry our largest size Corundum Wheels	(„ 2)	„	3	0
Chuck to carry Brushes, Felts, &c. . .	(„ 3)	„	2	0
„ „ Steel Wheels . . .	(„ 4)	„	3	6
Steel Wheels, 1¼ in. diameter—see p. 47		„	4	0
„ 1½ in. „		„	4	6
„ 2 in. „		„	5	0
Steel Burs	(„ 5)	„	4	0

For the various shapes of Steel Burs see page 47, all of which, with stems for Fig. 6 Cone-Journal Hand and Foot Lathe, are charged at the uniform rate of 4/– each.

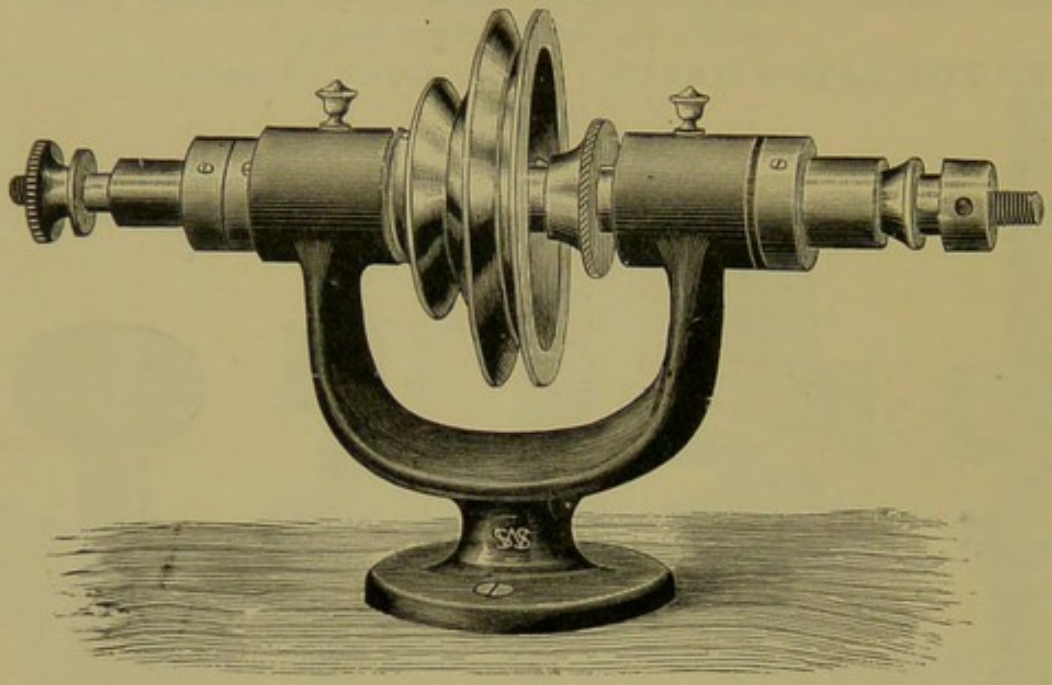
CAMEL-HAIR PENCILS OR BRUSHES.

Large size.

Supplied in large, medium, and small sizes.

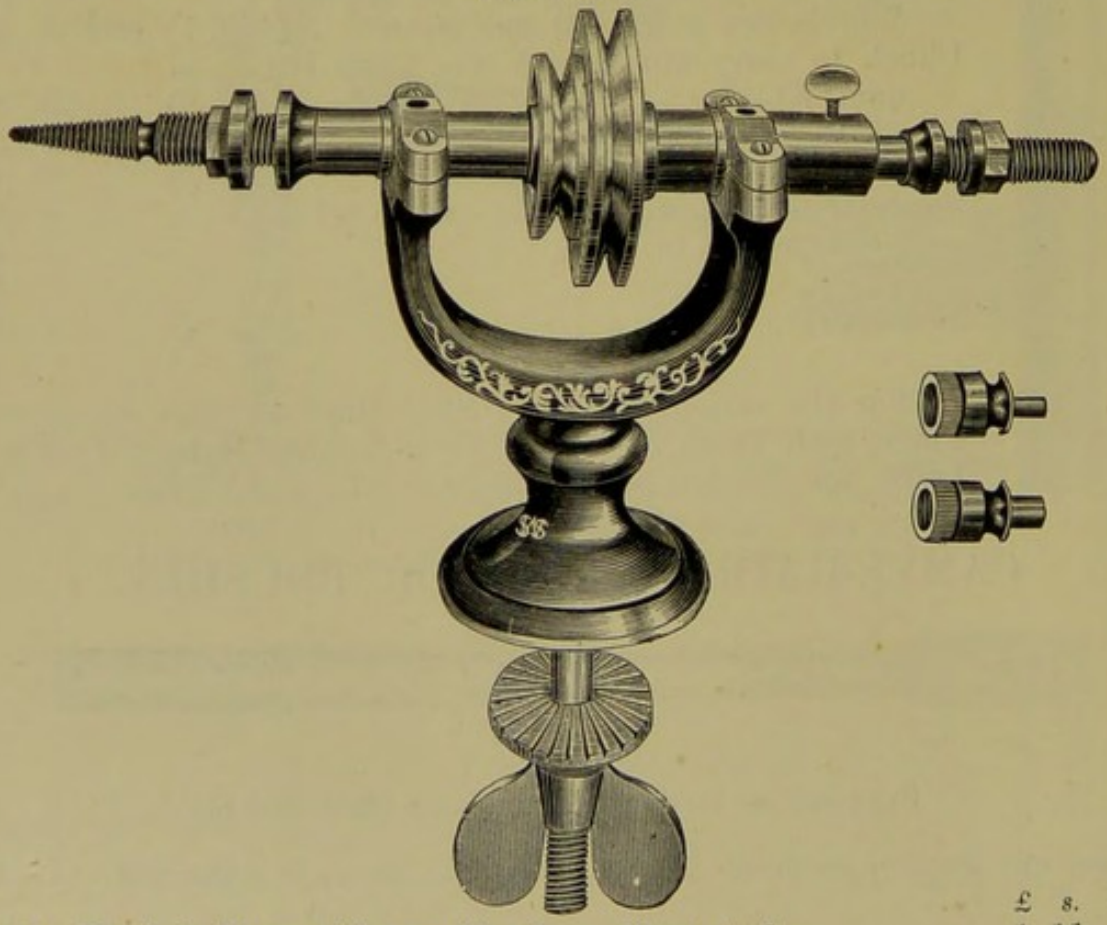
	s.	d.
Price, any size, or assorted . . . . . per doz.	1	0

CLUTCH LATHE HEAD
(AMERICAN).



	£	s.	d.
Lathe Head complete, with 10 Chucks	2	14	0

THE LAWRENCE LATHE HEAD
(AMERICAN).

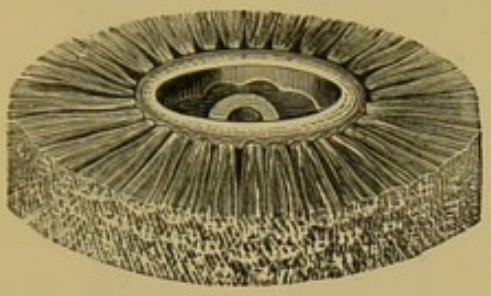


	£	s.	d.
Lathe Head in Iron, with two Chucks as illustrated	1	11	6

LATHE BRUSHES,

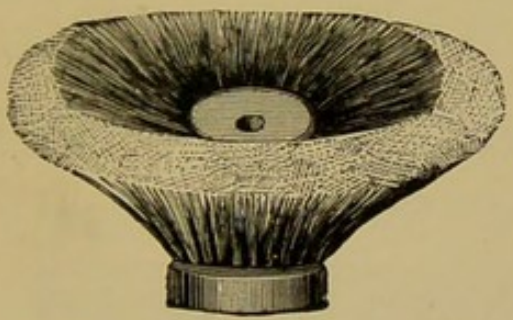
FOR POLISHING.

Made of the best Russian Bristles, which are so securely set in the Hubs that they do not require cementing in position, as is the case with so many kinds of Lathe Brushes of inferior quality.

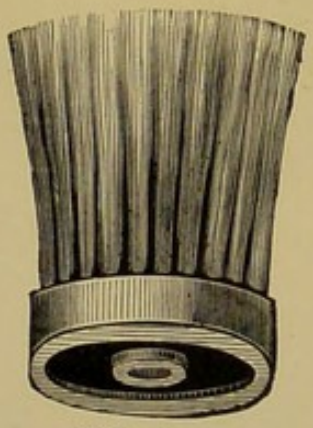


Straight.

Converging.



Cup-shape.



Hub-shape.

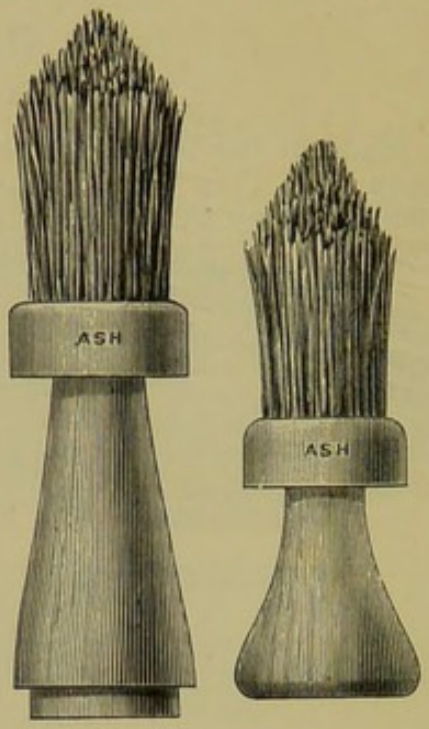
| **Rows of bristles in each Brush:** | | |

PALATE LATHE BRUSHES.

BEST RUSSIAN BRISTLES.

		s.	*d.*
Price, either kind . . .	each	0	6

Less 10 per cent. by the dozen.



LONG. SHORT.

POLISHING BRUSHES.

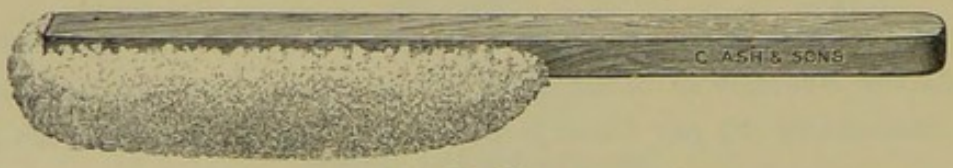
WITH WOODEN HANDLES.

About half-size.

		s.	*d.*
Best Russian Bristles, four rows, hard or soft . .	each	1	0
„ „ „ six „ „ . .	„	1	3

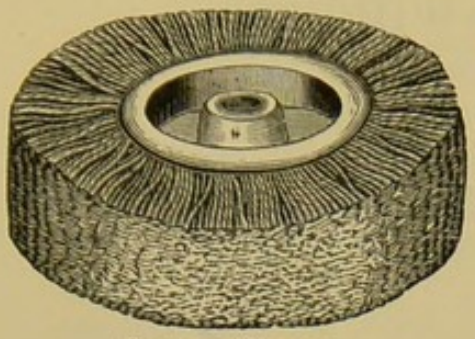
WOOL BRUSH.

WITH WOODEN HANDLE.



10 inches long.

	s.	*d.*
Best quality	1	0



COTTON WHEEL.

Polishing Wheels, Brushes, &c.

COTTON WHEELS
FOR POLISHING.

	s.	*d.*
Large	1	3
Medium	1	0

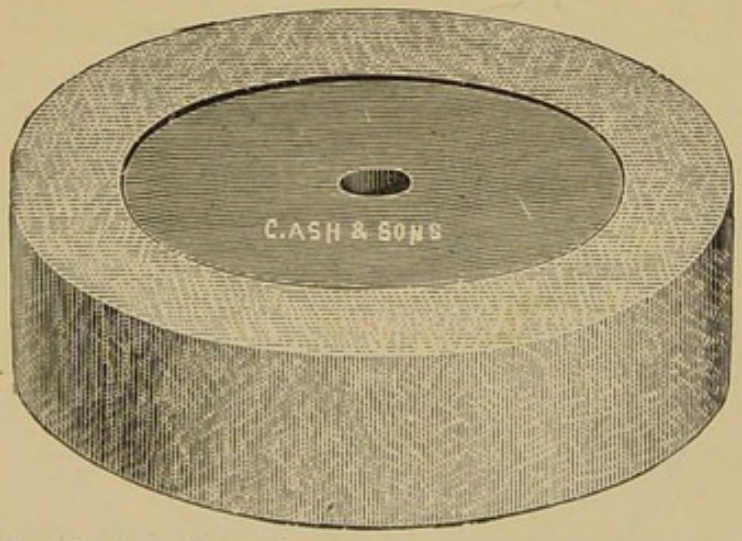
					s.	*d.*
Scratch Brushes, brass wire, for Lathes, coarse . .				each	2	0
,,	,,	,,	,, fine . . .	,,	2	6
,,	,,	,,	for Hand, coarse . . .	,,	0	6
,,	,,	,,	,, fine . . .	,,	0	6

STEEL WIRE SCRATCH BRUSHES FOR LATHE,

WITH THREE ROWS OF WIRE. Diameter of Brush, $3\frac{1}{4}$ inches.

		s.	*d.*
Price	each	3	6

FELT WHEELS, WITH WOODEN CENTRES.



Supplied in two sizes—large and small, as mentioned below.

These sizes are liable to slight variation, but the diameters and thicknesses noted give an approximate idea of what we usually have in stock.

The Wheels are very firm and strong, and are considered excellent for fine polishing.

			s.	*d.*
Small Size, $1\frac{3}{8}$ in. diameter by $\frac{3}{8}$ in. thick . .		each	0	6
Large ,, $2\frac{1}{8}$ in. ,, $\frac{1}{2}$ in. ,, . . .		,,	1	0
Buff Wheels, $3\frac{1}{4}$ in. diameter		,,	1	0

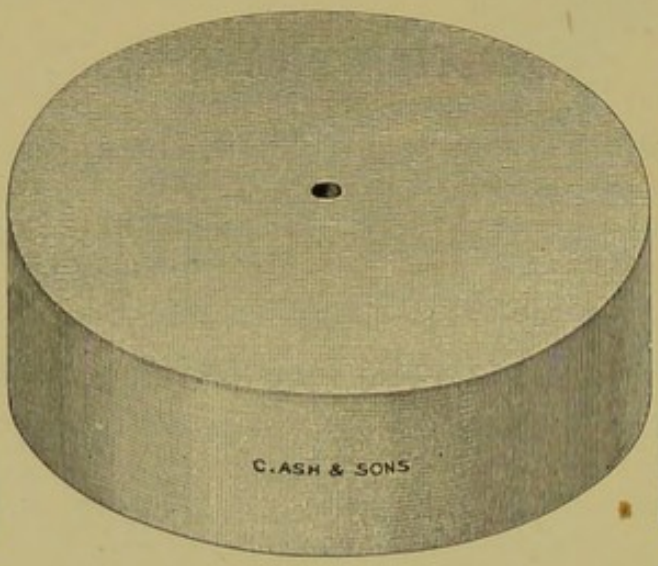
FELT CONES AND WHEELS

(English Manufacture).

Made from specially selected material of the best quality. They are largely used and recommended for fine polishing.

The illustrations of the Cones are full size, and the circles on the lower part of the page show the diameters of the large, medium and small wheels.

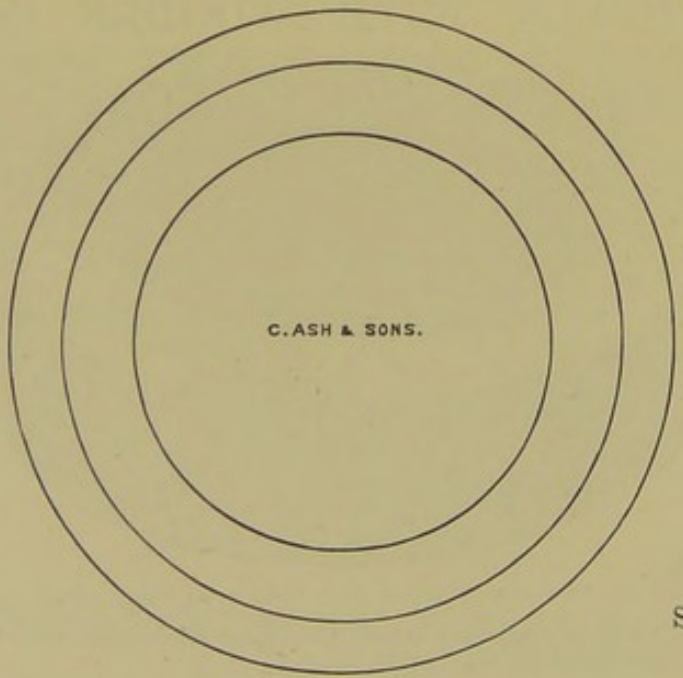
Large Pointed Cone.



Wheel.

Large Rounded Cone.

Small Pointed Cone.



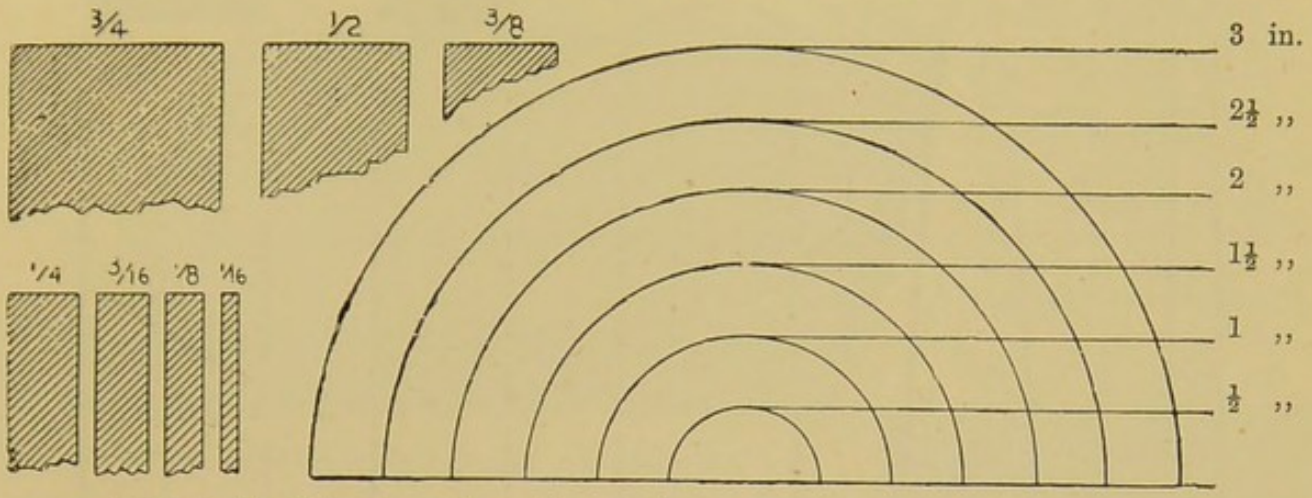
Small Rounded Cone.

PRICES:

			s.	*d.*
Felt Wheels,	large and medium	each	1	0
,,	small	,,	0	8
Felt Cones,	large, pointed or rounded	,,	0	10
,,	small ,, ,, ...	,,	0	5

CARBORUNDUM LATHE WHEELS.

SIZES AND THICKNESSES.



Made in the following grits:—For cutting or grinding: 120 coarse; 150 medium; 180 medium fine. For polishing and sharpening: 220 fine. They may all be used either wet or dry with equally good results, and they are guaranteed not to gum or wear smooth.

SQUARE EDGE.

DIAMETER.	THICKNESS:—⅛ inch. s.	d.	¼ inch. s.	d.
1 inch	1	0	1	2
1½ ,,	1	9	1	9
2 inches	2	0	2	0
2½ ,,	2	6	2	6
3 ,,	3	3	3	3

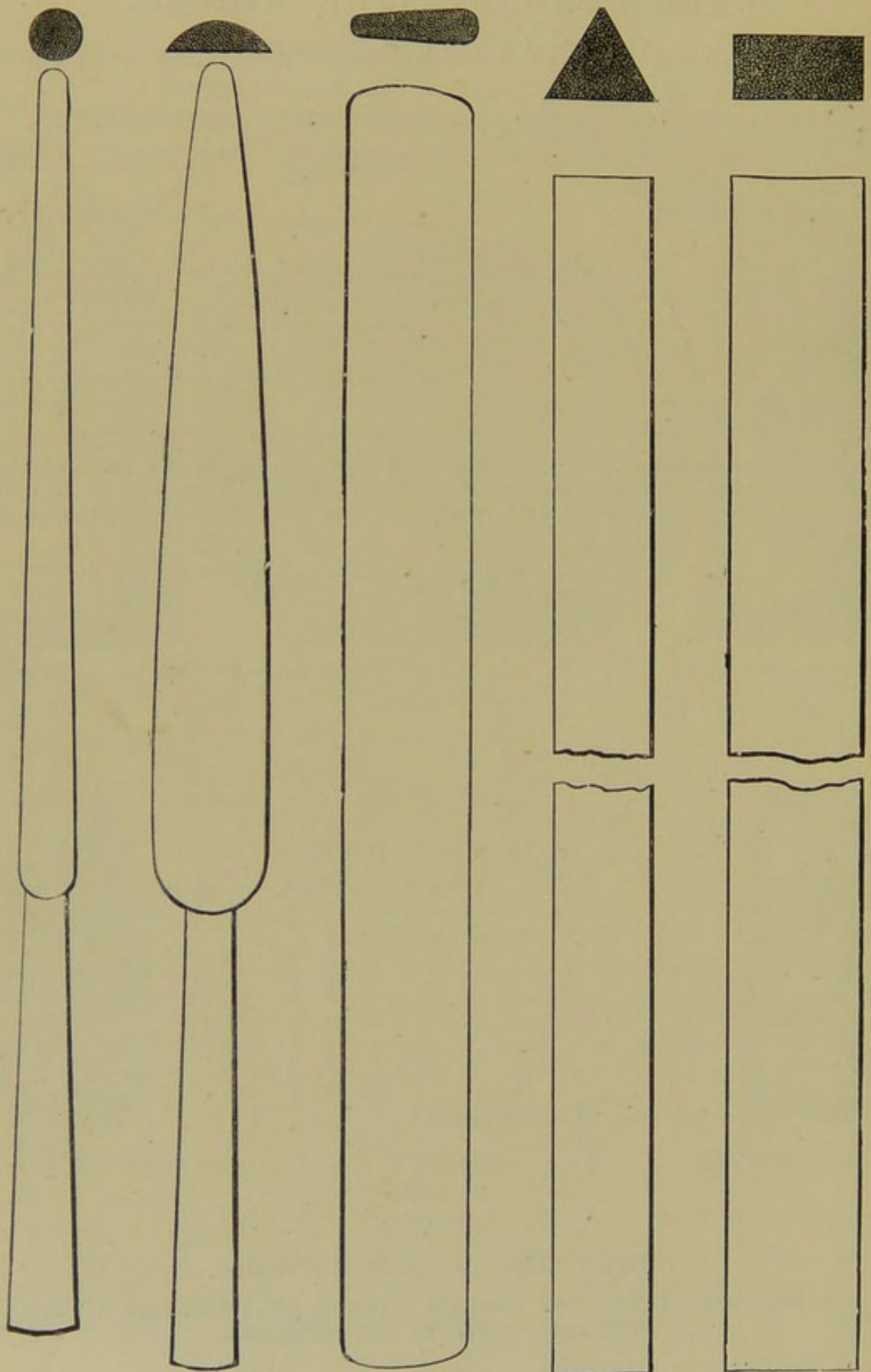
ROUND EDGE.

DIAMETER.	THICKNESS:—⅛ inch. s.	d.	3/16 inch. s.	d.	¼ inch. s.	d.
⅝ inch	0	6	—		—	
1 ,,	1	2	—		—	
1½ ,,	1	9	—		—	
1⅞ ,,	2	3	2	3	2	3
2 inches	2	3	—		2	3
2¼ ,,	2	6	2	6	—	
2½ ,,	2	6	—		—	
3 ,,	3	3	—		3	3
Thick centre, thin edge, 1¼ inches diameter				each	1	6
,, ,, ,, 1⅝ ,, ,,				,,	1	9
,, ,, ,, 3 ,, ,,				,,	3	0

Other sizes supplied to order.

A Discount of Ten per Cent. is allowed off purchases of Ten Shillings' worth of Carborundum.

CARBORUNDUM FILES.



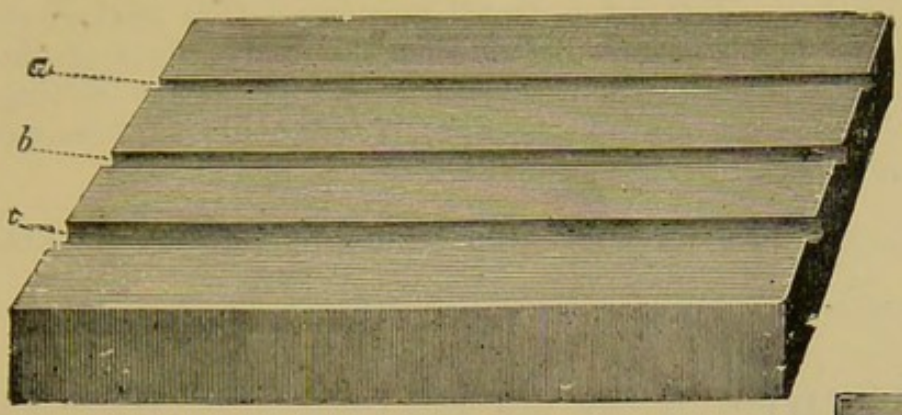
Round. Half-round. Round-edge. Triangular. Oblong.

		s.	d.
Price, any kind	each	2	0

GROOVED SLABS

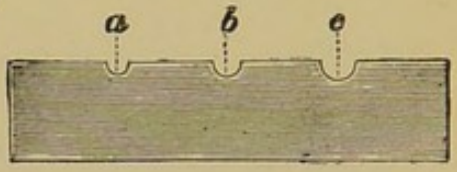
FOR SHARPENING INSTRUMENTS.

(Suggested by Dr. W. Sachs, of Breslau.)



Slab, with half-round parallel grooves, *a b c*.

This Slab, which measures $3\frac{7}{8} \times 1\frac{7}{16} \times \frac{1}{2}$ in., is made from Arkansas Stone as well as in Carborundum. Both are excellent for imparting an admirable edge and finish to the most delicate instruments.



End Section.

		s.	*d.*
Arkansas Slabs, grooved, as illustrated	each	10	0
Carborundum Slabs, grooved, as illustrated	,,	3	4
,, ,, **plain,** $3 \times \frac{3}{4} \times \frac{3}{8}$ in.	,,	1	0

CARBORUNDUM POWDER.

		s.	*d.*
Carborundum Powder, Extra Superfine	per box	0	6
,, ,, Superfine	,,	0	6
,, **Crystals**	,,	0	6
,, **Powder,** any grit	per lb.	from 2/6 to 4/0	

ASH'S POLISHING STONE.

For imparting a smooth and polished surface to Mineral Teeth after they have been ground.

In all our experience we have never found a stone to equal it for this purpose. It is tough, though soft ; does not chip, like most other stones do, and will stand long and hard wear if it be kept well wetted with water during use.

It fits the Lathe Chucks of our manufacture.

	s.	*d.*
Price	1	0

ASH'S CORUNDUM WHEELS, FILES, ETC.

From our long experience in the use of Corundum, we are able to select the kind and quality best adapted for dental purposes. Our method of crushing it prevents as much as possible dulling the sharp edges of the particles while reducing them to their several grits. It is this cutting quality which has obtained for our Wheels, Files, &c., the high estimation in which they are held both in England and abroad.

The Wheels are adapted to fit all the Lathe Chucks of our manufacture.

For remarks concerning the Files—see page 68.

WHEELS (see next page) :—

Size.	Diameter.	Thick. s.	Thick. d.		Thin. s.	Thin. d.
No. 1, round edge . . .	$\frac{1}{2}$ inch . . .	each 0	2	each	0	2
„ 2, „ „ . . .	$\frac{3}{4}$ „ . . .	„ 0	3	„	0	2
„ 3, „ „ . . .	1 „ . . .	„ 0	4	„	0	3
„ 4, „ „ . . .	$1\frac{1}{2}$ „ . . .	„ 0	6	„	0	5
„ 5, „ „ . . .	2 „ . . .	„ 0	8	„	0	7
„ 6, „ „ . . .	$2\frac{1}{4}$ „ . . .	„ 0	11	„	0	9
„ 7, „ „ . . .	3 „ . . .	„ 1	9	„	1	0
„ 8, „ „ . . .	$3\frac{3}{4}$ „ . . .	„ 3	0	„	2	0
„ 9, „ „ . . .	$4\frac{1}{2}$ „ . . .	„ 4	6	„	4	0
„ 10, square edge . . .	1 „ . . .	„ 0	5	„	0	4
„ 11, „ „ . . .	$1\frac{1}{8}$ „ . . .	„ 0	6	„	0	5
„ 12, „ „ not illustrated	$2\frac{1}{2}$ „ $\frac{1}{4}$ inch thick	„ 1	3		—	
„ 13, „ „ „	$3\frac{1}{8}$ „ „ „	„ 2	0		—	
„ 14, „ „ „	$2\frac{1}{4}$ „ $\frac{3}{16}$ „ „	„ 1	0		—	

No. 7, round edge, is also made in medium thickness, price 1*s.* 6*d.*

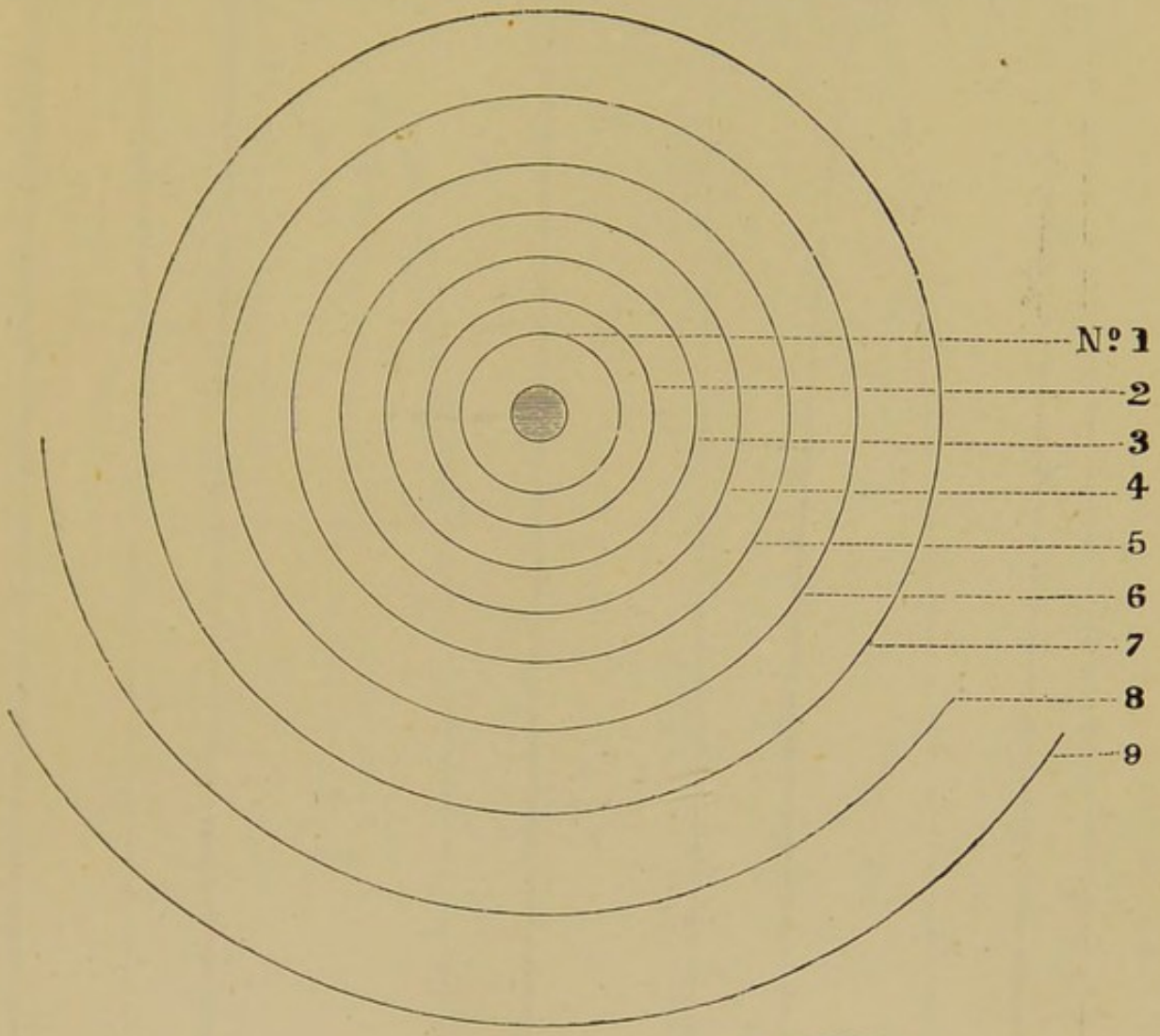
Nos. 1 to 7 are $\frac{1}{16}$ to $\frac{1}{4}$ inch thick.
„ 8 and 9 are $\frac{1}{4}$ to $\frac{1}{2}$ inch thick.
„ 10 and 11 are made in the thicknesses illustrated.

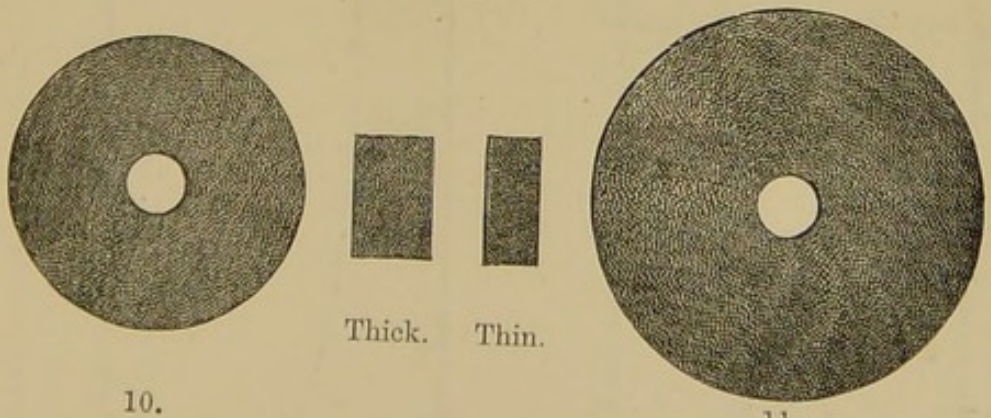
All the above Wheels are supplied in three grits, known as fine, medium, and coarse; when ordering, please be careful to state which grit is required.

A discount of 10 per cent. is allowed when Corundum Wheels and Files are purchased to the value of 10*s.*

ASH'S CORUNDUM WHEELS.

(For Prices, see previous page.)





10. 11.

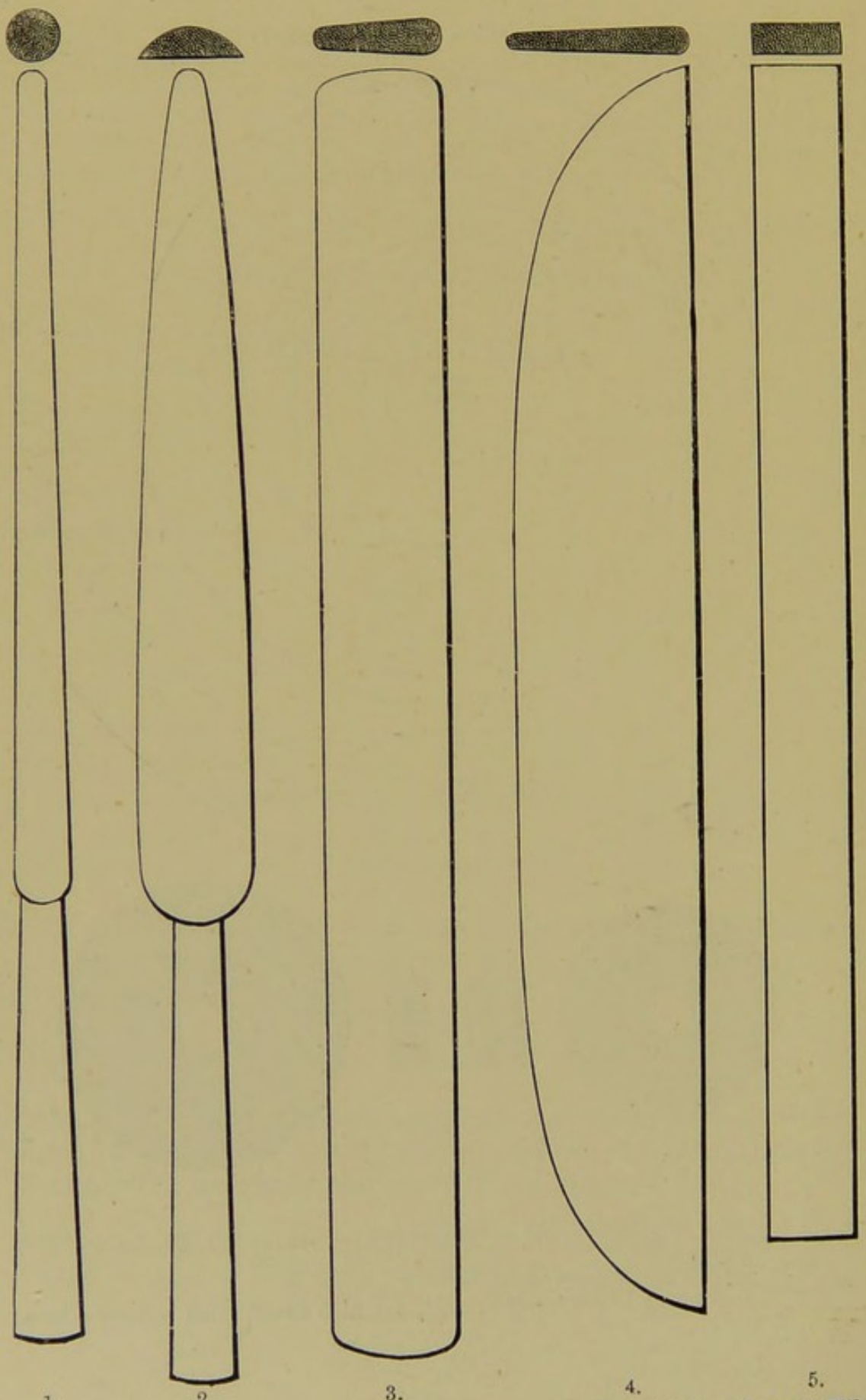
Nos. 1 to 9 are made with round edges.

„ 10 and 11 „ „ square „

„ 12, 13 and 14, not illustrated, are also made with square edges.

C. ASH AND SONS' CORUNDUM FILES.

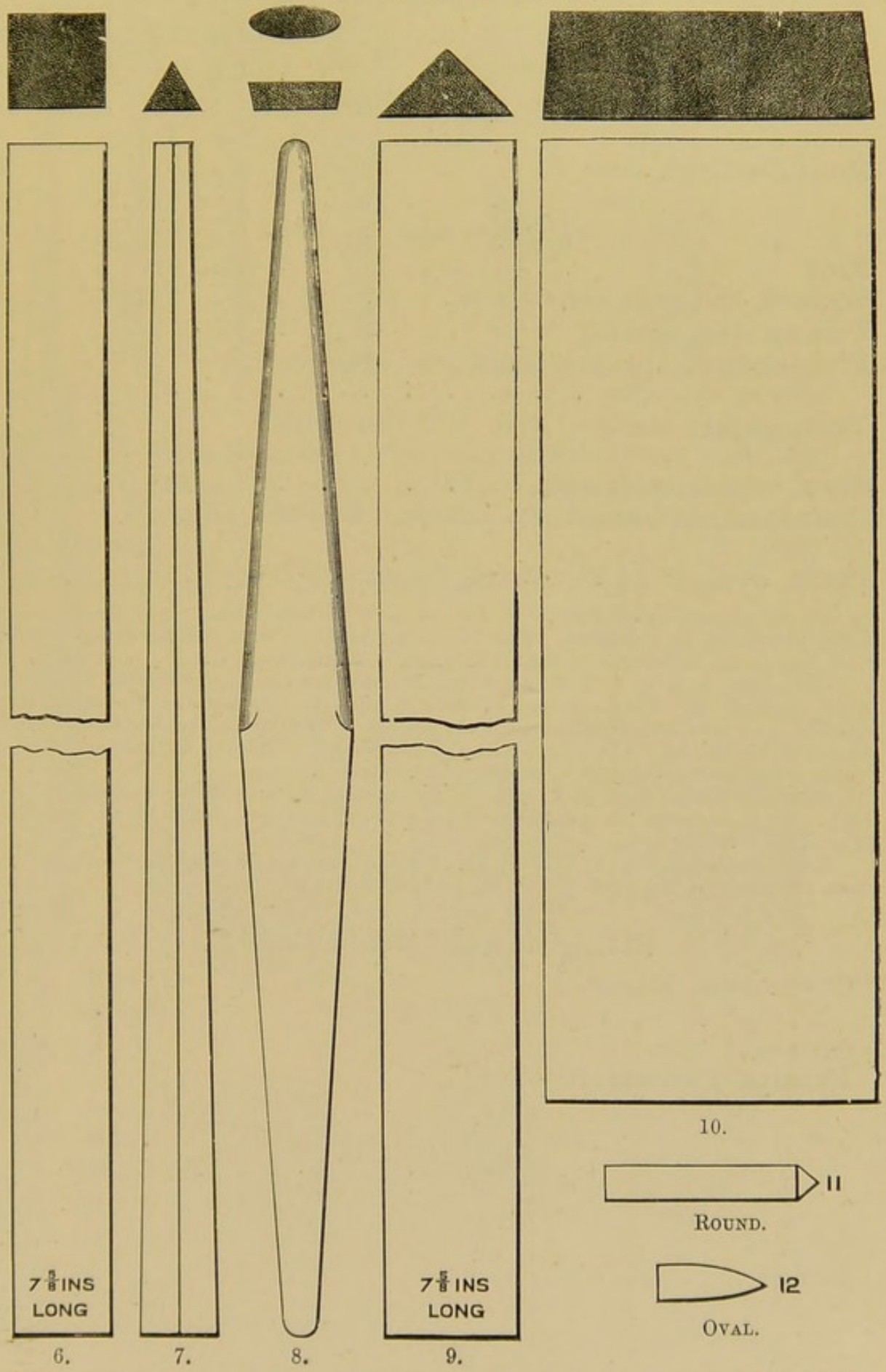
(*For Prices, &c., see page* 68.)



The sections over the top of the outlines show the middle of each File.

ASH'S CORUNDUM FILES.

(For Prices, &c., see next page.)



The sections over the top of the outlines show the middle of each File.

ASH'S CORUNDUM FILES, ETC.

(Shown on pages 66 and 67.)

			s.	d.
Round, with Steel Centre and Handle . . .	(Fig. 1)	each	0	9
„ without „ „ „ . . .	(„ 1)	„	0	6
Half-round, with Steel Centre and Handle .	(„ 2)	„	0	9
„ without „ „ „ .	(„ 2)	„	0	6
Round-edged, thick	(„ 3)	„	1	0
„ thin	(„ 4)	„	0	8
„ „ with brass back . . .	(„ 4)	„	1	0
Flat	(„ 5)	„	0	8
Square, for sharpening tools, &c.	(„ 6)	„	2	0
Triangular, tapering	(„ 7)	„	0	8
Fish-shape, square tapering one end, oval tapering the other	(„ 8)	„	0	8
Triangular, straight, large, for sharpening tools, &c.	(„ 9)	„	1	6
Slab, for sharpening tools, &c.	(„ 10)	„	2	6
Countersink, round, for hollowing Mineral Teeth	(„ 11)	per doz.	1	0
Point, oval, to fit Hand Porte Polisher . .	(„ 12)	„	1	0

All the above, except Point, Fig. 12, are made in three grits, which are known as **fine, medium,** and **coarse.** Fig. 12 is only made in **fine** and **medium.** When ordering, please be careful to state which grit is required.

Files, Figs. 1, 2, 3, 4, 5, 7, and 8, are intended for use in the mouth, for cutting down stumps, &c. They are very extensively used for this purpose, cut much more quickly, and with less vibration than a steel file. They should be frequently dipped in water during use. They can also be advantageously employed for reducing Mineral Teeth, when visiting, should a lathe not be available.

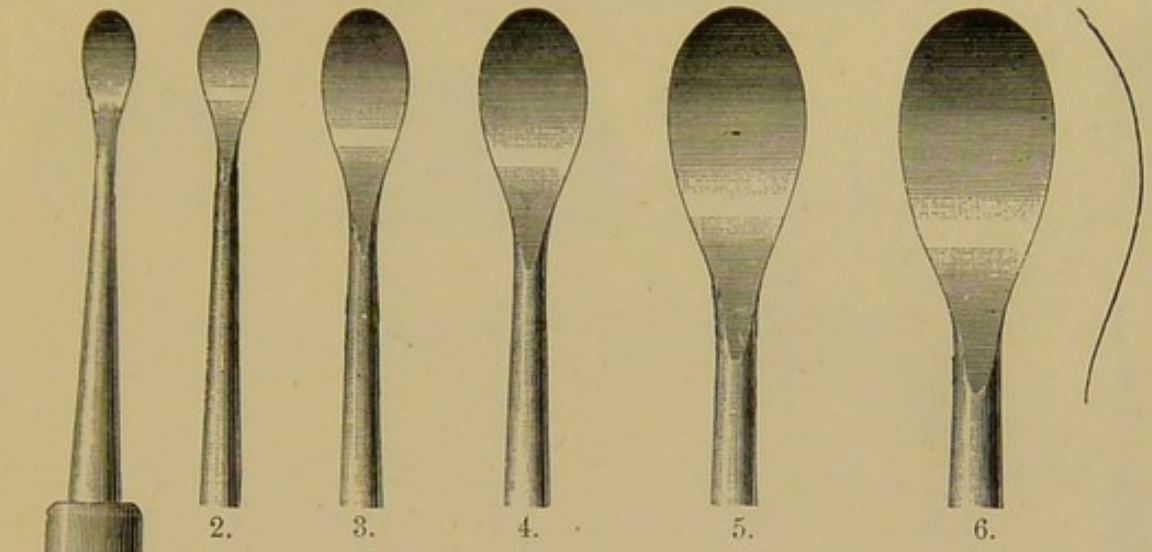
Files and Slabs, Figs. 6, 9, and 10, are suitable for sharpening instruments and tools. It is advisable to commence on the Corundum, and finish off on Arkansas, Washita or Turkey stone.

The Countersink, Fig. 11, will fit Fig. 4 Chuck on page 46, and Fig. 8 on page 49, both of which are designed for use on our Lathe Heads.

POLISHING MATERIALS.

		s.	d.
Corundum Flour	per lb.	3	6
„ „	per box	0	6
Crocus	per lb.	0	6
Pumice Powder, superfine	„	0	4
„ „ „	per 7 lb. bag	1	3
„ „ fine	per lb.	0	4
„ „ „	per 7 lb. bag	1	3
„ „ coarse	per lb.	0	3
„ „ „	per 7 lb. bag	1	3
Rouge	per lb.	3	0
„	per box	0	6

KINGSLEY'S VULCANITE FINISHERS.

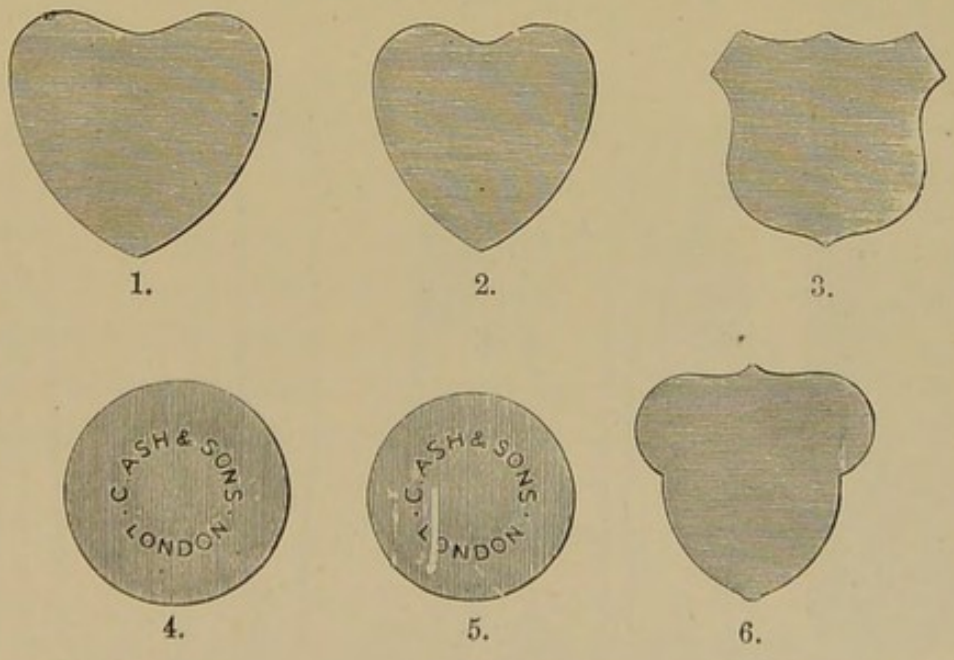


The illustrations show the full size of each blade; Fig. 1 shows the full length of each with handle: and the outline on the side of Fig. 6 shows the curve of the blade.

	s.	*d.*
In polished Steel, with Wooden handles (Figs. 1–6) each	1	0

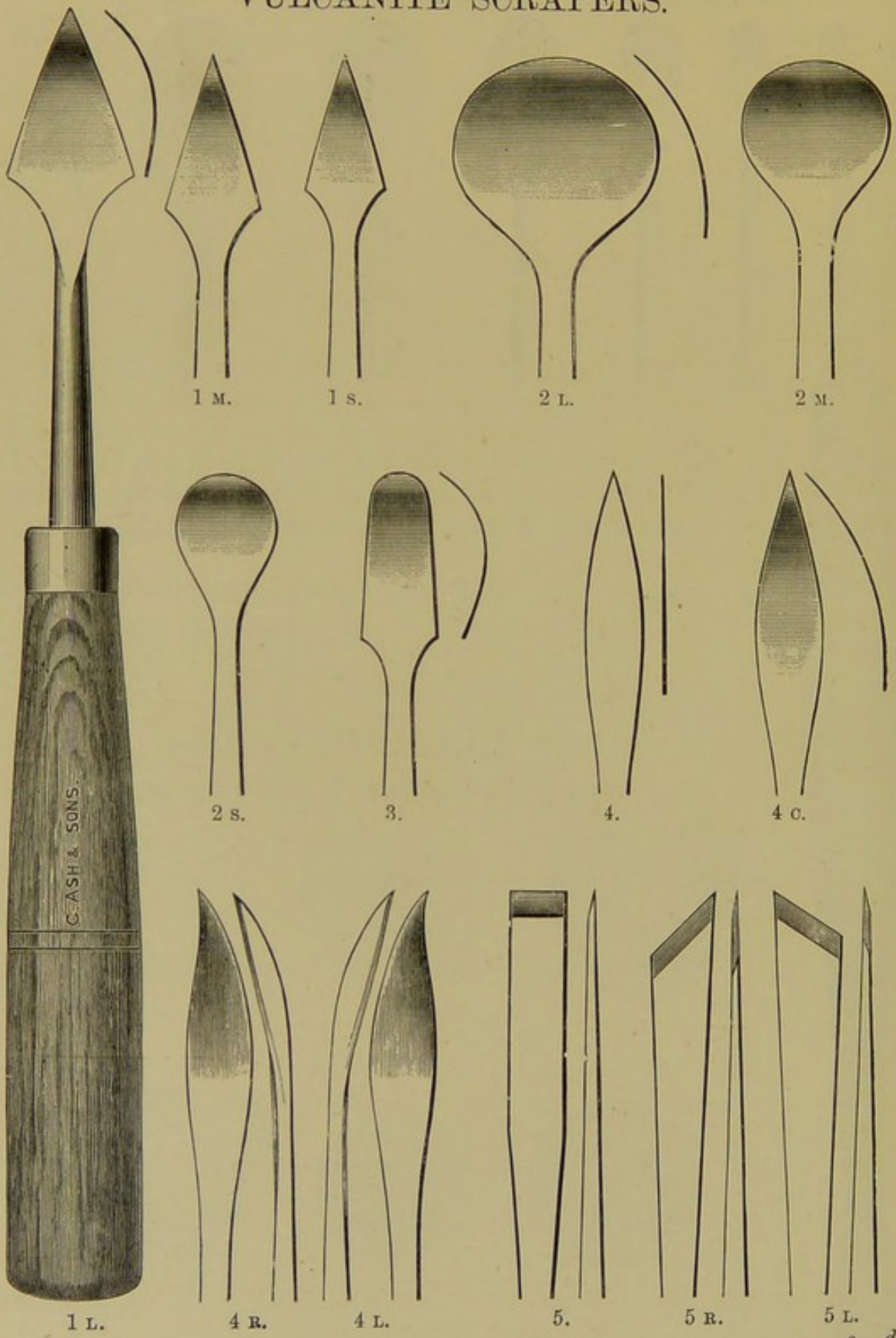
SOFT METAL PATTERNS.

For forming Air-Chambers in Vulcanite Plates.



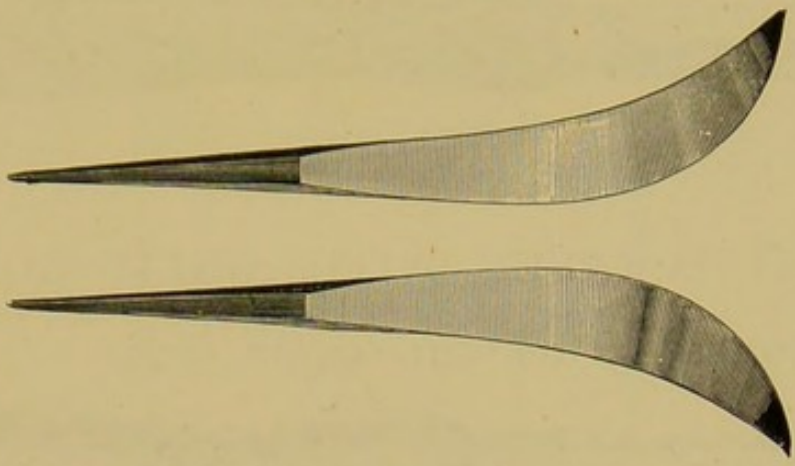
	s.	*d.*
Price, any kind, thick or thin . . . . per doz.	1	0

VULCANITE SCRAPERS.



	s.	*d.*
Price, any size or shape, in wooden handle like Fig. 1 . . each	1	0

VULCANITE SCRAPERS—*CONTINUED.*



6.—Right.

7.—Left.

			s.	*d.*
Curved, right and left with Tang	(Figs. 6, 7)	each	0	7
Wooden Handles, round, half-round, inverted cone and pear-shaped . . .	per doz. 1/3	„	0	1½

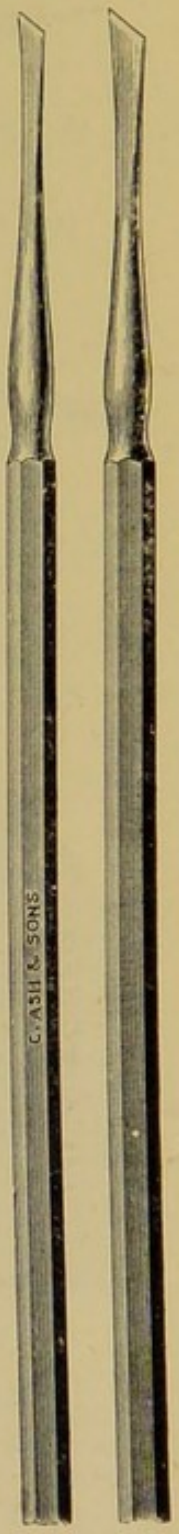
VULCANITE CUTTERS.

(Mr. E. LLOYD WILLIAMS'.)

Mr. Lloyd Williams thus describes them:

These tools, made in two sizes, will be found useful for finishing vulcanite work. They are invaluable for clearing —and leaving smooth—the V-shaped spaces between teeth, and for defining the cervical border of the vulcanite in front and the shoulder of the tooth at the back. Using the thumb as a support, they may also be employed for "planing down" any surface which requires reducing.

			s.	*d.*
Price	(Figs. 8 and 9)	each	0	8



8. 9.

Scrapers and Cutters of all kinds, for vulcanite work, made or obtained to order.

BAYONET SCRAPER WITH LONG BLADE
FOR GOLD OR VULCANITE WORK.

6½ inches long.

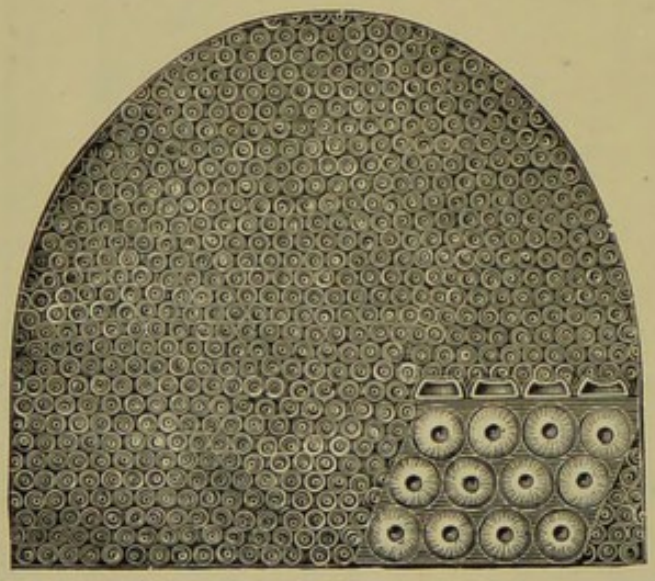
	s.	*d.*
In Polished Steel with Ebony Handle	2	0

BAYONET SCRAPER WITH SHORT BLADE
(Berlin Klinik Pattern),
FOR GOLD OR VULCANITE WORK.

6½ inches long.

The rounded part of this tool near the blade affords a comfortable and safe hold for the thumb and finger.

	s.	*d.*
In Polished Steel with Ebony Handle	2	0



Full Size.

SPYER'S COHESION SURFACE FORMERS,

FOR ARTIFICIAL DENTURES.

The enlargements at the right hand side of the illustration show the Formers magnified three diameters.

Directions for Using Spyer's Cohesion Surface Formers:

Mr. Walter Sutton, of London, says: "For rendering Spyer's Cohesion Formers thoroughly useful, I find the following method answers admirably:—

Gently press the form on the model and cut to the required shape. Then well wet the model with water; have some very thin plaster of Paris, and with a camel-hair brush lay it on the inside of the form; replace the form on the model, gently press out the excess of plaster, let it set, pack in the usual way, and there will be no fear of pressing the form out of shape.

Of course this method can be applied when vulcanizing on the model. I generally do it before commencing to wax up."

	s.	*d.*
In Pure Tin . . . . . per box of 1 doz.	1	0

SCULPTORS.

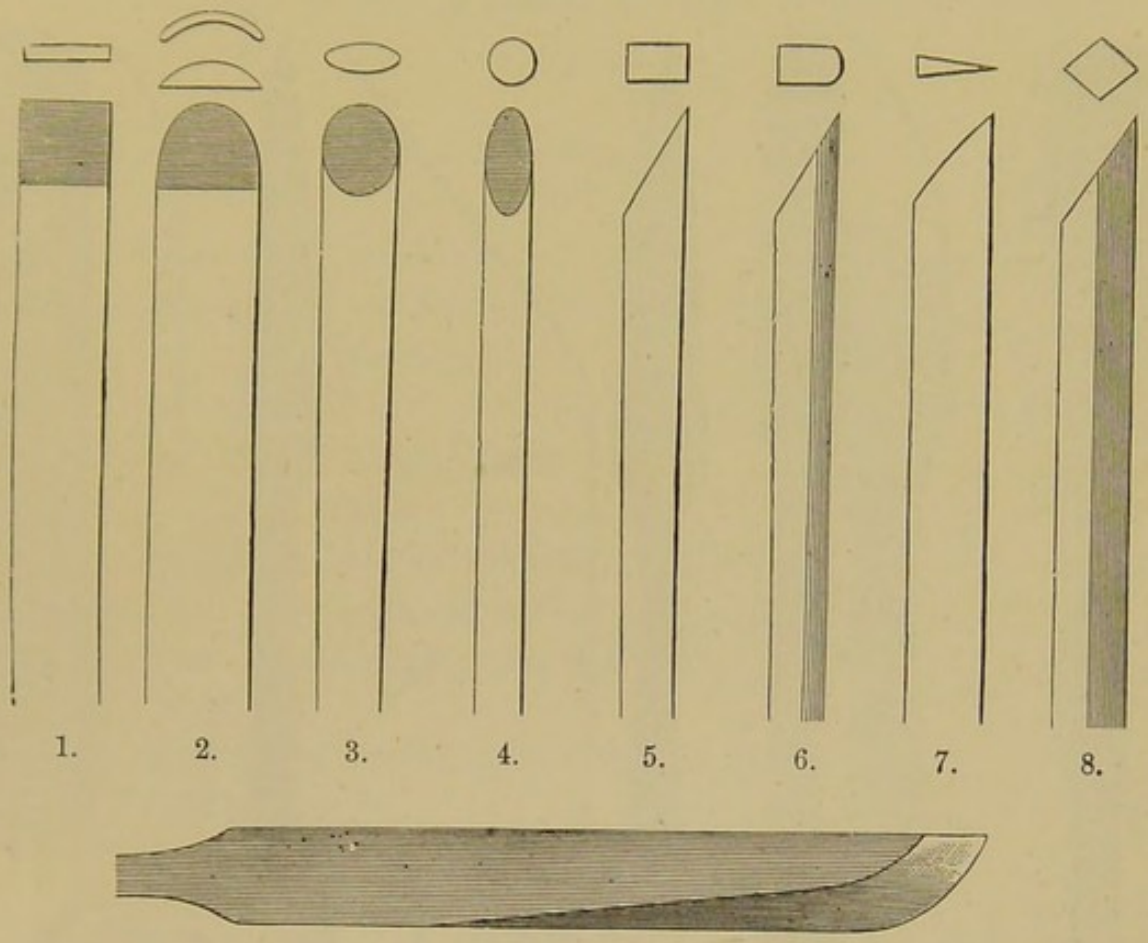


FIG. 9 (Right side).

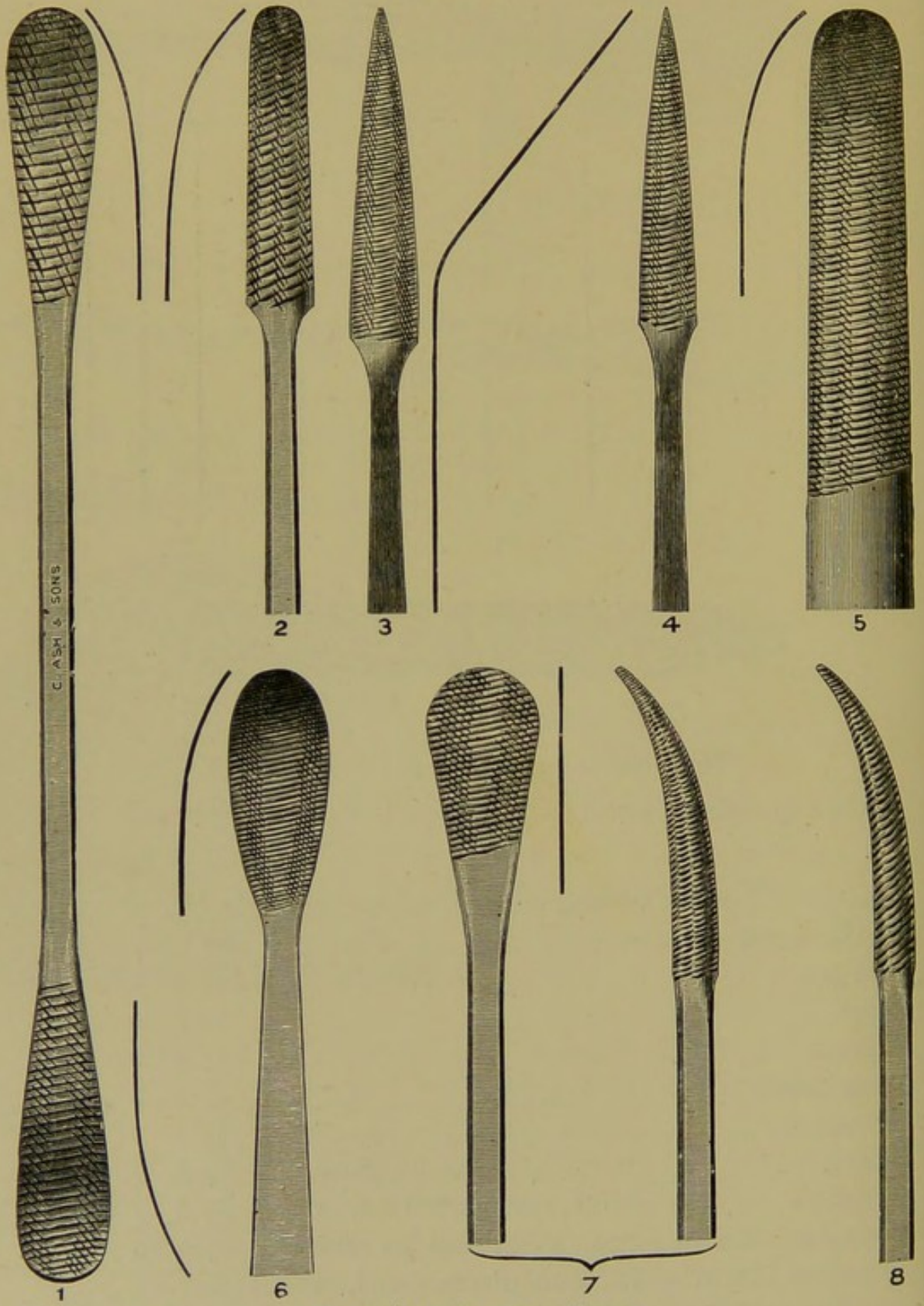
The illustrations represent the broad sizes.

The top section, over Fig. 2, shows a Gouge or Hollow Sculptor.

		Per doz.		Each.	
		s.	*d.*	*s.*	*d.*
Flat	(Stubs'), broad, medium, and narrow (Fig. 1)	3	9	0	4
Half-round	„ „ „ „ („ 2)	3	9	0	4
Gouges	„ „ „ „ („ 2)	5	6	0	6
Oval	„ „ „ „ („ 3)	3	9	0	4
Round	„ „ „ „ („ 4)	3	9	0	4
Flat Edge	„ „ „ „ („ 5)	3	9	0	4
Round „	„ „ „ „ („ 6)	3	9	0	4
Sharp „	„ in one width, as illustrated („ 7)	3	9	0	4
Gravers	„ broad, medium, and narrow („ 8)	3	9	0	4
Bevelled, Knife edge, in right and left sides	(„ 9)	5	6	0	6
Wooden Handles for Sculptors, round, half-round, and pear-shaped		1	3	0	1½

RIFFLERS FOR VULCANITE WORK

(STUBS').



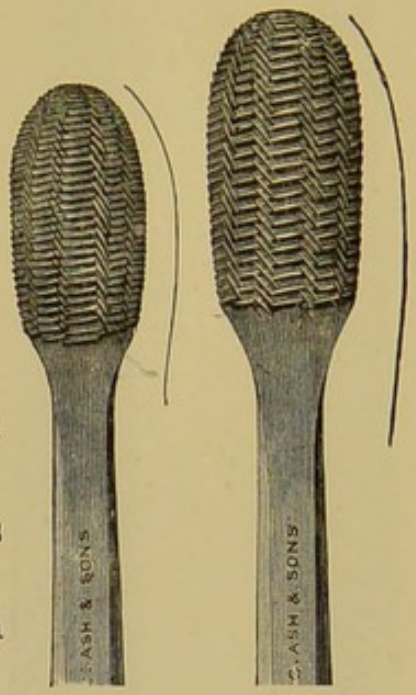
For prices, etc., see next page.

RIFFLERS FOR VULCANITE WORK—*CONTINUED*

(STUBS').

All double-ended except Fig. 5.

Fig. 1. Oval, thin, curved, cut all over.
„ 2. Half-round, curved, cut one side.
„ 3. „ thin, bent „
„ 4. „ „ „ „
„ 5. „ thick, curved „
„ 6. „ thin „ „
„ 7. Round one end, flat other end, cut all over.
„ 8. „ both ends and curved „ „
„ 9. Half-round, curved, rough cut, both ends alike.
„ 10. Half-round, curved, extra rough cut, both ends alike.



9v. 10v.

		s.	d.
Price, any form	each	0	7½

All kinds of Vulcanite and other Rifflers supplied to order.

GLASS CLOTH.

IN SHEETS.

Made in the following grades :—

No. 0 . . .	Extra superfine.
„ 1 . . .	Superfine.
„ 1½ . . .	Fine.
„ F/2 . . .	Medium.
„ M/2 . . .	Coarse.
„ S/2 . . .	Extra Coarse.

		s.	d.
Price, any grade,	per quire	1	9

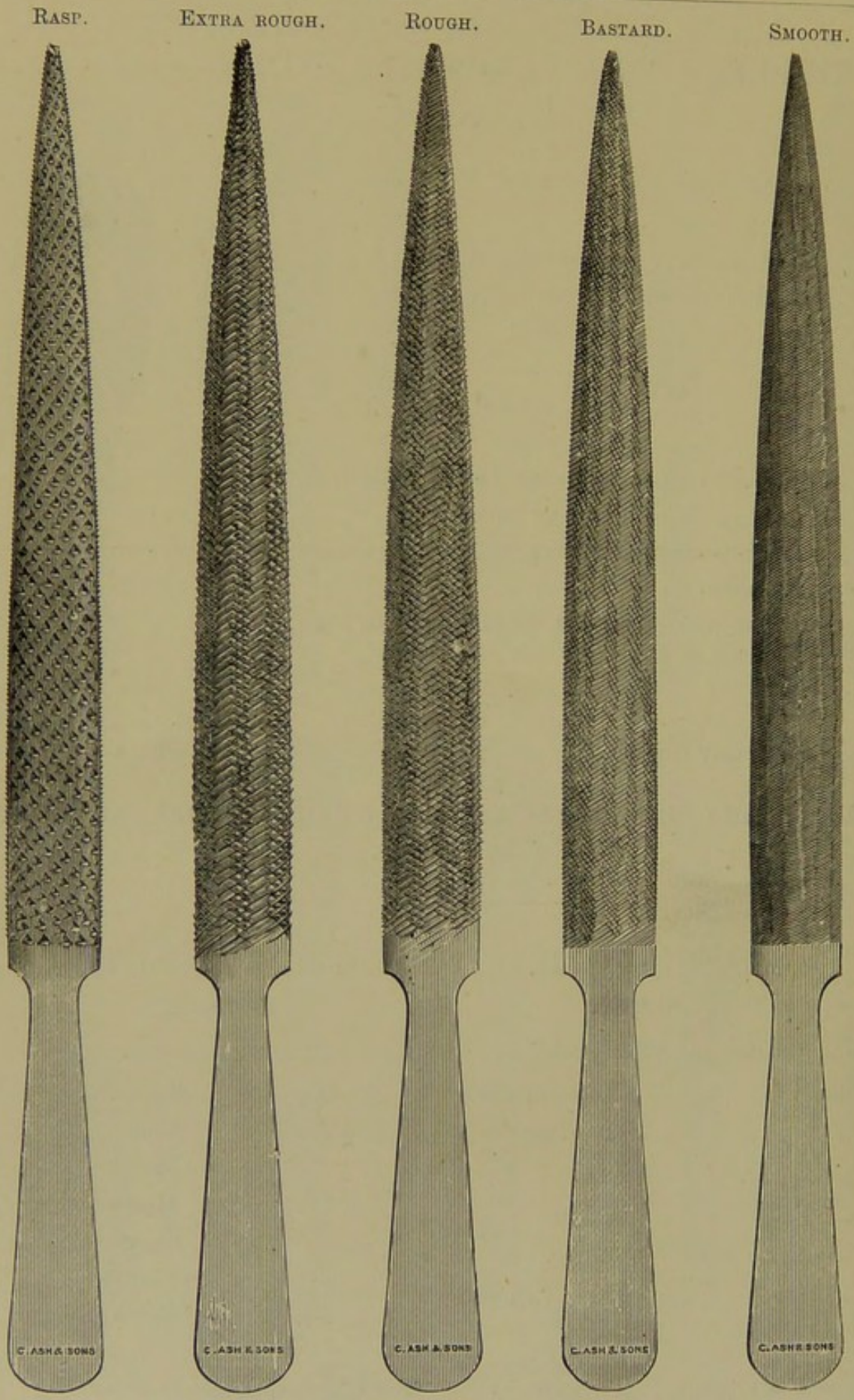
EMERY CLOTH.

IN SHEETS.

Made in the following grades :—

No. O.. . .	Superfine.
F. F. . . .	Fine.
F.	Medium Fine.
No. 1 . . .	Medium.
„ 1½ . .	Coarse Medium.
„ 2 . . .	Coarse.
„ 3 . . .	Extra Coarse.

		s.	d.
Per quire, supplied to order		1	9


RASP.
EXTRA ROUGH.
ROUGH.
BASTARD.
SMOOTH.
C. ASH & SONS
C. ASH & SONS
C. ASH & SONS
C. ASH & SONS
C. ASH & SONS

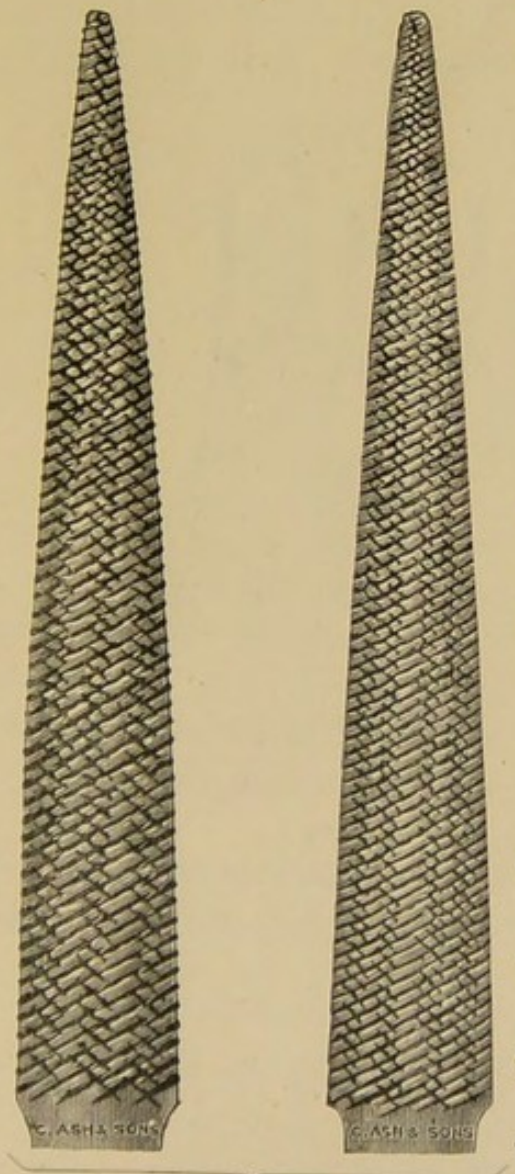
STUBS' FILES—*CONTINUED.*

FOR METAL AND VULCANITE WORK, &c.

The illustrations on the previous page show different styles of 4½-inch Files full size. In the larger sizes the cuts run somewhat coarser. The Bastard and Smooth are intended for Metal Work, the other kinds for Vulcanite work. When ordering, please be careful to state which kind is required, and in giving the length do not include the steel handle.

HALF ROUND.

									s.	*d.*
Files and Rasps, with Steel handles,				4	inches	long,	any kind	each	0	8
,,	,,	,,	,,	4½	,,	,,	,,	,,	0	9
,,	,,	,,	,,	5	,,	,,	,,	,,	0	10
,,	,,	,,	,,	6	,,	,,	,,	,,	1	0



8 inches long.

DOUBLE-ENDED FILE,

FOR VULCANITE WORK

(STUBS').

Half-round, one end extra rough, the other end rough.

	s.	*d.*
Price	1	2

		s.	*d.*
Tube Files, English	per doz.	1	6
,, ,, **French**	,,	2	9
Needle ,, German, pointed	,,	0	6

Other Files of every description supplied to order.

	s.	*d.*
Wire File Cleaner on wooden block, with blunt ends . each	0	6
Wire File Cleaner on wooden block, with handle . . each	0	6
Tin Filing Tray, with sifter, cap and rim . . . . each	3	9
Wooden Handles for Tang Files . . . each, from 1½*d.* to	0	3

PLATE GAUGE AND SCREW PLATE

(STUBS').

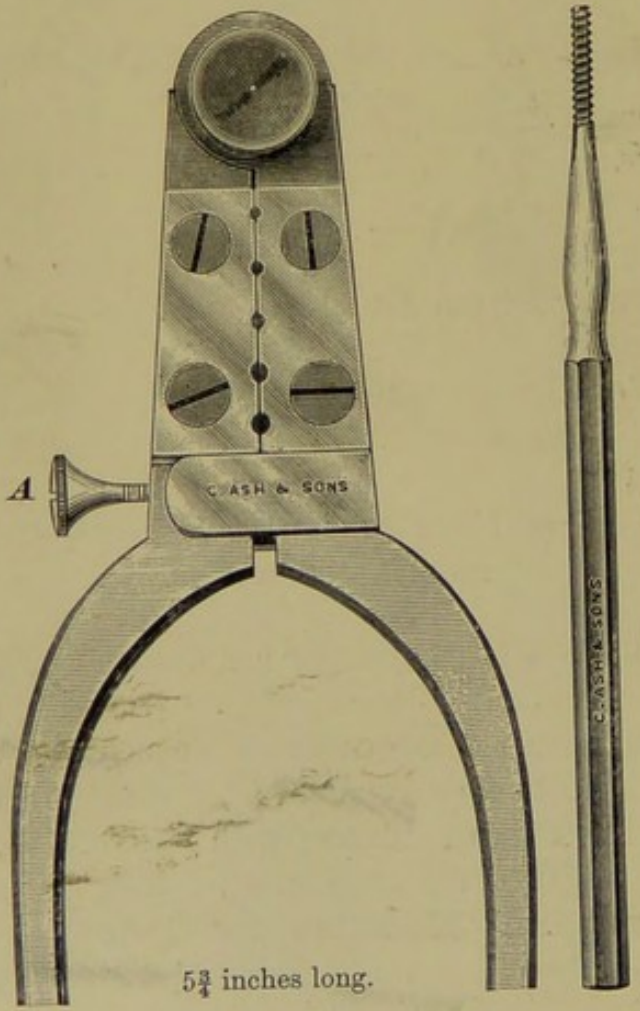
PLATE GAUGE.

SCREW PLATE.

		s.	*d.*
Plate Gauge, small sizes, 1–20		5	6
Screw Plate, notched, with six taps		5	3
Extra Taps	per set of 6	1	3

FOR ASH'S PLATE AND WIRE GAUGE, see LIST M.

SCREW DIE AND TAPS.



5¾ inches long.

The Screw Die here shown is a strong, thoroughly well-made and serviceable tool. It is so clearly represented in the engraving that a description of it is unnecessary.

The handles can be opened and fixed where desired by means of the set-screw ***A***.

	s.	*d.*
Price complete with 5 Taps, various sizes, as illustrated	24	0

TOOTH-HOLDING PLIERS

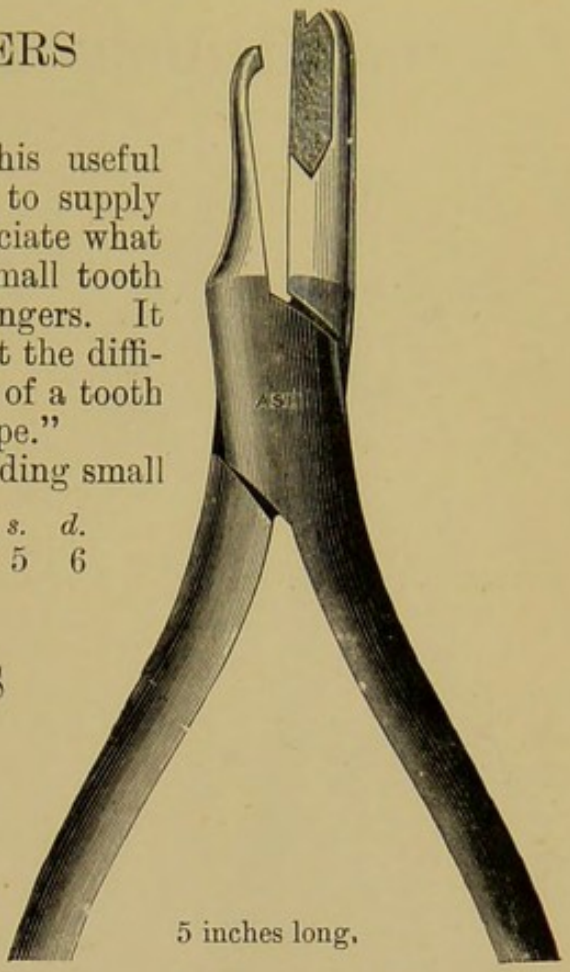
(Mr. G. NORTHCROFT'S).

Mr. Northcroft thus speaks of this useful tool :—"These Pliers were constructed to supply a long-felt want. Everyone must appreciate what a difficulty it is to hold and file up a small tooth backed with metal without filing the fingers. It will be found by using these Pliers that the difficulty is overcome, and that the backing of a tooth can speedily and easily be filed into shape."

The Pliers may also be used for holding small teeth against a corundum wheel.

s. d.

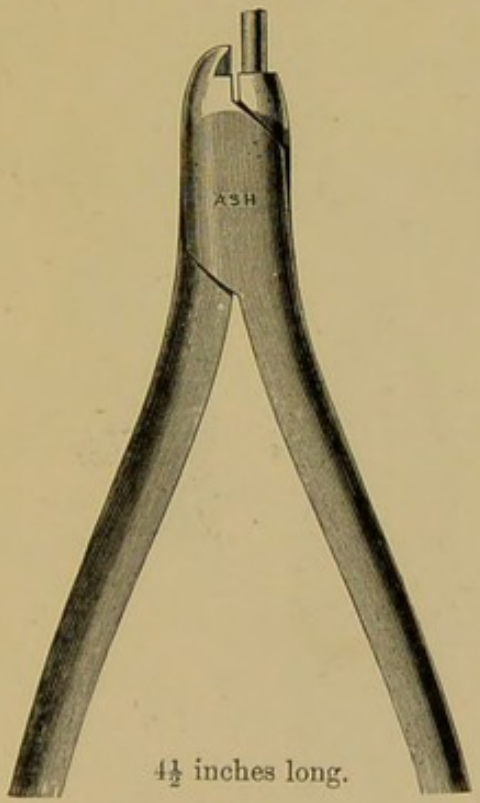
Price 5 6



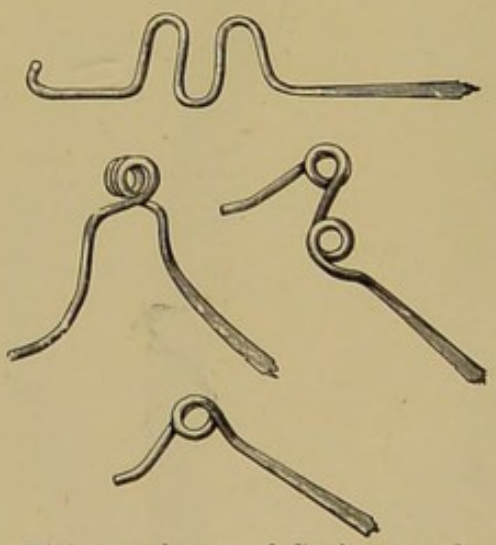
5 inches long.

SPRING-MAKING PLIERS

(Introduced by Mr. G. NORTHCROFT).



4½ inches long.



Different forms of Springs made with the Pliers.

"These Pliers," states Mr. Northcroft, "are after a design of Prof. W. H. Dorrance, and will be found to greatly simplify the bending of pianoforte wire into Talbot coils, etc., for regulation cases. The springs produced by them are bent evenly and symmetrically, and are hence much neater and more efficient in use than springs that are made with a tool that is not specially adapted for the purpose."

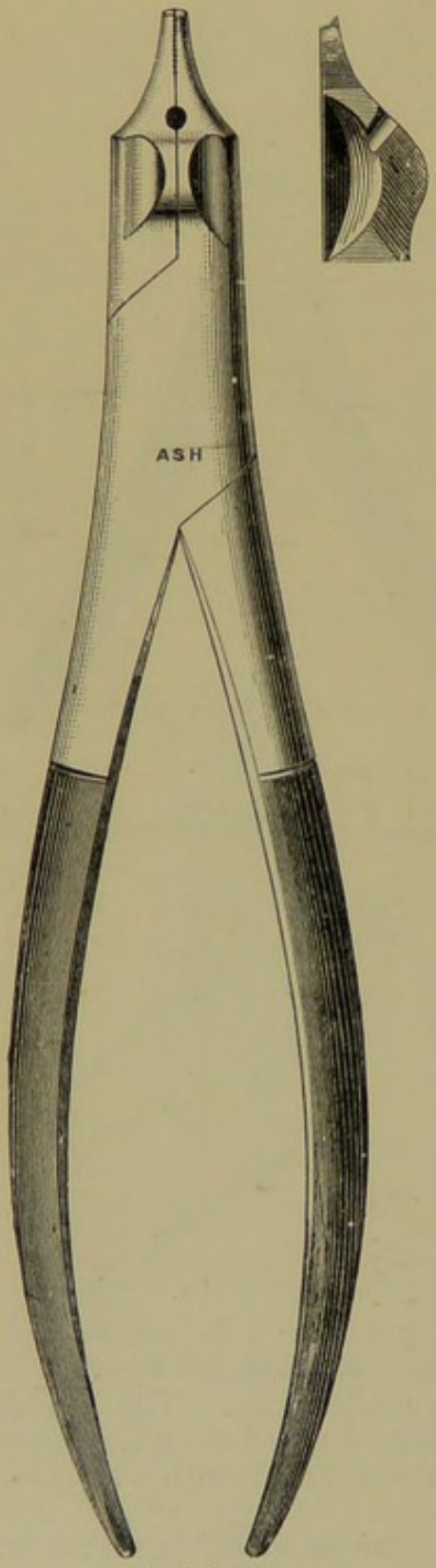
The springs illustrated are drawn from patterns kindly furnished by Mr. Northcroft.

s. d.

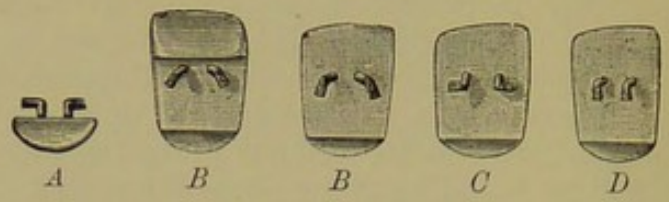
Price of Pliers 4 6

PIN-ROUGHING AND BENDING PLIERS

(C. ASH & SONS').



FULL SIZE.



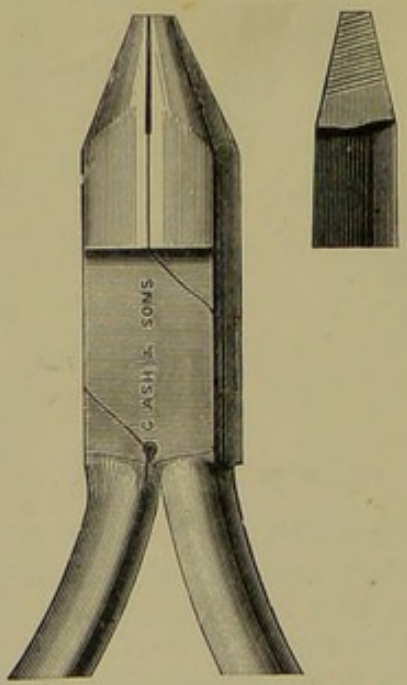
A *B* *B* *C* *D*

This is the most useful tool ever devised for cutting, roughening, and bending the pins of flat and vulcanite teeth.

To obtain the best results the pins should be bent as nearly as possible at right angles—see Fig. *A*—and in such a direction that they will grasp the vulcanite in the thickest part. In the several illustrations given above, Fig. *B* shows the most usual bend.

	s.	*d.*
Pliers, as illustrated, Nickel-plated .	5	0

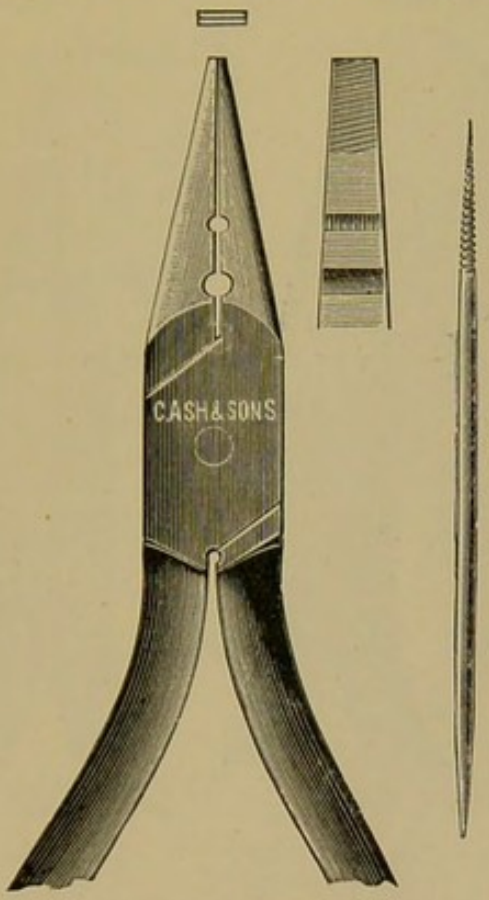
COMBINED PLIERS AND CUTTING NIPPERS.



	s.	*d.*
In bright steel, 4½ inches long . .	2	6
Ditto, Nickel-plated, **to order** .	3	3

SCREW-CUTTING PLIERS

(Suggested by Mr. R. P. LENNOX).



With straight chops. Designed for use in the **Operating** Room.

ADAPTED FOR–

(1) Cutting a thread on a tapering wire to make a screw post which will tap for itself a root to be filled or crowned.

(2) Grasping a strip of copper about a bicuspid root in crowning.

(3) Inserting and removing cone-socket points.

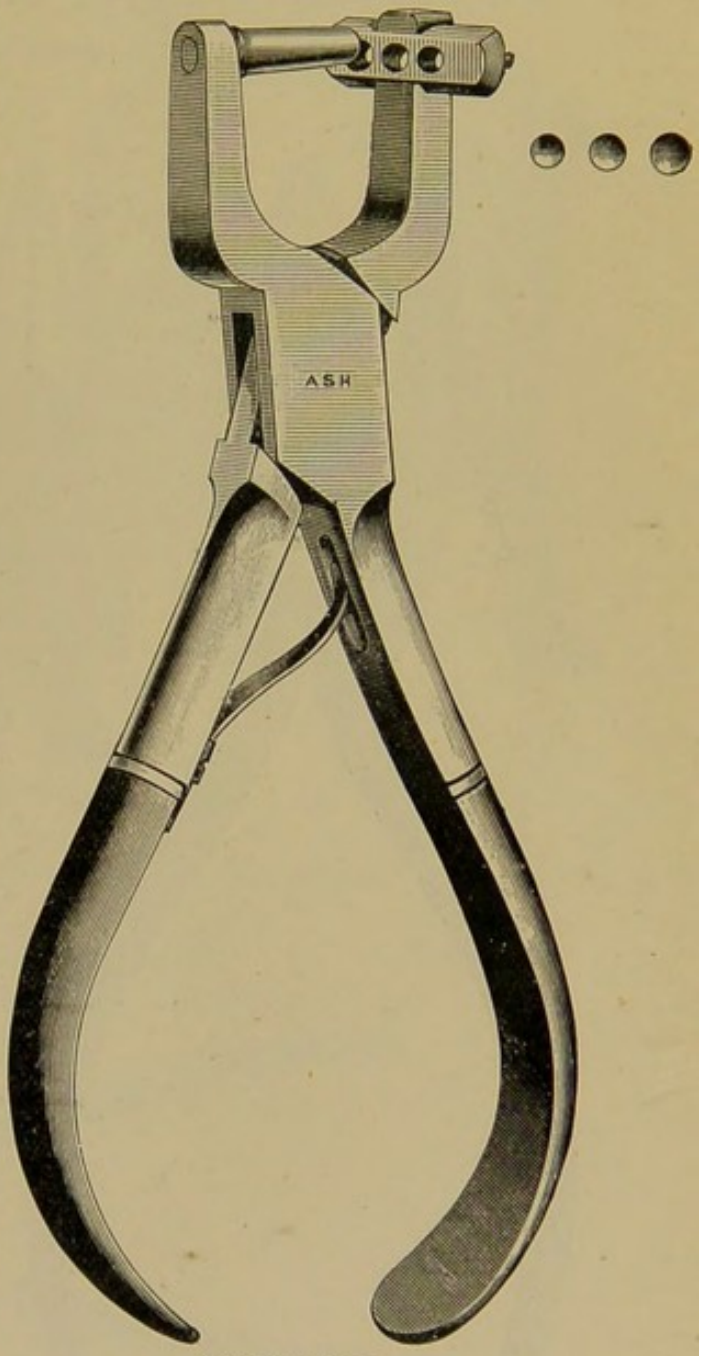
It is also a useful tool in the **Workshop** for general purposes, in particular for bending the pins in pin-teeth, and for adjusting the pins for tube-teeth, the long slender chops being especially fitted for these purposes.

	s.	*d.*
Pliers, 5 in. long, Nickel-plated	3	6

L

CAVITY CAP PUNCH

(Mr. G. NORTHCROFT'S).



6 inches long.

For punching out Metal Pulp-Caps.

With this tool correctly shaped caps in three different sizes can be made by the Operator from an ordinary thin sheet of white metal or telephone plate.

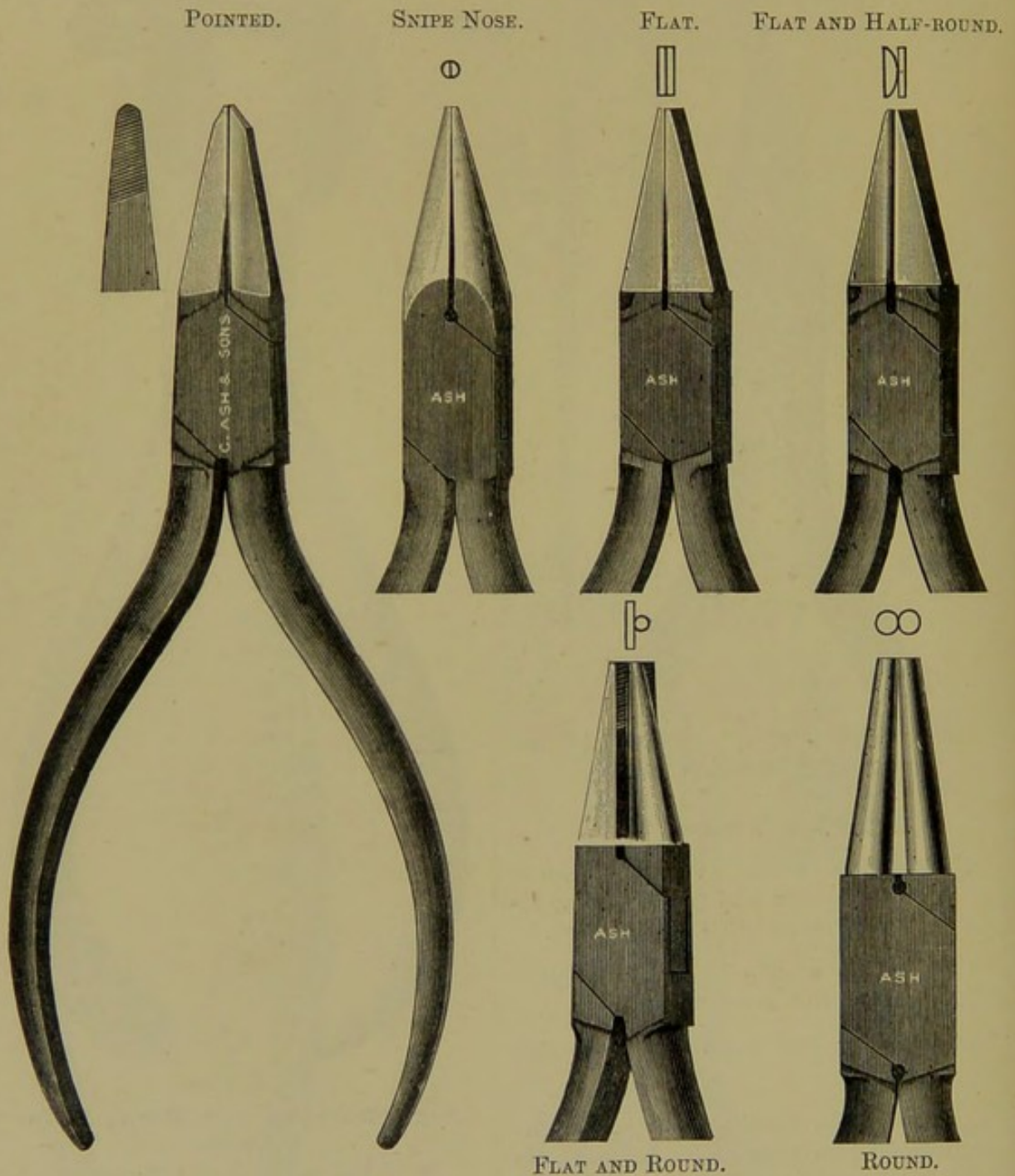
	s.	*d.*
Punch, in polished Steel, with black handles . . .	7	0

G

WORKROOM PLIERS

(STUBS').

The Pliers here illustrated are made in two sizes, $4\frac{1}{2}$ and 5 inches long ; in ordering, please specify the size required.



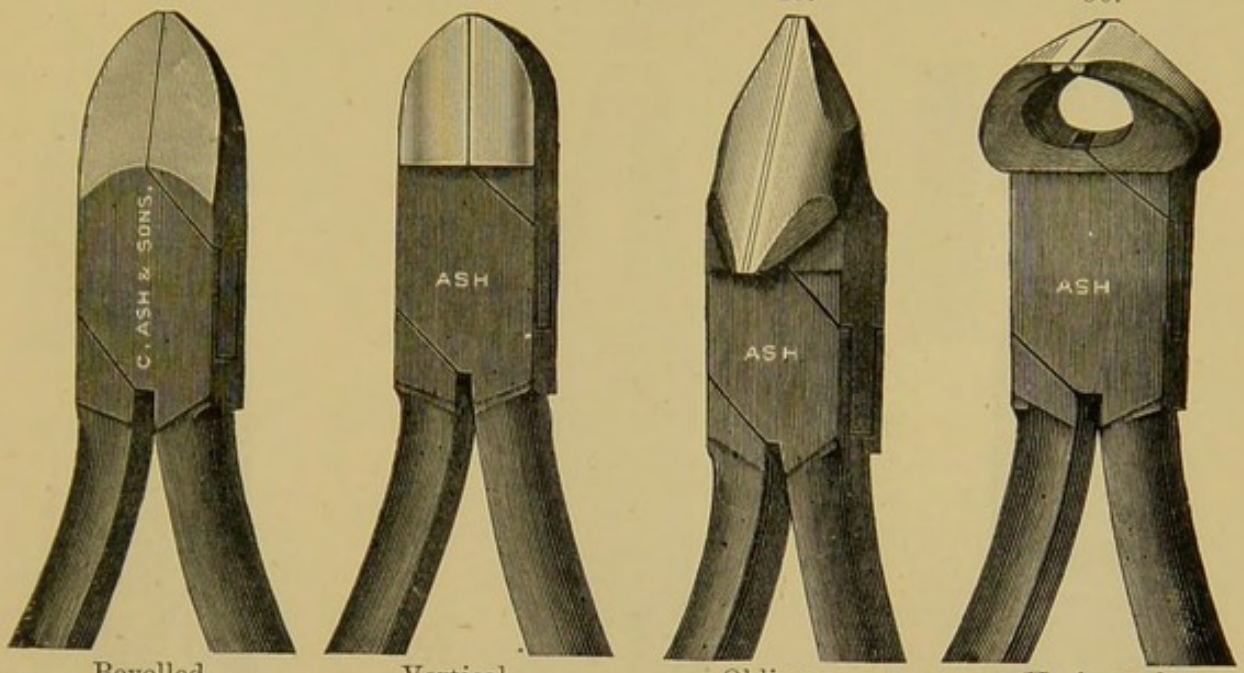
Prices, any kind, either size :

		s.	d.
Dull black, with bright chops	each	1	3
Polished bright all over	„	1	6
Nickel-plated, for use in Operating Room, **to order** . .	„	2	3

CUTTING NIPPERS
(STUBS').

Made in two sizes, 4½ inches and 5 inches long, with bevelled, vertical, oblique and horizontal chops.

47. 48. 49. 50.

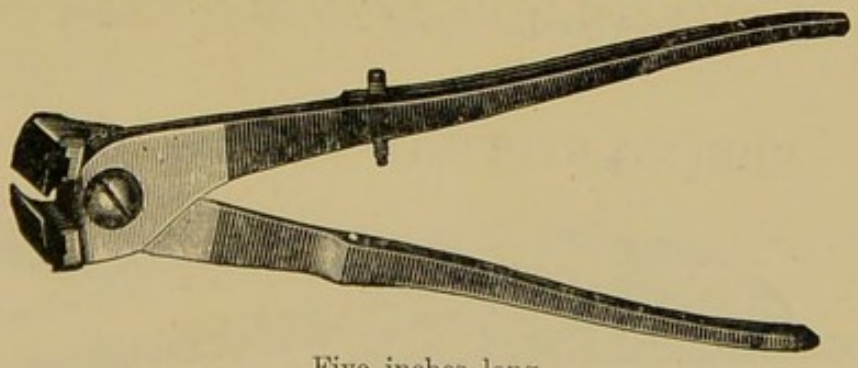


Bevelled. Vertical. Oblique. Horizontal.

PRICES:

		s.	d.
Cutting Nippers, any form, either size, black	each	2	3
" " " polished all over . .	"	2	9
" " " Nickel-plated, **to order**	"	3	3

CUTTING NIPPERS,
WITH INTERCHANGEABLE JAWS.



Five inches long.

These Nippers are simple, strong and durable, and will effectually cut steel wire 2 mm. in diameter, or soft wire 3 mm. in diameter, without breaking.

PRICES:

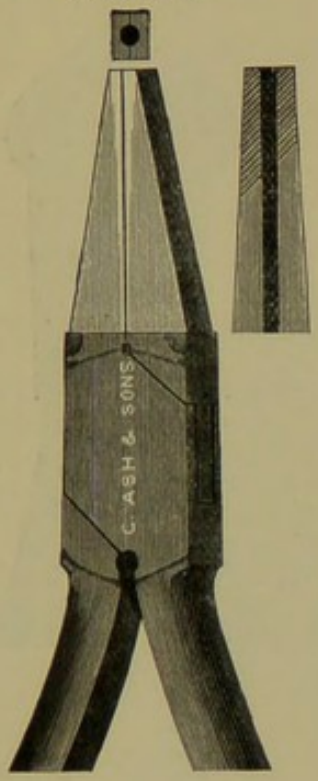
		s.	d.
Cutting Nippers, complete, as illustrated	each	3	0
Extra Jaws for the same	"	1	0
Extra Screws for securing the Jaws in position . .	per doz.	1	0

WORKROOM PLIERS

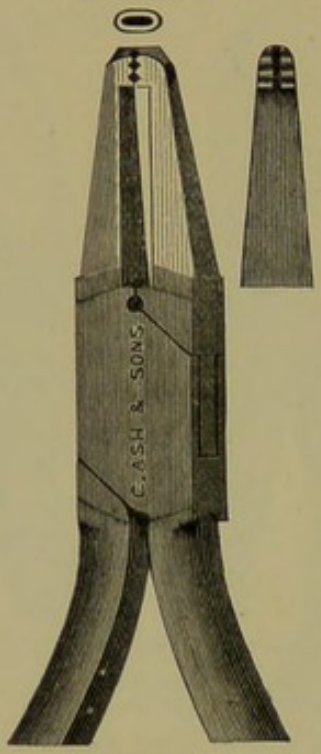
(STUBS').

Made only in one size, 5 inches long.

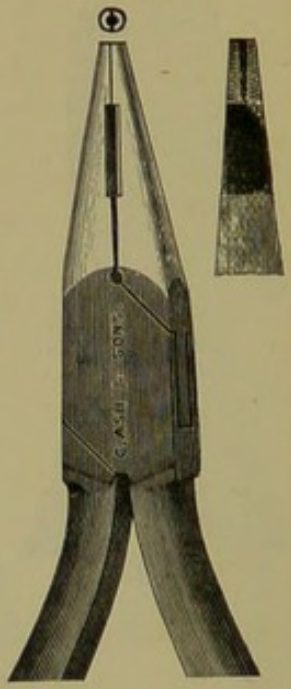
GROOVED.



ROUGHING.



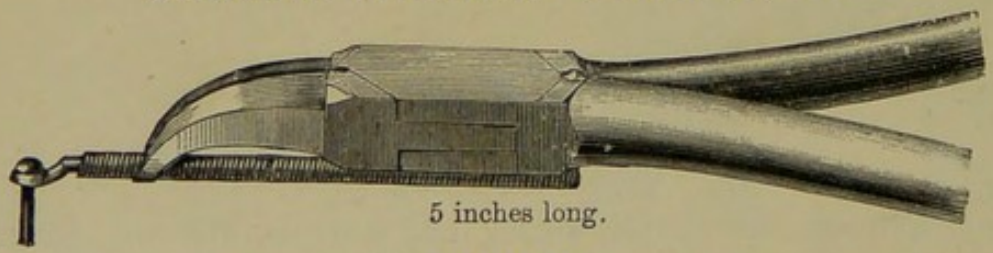
SWIVEL.



PRICES:

		s.	d.
Grooved Pliers, for holding pins, black.	each	1	6
Roughing „ „ roughening „	„	2	0
Swivel Pliers (Mr. Miles's), for reducing the tangs of swivels when they are too large for the springs . . .	„	2	3
Any of the above Nickel-plated, *to order*	extra „	1	0

SPRING-FITTING PLIERS, ETC.



5 inches long.

PRICES:

		s.	d.
Spring-Fitting Pliers (Mr. Edwards'), used for forcing springs on to the tangs of swivels, or for pulling them off without injuring the springs; bright all over . .	each	2	9
India-rubber Tubing, red, for fitting over springs to prevent friction in the mouth	per foot	0	3

MODELLING AND SOFT-SOLDERING TOOL

(DR. P. LADMORE'S).

MODELLING TOOL.

Full size.

For waxing-up and soft-soldering this tool is invaluable.

Dr. Ladmore says : "I find it useful for many purposes in the workroom, such as rubbing down the unequal parts when waxing-up a piece, smoothing rubber when packing on the model, and for soft-soldering. By fixing the rubber tubing to the bulbous connection on the lower end, and attaching to an ordinary gas jet—the smallest supply will be found sufficient to work it efficiently—and using a flame not more than an eighth of an inch long, the soldering bit will become hot enough to melt wax or smooth dental rubber. A flame from half to three-quarters of an inch in length will readily run soft solder, which is useful when making special impression trays, or doing any work of a similar nature.

When a piece is waxed-up, the soldering-bit can be slipped out of the socket ; and with a small flame, an eighth of an inch long, the tool can be used for finally smoothing the surface of the wax by applying the flame like a paint-brush."

		s.	*d.*
Price	each	3	0
India-rubber Tubing .	per foot	0	6

SPATULA, &c.

Full size.

WAX SPATULA AND BURNISHER

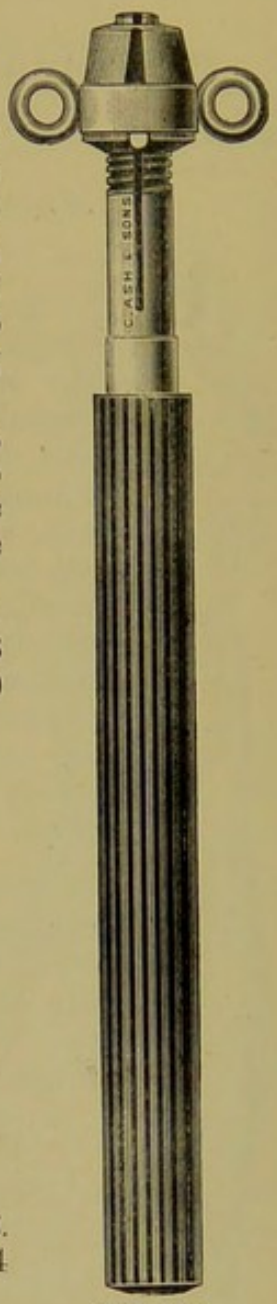
(DR. P. LADMORE'S).

Dr. Ladmore finds this very useful in practice. The Burnisher is designed for working the sheet lead on the model when preparing a pattern for a metal plate ; it will also be found useful, if warmed, for smoothing wax. The Spatula, on account of its novel shape, forms an excellent wax knife.

	s.	*d.*
Price . . . . . each	**1**	**9**

WIRE OR BROACH HOLDER.

(Mr. R. P. LENNOX'S.)



Full size.

Mr. Lennox states that a Wire or Broach Holder "is of great use in inserting screw-posts, but," he continues, "if the holder is light and small, as it should be for use in the mouth, there is difficulty, owing to the smallness of the milled nut, in screwing it up tightly enough to give the holder sufficient purchase upon the tapped wire, and its slipping involves an annoying loss of time.

Accordingly, having made a groove along the nut, I have fitted to the latter a small spanner with a feather corresponding to this groove, and have since had no difficulty in making the holder grasp the wire securely."

	s.	*d.*
Holder, complete with spanner, as illustrated .	2	3
3 Holders and one Spanner	3	9

LONG TAPERED FIVE-SIDED BROACHES.

(STUBS'.)

No. 44.—Large.
„ 46.—Tube Teeth Pin Size.
„ 49.—Smaller than Pin Size.
„ 53.—Small.
„ 55.—Extra Small.
„ 60.—Smallest.

	s.	*d.*		*s.*	*d.*
Price, any size . . each	0	2½	. per doz.	2	4

SHORT PARALLEL FIVE-SIDED BROACHES.

KNOWN ALSO AS BROACH DRILLS.

(Stubs'.)

LARGE, MEDIUM AND SMALL.

	s.	*d.*		*s.*	*d.*
Price, any size . . . . . each	0	2½	. . per doz.	2	4

	s.	*d.*
Broach Handles, bone, with screw socket . . . . each	0	4
„ „ wood . . . . each 1½*d.*; per doz.	1	3

Full size.

BROACH HOLDER

WITH SCREW CLAMP.

	s.	*d.*
Price, in neat black vulcanite handle	1	0

WIRE AND BROACH HOLDERS,

WITH SPLIT-CHUCK AND SCREW CLAMP.

They are pierced from end to end, and are durable. Made in two sizes, large and small, to carry wire of different thicknesses and broaches of various sizes.

PRICES:

	s.	*d.*
No. 1, large, 4 inches long	1	0
„ 2, small, $3\frac{3}{8}$ „ „	1	0

EBONY BROACH HOLDER,

WITH UNIVERSAL SOCKET AND SCREW CLAMP.

Full size.

This is one of the most useful Broach Holders that we have ever seen. There is a hole right through the handle, that admits the broach, which can thus be made long or short as desired and kept thoroughly under control.

The tangs should be removed from the largest sizes of broaches, and, to avoid straining the universal socket, it is advisable to fix the broach in the Holder by passing the point through the hole in the handle and drawing it up through the socket as far as necessary.

It will also serve as a Nerve Instrument Holder.

		s.	*d.*
Price	each	1	6

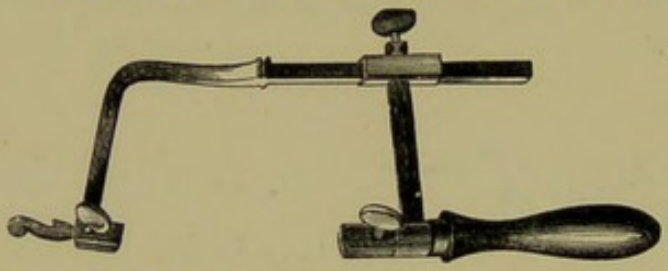
ASH'S TOOTH HOLDER.

5 inches long.

For holding mineral teeth when grinding. It is equally useful for teeth with vertical or horizontal pins, the T-shape slot being designed to take both.

		s.	*d.*
In bright steel, wooden handle	each	1	3

PIERCING SAW FRAME.



		s.	*d.*
Piercing Saw Frame	each	2	6
Blades, narrow to broad, fine to coarse cut . .	per gross	3	0
,, ,, ,, ,, . .	,, doz.	0	4
Circular Saws for Lathes, 1 to 4 inches diam.	,, inch	1	0

Files for sharpening Saws supplied to order.

SPIRAL TWIST FRET SAW.

This saw is adapted for cutting wood and metal, and can be used either in the saw-frame or fret-machine.

It is very useful for cutting vulcanite or wood, but not so good for cutting precious metals, because it makes a larger slit than is desirable where economy is a consideration.

It is so constructed that the teeth project from all sides—*see illustration.* The advantages thus obtained are said to be that—

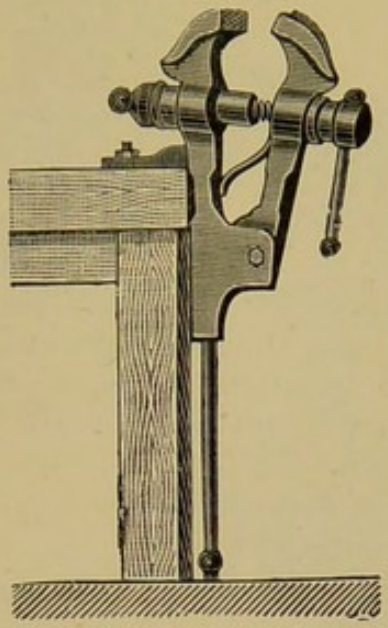
1. It will cut in any direction, so that it is not necessary to turn the work.
2. It never sticks fast, but constantly frees itself.
3. It is stronger than any other saw.
4. It retains its cutting powers longer.
5. It cuts more rapidly than any other.

It is made in the following seven sizes, 00, 0, 1, 2, 3, 4, 5—No. 00 being the smallest, and No. 5 the largest size. The four smallest sizes are the most suitable for dentists.

		s.	*d.*
Price, any size	per doz.	0	6

VICES.

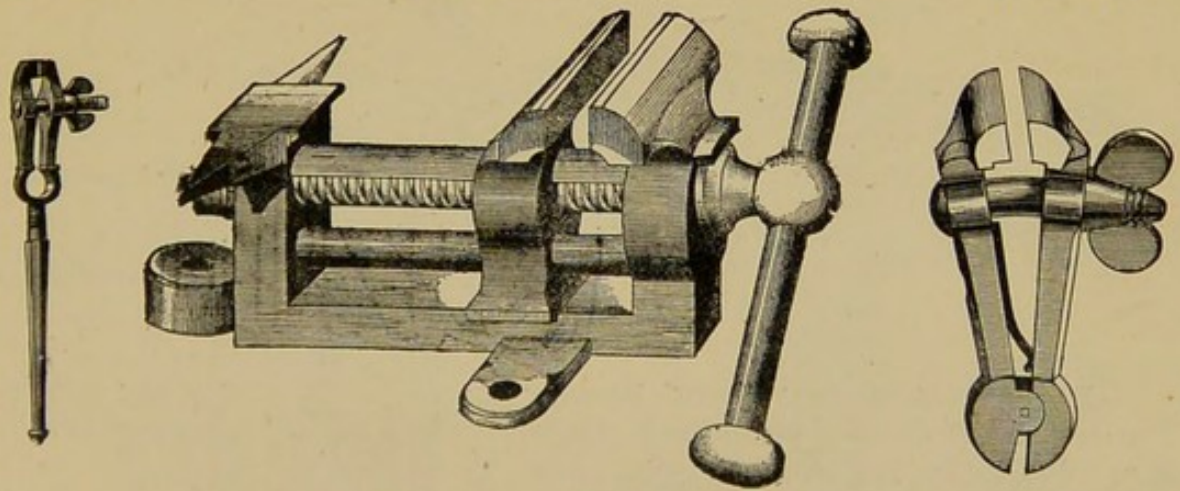
TAIL VICE.



Tail or Leg Vices, various weights, **obtained to order.**

When ordering, please state weight required.

PIN VICE. HORIZONTAL VICE. HAND VICE.

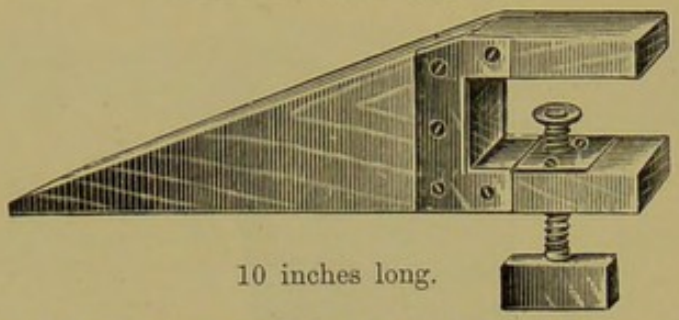


	s.	*d.*
Pin Vice, all Steel, with hole through handle, $4\frac{1}{2}$ in. long . .	2	6
Horizontal or Parallel Vice, to fix on bench, $7\frac{3}{4}$ in. long, width of chops 3 in., weight 4 lbs.	14	6
Hand Vice, 4 in. long, width of chops about $1\frac{1}{4}$ in.	3	0
„ $4\frac{1}{2}$ in. „ „ „ $1\frac{1}{2}$ in.	3	9

Other Vices obtained to order.

ASH'S ADJUSTABLE BENCH PIN.

WITH BRASS MOUNTS.



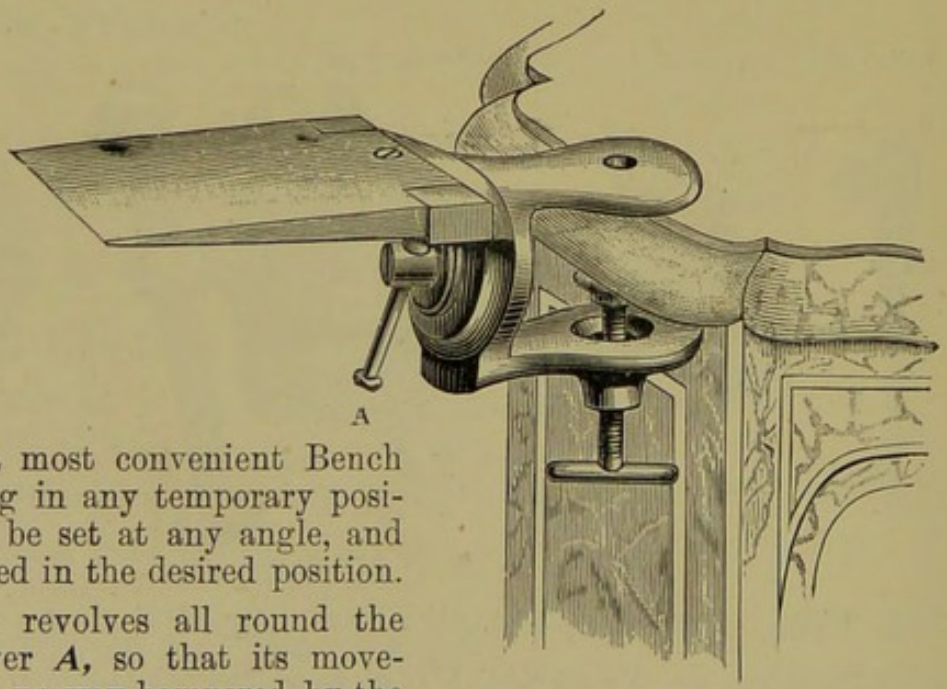
10 inches long.

This appliance has been used for many years by several dentists for whom we have made it from time to time, and has given much satisfaction. It can be screwed on to any table or board, and when the Pin is worn out the Mounts can be fitted to a new one without difficulty.

			s.	*d.*
Made in two forms	Best quality	each	7	6
	Second „	„	6	0
Board or Bench Pins, beech-wood		„	0	3

REVOLVING BENCH PIN,

FOR THE OPERATING ROOM, OR WHEN VISITING.



A

This is a most convenient Bench Pin for fixing in any temporary position; it can be set at any angle, and securely locked in the desired position.

The Pin revolves all round the clamping lever ***A,*** so that its movements are in no way hampered by the metal frame which supports it.

PRICES:

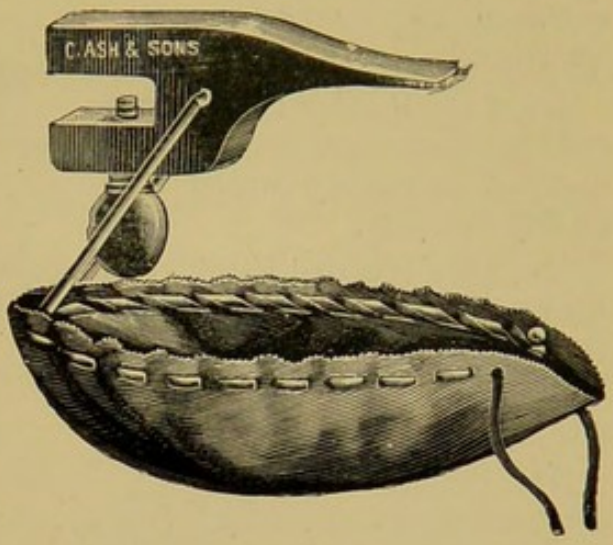
		s.	*d.*
Revolving Bench Pin, with metal parts Nickel-plated .		9	6
Extra Beech-wood Pins for renewing	each	0	6

BENCH PIN AND APRON

FOR THE OPERATING ROOM.

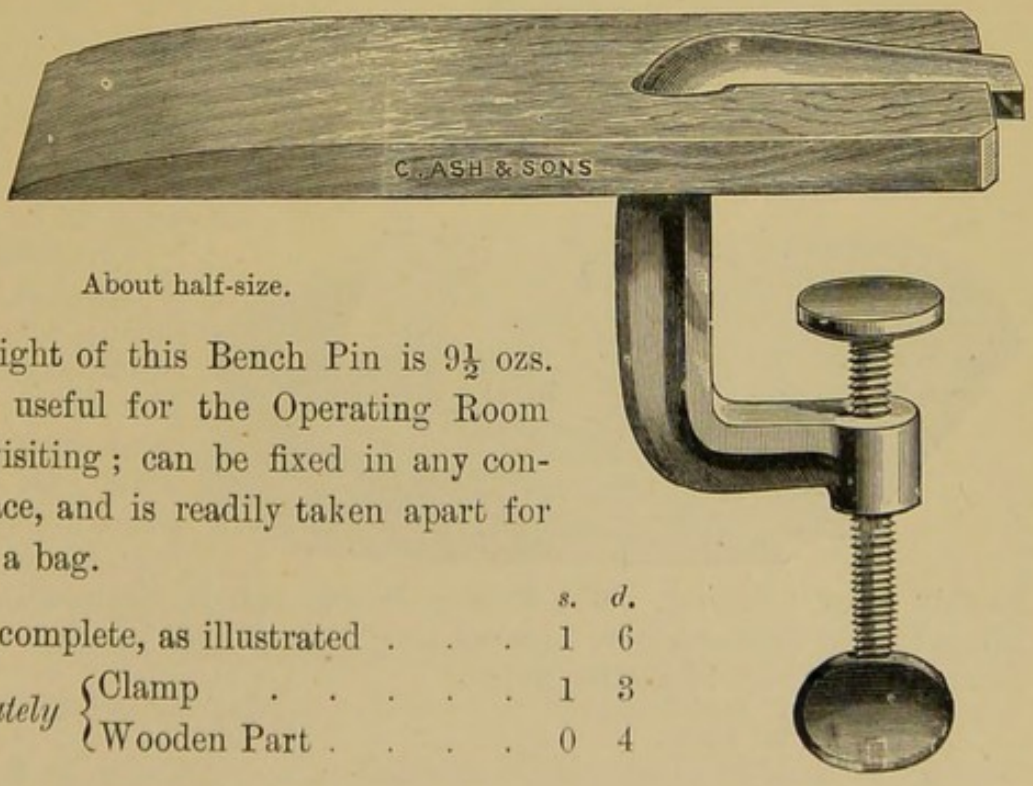
(Designed by Mr. H. APPERLEY, of London.)

This device can be attached to the Slab of a Cabinet or to the top of a Table, or to any available board in the Operating Room. It is nicely finished and presents a very neat appearance.



	s.	*d.*
Price complete, as illustrated	16	6

ASH'S HANDY BENCH PIN.



About half-size.

The weight of this Bench Pin is 9½ ozs. It is very useful for the Operating Room or when visiting; can be fixed in any convenient place, and is readily taken apart for packing in a bag.

		s.	*d.*
Price complete, as illustrated		1	6
Separately	Clamp	1	3
	Wooden Part	0	4

MELOTTE'S PATENT REVOLVING COMBINATION BENCH BLOCK.

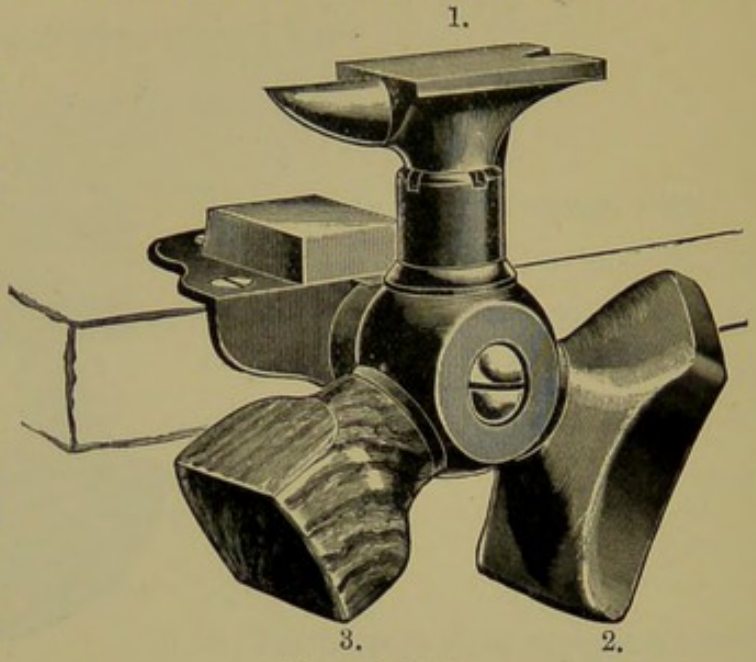
DESCRIPTION:

No. 1 is a nicely finished *case-hardened* Steel Anvil, which may be instantly revolved and stopped on quarters.

No. 2 is a Rubber Block, held by friction on its arm, and can be readily turned to any position.

No. 3 is a Wooden Block held on its arm by a rubber friction device, which can be turned round to any position desired.

The Bracket also affords a hammering surface.



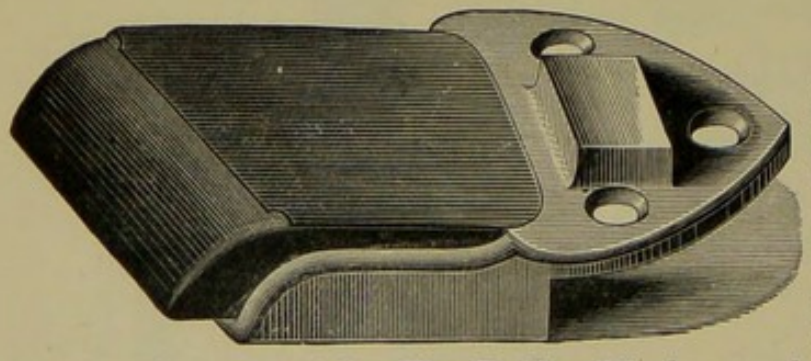
About half-size.

PRICES:

		s.	*d.*
Bench Blocks complete as illustrated		12	6
Parts separately for renewing :—			
Brackets	each	2	1
Anvils	„	4	2
Rubber Blocks	„	1	6
Wooden „	„	0	8

MAGNUS'S BENCH BLOCKS

(American).



The frame is made of cast iron (grey nickel finish), surmounted by a chilled face anvil. The block is made of par-vulcanized rubber, which, for filling purposes, is claimed by the inventor to be superior to any other material. The Rubber Blocks can be replaced when worn. Made in two sizes—*Large*, 5 inches long over all by $2\frac{1}{4}$ inches wide; *Small*, $4\frac{3}{8}$ inches long by $1\frac{5}{8}$ inches wide.

		s.	*d.*
Price, either size		5	3
Extra Rubber Blocks, large or small	each	1	6

BROWNLIE'S SUCTION VALVE.

This Valve can be attached to either a metal plate or a vulcanite piece. The claim made for it is that it is the best in the market.

ADVANTAGES.

1.—It is simple in construction.

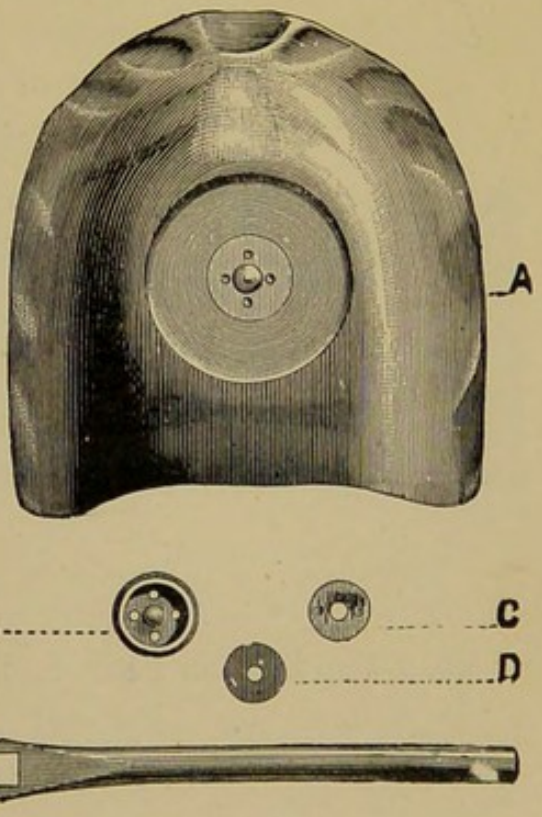
2.—Not liable to get out of order.

3.—Will hold the heaviest denture in position, if properly adjusted.

Some idea of its power in this direction may be gained when it is stated that it will support a column of water in a glass tube 30 inches long, which is equal to 5 ounces in weight.

4.—It is very cleanly, comfortable and efficient in use.

5.—It does not produce soreness or swelling of the palate; in a word, it has more advantages than other valves without any of their disadvantages.



DESCRIPTION:

A. Valve mounted in Vulcanite.
B. Valve unmounted.
C. Screw-head.
D. India-rubber washer.
E. Key for adjusting screw-head.

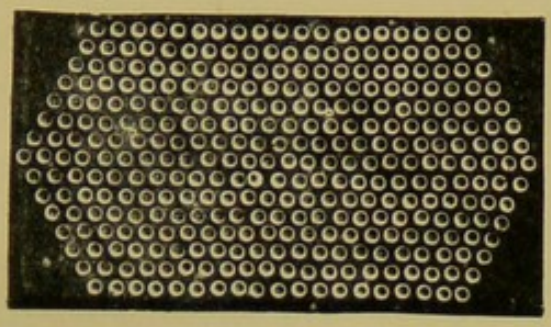
Directions for Use supplied with each Valve.

PRICES:

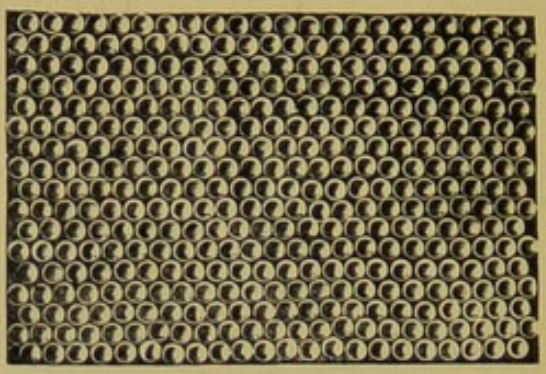
		s.	*d.*
In 16-Carat Gold	each	5	6
In Dental Alloy.	,,	3	6
Key for adjusting screw-head in position	,,	0	6
Extra India-rubber Washers in packets containing two doz.	per pkt.	0	6

A discount of 10 *per cent. is allowed when half-a-dozen Valves are purchased.*

PASSEHL'S SUCTION PLATES.

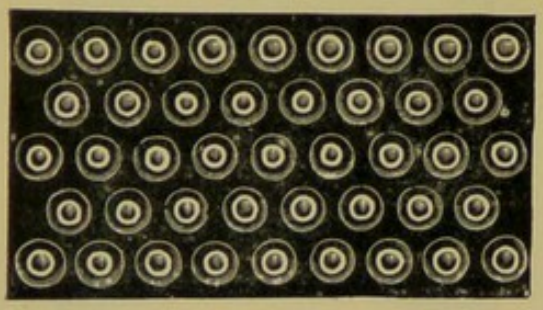


Nos. 1 and 2.

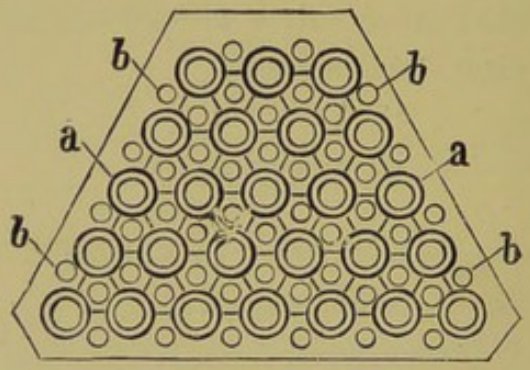


Nos. 3 and 4.

			s.	d.
No. 1	Pearl Suction Pattern of Tin	per doz.	1	0
„ 2	„ Plate of Aluminium . .	„	2	0
„ 3	„ Pattern of Tin	„	1	0
„ 4	„ Plate of Aluminium . .	„	2	0



Nos. 7 and 8.



Nos. 9, 10, 11 and 12.

			s.	d.
No. 7	Cup Suction Pattern of Tin	per doz.	1	0
„ 8	„ „ Plate of Aluminium . .	„	2	0
„ 9	Perforated Cup Suction Plate of Aluminium	„	2	6
„ 10	„ „ „ „ of Victoria Metal	„	5	0
„ 11	„ „ „ „ of 18-ct. Gold	each	8	0
„ 12	„ „ „ of Dental Alloy	„	4	0

WÜNSCHE'S STRENGTHENING PLATE.

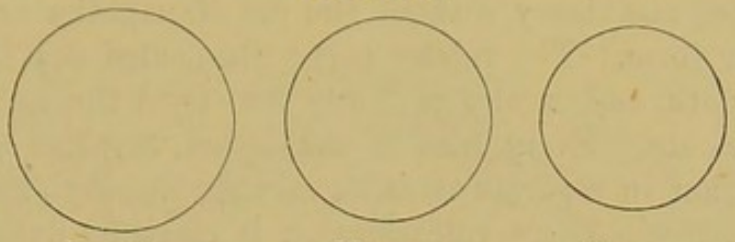
		s	d
Victoria Metal, in sheets, about 10 × 2¼ inches	per sheet	5	0
Aluminium „ „ „	„	3	0

HALL'S SUCTION DISCS.

Consisting of India-rubber Disc, Platinum Pin, and 2 Gold Washers.

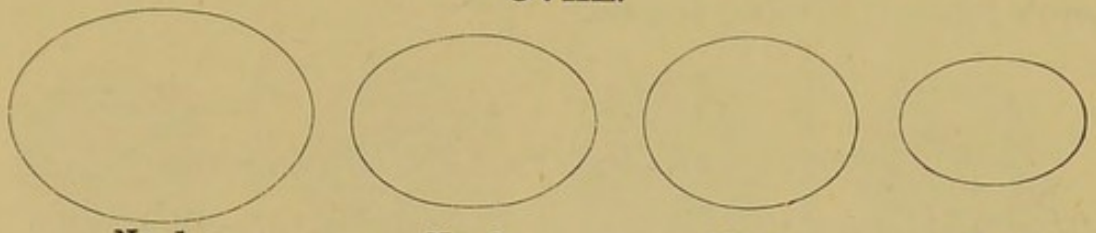
The India-rubber Discs are made in the following forms and sizes :—

ROUND.

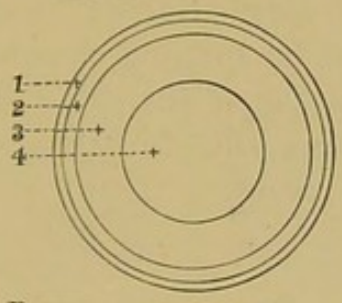


LARGE. MEDIUM. SMALL.

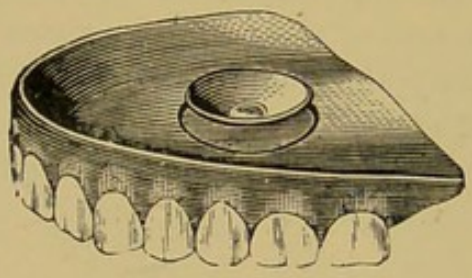
OVAL.



No. 1. No. 2. No. 3. No. 4.



ROUND—EXTRA SIZES.



DISC MOUNTED.

DIRECTIONS FOR USE :

Make the air-chamber in the denture by means of a round metal pattern, then place the disc in it with the large gold washer on the top, and drill a hole through the denture large enough to receive the platinum pin. Insert the pin, place the small gold washer over it, on the lingual side, and rivet in position.

NOTE.—The air-chamber should always be a size larger than the India-rubber disc, and the plain side of the disc should be put uppermost.

		s.	*d.*
Price, any size or shape	each	2	0
,, ,, ,,	per ½ doz.	10	6
India-rubber Discs only	per doz.	5	0
,, ,, ,,	each	0	6

LEMAN'S SUCTION VALVES.

The VALVE has been entirely reconstructed and greatly improved ; the old form of domed triangular cover on the lingual side, and the leather or soft rubber valve centres are dispensed with, and superseded by NEW IMPROVEMENTS. The improved Valve presents a perfectly smooth surface to the tongue. It has no central screw, and the centre, being composed of a thoroughly durable material, will not perish, thus making it, from a practical point of view, one of the most perfect Valves possible.

		s.	*d.*
In 16-Carat Gold, including Key	each	5	6
In Dental Alloy ,,	,,	3	6

LORD'S SUCTION DISCS.

(See illustrations on opposite page.)

These Discs are made from rubber masticated by powerful and specially constructed machinery without the use of naphtha or other solvent in any shape or form. The rubber being masticated dry is less liable to swell in the mouth, and is also perfectly free from the smell of solvents, such as naphtha, etc. Every Disc is compressed, moulded and vulcanized under compression in separate metallic moulds, thereby ensuring uniform density and quality. Their vulcanization is carried to the utmost limit without injury to the rubber. Every disc is numbered and bears the words "Lord's Patent" in raised letters.

SIZES AND PATTERNS OF DISCS:

There are 10 patterns and sizes of Discs put up in boxes of 12. Each box contains full directions for use; 12 Moulded Rubber Discs, any colour, pattern, or size; 13 compressed patterns for forming chambers, cut from specially made millboard; 12 Pins for fastening the same down to model; 12 stamped washers and bolts for fixing Disc to palate. When not otherwise specified, Red Nos. 0 and 1 will be sent.

PRICES:

Per Box of 12 Sets, RED OR GREY RUBBER.

		s.	*d.*
With Gold Washers and Platinum Bolts	per box	21	0
„ Dental Alloy Washers and Platinum Bolts	„	15	0
„ Gold-plated Dental Alloy Washers and Gold-plated Fine Silver Bolts	„	12	0
„ Pure Aluminium Washers and Bolts	„	7	6
Rubber Discs only, any pattern	per doz.	4	0
Platinum Bolts	„	5	6
Gold-plated Fine Silver Bolts	„	1	6
Pure Aluminium Bolts	„	1	0
Gold Washers	„	11	0
Gold-plated Dental Alloy Washers	„	6	0
Dental Alloy Washers	„	5	0
Pure Aluminium Washers	„	2	0
Compressed Millboard Patterns	per gross	6	0
Cast Steel Riveting Tool, to Rivet on	each	0	6

LORD'S SUCTION DISCS—*CONTINUED.*

(Patented 1889.)

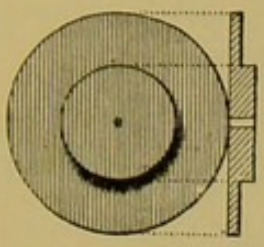


FIG. 1.

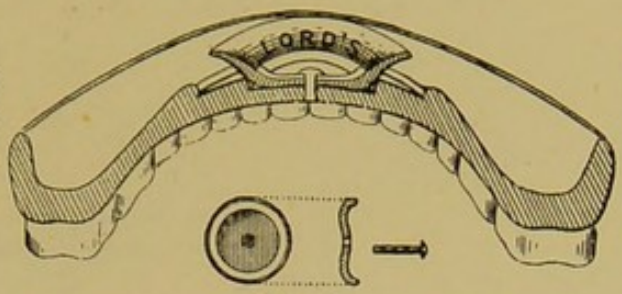


FIG. 2.

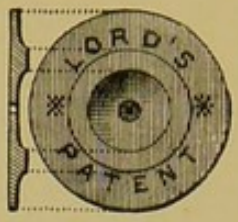
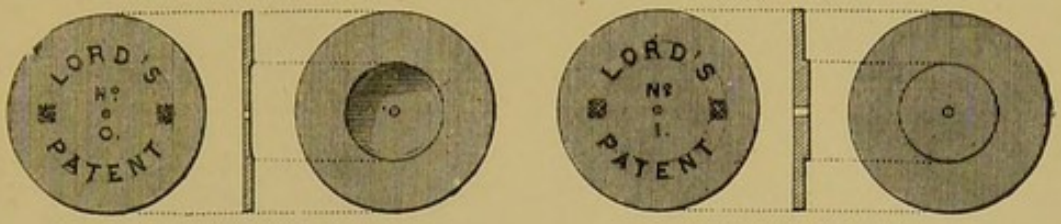
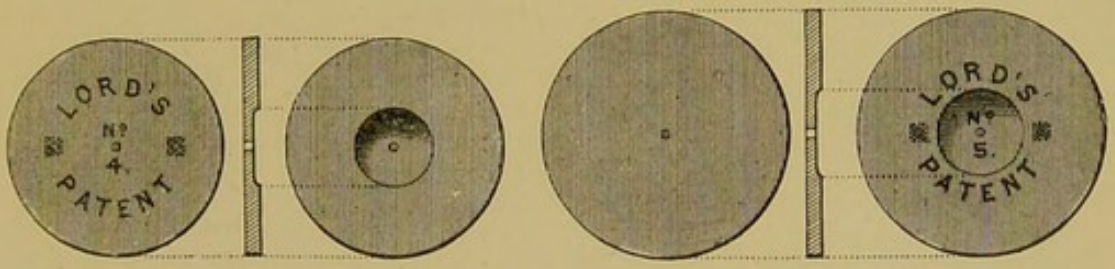


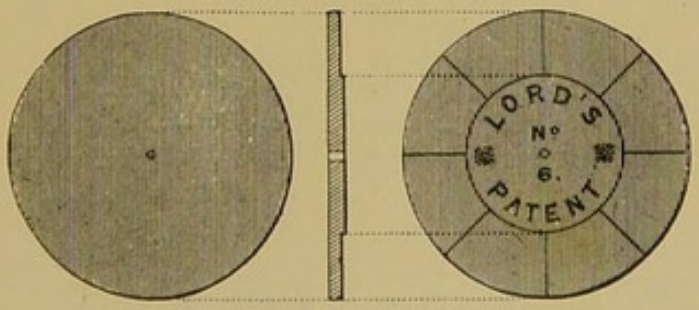
FIG. 3.



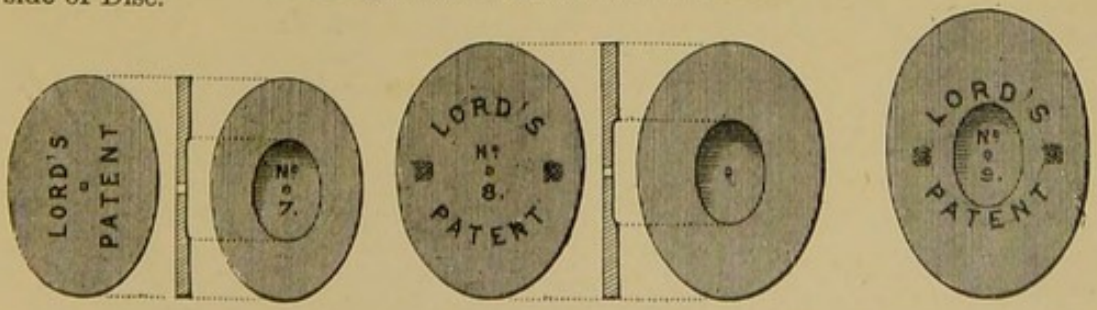


Nos. 0, 1, 4, 7, 8 and 10 are stamped on top side of Disc.

Nos. 5, 6, & 9 are stamped on under side of Disc.



No. 10 is the same size and shape as Nos. 0 and 1, but thicker.



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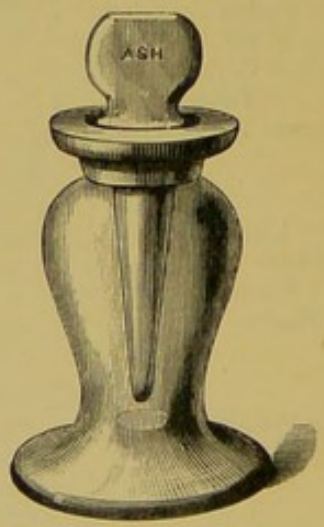
GLASS DROP BOTTLE.



HALF SIZE.

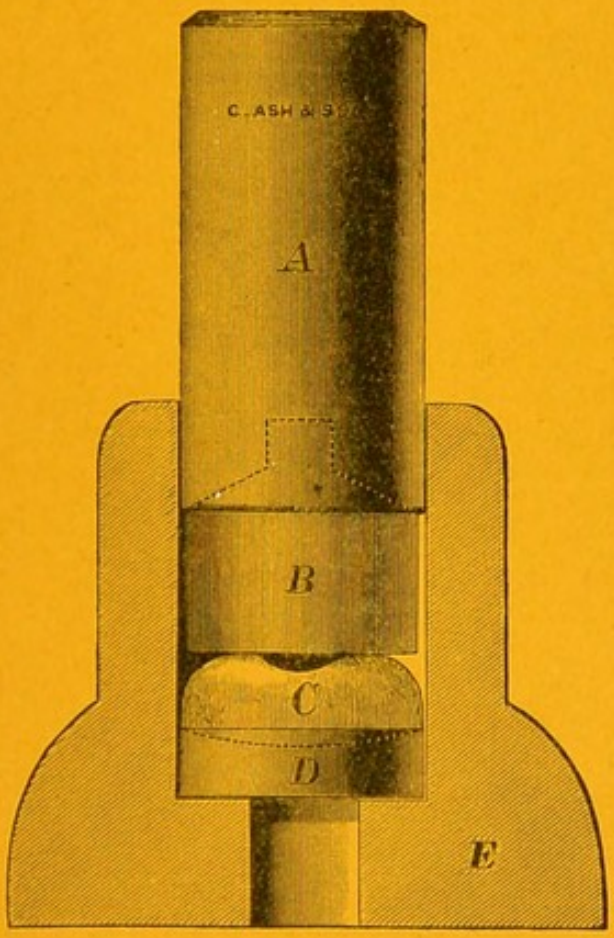
	s.	*d.*
Price	1	0

ASH'S INLAY SWAGER.

(Registered. Reg. No. 334,144.)

Our method of making Irregular-shaped Inlays was first published in the March 1899 number of the Quarterly Circular. The Inlay Swager there illustrated is provided with an India-Rubber Block, but at the suggestion of Mr. J. H. Badcock, of London, we have substituted a little Water Bag for pressing the platinum foil into the plaster mould, as here shown at ***B*** underneath Plunger ***A*** in the accompanying full-size illustration.

Inlay Swager.



Full Size.

Crown Plunger.

Plunger ***A*** with India-rubber Block ***B*** for Crown Work.

DESCRIPTION OF INLAY SWAGER:

A.—Plunger.
B.—India-rubber Water Bag.
C.—Plaster of Paris Mould.
D.—Bed-Plate.
E.—Section of Base with hole in the floor for dislodging Bed-Plate ***D***, etc

ASH'S INLAY SWAGER

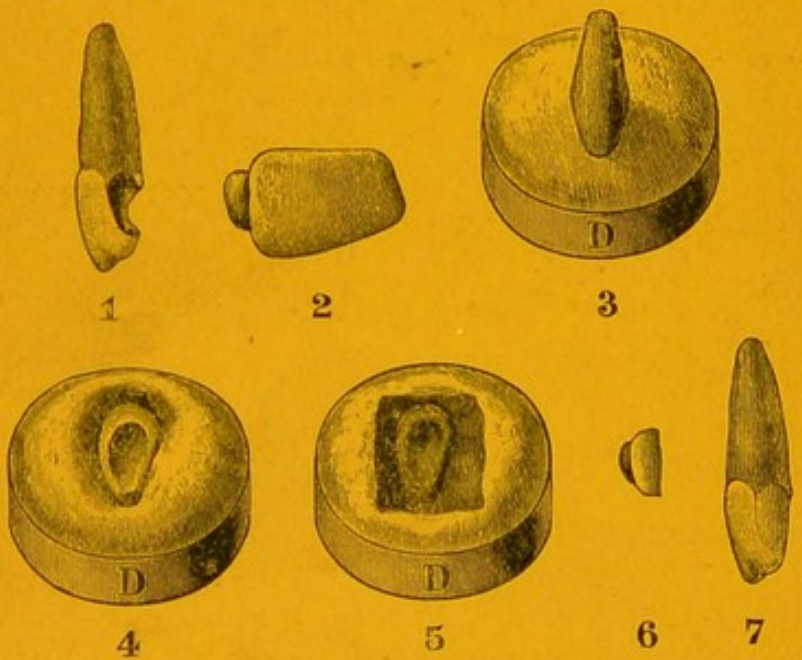
—CONTINUED.

The claims made for this Water Bag *B* are:—

1. That it presses the platinum foil into the plaster mould in a most perfect manner, and
2. That by its use there is no danger of breaking down the edges of the frailest plaster mould provided the plaster be dry; the greatest difficulty hitherto experienced has thus been successfully overcome.

With a view of making the Swager doubly useful we have arranged to supply it with two plungers if desired—one for Inlay work and the other for Crown work, as shown on the previous page.

The illustrations here given show the various stages of making an irregular-shaped inlay from the cavity to the finished inlay.



DESCRIPTION:

1.—Tooth with irregular-shaped cavity.
2.—Wax impression of cavity.
3.—Impression embedded in plaster of Paris on bed-plate ***D*** of swager.
4.—Mould of cavity after the wax has been boiled out.
5.—Platinum or platinised-gold foil swaged into mould.
6.—Inlay after firing, with foil stripped off, ready for inserting in the cavity.
7.—Inlay placed, *but not cemented*, in cavity to show fit.

PRICES:

	s.	*d.*
Inlay Swager with two Water Bags	7	6
Crown Work Plunger with two India-rubber Blocks extra	2	6
Additional Bed-Plates ***D*** . . . . . each	0	4

CLAUDIUS ASH & SONS, Limited,

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LONDON: PRINTED BY WM. CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

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FRANKFURT A/ MAIN	7, BÖRSENPLATZ.
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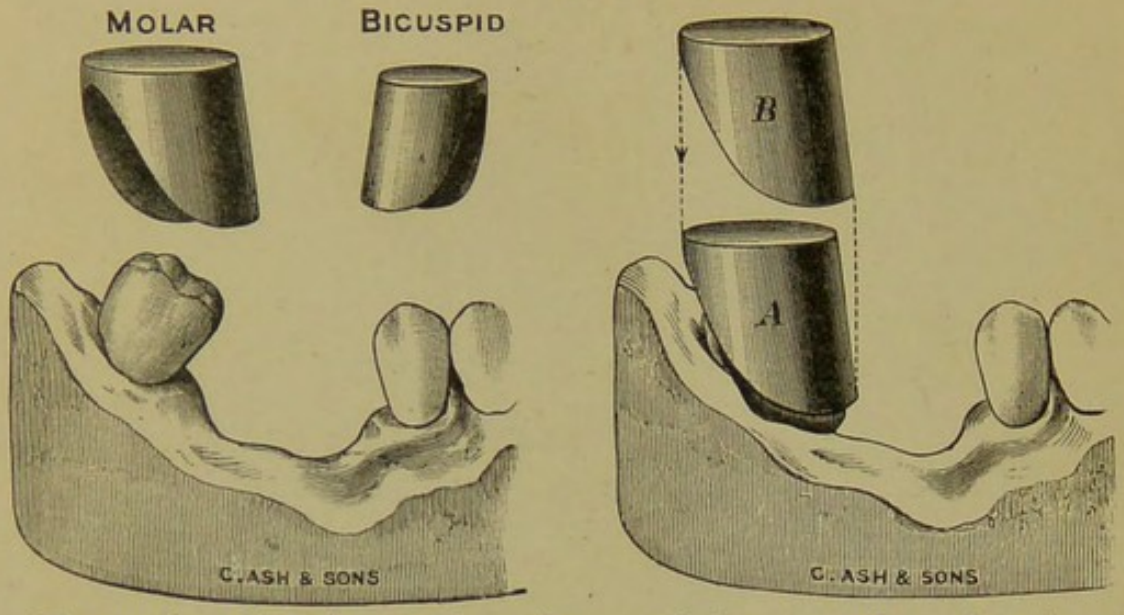
BUDAPEST	4, REGI POSTA UCZA.
COPENHAGEN	3, BOLDHUSGADE.
CHRISTIANIA	CHRISTIAN IV. GADE, 13.
STOCKHOLM	9, MALMSKILDNAS GATAN.
ST. PETERSBURG	19, KLEINE MORSKOY.
MOSCOW	LEONTJEWSKI PEREULOK, No. 14, HOUSE DAVIDOWA.
NEW YORK	30, EAST FOURTEENTH STREET.

M

LENNOX'S IMPRESSION CAPS.

REGISTERED. REG. No. 338,252.



For use in taking impressions when teeth lean towards each other, as shown in the left-hand model here illustrated.

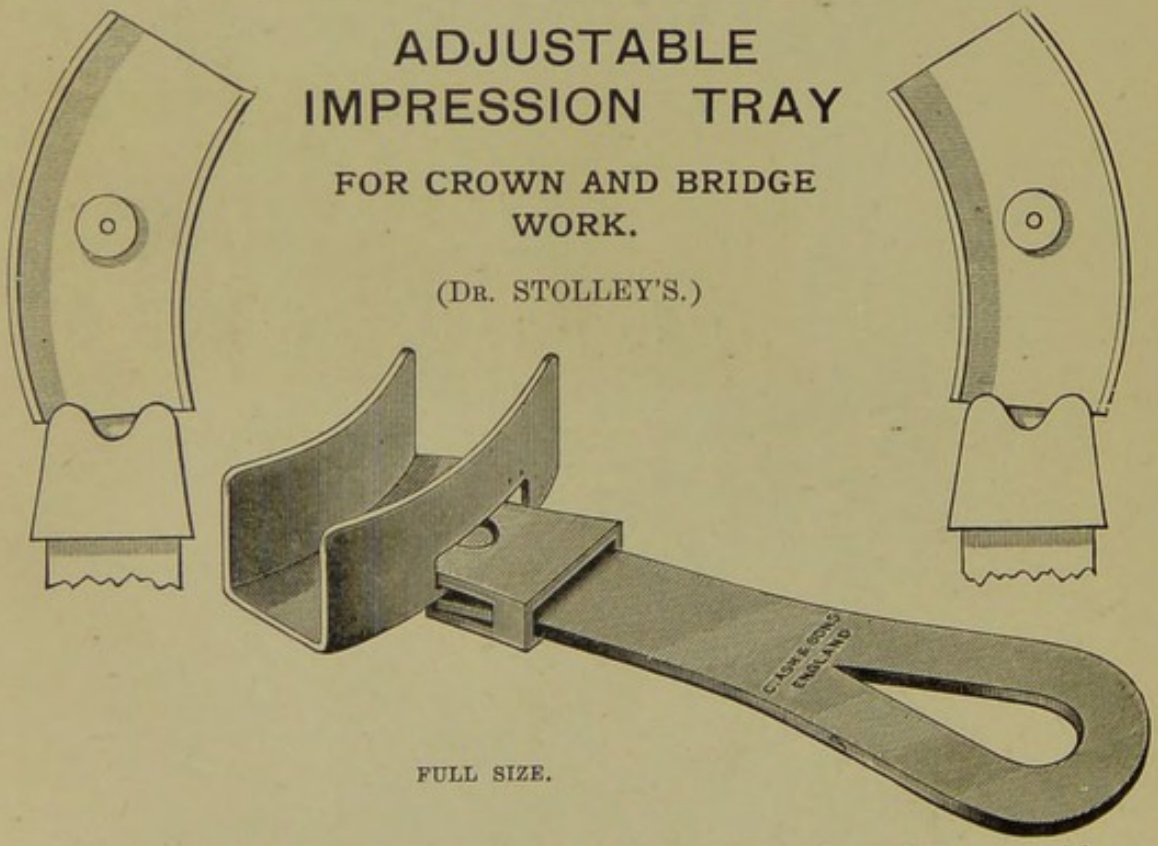
The Caps are made and supplied in pairs for Molars and for Bicuspids.

		s.	*d.*
Price, either kind.	per pair	2	3

ADJUSTABLE IMPRESSION TRAY

FOR CROWN AND BRIDGE WORK.

(DR. STOLLEY'S.)



FULL SIZE.

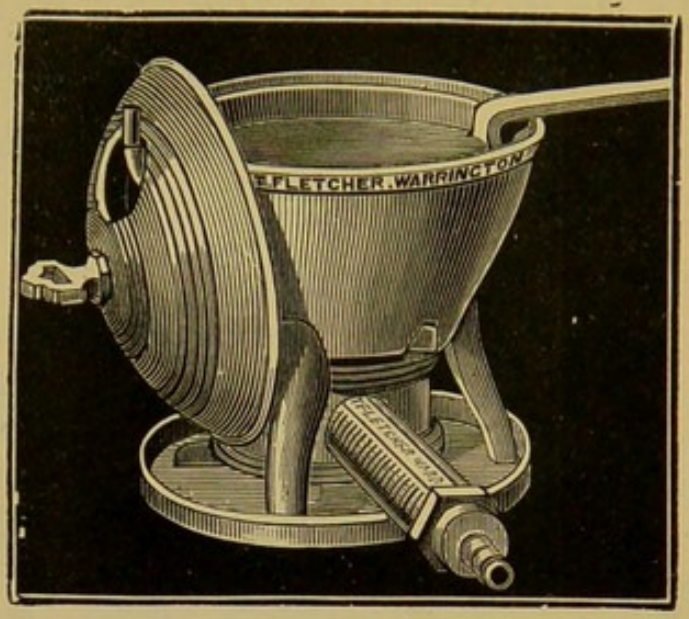
As shown by the illustrations, the Tray can be fixed in three different positions—ront, right or left—by means of the locking slide on the handle.

	s.	*d.*
In German Silver, Nickel-plated	2	6

LADLE FURNACE.

(Fletcher, Russell & Co.'s.)

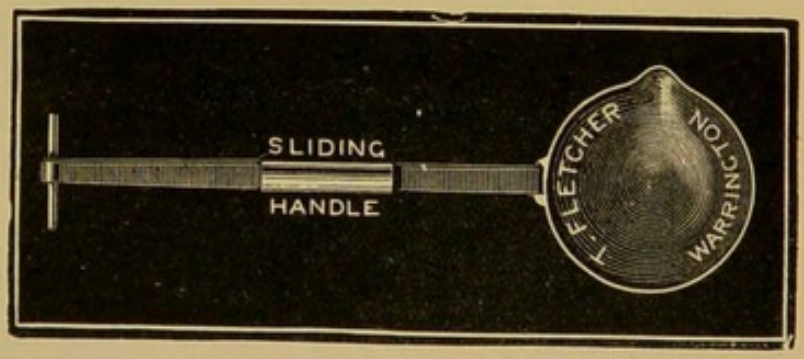
This Furnace will take Ladles 7 inches in diameter. The burner, which is removable, can also be used for heating soldering irons, boiling water, and other purposes. The body and lid are arranged to admit the handles of different size Ladles at different heights, to enable them to be kept perfectly level. It is furnished with a metal skimmer, and hook for lifting the lid.



	s.	*d.*
Furnace complete, without Ladle	13	0

LADLES FOR ZINC AND LEAD.

(Fletcher, Russell & Co.'s.)



These Ladles, which are true to shape and thickness, are made with **cast-iron bowls for lead and malleable iron bowls for zinc.** The handles are bolted on, and never wear out. A new bowl can be fixed in a few minutes. The diameter of each is 7 inches. The handles ensure perfect steadiness in pouring, and are always cool; the sliding handle being pushed to the cool end while the metal is being heated.

		s.	*d.*
Ladle with cast-iron bowl, for lead	each	4	0
,, with malleable bowl, for zinc	,,	6	6
Extra bowls—Cast-iron, for lead	,,	1	3
Malleable, for zinc	,,	3	9

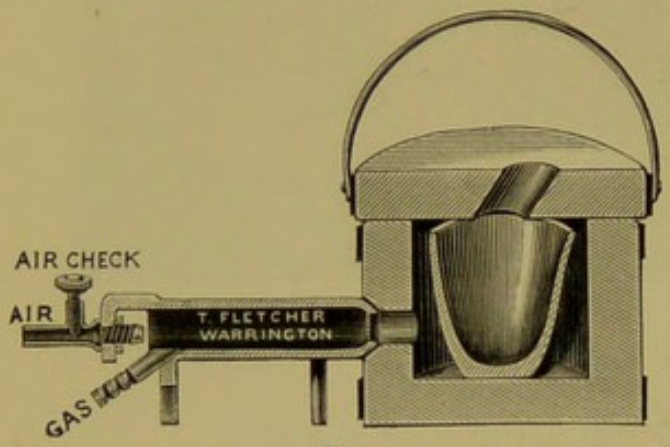
WROUGHT-IRON LADLES FOR LEAD AND ZINC.

		s.	*d.*
No. 1.—5 in. diameter	each	1	9
,, 2.—5½ in. ,, ...	,,	2	0
,, 3.—6 in. ,, ...	,,	2	6
,, 4.—6½ in. ,, ...	,,	3	0
,, 4.—4½ in. ,, Light	,,	1	8
Lead—price fluctuates	per lb.	0	3
Zinc— ,, ...	,,	0	4½

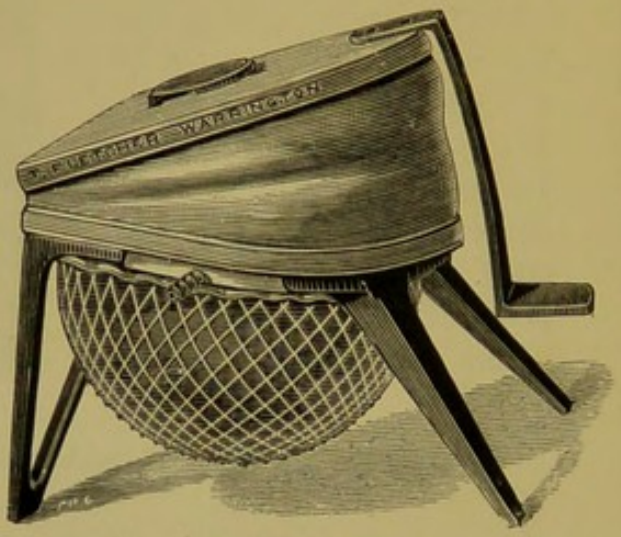
PERFECTED
INJECTOR FURNACE AND BLOWING APPARATUS.

(Fletcher, Russell & Co.'s.)

For melting Gold, Silver, &c.; works equally well with coal-gas or air-gas.



Furnace.



Blower.

Prices:

Sizes of Furnaces	6 oz.	2 lb.	6 lb.	12 lb.
Taking Crucibles, Nos.	00	1	3	6
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Furnace, as illustrated (Fletcher's, Fig. 41) . .	11 6	13 6	21 0	30 0
Blowing Apparatus (Fletcher's, Fig. 9B) . . .	30 6	30 6	36 6	36 6
India-rubber Tubing	4 6	4 6	5 3	5 3
Crucible Tongs	1 0	1 0	1 6	1 6
Bow Tongs	—	—	3 0	4 0
Crucibles, Fireclay	0 $1\frac{1}{2}$	0 2	0 5	0 10
,, Salamander	0 $4\frac{1}{2}$	0 $5\frac{1}{2}$	1 5	2 10
Extra Furnace Bodies	3 6	4 6	8 6	14 0
,, ,, Lids.	2 6	2 6	4 6	7 0

Gas supply required.

	Cubic Feet.		Inch.
6 oz. size,	7 to 30	per hour,	$\frac{3}{8}$ pipe
2 lb. ,,	10 ,, 40	,,	$\frac{3}{8}$,,
6 lb. ,,	25 ,, 60	,,	$\frac{1}{2}$,,
12 lb. ,,	30 ,, 70	,,	$\frac{5}{8}$,,

Crucibles, outside measurement.

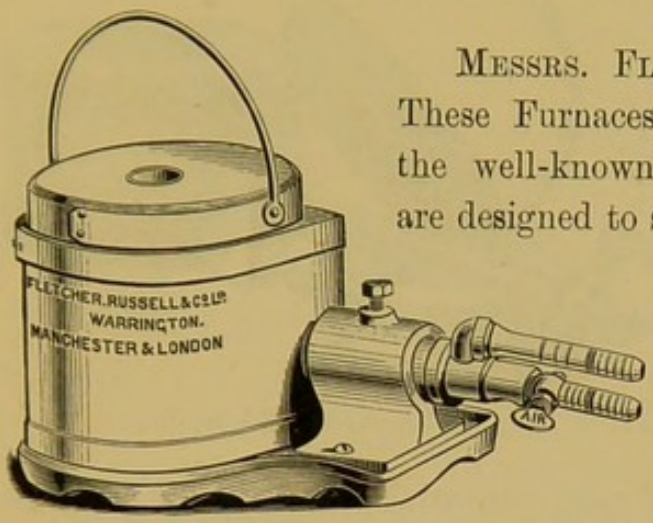
High.		Diameter.
$2\frac{1}{4}$	by 2	inches.
3	,, $2\frac{5}{8}$	,,
$4\frac{1}{4}$	,, $3\frac{1}{2}$	,,
6	,, $4\frac{1}{2}$	,,

Fletcher, Russell & Co.'s List, giving full details concerning the above Furnace, &c., sent on application.

CONCENTRIC JET FURNACES,

FOR MELTING GOLD, SILVER, &c.

(Fletcher, Russell & Co.'s.)



Messrs. Fletcher, Russell & Co. say:—These Furnaces are made in the same sizes as the well-known Injector Furnaces, which they are designed to supersede. Those who have used the Injector Furnaces for the last twenty years will appreciate the following advantages:—

There is no gauze to get damaged or choked.

No cutting action or cold spot on the crucible.

The burner cannot get displaced in use. The power is limited only by the air pressure and gas supply available.

The burner cannot light back or get out of order with the roughest use.

An ordinary blast from a fan is useless for high temperature work. These Furnaces will fuse wrought-iron, tool steel, or pure nickel with a high-pressure air supply.

The power is always under absolute and instant control.

PRICES:

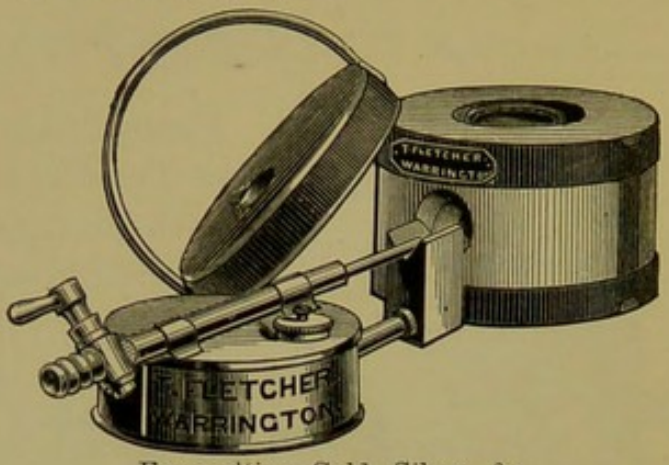
		High.	Wide.	£	*s.*	*d.*
No. 0.	6-oz. size, taking crucibles	2¼-in.	by 2-in. outside . .	1	10	0
„ 1.	2-lb. „ „	3-in.	„ 2⅝-in. „ . .	1	14	0
„ 3.	6-lb. „ „	4¼-in.	„ 3½-in. „ . .	2	8	0
„ 6.	12-lb. „ „	6-in.	„ 4½-in. „ . .	3	12	0

Extra Crucibles *Size*	00.		1.		3.		6.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Fireclay . . . . . each	0	1½	0	2	0	5	0	10
Salamander . . . . . „	0	4½	0	5½	1	5	2	10

OIL FURNACE,

FOR USE WITH KEROSENE OR PETROLEUM.

(Fletcher, Russell & Co.'s.)



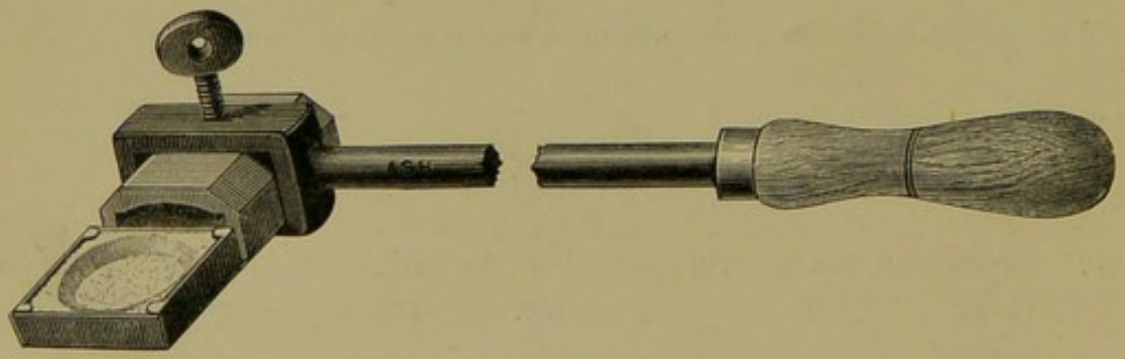
For melting Gold, Silver, &c.

In places where there is no Gas, and where Benzoline cannot be obtained, this Furnace, 6-oz. size, is recommended. It is adapted to work with a lamp burning ordinary Kerosene or Petroleum oil. In using it, the wick holder of the lamp must be placed close against the hole in the furnace casing. It is *inferior in power* to a Gas, Gasoline, or Benzoline Furnace, but with a little experience in management, ½ lb. of cast iron can be fused in 12 minutes, starting all cold.

Prices :		*s.*	*d.*
Furnace and Lamp, without Blower and Tubing		14	6
Blower (Fletcher's), size 3	(Fig. 9)	26	0
India-rubber Tubing, smooth inside	per foot	0	9
Crucibles, size 00 ; Fireclay, each 1½*d.* ; Salamander . .	each	0	4½

INGOT MOULD FOR PLATE AND WIRE.

(Mr. W. de C. Prideaux's.)



ABOUT ONE-THIRD SIZE.

For use with Fletcher's Automatic Hand Blow-pipe ; adapted for melting up to about 3 ozs. of gold.

The engraving shows the mould for *plate* with Fletcher's slide and crucible secured to it by the screw on the top of the frame. The upper part of this mould can be removed and the mould for *wire* substituted for it in a few moments.

A slight twist of the handle suffices for pouring the molten metal into the mould.

	s.	*d.*
Price complete	6	0

INDIA-RUBBER TUBING.

		s.	d.
Red, $\frac{3}{4}$-inch bore, any length, smooth inside	per foot	2	0
" $\frac{5}{8}$ " " "	"	1	6
" $\frac{1}{2}$ " " "	"	1	0
" $\frac{3}{8}$ " " "	"	0	9
" $\frac{5}{16}$ " " "	"	0	6

IMPROVED BRAIDED

GAS-TIGHT FLEXIBLE TUBING.

(FLETCHER, RUSSELL AND CO.'S.)

		s.	d.
$\frac{3}{8}$-inch bore, best quality, any length	per foot	0	$3\frac{1}{2}$
$\frac{1}{2}$ " " "	"	0	4

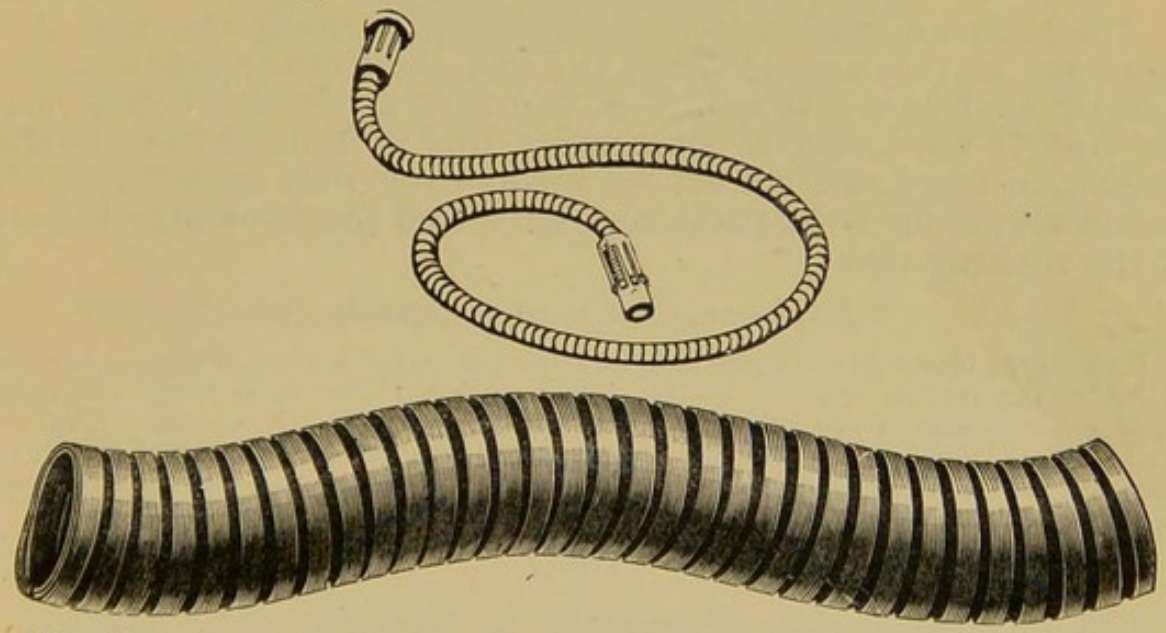
Elastic ends fitted to each length 1s. extra per pair.

FLEXIBLE STEEL TUBING.

(BEST QUALITY.)

Suitable for dental Furnace and Blowpipe Work. Will wear twice as long as ordinary Flexible Tubing ; cannot be kinked or crushed ; will stand tons of external pressure.

It will be found invaluable in those climates which rapidly destroy India-rubber Tubing.



The illustrations show (1) a length, reduced size, with thick rubber connections, and (2) a short piece full size.

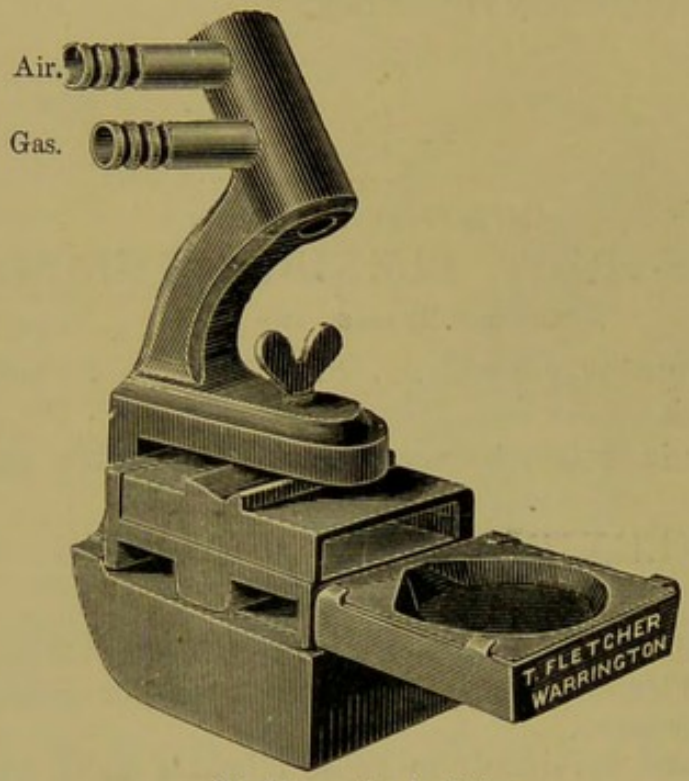
PRICES:

		s.	d.
Flexible Steel Tubing, $\frac{3}{8}$-inch bore, any length . . .	per foot	1	3
" " $\frac{1}{2}$ " " . . .	"	1	6
Thick India-Rubber Connections for either size . . .	per pair	0	8

Other sizes supplied to order.

MELTING ARRANGEMENT.

(Fletcher, Russell & Co.'s.)



Slightly under half-size.

For melting gold and silver rapidly, without the use of a furnace. In this arrangement the two parts of the ingot mould slide on each other, to admit of ingots of any width being cast. We find it necessary to emphasize this fact, in answer to the numerous enquiries which we receive for wire moulds. This mould serves for both plate and wire, and the Blowpipe is part of the rocking stand.

Directions for Use and Remarks.

Connect the blower to the upper tube and the gas to the lower. When the metal is melted in the shallow crucible, tilt the whole apparatus over so as to fill the ingot mould. A sound ingot can be obtained in about two minutes. Thousands of these are in use, and this arrangement is far superior to any furnace for small work. Very bulky scrap should be run into a mass in a moulded carbon block before being placed in the crucible.

Prices :

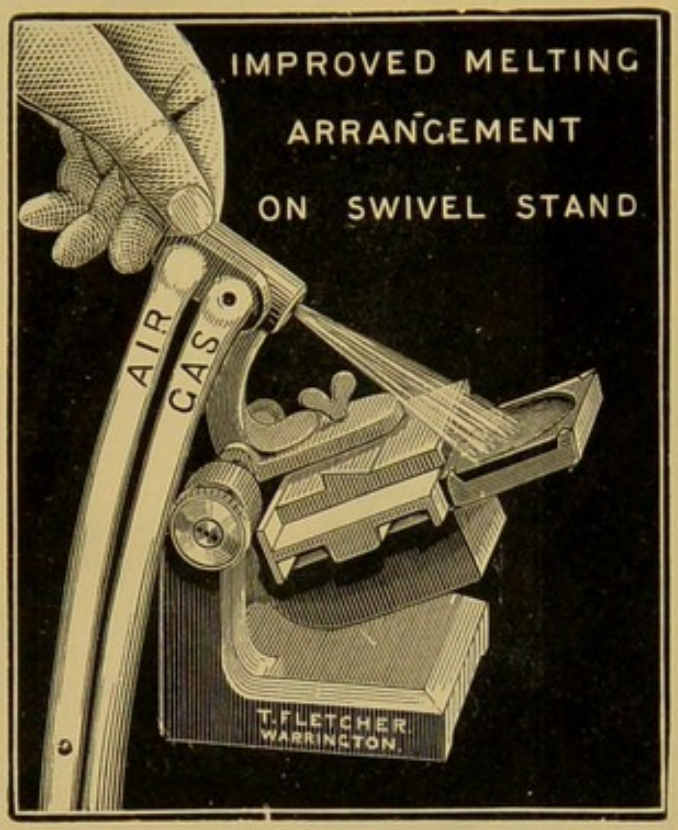
		s.	*d.*
Melting Arrangement, as engraved, 3-oz. size	. . .	13	6
Carbon Crucibles	. each	0	2
,, ,,	. per doz.	1	10
Fireclay ,,	. each	0	4
,, ,,	. per doz.	3	6
Slides to carry the Crucibles	. each	0	2

No. 3 size Foot-Blower will work the above Melting Arrangement. An extra Slide is given with every half-dozen Crucibles purchased.

MELTING ARRANGEMENT.

(FLETCHER, RUSSELL & Co.'s.)

IMPROVED FORM.



The same arrangement as the three-ounce size shown on the previous page, mounted on heavy swivel stand to prevent risk of pulling over, by the weight of the rubber, when not held by the hand.

Prices:

	s.	d.
Melting Arrangement, Improved form, as engraved . .	15	6

Carbon Crucibles, Fire-clay Crucibles and slides, as on previous page.

For Inlay, Crown, Bridge, and Continuous-Gum Furnaces, see list A.

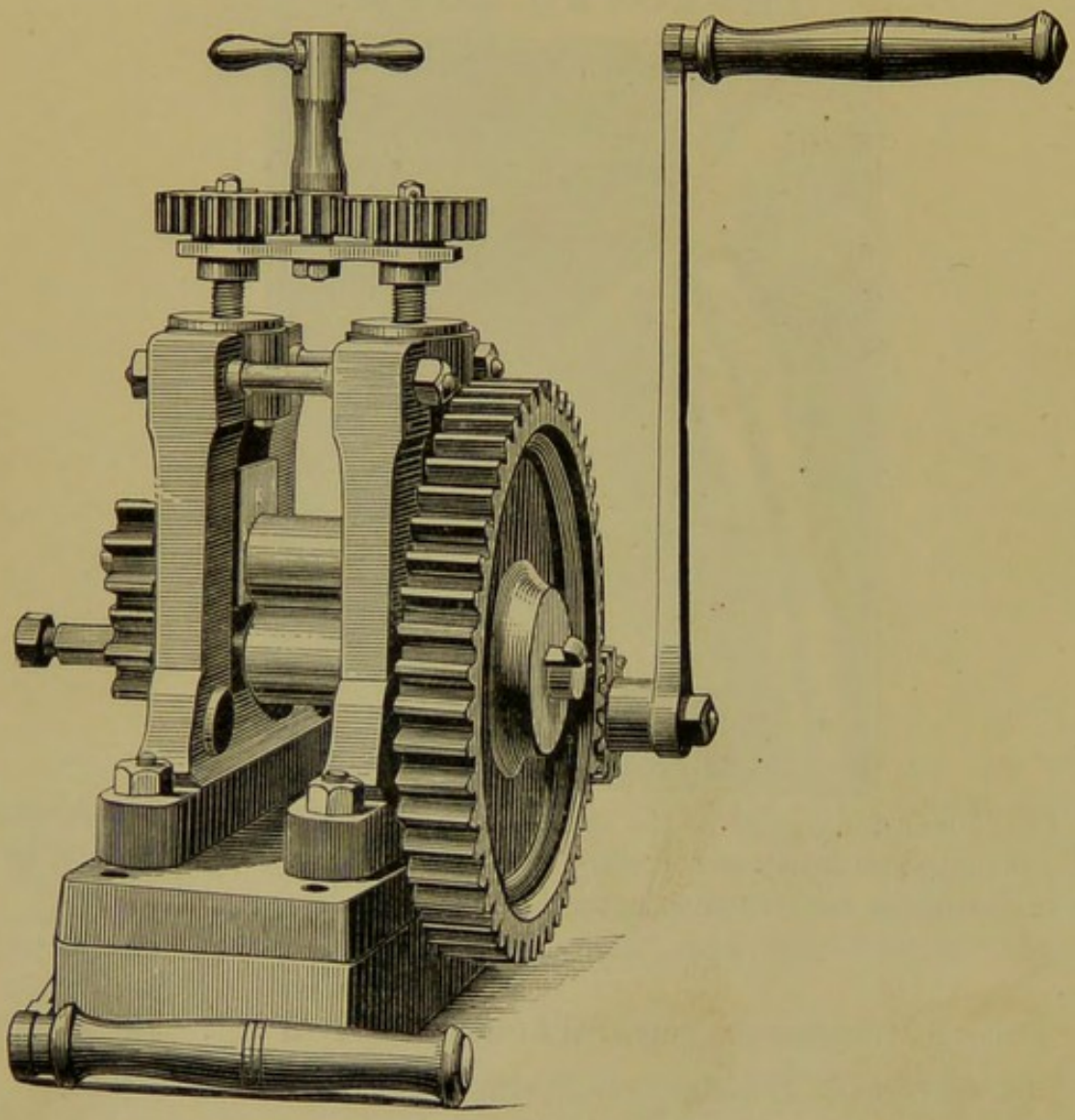
Ash's Mineral Body and Gum Enamel, see list A.

		s.	d.
Allen's Gum Body, in one ounce boxes . .	per box	6	0
,, ,, ,, Dr. Close's make . .	,,	6	0
,, ,, **Enamel**, in half-ounce boxes .	,,	5	0
,, ,, ,, Dr. Close's make .	,,	5	0

Rose's and other makes of Gum Body and Enamel supplied to order.

FLATTING MILLS.

Fig. 2.



Height, about 21 inches.

The Flatting Mills shown on this and the following pages are all of the best quality, and cannot fail to give satisfaction to the user.

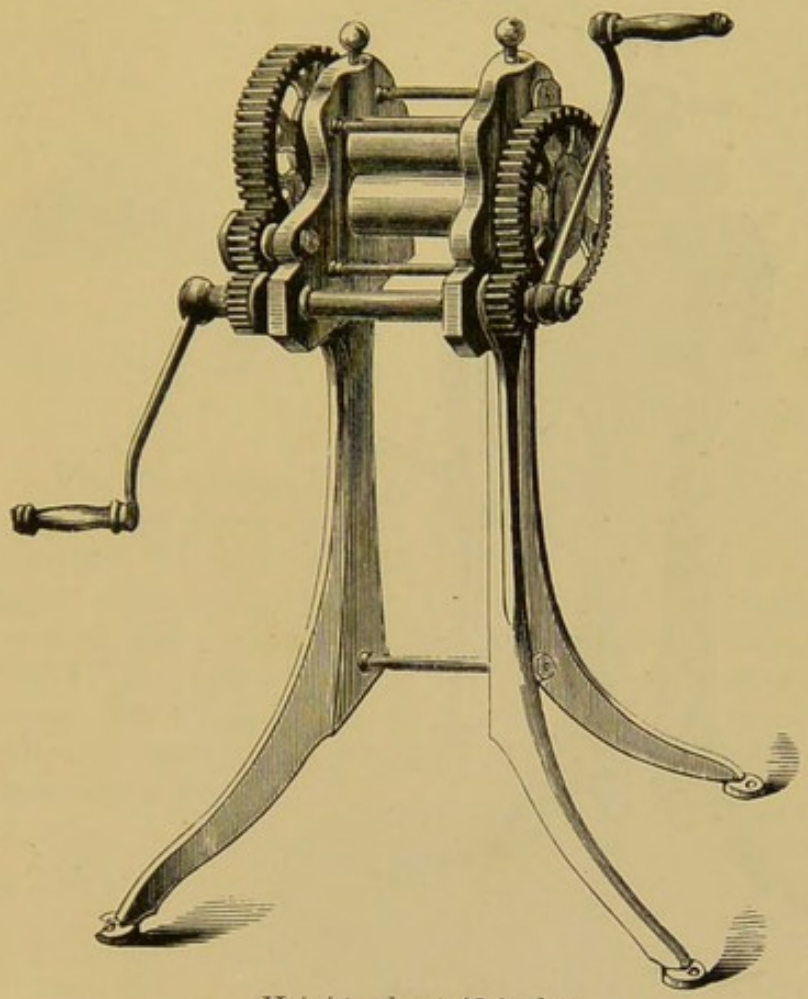
In ordering, care should be taken to quote the description in addition to the figure, as we have revised our numbering of the illustrations.

Flatting Mill on bed plate, for bolting on to a bench or block, with hardened steel rollers of the best quality, 4 ins. long by 2¼ ins. diameter, fitted up with gearing at top, for raising or lowering both ends of top roller at one time . . . . . £ 16 *s.* 0 *d.* 0

Packing case charged extra.

FLATTING MILLS—*continued.*

Fig. 3.



Height, about 42 inches.

FLATTING MILL on iron stand, to fasten to the floor, with hardened steel rollers of the best quality, 4 inches long by $2\frac{1}{4}$ inches diameter, double gearing for multiplying the power, and two handles.

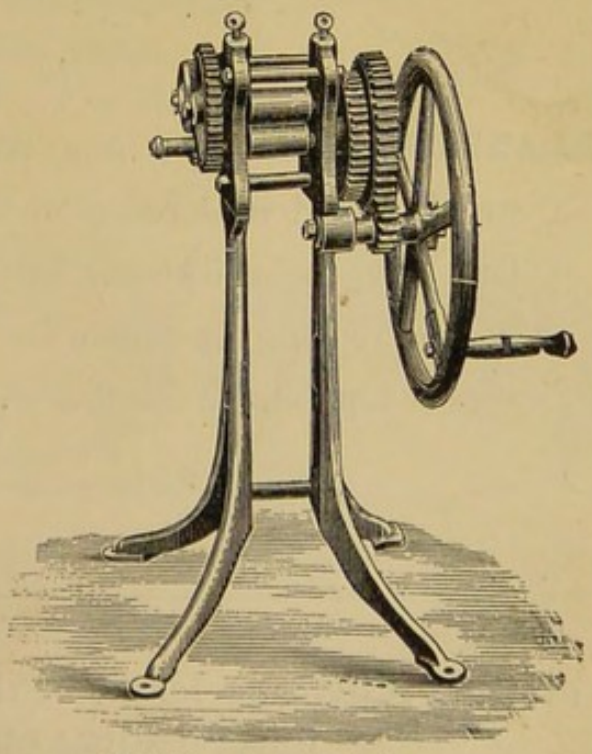
	£	*s.*	*d.*
Price . .	12	17	6

FLATTING MILL, similar to Fig. 3, with same size rollers, fitted up with triple gearing and fly-wheel.

	£	*s.*	*d.*
Price	14	14	0

Packing cases charged extra.

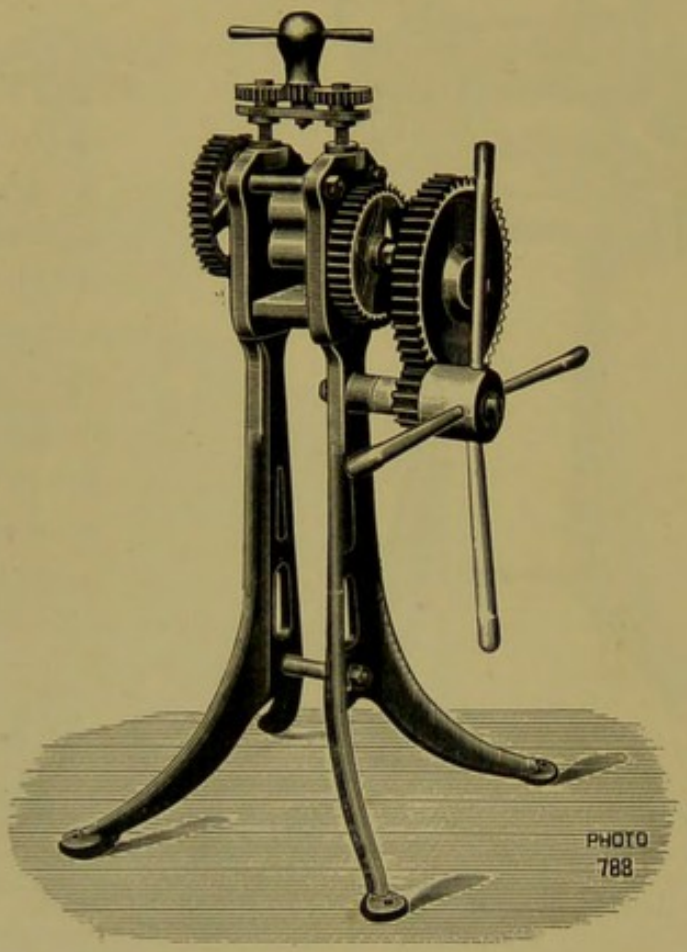
Fig. 4.



Height, about 42 inches.

FLATTING MILLS—*continued.*

Fig. 5.



Height, about 50 inches.

FLATTING MILL on iron stand, to fasten on floor, with hardened steel rollers of the best quality, 4 inches long by $2\frac{1}{4}$ inches diameter, fitted up with triple gearing, Jack-wheel, and top motion for raising or lowering both ends of top roller at one time . . . . . £ 20 s. 0 d. 0

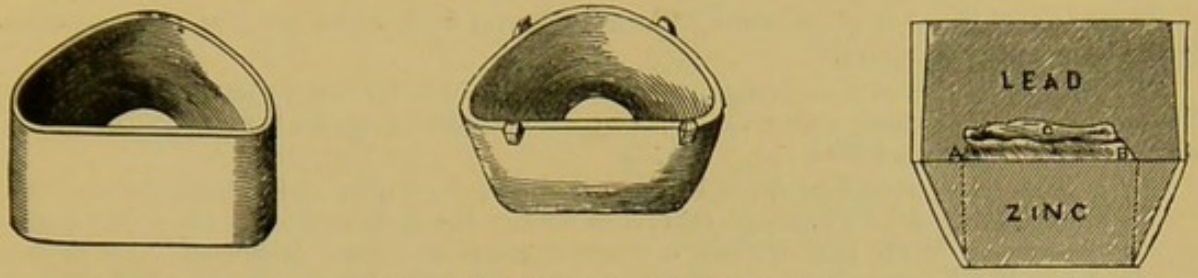
Packing case charged extra.

Flatting Mills with longer or shorter rollers supplied to order. Specifications sent on application.

FLASKS FOR MAKING METAL DIES.

(BAILEY'S.)

Fig. 1. Fig. 2. Fig. 3.



DIRECTIONS FOR USE:

Place a shallow Plaster Cast, A B C (Fig. 3), on a level surface ; turn over it the lower half of the Flask (Fig. 1), with joint side down ; pack the sand in it, and level off the top ; turn up the Flask, remove the superfluous sand, tap the cast lightly, when it can be easily lifted out ; pour in the Zinc ; when the impression is filled, place over it the upper half of the Flask (Fig. 2), and fill up immediately ; knock out the sand, invert the whole Flask, and pour the Lead upon the Zinc ; when cooled, part and remove the Flasks, and with a few sharp blows at the joint the Dies will separate.

Figs. 1 and 2 constitute the Flask, which is made in two sizes, large and small.

	s.	*d.*
Price, either size	2	0

MOULDING FLASK.

(HAWES'.)

Fig. 1. Fig. 2. Fig. 3.

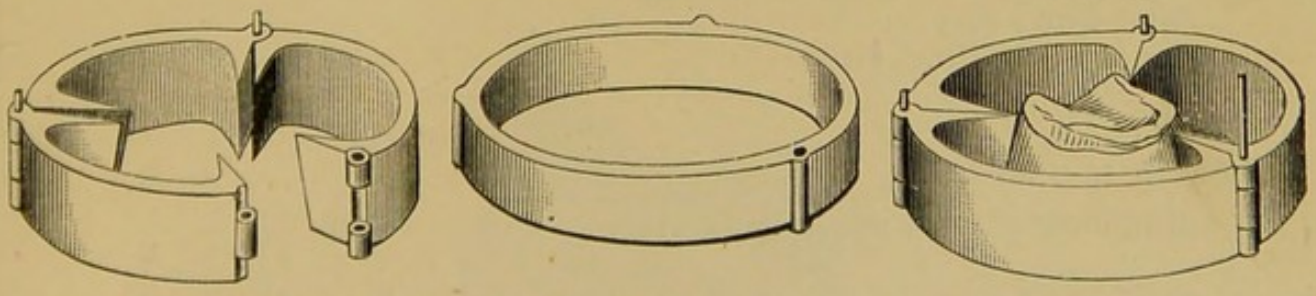


Fig. 1 represents the lower section of the Flask, slightly opened, to show the Joints. Fig. 2 is the upper section. When ready for use, the lower section is closed and confined by a Pin, and the Plaster Model placed in it, as represented in Fig. 3.

	s.	*d.*
Price complete	12	6

THE

PEARSALL DUBLIN SAND-MOULDING FLASK.

INVENTED BY MR. W. BOOTH PEARSALL, F.R.C.S.I.

(*See pages 76–79 of his book on "Mechanical Practice in Dentistry."*)

There is no form of Sand-Moulding Flask for dental work which gives so much satisfaction in use as Mr. Pearsall's.

Mr. R. P. Lennox, of Cambridge, who has employed it for some years, says: "When this flask is used in casting a zinc die, a strong cone is formed at the back of the die, from which these advantages follow:

"The plaster model need not be more than one inch deep at the heel, the zinc can be readily grasped in a vice and otherwise readily handled, and it never cracks under the hammer. With this die and a counter made as above described"—*see page 5 Lennox's Work*—"perfect accuracy in directing the blows is obtained, and the life of the counter is much prolonged, so much so that I find one zinc die, one lead, and one tin counter sufficient for all purposes."

As made the Flask consists of—

Two Moulding Plates (Fig. 1) of the same diameter, but with cone-shaped apertures (*A*, Fig. 3) of different sizes, the larger suited to very large jaws.

Two Sand Rings (*B*, Figs. 2, 3), one deep and one shallow, which fit on the top of the Moulding Plates (see Fig. 2). Some prefer a deep, others a shallow ring; both sizes are useful in the workroom.

Two Counter-Die Rings (*A*, Fig. 4), one large and one small, with which either a large or a small lead, as may be desired, can be obtained.

The six parts here enumerated form a **Double** outfit, which it is desirable to have, but for the convenience of purchasers we have priced them as **Single** outfits; any of the parts can be had separately.

Single Outfit, consisting of—	s.	d.
Moulding Plate with small aperture	2	0
Sand Ring, shallow	2	0
Counter Die Ring, small	1	0
Complete	5	0

Single Outfit, consisting of—	s.	d.
Moulding Plate with large aperture	2	0
Sand Ring, deep	3	0
Counter Die Ring, large	2	0
Complete	7	0

Parts separately.		s.	d.
Moulding Plate, with large aperture	(Fig. 1)	2	0
,, ,, small	(,, 1)	2	0
Sand Ring, deep	(B ,, 2)	3	0
,, shallow	(B ,, 2)	2	0
Counter-Die Ring, large	(A ,, 4)	2	0
,, ,, small	(A ,, 4)	1	0

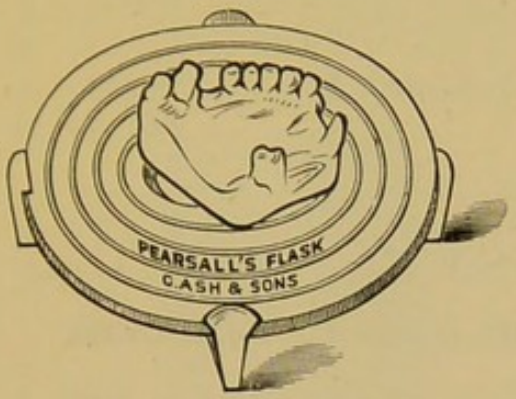
Full Descriptive Circular sent on application.

THE

PEARSALL DUBLIN SAND-MOULDING FLASK

(CONTINUED).

1



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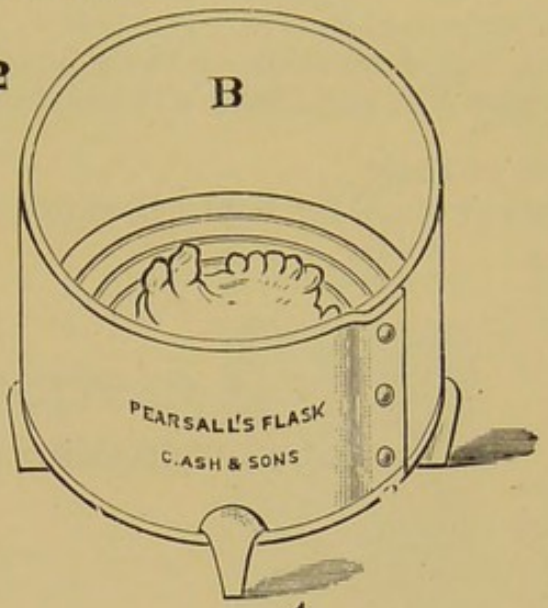

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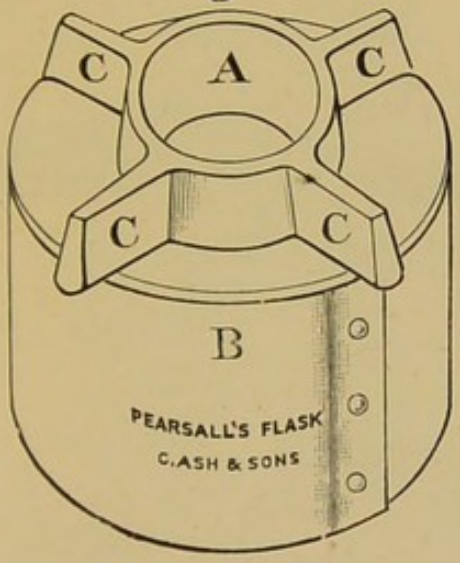

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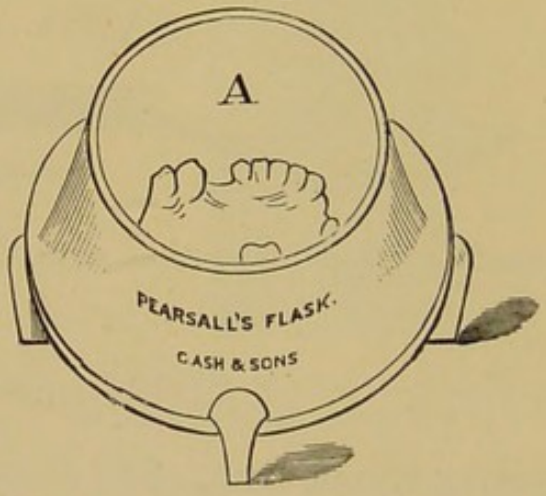

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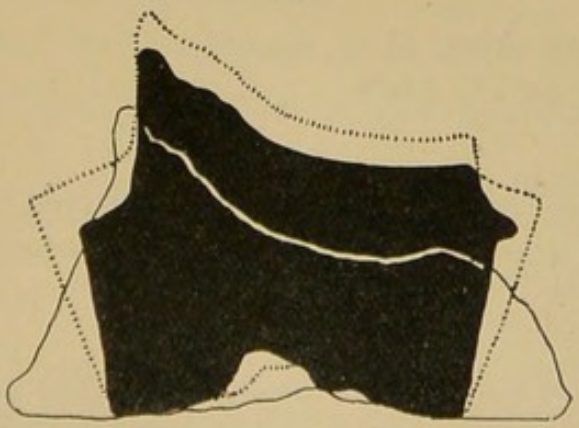


BAILEY DIE ..... 3 LBS ZINC
ORDINARY DIE _____ 2 3/4 LBS ..
PEARSALL DIE ▬▬▬ 2 LBS ..

WESTON'S IMPROVED FLASK,

FOR USE IN MAKING DENTURES OF WESTON'S METAL AND OTHER FUSIBLE ALLOYS.

A full description of the "Metallo-Plastic" Process will be found in Chapter XV. of "Harris's Principles and Practice of Dentistry."

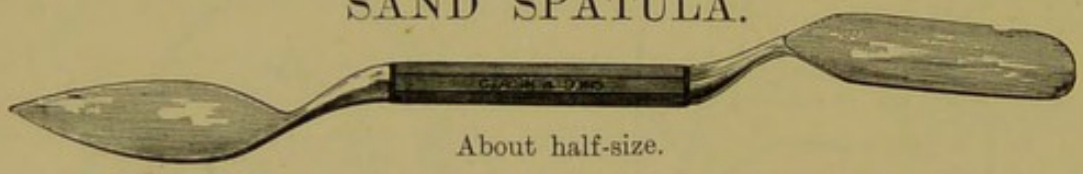
		s.	*d.*
Price of Flask		4	2
Weston's Metal for Lower Dentures, in 2-oz. packets	per pkt.	4	2
„ Solder	per oz.	4	2

CASTING SAND.

SPECIALLY PREPARED FOR DENTAL PURPOSES.

		s.	*d.*
Price	per 14-lb. bag	1	4

SAND SPATULA.



About half-size.

		s.	*d.*
Spatula for mixing casting sand, &c.	each	2	0

ARTICLES (VARIOUS).

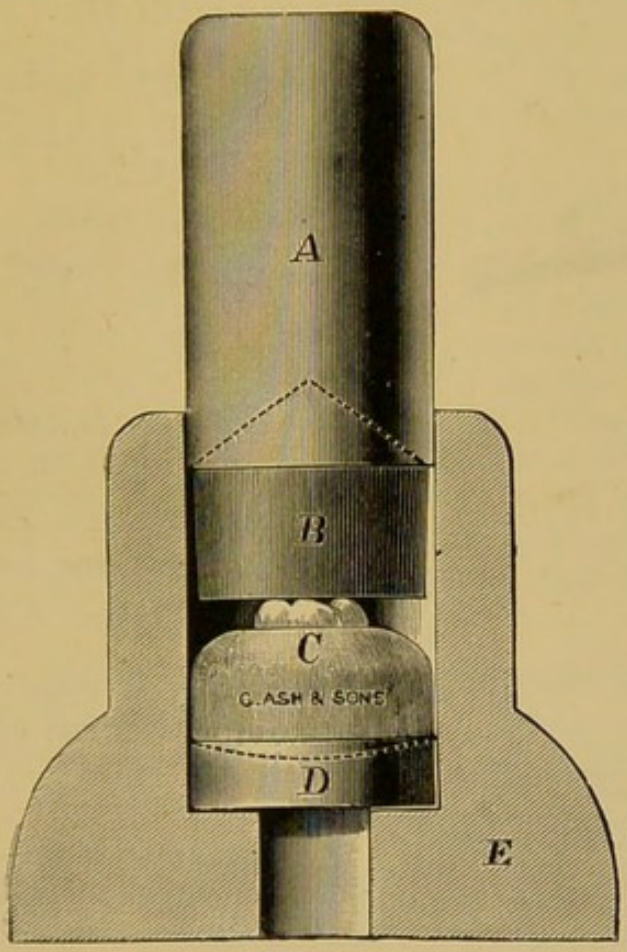
		s.	*d.*
Casting Rings, Iron, 5½-in. diameter	each	1	9
„ „ „ 5-in. „	„	1	6
„ „ „ 4-in. „	„	1	3
Casting Die Rings, Iron, 4½-in. diameter	„	2	6
„ „ „ 4-in. „	„	2	3
French Chalk	per lb.	0	6
Gum Shellac	„	3	0
Binding Wire, ¼-lb. reels	per reel, 3d., 6d. and	0	9
„ „ „ American	per reel	0	10
Iron Wire, medium, for pins; thick, for cramps	per hank	0	1½
Marble Dust	per lb.	0	9
Silex in Powder	„	1	0
„ **in Liquid**	per bottle	0	9
Vermilion	per oz.	0	8
Water of Ayr Stones, in slips, for polishing, large	per doz.	0	9
„ „ „ „ „ small	„	0	9

ASH'S CROWN SWAGER.

(Registered. Reg. No. 334,144.)

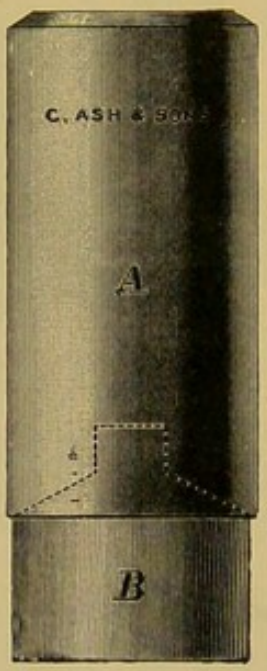
There is no limit to the number of dies which can be made for use in this little Swager; any natural or artificial bicuspid or molar can be employed, and very easily and quickly mounted in Composition ready for the Gold Crown to be swaged upon it.

Crown Swager.



Full Size.

Inlay Plunger.



Plunger ***A*** with India-rubber Water Bag ***B*** for Inlay Work.

Descriptive Circular sent post free on application.

DESCRIPTION OF CROWN SWAGER:

A.—Plunger. ***B.***—India-Rubber Block.
C.—Composition with Tooth embedded in it. ***D.***—Bed Plate.
E.—Section of Base with hole in the floor for dislodging Bed Plate ***D***, etc.

PRICES:

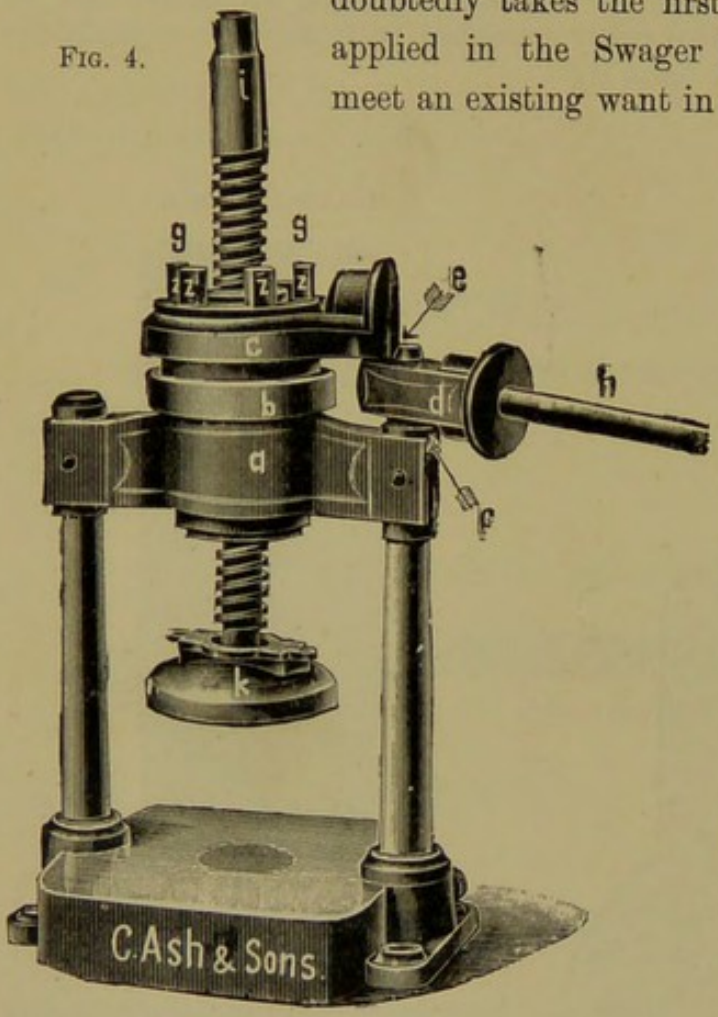
		s.	*d.*
Crown Swager with two Rubber Blocks		7	6
Inlay Work Plunger with two Water Bags . .	extra	2	6
Additional Bed Plates ***D***	each	0	4
Extra-Hard Swaging Composition, in ½-lb. boxes .	per lb.	5	0

ASH'S SWAGING PRESS,

WITH DUCHSCHER'S DIFFERENTIAL LEVER ACTION.*

Among modern mechanical Presses, Duchscher's "Differential" undoubtedly takes the first place, and its principle is applied in the Swager here illustrated (Fig. 4) to meet an existing want in dental mechanics.

FIG. 4.

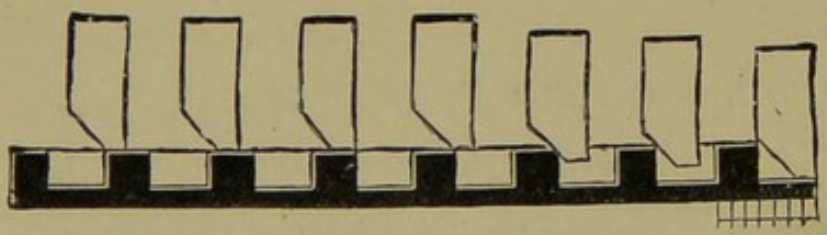


DESCRIPTION:

a. Stirrup with female screw.
b. Drop-Bolt Collar.
c. Differential Lever.
d. Intermediate Lever.
e. Slide Bar.
f. Bolt.
g.g. Drop-Bolts (shown also in Fig. 4*).
h. Hand Lever.
i. Screw Piston-rod.
k. Pressure Plate.

Illustration Fig. 4 clearly shows the positions of these several parts.

FIG. 4*.



There are rectangular openings, placed at regular distances, in the circumference of the Differential Lever ***c,*** and the Drop-Bolt Collar ***b,*** into which the Drop-Bolts ***g g*** grip. As will be seen from Fig. 4*, these Drop-Bolts are bevelled at the bottom; when, therefore, the lever is pushed round, they slide on the rim of ***c,*** until one of them slips into an opening and presses against the perpendicular face of same. Connection is thus established with the Piston Rod ***i,*** which revolves and "presses."

* Differential here signifies "an arrangement by which a regular, powerful, and slow movement is obtained for carrying forward a tool from the motion-work whereby the tool is rotated."

ASH'S SWAGING PRESS—*continued.*

After the lever has been pushed its full distance—about an arm's length—it is drawn back, and with this reversal of its direction the half sunk or entirely sunk bolts, owing to their bevelled edges, slide out of the openings, and the motion is repeated as often as may be necessary.

The number of openings in ***c*** and of Drop-Bolts is one each less than the number of openings in ***b*** ; this variation forms the key of the Differential-Lever system. If for each opening in ***b*** there were a Drop-Bolt and an opening in ***c***, all the bolts would grip at the same time, and would thus only produce the same effect as a single bolt. But by having the number of openings in ***c*** and the number of Drop-Bolts one each less than the number of openings in ***b***, bolt after bolt grips successively when the lever is advanced.

Fig. 4* shows this difference in the number of openings in ***b*** and in the Drop-Bolts—hence the name "Differential"—from which it will be seen that it is only necessary to move the Lever ***h*** a distance equal to one-seventh of the distance between two openings.

This need of so slight a movement renders it possible, without increase of muscular effort, to obtain greater leverage with the "Differential" than with any other form of Press. For instance, with the Press represented in Fig. 4 it is possible to obtain the enormous pressure of over 10,000 lbs. to the square inch, which can be applied in a most gradual and satisfactory manner; the pressure exercised with it is regular and continuous, not jerky, sudden, or irregular, like that applied by hammering or with a centrifugal press.

We find that we can swage an 18-carat No. 7 gold plate in it without difficulty. To prevent the Press being unduly strained, extra deep Dies and Counters should be used.

DIRECTIONS FOR USE:

For the screwing-up motion of the Press, place the Drop-Bolts ***g g*** in position with the grooved face ***z*** of each outwards. Turn the screw Plunger ***i*** right home on to the dies with the hand before applying pressure with the Lever Handle ***h***. To release the pressure, reverse the Drop-Bolts in the slots—*i.e.*, place face ***a*** of each outwards—and raise the Plunger from the dies with the Lever Handle ***h***.

Make both the die and the counter die of zinc where possible, or the die of zinc and the counter of tin. A zinc counter can be poured on a zinc die, and will part from it if the face and sides of the die be painted over with whiting or if they be thickly blackened over an ordinary gas-flame. After the zinc dies are cast they should be thoroughly annealed before use in an oven or similar contrivance until they are too hot to be held in the hand. This makes them very much tougher and stronger than ordinary dies.

Anneal the plate three or four times during the process of swaging, as is usually done when striking up with the hammer.

PRICES:

		£	*s.*	*d.*
Swaging Press, as illustrated, for fixing on work bench	(Fig. 4)	5	15	0
Strong Iron Stand for holding the Press . . .	extra	2	0	0

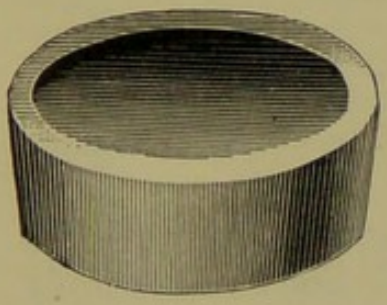
MOUTH BLOWPIPES.

13 inches long.

		s.	d.
Mouth Blowpipes, in Brass, lacquered, with hollow chamber, as illustrated, to hold any moisture that may escape from the mouth. With ivory mouth-piece, and two nozzles	each	2	9
The same without moisture chamber	„	1	9
Mouth Blowpipes, plain, with tinned ends, from 11 to 14 inches long	per inch	0	1

MOULDED CARBON BLOCK.

(Fletcher's.)



For supporting work under small blowpipes. It is cleanly, a perfect non-conductor, and very durable.

Diameter, $4\frac{1}{4}$ inches ; thickness, $1\frac{1}{2}$ inches.

	s.	d.
Price	1	6

ASBESTOS SOLDERING BLOCK.

(American No. 2.)

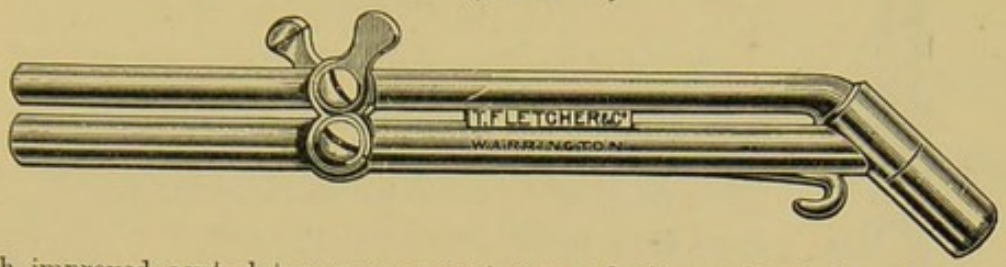
Same shape as the Moulded Carbon Block shown above.

	s.	d.
Price	2	6

		s.	d.
Soldering Coals, of compressed willow charcoal :			
Large size, with flat sides, 2 × 2 × 6 inches .	per block	1	6
Small „ „ $1\frac{1}{2} \times 1\frac{1}{2} \times 5$ „ .	„	0	9
One of these will outlast 50 blocks of charcoal.			
Fine Willow Charcoal, in selected sticks, free from flaws	per lb.	1	0

FLETCHER'S BLOWPIPE.

(Fig. 8 C.)



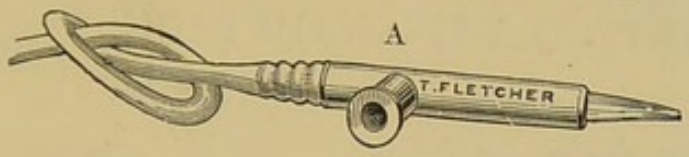
With improved central tap arrangement, gas and air supplies independent and under control of one finger. It is designed for jets not exceeding $\frac{1}{8}$-in. bore. Requires Foot Blower, size No. 3.

	s.	d.
Price, as illustrated	9	0
,, without Taps	4	3

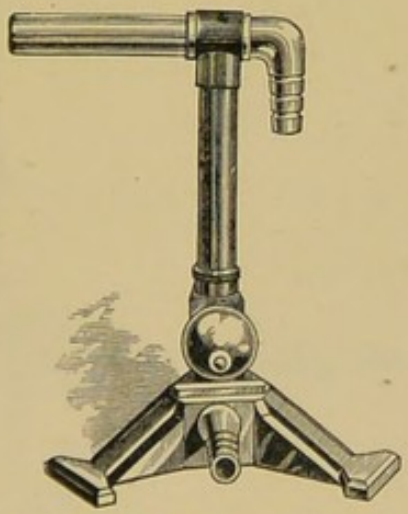
FLETCHER'S UNIVERSAL BLOWPIPE.

(Size No. 3.)

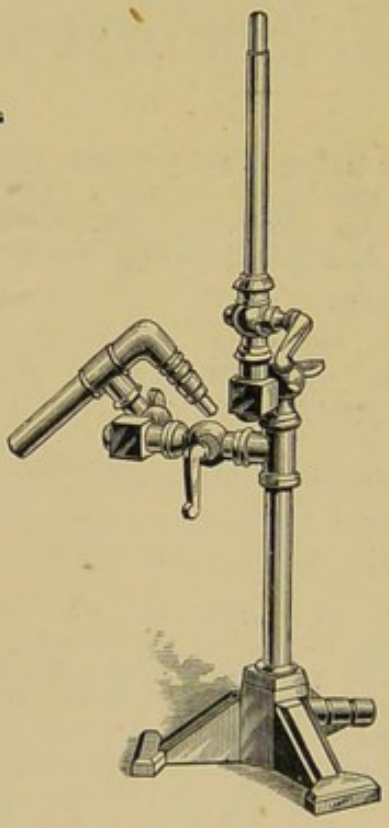
A



B

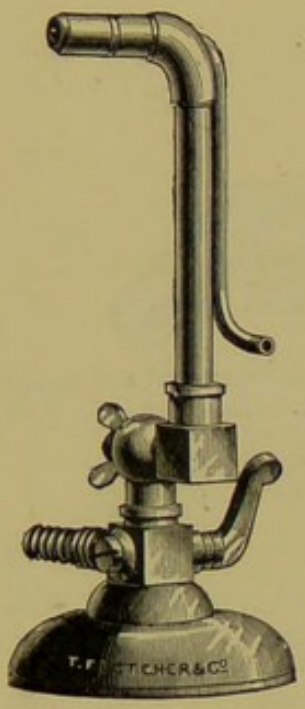


C



	s.	d.
A.—Universal Blowpipe Head with straight or bent air inlet for screwing on to a gaspipe. Can be used in any existing arrangement or bracket. . . .	4	6
B.—Universal Blowpipe on stand with swivel joint and straight or bent air inlet as ordered	8	6
The same with Tap for gas.	10	0
C.—Universal Blowpipe with bench light and swivelling joint to blowpipe. The bench light swivels down to carry a light to the blowpipe, or *vice versâ*	16	6

Gas supply required for full power $\frac{3}{8}$-in. pipe.
Foot Blower, size 3, will work any of the above.



BLOWPIPE.

(Fletcher's No. 1.)

The jet of this Blowpipe is removable, and any size can be supplied for use with either mouth or foot blower. Total height, 8 inches. The flame can be directed at any angle, and can be firmly set by the wing nut shown at the back. The tap lever, when pushed backward, will turn the light out; when drawn forward, will leave a small pilot light. The stand is of brass, to prevent rust, and is heavy and perfectly steady.

		s.	*d.*
Price, as illustrated		9	6
Extra Jets	each	0	3

IMPROVED FORM OF

ORIGINAL HOT-BLAST BLOWPIPE.

(Fletcher's.)

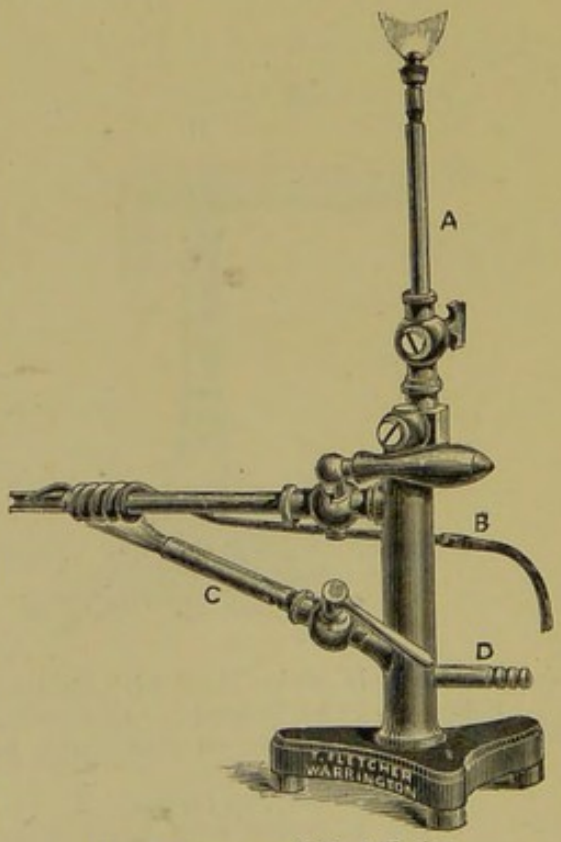
Fig. 1b.

For a large rough flame the Bunsen heater should not be used. The advantage of the hot blast shows only when a pointed flame is required having a high temperature.

The engraving shows the Blowpipe arranged with Bench Light A, but it is also supplied without.

	s.	*d.*
With Bench Light, as illustrated. .	18	6
Without ,, ...	14	0
Duplicate Coils and Jets	1	6

Mr. Fletcher says:—"I still retain my opinion, backed up by some of the best workmen I know, that the Hot-Blast Blowpipe is, above all others, *the* Blowpipe for Dentists, and that more real service will be done to Dentists by bringing it to their notice than by all the other Blowpipes put together. It can be supplied with a small tap on the air-jet, if desired, to use with Foot Blower. The bench light is in exactly the right position, and with a little flame at this through the day the Blowpipe is practically self-lighting. It has ample power, and to spare, for any work that may be required, and can be used at one-twentieth the cost of a Blowpipe combined."

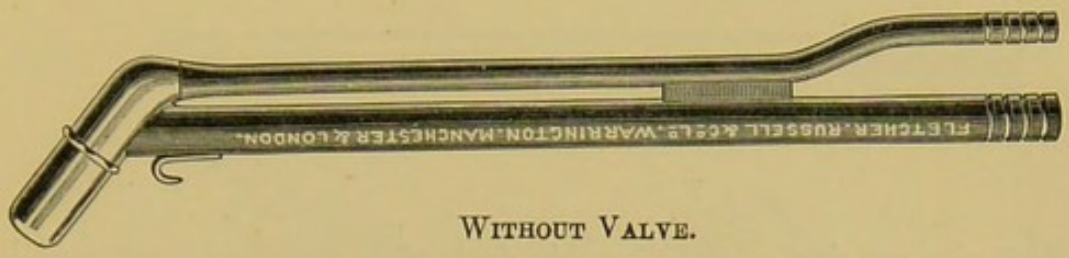


Engraving one-fifth full size.

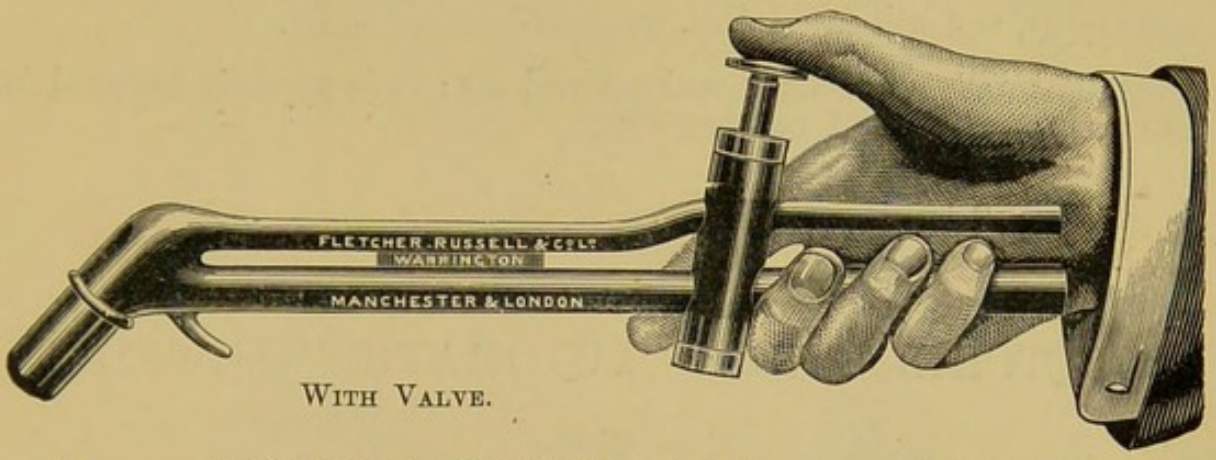
worked with Nitrous Oxide and Coal-gas

PERFECTED BLOWPIPES.

(Fletcher, Russell and Co.'s.)



Without Valve.



With Valve.

Messrs. FLETCHER, RUSSELL & CO. say:—"These Blowpipes are an entirely new departure in many most important points. They are the most powerful Blowpipes ever made for their size and weight, every part being exactly proportioned. The engravings are from photographs showing the exact proportions."

PRICES:

	s.	*d.*
Blowpipe, $\frac{3}{8}$-in. size, for $\frac{3}{8}$-in. gas supply, without valve .	5	0
" " " " with " .	10	0

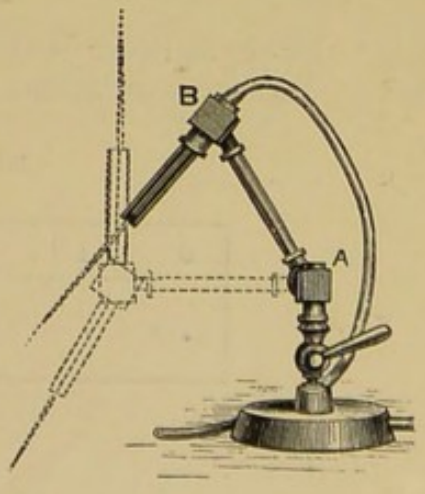
No 3 size Blower will work the above.

FLETCHER'S

DOUBLE-JOINTED HERAPATH BLOWPIPE,

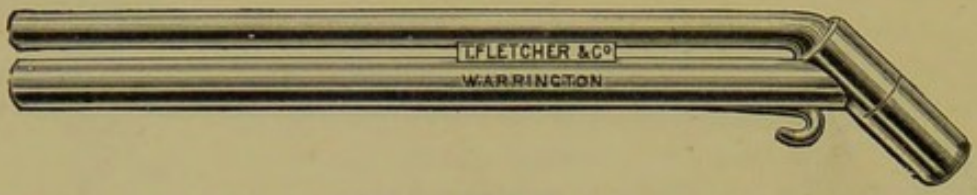
As used and recommended by Dr. Angle in his work on Regulating Teeth, &c.

	s.	*d.*
Price	7	6



FLETCHER'S OXYGEN BLOWPIPE.

(No. 7.)



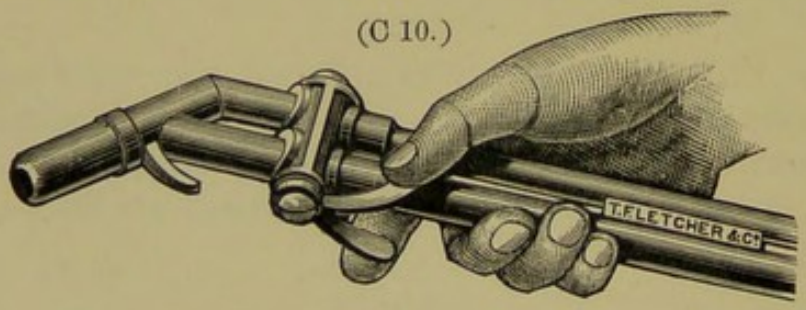
This size requires about 7 cubic feet of oxygen per hour, and $\frac{1}{4}$ inch gas supply, and will fuse a $\frac{1}{4}$ in. wrought-iron rod easily.

It is totally useless for coal-gas and air; it is specially designed for use with **compressed oxygen only.**

	s.	*d.*
Price	8	6

FLETCHER'S NEW AUTOMATIC BLOWPIPE.

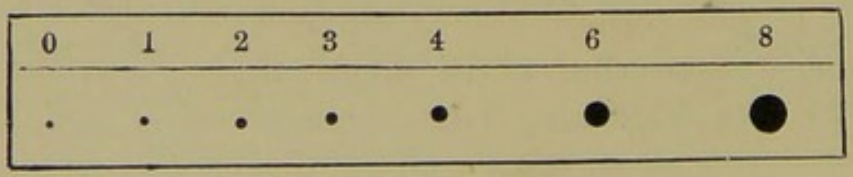
(C 10.)



This will be found a simple and most extraordinarily efficient Blowpipe for ordinary workshop use. Both gas and air are controlled with a movement of the finger, a few minutes' practice giving perfect mastery over the character of the flame. It consumes about 10 cubic feet of gas per hour at full power. Requires Foot Blower, size No. 3.

	s.	*d.*
Price, as illustrated	9	0
The same on Stand	12	6

SIZES OF BLOWPIPE JETS.



		s.	*d.*
Price.	each	0	3

GARTRELL'S
OXYGEN BLOWPIPE AND REGULATOR.

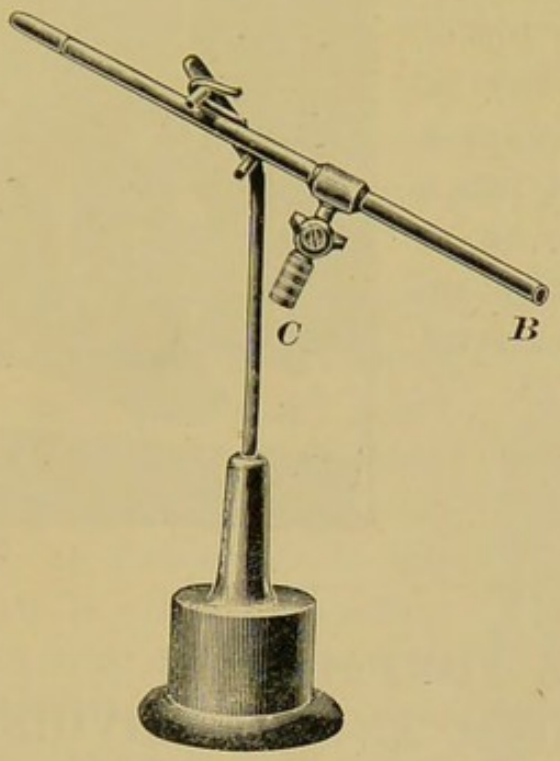


FIG. 1.

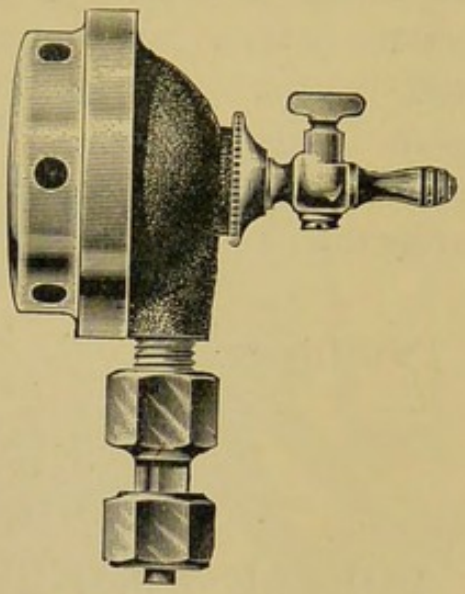


FIG. 2.

Fig. 1 represents an Improved Oxygen Blowpipe for dental purposes. Very thick rubber tube, $\frac{1}{8}$-inch bore, connects the end of the blowpipe to the oxygen or nitrous oxide cylinder. About $1\frac{1}{2}$ feet of this tube is supplied with each blowpipe. The rubber tube for coal-gas is attached to the tap ***C*** at the side of the blowpipe.

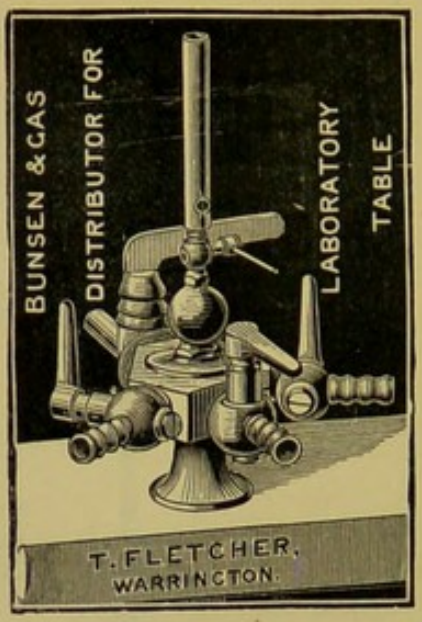
The Regulator shown in Fig. 2 will be found extremely useful in controlling the pressure of oxygen or nitrous oxide. It is screwed to the cylinder in the usual way, and a rubber tube is attached to the tube forming the nozzle. This nozzle is also fitted with another ordinary gas tap, as shown in the cut. After the oxygen is turned on, this gas tap is quickly adjusted to supply the pressure required, or to stop the gas entirely. The regulator is more effective than a fine adjustment valve, and oxygen is better than nitrous oxide, as it does not sputter, but the nitrous oxide will answer if oxygen is not at hand, and will readily fuse platinum. This blowpipe will be found very useful for soldering a crack in a metal plate close to the vulcanite without burning it, and a repair can be done in a few minutes that usually takes as many hours. With this blowpipe may also be used platinum solder for continuous-gum and porcelain bridge-work.

PRICES:

	s.	*d.*
Oxygen Blowpipe with $1\frac{1}{2}$ feet Rubber Tubing . . .	12	0
Regulator, Fig. 2, as illustrated	24	0
Platinum Solder—Pure Gold, 4 parts; Platinum, 1 part per dwt.	5	0

GAS DISTRIBUTOR FOR LABORATORY TABLES.

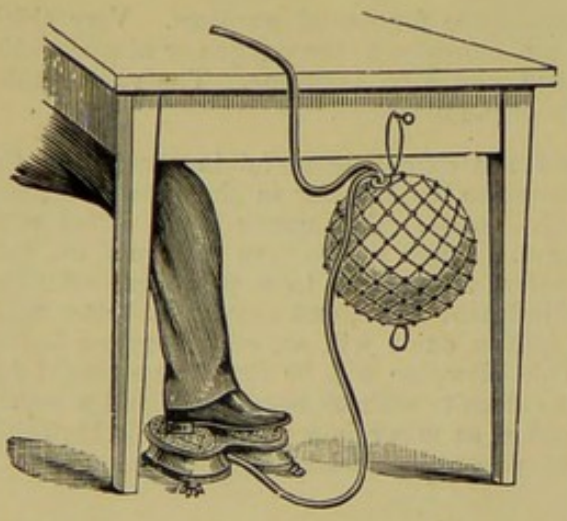
Consisting of a brass pillar, with screwed pipe to pass through the table, taking its supply from underneath. On the top of the pillar is a small jet, which may be either used as a pilot jet for keeping a constant light, or can be converted into a small Bunsen by slipping the tube on, as shown in the engraving. The taps are fitted for rubber tubes, the one engraved having three $\frac{3}{8}$ taps and one $\frac{1}{2}$ inch.



	s.	*d.*
Gas Distributor . . .	12	6

STANDING'S PORTABLE DOUBLE FOOT-BELLOWS AND RESERVOIR.

(FOR USE WITH THE BLOWPIPE.)



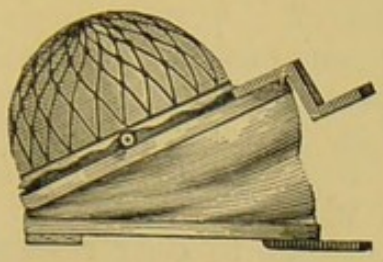
A steady and continuous blast is given by this compact little apparatus, sufficiently powerful for any blowpipe that is used for dental purposes. The double bellows is worked by a rocking motion of the foot and requires very little exertion.

As shown in the engraving, the air reservoir can be suspended by the side or underneath the work-bench in any convenient position where it is not likely to get damaged.

	£	*s.*	*d.*
Price, complete with India-rubber tubing, as illustrated	1	0	0
Large size for Furnace work	1	4	0

FLETCHER'S FOOT BLOWERS.

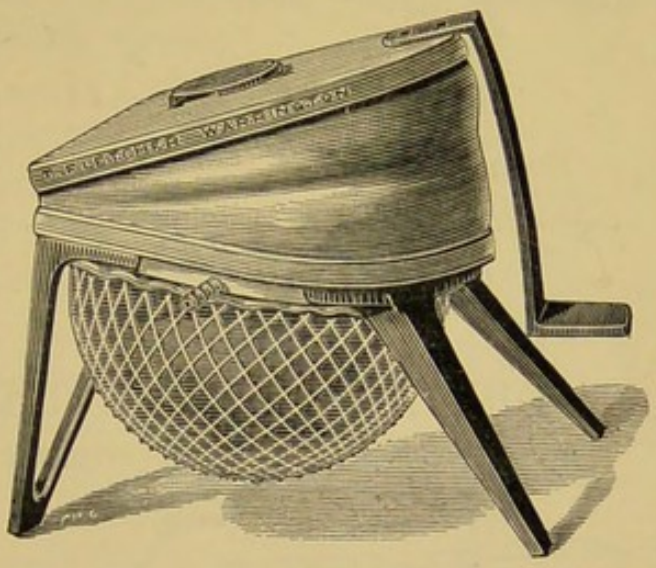
Fig. 9.



These blowers, Fig. 9, have proved themselves to be efficient, simple, strong, and able to stand hard and constant work. The pattern is now made in the following sizes :

		s.	d.
Size 3, 13 by 10 by 6½ in. deep	each	26	0
„ 5, 15 „ 12 „ 7 „	„	33	6

Fig. 9B.

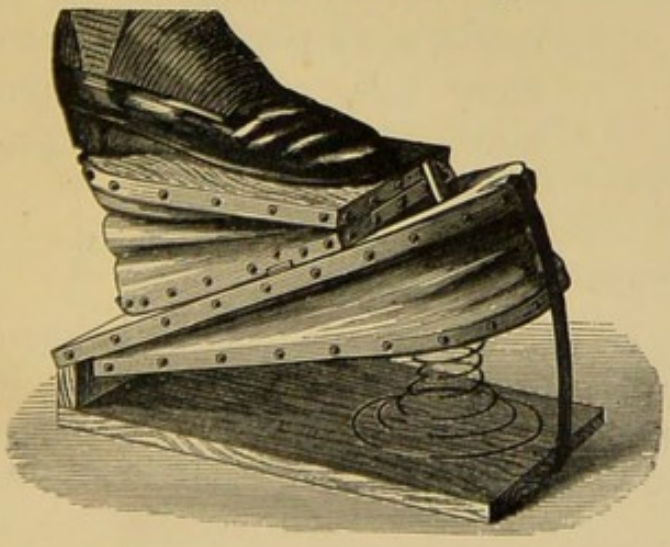


This pattern, by reversing the position of the blower, reduces the risk of mechanical injury to the disc, and does away with the necessity for a wood casing or protection. It also prevents the valve from picking up dirt from the floor, keeping the whole arrangement cleaner, and the valves in more perfect order.

		s.	d.
Size 3, same dimensions as Fig. 9	each	30	6
„ 5, „ „ „ 9	„	36	6
Rubber Discs, for size 3	each 2*s.* 8*d.* ; for size 5 „	4	0
Nets „ 3	„ 1*s.* ; „ „	1	4

(Two Rubber Discs are used on each Blower.)

(Cotton and Johnson's.)



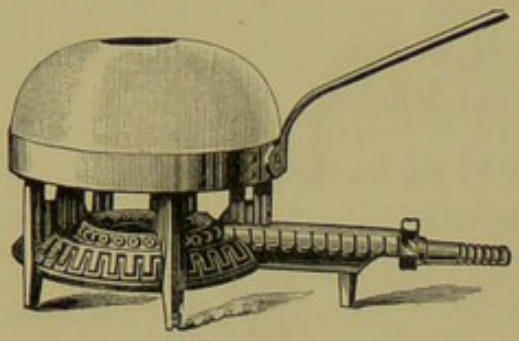
With double bellows, which, with very little pressure of the foot, keeps up a continuous blast and ensures a steady flame while soldering.

Made in three sizes :

	s.	
Small, 12 by 9 in.	18	0
Medium, 13 „ 11 „	21	0
Large, 15 „ 13 „	25	0

PLATE DRYER AND HEATER.

(Fletcher & Co.'s.)



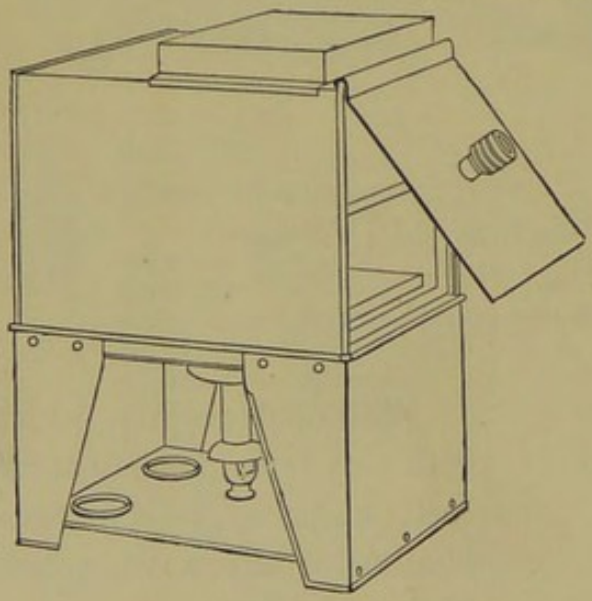
This consists of a porous fireclay dome, resting on one of Fletcher's No. 10 standard burners. Size of dome inside, 4 in. diameter, 2 in. deep. It will take work up to 3 inches diameter, and will heat a block of iron over 1 lb. weight to clear redness with the ordinary burner as engraved, without the assistance of a blowpipe or blast of air.

Prices:

	s.	*d.*
Burner	1	10
Fireclay Dome, with handle	4	0
Complete, as illustrated	5	10

DRYING OVEN WITH WATER JACKET.

(Fletcher & Co.'s.)



Specially designed for Dentists' use ; size, 6 inches wide, 5 inches high, 8 inches deep, clear inside measure. It is made of heavy copper throughout, riveted and seamed, and will stand heavy continuous work. It has a hanging door, two sliding shelves of copper, and a plate over the water filling hole, of tinned copper, hammered and polished, for warming rubber for packing.

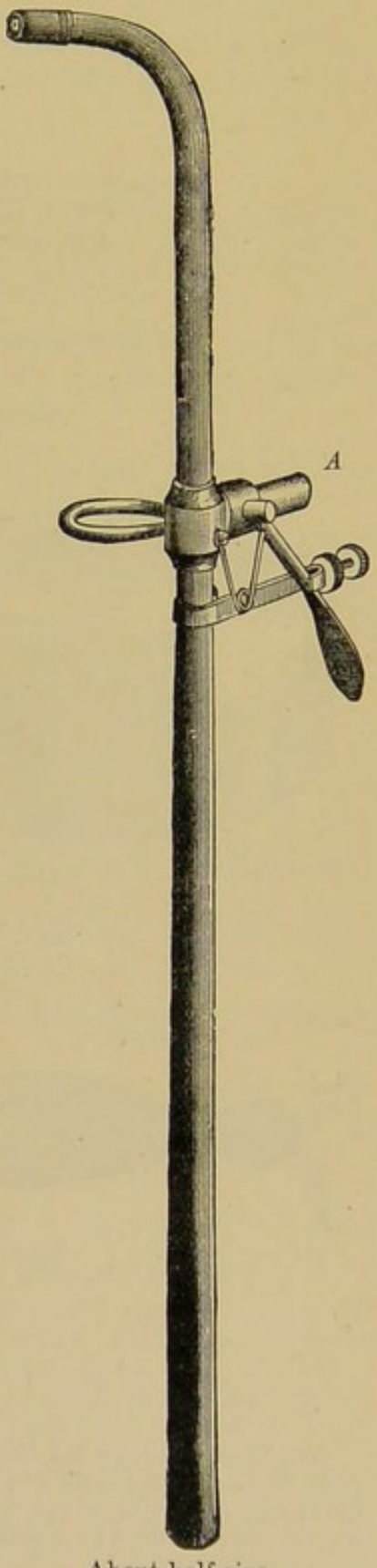
	s.	*d.*
Price complete, with Burner and Copper Stand	42	6

Smaller sizes of this Drying Oven may be had to order at the above price, and larger sizes at a small additional cost. They are made in the most substantial manner possible. Cheap or lightly made water jacketed ovens are worse than useless for permanent service, being constantly out of order.

MELOTTE'S SOLDERING APPLIANCES.

BLOWPIPE.

FIG. 1.



About half-size

This Blowpipe is designed for use wherever there is a gas supply.

The gas is received from the ordinary gas burner through a rubber tube attached to the Blowpipe at *A*, where a patent spring-lever valve affords perfect regulation of the flame, or by means of the thumb-screw and jam-nut the valve may be set at any point, giving the very least or greatest flow.

Air is supplied at the end by the mouth or by the foot-bellows ; or nitrous oxide gas under pressure, which may be obtained at all dental depôts, can be used at a trifling expense for an oxy-hydrogen flame.

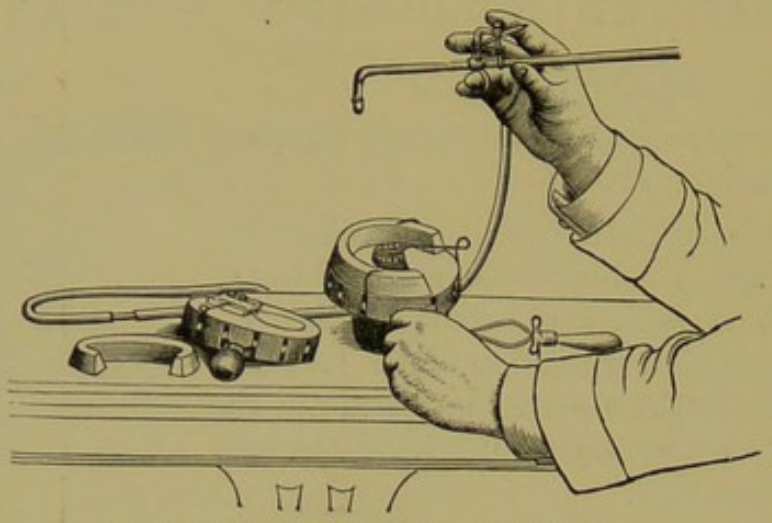
The gas and air are conveyed to the flame end of the Blowpipe by separate tubes (the air tube being in the centre), and there mingle. Both the inner and outer tips are removable. The ring shown in the illustration is useful in holding the Blowpipe, or for hanging it up, or for keeping the flame from the table when not in use.

The special merits of this Blowpipe are :

1. It is always ready for use, and saves gas, *as all the gas is utilised ;* in this item alone it will pay for itself in a short time.
2. As the flame moves with the Blowpipe, it can readily be inserted, and soldering done, in places inaccessible with the ordinary mouth Blowpipe and separate gas jet.
3. It is the cheapest and best Blowpipe for the many wants of the dentist.

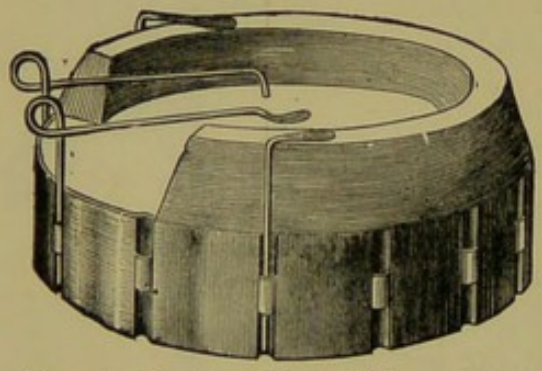
	s.	*d.*
Price, Nickel-plated throughout, complete with Rubber Tubing. . .	12	0

Fig. 1a.



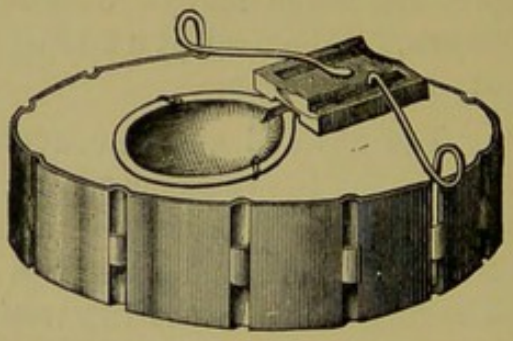
Blowpipe, Blowpipe Pad, &c., complete.

Fig. 2.



Blowpipe Pad, with Rim B in position.

Fig. 3.

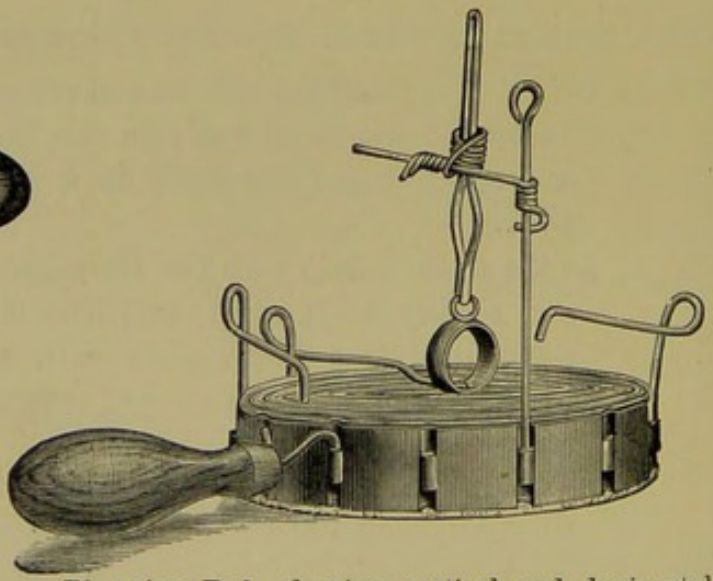


Blowpipe Pad, with Ingot Mould and Crucible.

Fig. 4.

Handle for lifting the Blowpipe Pad. The points can be inserted in any two of the loops on the metal band which is fixed round the asbestos.

Fig. 5.



Blowpipe Pad, shewing vertical and horizontal wires which support the clamp that holds a band while it is being soldered.

MELOTTE'S SOLDERING APPLIANCES—*continued.*

BLOWPIPE PAD.

The Blowpipe Pad is about 4½ inches in diameter, and is made of layers of asbestos, arranged in such a manner that the two soldering surfaces are a perfect cushion into which pins can be readily thrust to hold small articles while being soldered.

The Handle, Fig. 4, is detachable.

The surrounding metal band, which is nickel-plated throughout, is provided with loops or holes for the reception of the hooks on the handle, Fig. 4, and the spring clamps shown in Figs. 2 and 3.

The Pad is reversible, one face having a depression, shown in Fig. 3, for a crucible, for use with the ingot mould, shown in the same figure, which has three matrices of different shapes and sizes.

A Removable Rim, made of asbestos, shown in Fig. 2, is also provided, which is very useful for confining the heat.

Fig. 5 shows a Clamp, which has been introduced by Dr. Melotte, to make the appliance more complete. No extra charge is made for this addition.

The Pad has several points of merit:—

1. It is clean and very durable, which cannot be said of charcoal.
2. It is better than charcoal on account of its uniform surface and the facility with which articles can be fastened upon it, with clamps or pins for soldering.
3. It provides a means to the dentist of readily melting his filings and scraps of gold, silver, and other metals, and thus utilizing them.
4. The clamping devices save much time and annoyance in getting articles fastened for soldering.
5. No other Asbestos Pad has the pinning and yet durable surface.
6. It will last for years and improve with use.

Prices:

		s.	*d.*
Blowpipe Pad with Removable Rim, Ingot Mould, Crucible and five Clamps, complete		8	0
Parts separately:			
Pad with Removable Rim and five Clamps		5	0
Crucibles	each	0	3
Ingot Moulds	„	2	0
Removable Rims	„	1	0

MELOTTE'S SOLDERING APPLIANCES—*continued.*

SOLDERING TWEEZERS.

FIG. 6.

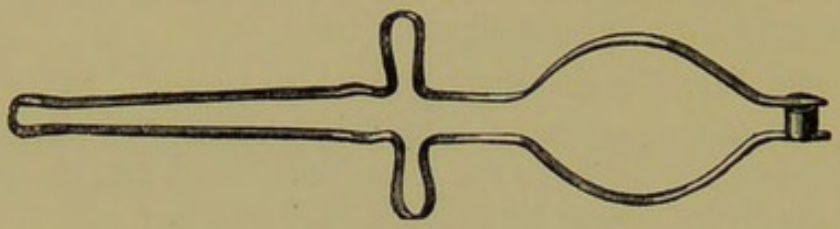


FIG. 7.

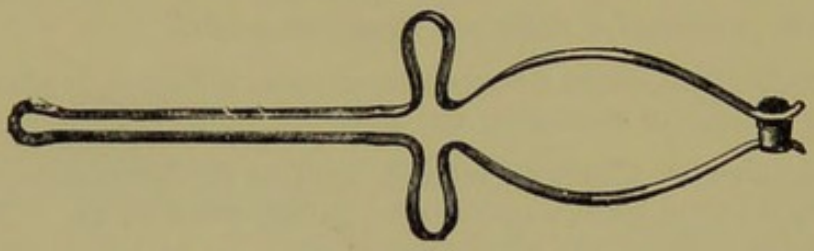
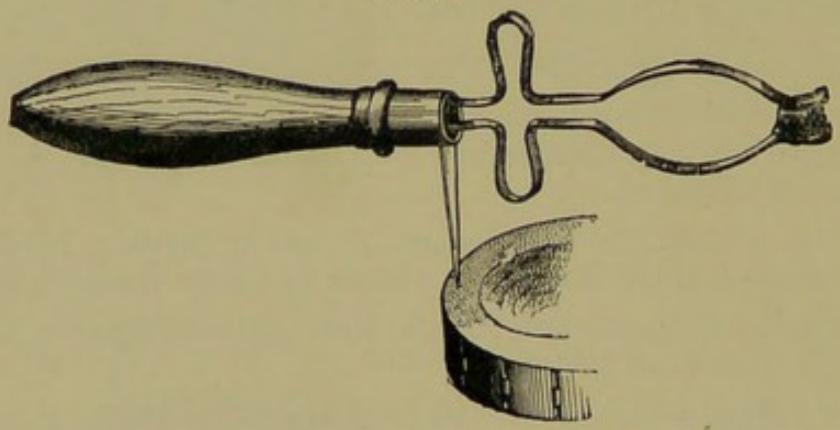


FIG. 8.



The Soldering Tweezers, shown in Figs. 6, 7, and 8, are for holding gold collar crowns and caps while being soldered. They have loops in the arms. These loops facilitate placing the tweezers in and removing them from the handle, and afford a ready means of rotating or changing the position of the work under the blowpipe flame. The slight pressure required to hold the work is secured by pushing the shanks into the handle, the spur of which may then be fixed in the pad or in a piece of charcoal, etc. The left hand is then free to manipulate the solder while the blowpipe is directed in the right hand as usual. The handle will grip the shank of any of the tweezers.

	s.	*d.*
Price per set of three Tweezers and one Handle . . .	4	0

PATENTED "ROTO" SOLDERING SPOON.

(Invented by Messrs. Fletcher & Sons, of Bristol.)

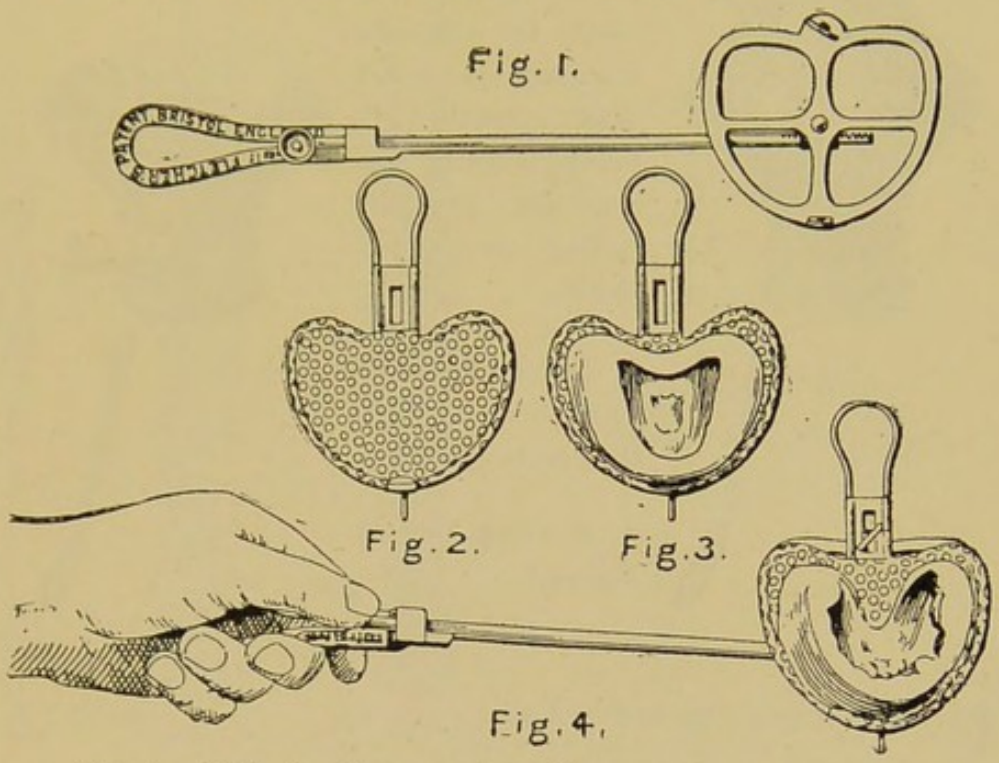


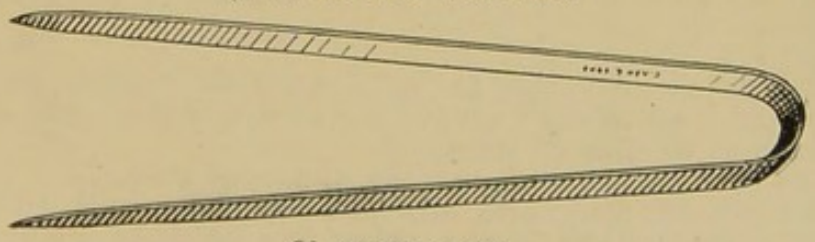
Fig. 1.—Soldering Spoon, minus Tray.
,, 2.—Perforated Copper Tray.
,, 3.—Case invested ready for heating-up.
,, 4.—Invested Case mounted on frame ready for Soldering.

By means of the Thumb Button on the handle the Tray can be turned completely round; it is thus a most easy and simple matter to present any part of the surface of the case to the action of the blowpipe.

		s.	*d.*
Soldering Spoon, complete with Tray		5	6
Extra Trays	each	2	0

WORKROOM TONGS.

(Mr. Walter Sutton's.)

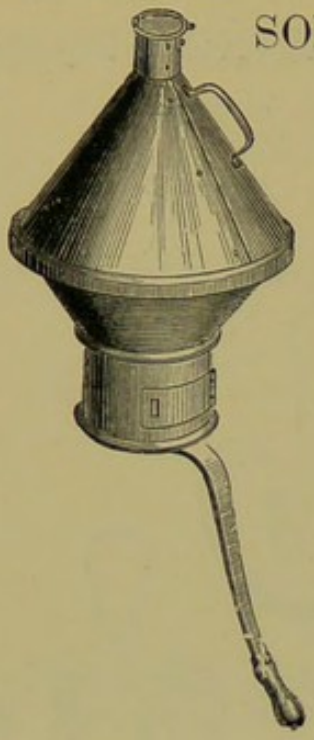


8½ inches long.

For lifting and carrying about articles which are too hot to be held in the hand.

	s.	*d.*
Price, in sheet steel	1	0

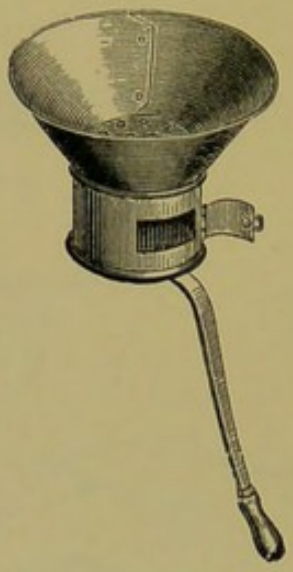
SOLDERING PAN.



In sheet iron, with cover, for gradually warming up pieces with mineral teeth before soldering and also for gradually cooling them afterwards.

The handle has a loose pivot, to allow the pan to revolve.

10 inches high, 6½ diameter.

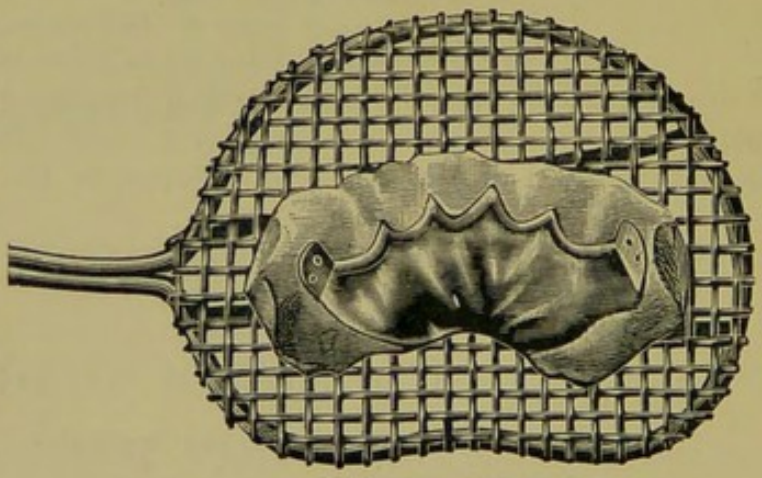


		s.	*d.*
Price		7	0
Soldering Compo, silver sand and plaster	per lb.	0	4

BRITTAN'S SOLDERING SPOON.

With wire handle and gauze bowl, supported underneath by two iron stays.

The shape of the Spoon is so convenient that any case can be soldered upon it, and when the case is red-hot the handle remains perfectly cool.



About two-thirds size.

Mr. Brittan says: My method of using the Spoon is as follows: The teeth or bands having been waxed to the plate ready for inserting in plaster and sand, I mix this as usual, put sufficient for the case on the gauze of the Soldering Spoon, and insert the case. Should I be in a hurry, I put the spoon over a low flame *at once* to hasten the setting, and when the case is red-hot I solder. The advantages of my plan are these:

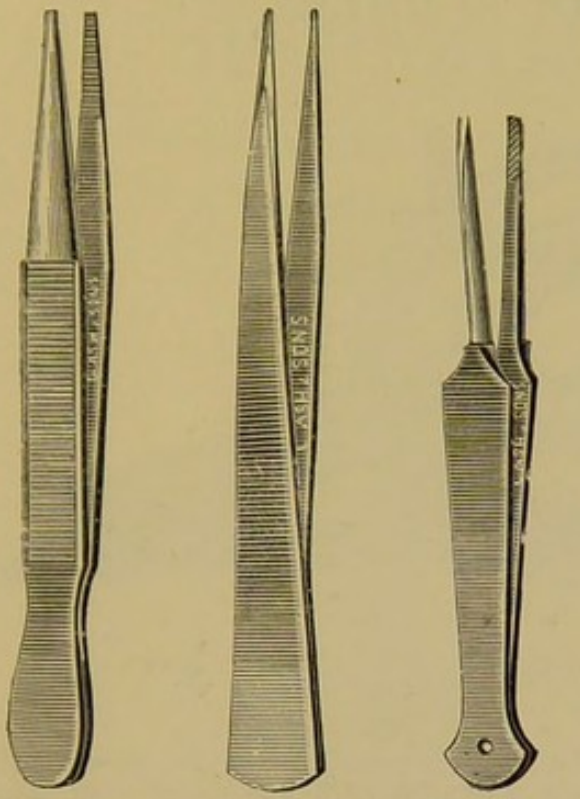
a. **A great saving of time.**
b. **I have no need of a clumsy charcoal slab.**
c. **The plaster and sand mixture does not crack in the Spoon.**
d. **By means of the Spoon, work can be done with more ease, comfort and certainty** than by any other method.

To remove the case from the Spoon. Let the case cool, *place it in water for a few moments*, and then tap the spoon lightly on the bench—this is all that is necessary.

It is well known that after a mixture of plaster and sand has once been made red-hot, it will fall to pieces if it be put into water.

		s.	*d.*
Price of Soldering Spoon		1	6
Extra gauzes for renewing	each	0	6

Fig. 1. Fig. 2. Fig. 3.



$4\frac{3}{4}$ in. long. $4\frac{3}{4}$ in. long. $4\frac{1}{4}$ in. long.

SOLDER TWEEZERS.

PRICES:

		s.	d.
Fig. 1. Blunt . . .	each	0	9
„ 2. Pointed . . .	„	0	9
„ 3. Blunt . . .	„	0	4

No. 4, *not illustrated*—

Blunt, $4\frac{1}{4}$ inches long	„	0	6
Pointed, $4\frac{1}{4}$ „	„	0	6

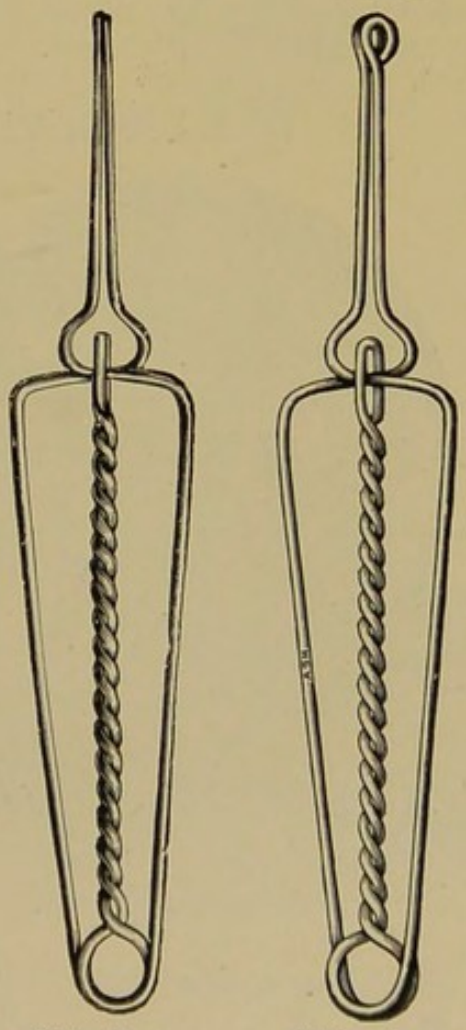
SELF-CLOSING SOLDERING TWEEZERS.

FOR HOLDING CAPS, CROWNS, OR OTHER LIGHT WORK WHILE SOLDERING.

Fig. 5. Flat pointed.
„ 6. With loop ends.

	s.	d.
Price, dull Nickel-plated either form . . . each	0	6

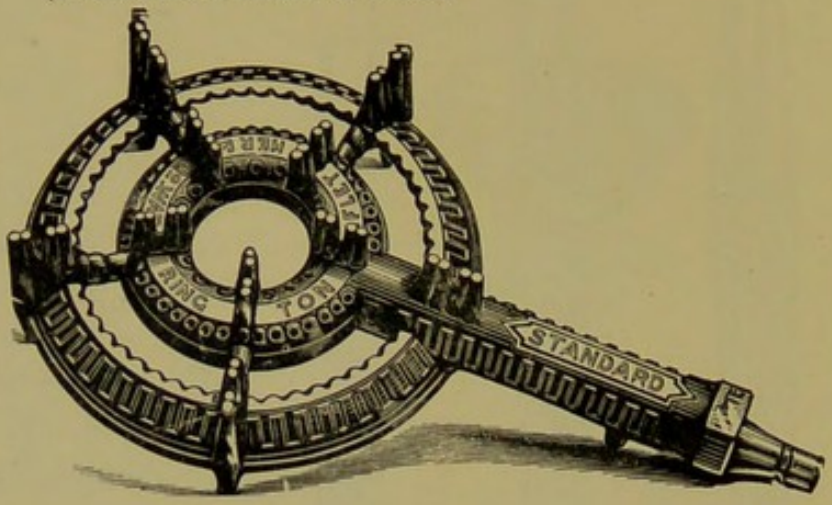
Fig. 5. Fig. 6.



$6\frac{1}{2}$ in. long. $6\frac{1}{2}$ in. long.

STANDARD GAS BURNERS.

(Fletcher, Russell & Co.'s.)



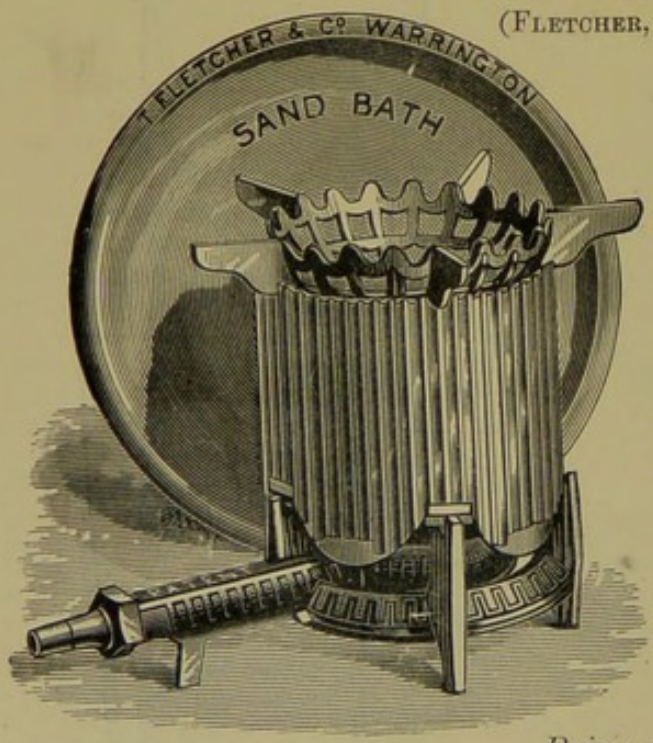
These Burners are designed as a complete series of the highest and most perfect class, in the simplest possible form, and in one single casting.

		s.	d.
No. 10.	Diameter across support for vessels 5½ in.	each	1 10
„ 15.	„ „ „ „ 7 „	„	2 6
„ 20.	„ „ „ „ 8 „	„	3 9

The numbers give approximately the maximum gas consumption at day pressure of gas equal $\frac{10}{10}$, and also the number of quarts of water they will boil in one hour in a light, broad-bottomed copper vessel.

LABORATORY BURNERS.

(Fletcher, Russell & Co.'s.)



Size No. 10. Height adjustable from 6½ to 7½ in. Support for flasks 4¼ in. diameter, 1¼ in. deep, and for flat vessels, 6½ in. diameter.

Size No. 15. Height adjustable from 7 to 8 in. Support for flasks 5¼ in. diameter, 1½ in. deep, and for flat vessels, 7½ in. diameter.

These Burners supersede the well-known Low Temperature Burners. They will stand hard wear, and are equally useful for warming pieces, drying flasks, &c., evaporating, boiling and general purposes. By employing a sand bath, glass and porcelain vessels can be heated without fear of breakage. The cylinder, as will be seen from the illustration, rests on the frame of the burner, and can be removed when the burner is wanted for boiling water, &c.

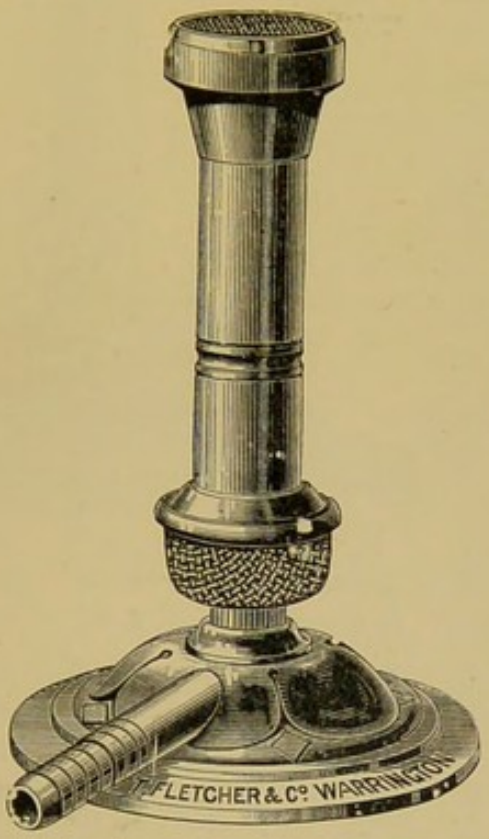
Prices :

		s.	d.
No. 10 Burner, consuming from 1½ to 10 feet of gas per hour . .		each	4 0
„ 15 „ „ 2 „ 15 „ „		„	5 0
Sand Bath for No. 10— 9 in. diameter, 1 in. deep		„	1 2
„ „ 15—10 „ 1 „		„	1 6

IMPROVED SAFETY BUNSEN.

(Fletcher, Russell & Co.'s.)

FOR MODELLING, ANNEALING, AND OTHER PURPOSES.



These will be found as perfect as any upright burner can possibly be made, of the highest possible power for the size—can be turned down to the merest flicker without lighting back, and can be mounted on tubes in any form or number when very high powers are required. They are made in three sizes, all in brass polished. The number gives the maximum gas consumption in cubic feet per hour at $\frac{10}{10}$ pressure. These burners can be supplied in clusters of any number, or mounted on tubes, any shape, and with or without taps, to order.

Number	5.	10.	14.
Diameter across top of gauze	$\frac{7}{8}$ in.	$1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.
Height, without stand	$3\frac{3}{4}$ in.	$4\frac{3}{4}$ in.	6 in.

	s.	*d.*	*s.*	*d.*	*s.*	*d.*
Price, without stand	1	9	2	3	3	0
,, on brass ,,	3	6	4	6	5	9
,, ,, ,, with Tap	4	6	5	6	6	9

If placed a number together, on a tube or ring, they must be at least one-fourth the diameter of the top apart. The stand increases the total height about one inch.

SETS OF ABOVE (No. 10 Size).

Mounted in clusters, each burning 10 cubic feet of gas per hour.

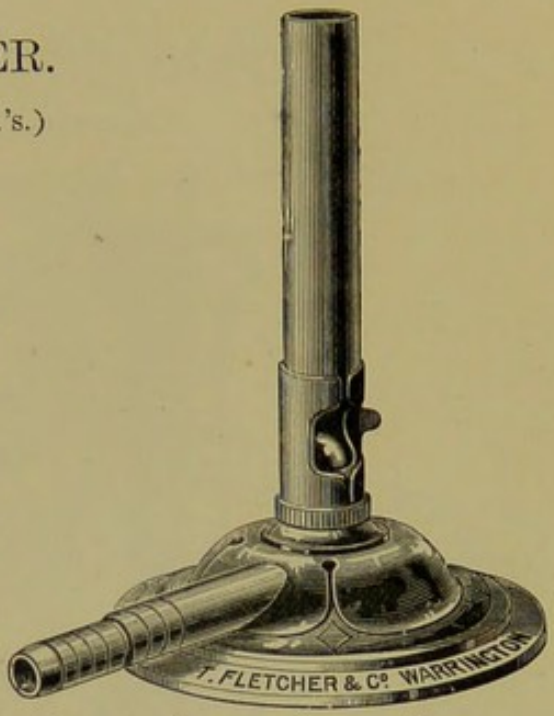
		s.	*d.*
Four burners, consuming 40 feet per hour	per set	13	0
Seven ,, ,, 70 ,,	,,	20	0
Twelve ,, ,, 120 ,,	,,	33	6

Total height, 6 inches.

BUNSEN BURNER.

(Fletcher, Russell & Co.'s.)

FOR MODELLING AND FOR GENERAL PURPOSES.



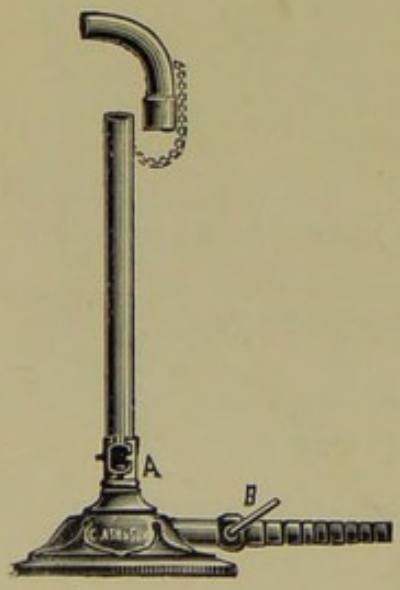
These are the ordinary brass tube Bunsen. They are correctly proportioned in every detail, and of the full theoretical power, working up to their maximum calculated duty in every case. All are screwed for $\frac{3}{8}$ in. connection.

The number gives the maximum gas consumption in cubic feet per hour at $\frac{10}{10}$ pressure.

All have air tubes; these enable the smaller sizes to be used with a blowpipe without the necessity of a loose internal tube.

Number	3.	5.	6.	8.	12.
Size of Tube outside . . .	$\frac{3}{8}$ in.	$\frac{7}{16}$ in.	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.
Height, without stand . .	$3\frac{1}{2}$ in.	$4\frac{1}{4}$ in.	5 in.	6 in.	7 in.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Price, without Stand . . .	0 7	0 9	0 10	1 0	1 6
,, on brass ,, ...	2 0	2 2	2 4	3 0	4 0
,, ,, ,, with Tap	3 0	3 2	3 4	4 0	5 0

Heavy round brass stands only are supplied. The objectional nature of iron stands on a laboratory table is too well known to need any remark. The stand increases the total height about one inch. They can be supplied in clusters of 3, 4, 7 or 12 burners, or mounted on tubes in any form.



BUNSEN BURNER.

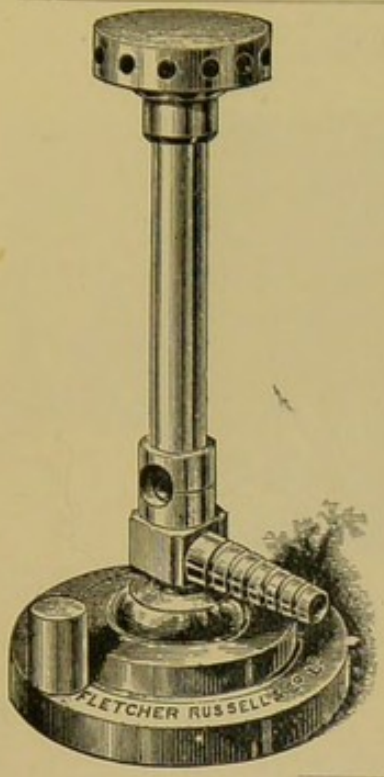
(Fletcher's No. 5 Size.)

For modelling and for general purposes, consuming about 5 cubic feet of gas per hour.

It is supplied with a bent detachable tube to prevent the drip falling on the flame when the burner is used for softening wax, or any other easily melted material.

By closing the sliding cap A, an illuminating flame can be obtained.

	s.	*d.*
Price, on brass stand, with Bent Tube	4	0
,, ,, ,, ,, and Tap B .	5	0



LABORATORY BUNSEN.

(Fletcher, Russell & Co.'s.)

Messrs. Fletcher, Russell & Co. say: We have frequently been asked to make a correctly adjusted Bunsen for laboratory use, but have declined, owing to the very low price at which the common foreign burners are made. As we have, however, established a private demand for these burners, we have decided to put them on our list for the future. They are substantially made, correctly adjusted, the screws are English Standard threads, and the stand is formed with a carrier to hold the rose when not in use, so as to prevent its loss, which usually happens with the ordinary make. The roses are solid cored castings, not made out of thin parts stuck together, as is usual in the cheaper makes.

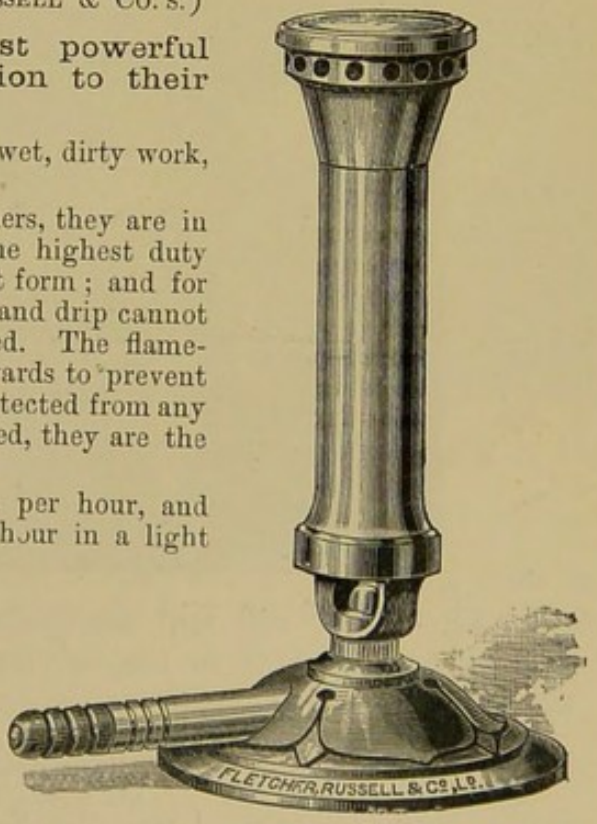
Height with rose as engraved, 5½ inches.
Gas consumption, at $\frac{1}{10}$, 4 feet per hour.

	s.	*d.*
Price of Bunsen without rose	1	9
Rose extra	0	9

STANDARD ROSE BUNSEN.

(Fletcher, Russell & Co.'s.)

Drip-proof, Rustless, and the most powerful Burners ever designed in proportion to their size.



These burners are specially designed for wet, dirty work, and are proof against drip, wet, and dust.

Like all the series of the Standard Burners, they are in every detail correctly proportioned, giving the highest duty with the simplest, cheapest, and most perfect form; and for their special work—where dirt, boiling over, and drip cannot be avoided—they leave nothing to be desired. The flame-holes are protected by a rim, and slope downwards to prevent wet running into the burner, the gas jet is protected from any falling dirt, and for their size, as already stated, they are the most powerful burners ever made.

The number gives the gas consumption per hour, and approximately the quarts of water boiled per hour in a light broad-bottomed copper vessel.

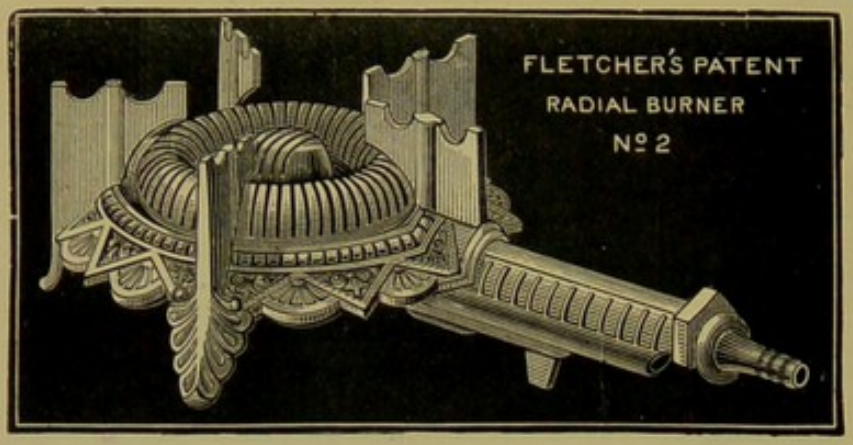
The correct distance between the top of the burner and the bottom of the vessel to obtain the best duty is ½ in.

The Burners are made of fine brass in one single casting, and can be adjusted to any quality of gas to order without extra charge.

	Height.	Diameter.	Diameter of Flame.	Price without Stand.	Price with Brass Stand.	Price with Stand & Tap.
				s. *d.*	*s.* *d.*	*s.* *d.*
No. 5	5 in.	1 in.	2½ in.	1 9	4 0	4 9
„ 10	6 in.	1½ in.	3 in.	2 6	4 9	5 6
„ 15	7 in.	1¾ in.	4 in.	3 6	6 3	7 0

Clusters of any number of burners for special work can be supplied of any required power.

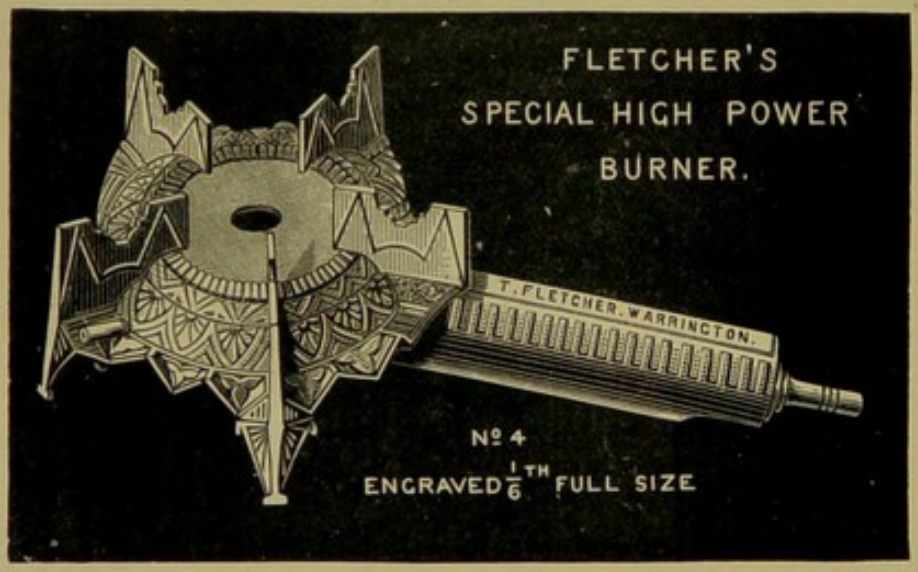
RADIAL GAS-BURNERS.



Gas consumption, small size, 12 feet; large size, 20 feet per hour.

		s.	*d.*
Radial Burner, as illustrated	small size	4	6
„ „	large „	6	6

HIGH-POWER GAS-BURNERS.



This Burner will boil one gallon of water, in a flat copper vessel, in seven minutes, or from ten to thirteen gallons per hour. Made in two sizes as under :—

	Size across the gauze.	Gas consumption per hour.	Size of pipe required.	*s.*	*d.*	With pure nickel gauze. *s.*	*d.*
No. 3.	$2\frac{3}{4}$ in. diameter	25 cubic feet	$\frac{3}{8}$ in. clear bore	6	0	8	0
„ 4.	4 „	40 „	$\frac{1}{2}$ „	8	0	11	0
„ 3,	without tripod			4	0	6	0
„ 4,	„ „			6	3	9	3

No. 4 is shewn in the engraving.

ARGAND BUNSEN GAS-BURNERS.

FIG. 200.

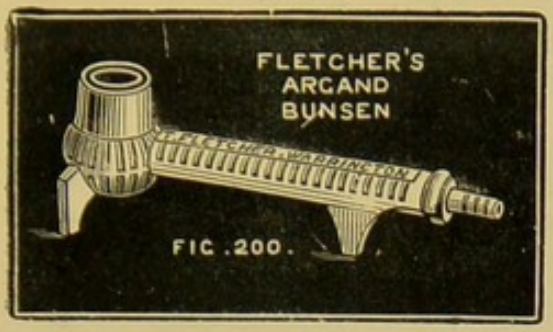
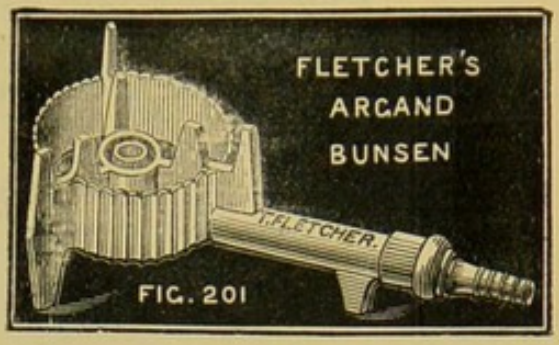


FIG. 201.



Gas consumption, either from ½ inch size, 3½ feet per hour.
„ „ ¾ inch „ 7 feet „

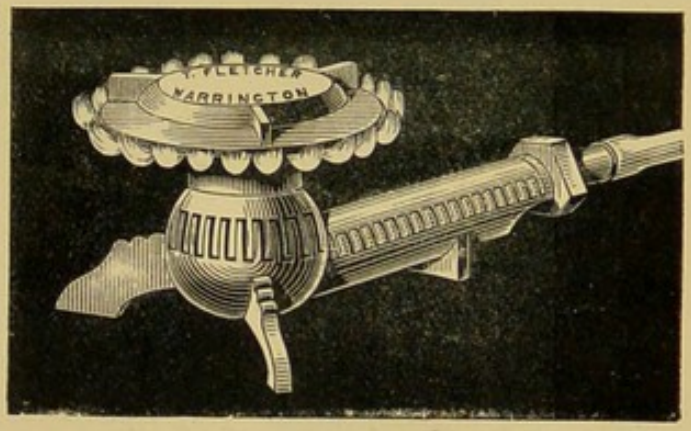
The sizes given are the bore of the horizontal tube. They will be found very useful for modelling and for small general work.

	s.	d.		s.	d.
Burner, without tripod (Fig. 200), small size . .	2	3	large	2	9
„ with „ (.. 201), ...	3	0	„	3	9

DRIP-PROOF STAR BURNER.

(FLETCHER, RUSSELL & Co.'s.)

Specially designed for wet and dirty work. It will burn steadily with any gas-supply from 2 to 14 feet per hour, and is small enough to pass through an opening 3 inches high by 4½ inches wide.



	s.	d.
Price, as engraved . .	3	6

PURE NICKEL GAUZE,

FOR HIGH POWER AND OTHER BURNERS.

This is almost infusible and indestructible, and will last for years in continual hard daily use. It is practically equal to Platinum at about one-tenth the cost.

Prices :

		s.	d.
For No. 5 Safety Bunsen Burner	each	0	3
„ 10 „ „	„	0	4
„ 14 „ „	„	0	5
„ 3 High power	„	2	0
„ 4 „	„	3	0
„ 6 „	„	4	6
„ 8 „	„	8	0

PERFECT ATMOSPHERIC BURNER,

1898 PATENT.

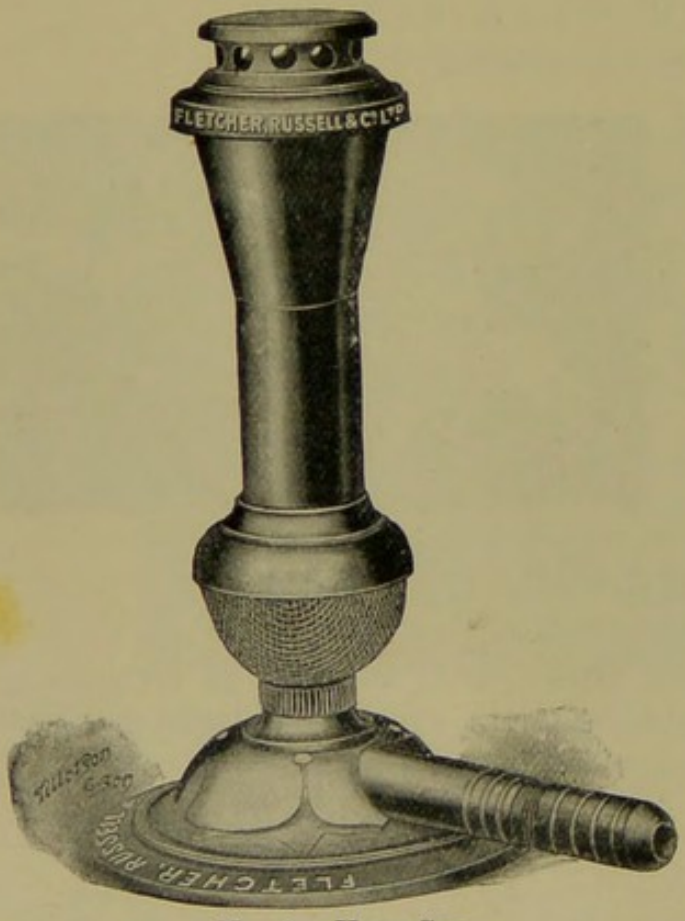
(MESSRS. FLETCHER, RUSSELL & CO.'S.)

The Inventors say:

"This new atmospheric burner is the result of over 20 years' constant experimenting. As the makers of the FIRST atmospheric burner on really scientific principles, and the FIRST to construct these for high powers, and the FIRST to make them in single casting without joints liable to leakage, their improvement has been a constant object, and we may safely claim that EVERY really good atmospheric burner made is on the lines laid down by Mr. Fletcher in his communication on the laws ruling their construction, communicated to the Gas Institute in 1883.

"The New Perfect Burner is a further application of these laws, and we believe that this will prove the FINAL development and the future standard."

PERFECT SAFETY BUNSEN BURNERS.



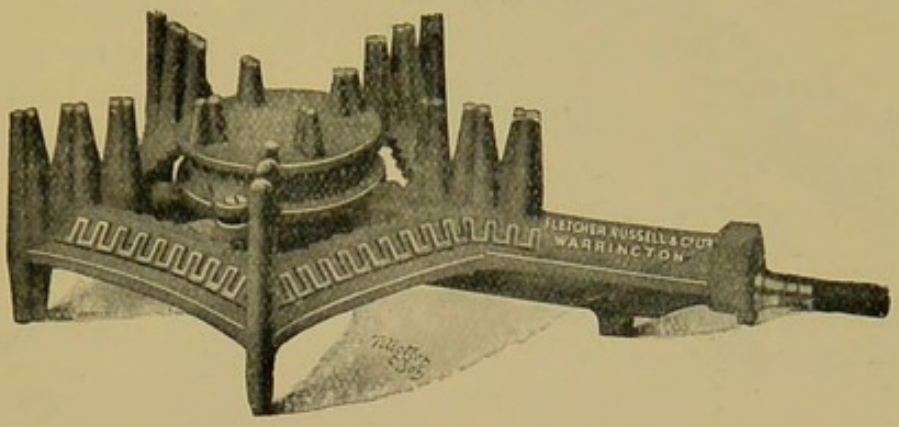
No. 6.—HALF-SIZE.

No. 12.—HALF-SIZE.

Brass.	Gas Consumption per hour.	Price without Stand.	Price with Stand.
		s. *d.*	*s.* *d.*
No. 6 P.S.B.	6 cubic feet	3 6	5 9
„ 12 „	12 „	5 0	7 9

PERFECT BOILING BURNERS.

(Fletcher, Russell & Co.'s.)



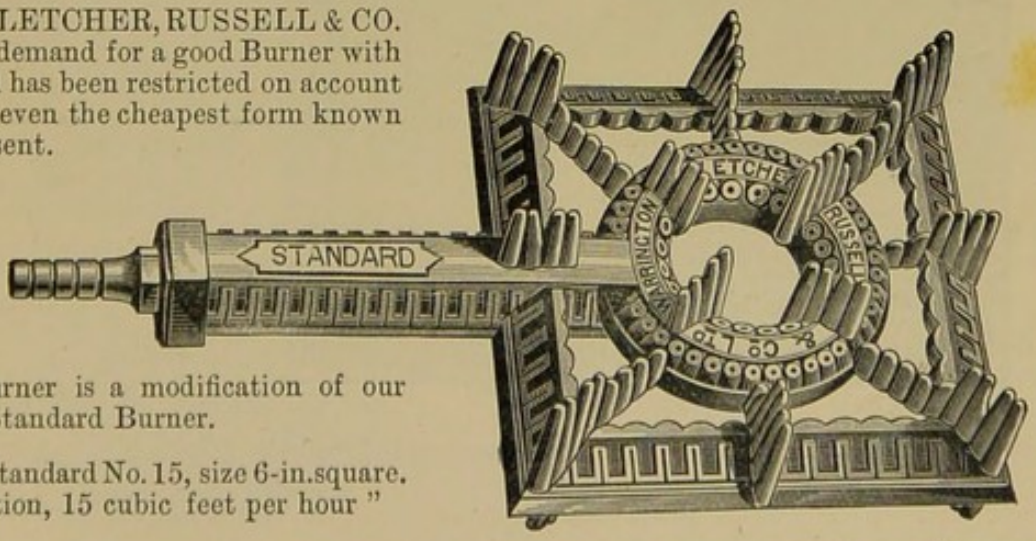
	Diameter across Support for Vessels.	Gas consumption per hour.	Price, as engraved.
			s. *d.*
No. 6 P.B. . .	$5\frac{1}{4}$-in. . .	6 cubic feet . .	2 6
„ 10 P.B. . .	6-in. . .	10 „ . .	2 9
„ 14 P.B. . .	7-in. . .	14 „ . .	3 0
„ 18 P.B. . .	8-in. . .	18 „ . .	4 0

The patterns in which the new burner is made are shown above and on the preceding page.

SQUARE STANDARD BURNER.

(Fletcher, Russell & Co.'s.)

Messrs. FLETCHER, RUSSELL & CO. say :—" The demand for a good Burner with a square stand has been restricted on account of the cost of even the cheapest form known up to the present.



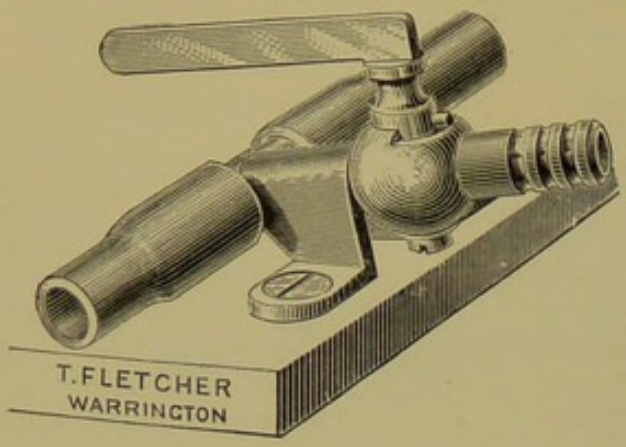
" This Burner is a modification of our well-known Standard Burner.

"Square Standard No. 15, size 6-in. square. Gas consumption, 15 cubic feet per hour "

	s	*d.*
Price	3	0

GAS SUPPLY TAPS.

Fig. 112.



This pattern is for obtaining a supply out of the middle of a gas pipe without interfering with the other lights. To fix this, cut about three inches out of the lead pipe with a sharp knife, and connect the cross tube with short bits of india-rubber tube so as to make up the pipe as before, but with the tap leading out of it.

	s.	*d.*
Price, $\frac{3}{8}$-inch size (Fig. 112), each	2	0

Fig. 114.

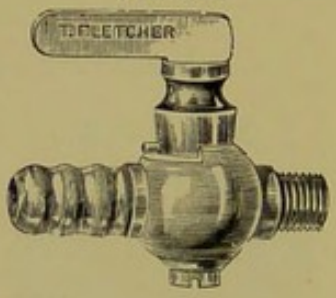
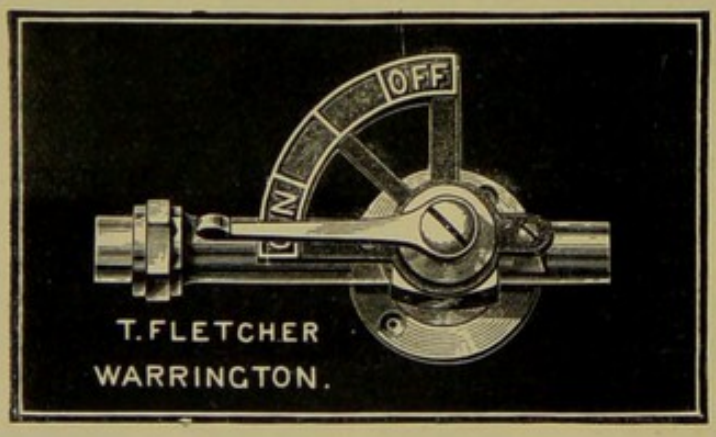


Fig. 114—For fixing by a gas-fitter.

	s.	*d.*
Price, $\frac{3}{8}$-inch size, brass gas . . . . . each	1	0
„ $\frac{5}{8}$ „ „ „ . „	2	0

QUADRANT TAPS WITH LEVER AND GRADUATED ARM,

FOR GAS HEATING APPLIANCES.

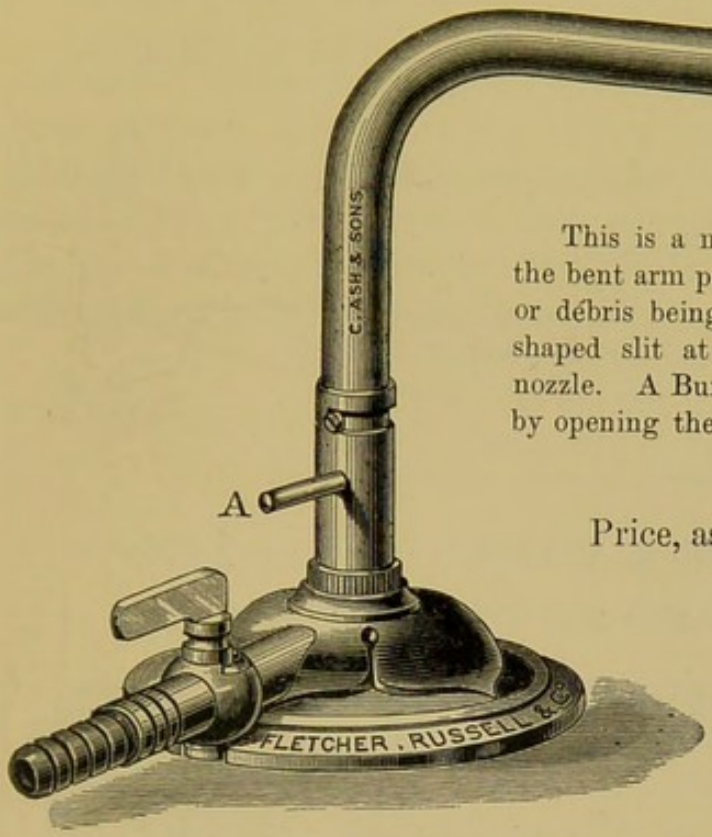


These taps have a full bore in the plug and barrel, are thoroughly well made and finished, and in case of repairs or cleaning can be taken apart from the front or upper side, so that they may be fixed in recesses or wall boxes, without risk. Anything which can possibly happen to a tap can be made good without disturbing any joint, a matter of great importance when fixed in plaster or brick walls or under floors. The taps are of the finest workmanship throughout. All are made with screw union.

Size, with brass gas thread—	$\frac{3}{8}$-in.	$\frac{1}{2}$-in.	$\frac{5}{8}$-in.	$\frac{3}{4}$-in.	1-in.
Price . . . . . each	3/6	4/6	7/-	8/-	10/6

Other Forms of Gas Taps supplied to order.

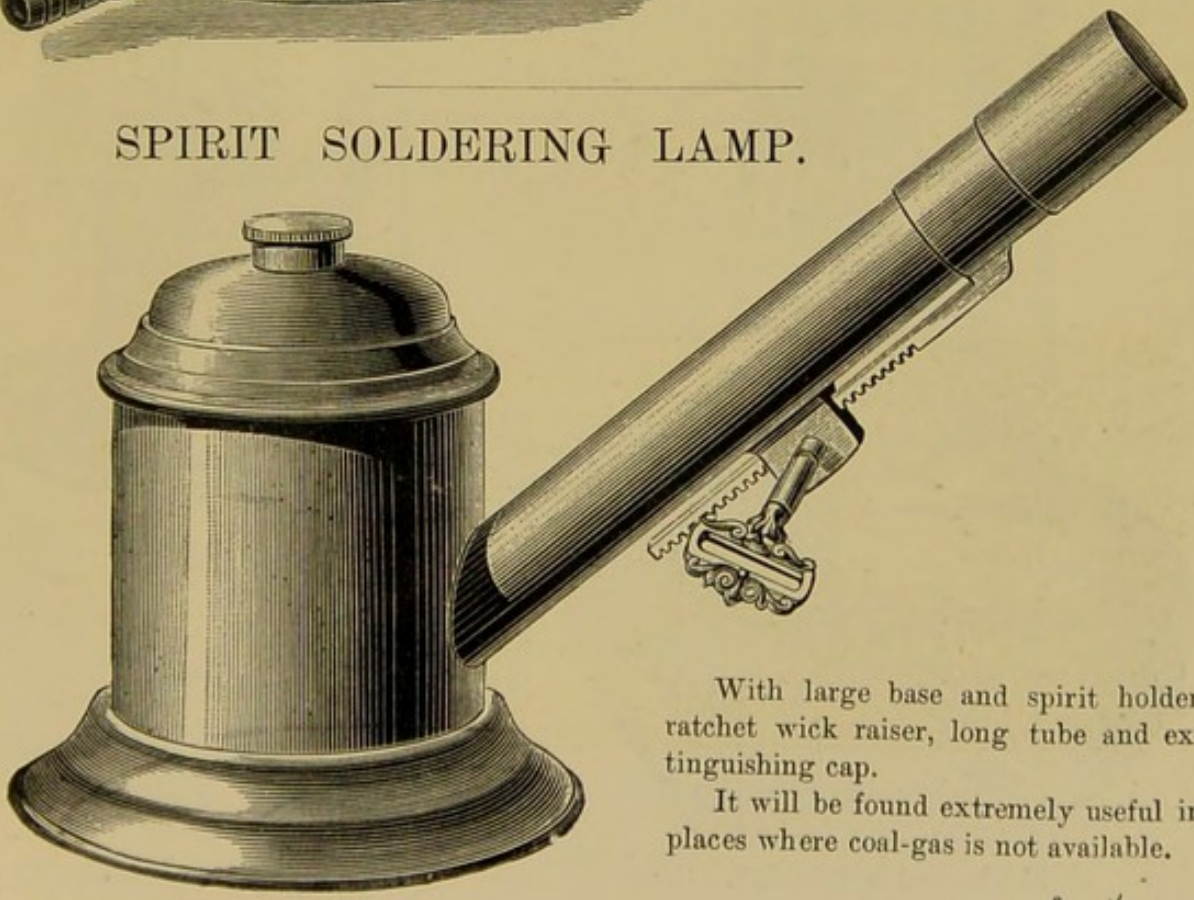
WATTS' COMBINED BUNSEN AND BLOWPIPE BURNER.



This is a most useful burner for blowpipe work; the bent arm prevents the possibility of small articles or débris being dropped down the tube and the V shaped slit at end forms a rest for the blowpipe nozzle. A Bunsen flame can be instantly obtained by opening the shutter A.

	s.	*d.*
Price, as illustrated . .	5	6

SPIRIT SOLDERING LAMP.

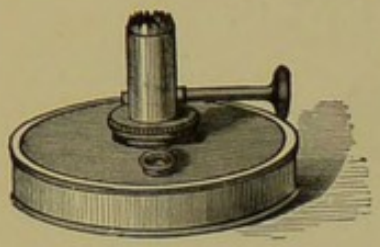


With large base and spirit holder, ratchet wick raiser, long tube and extinguishing cap.

It will be found extremely useful in places where coal-gas is not available.

	s	*d*
Price, as illustrated	7	6

TIN SPIRIT LAMP.



4 in. high by 6 in. diameter.

With regulating wick-holder, suitable for heating Vulcanizers, and for soldering, &c.

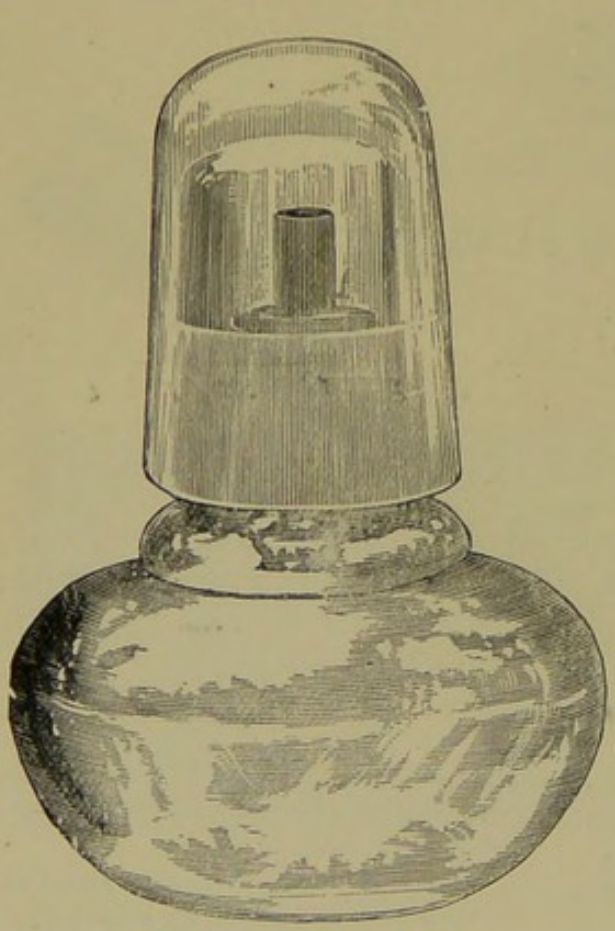
	s.	*d.*
Price, best make . . .	6	0

Tin Spirit Lamp, deeper than the above, suitable for heating Glass Flasks containing ammonia, &c., and for soldering, &c.

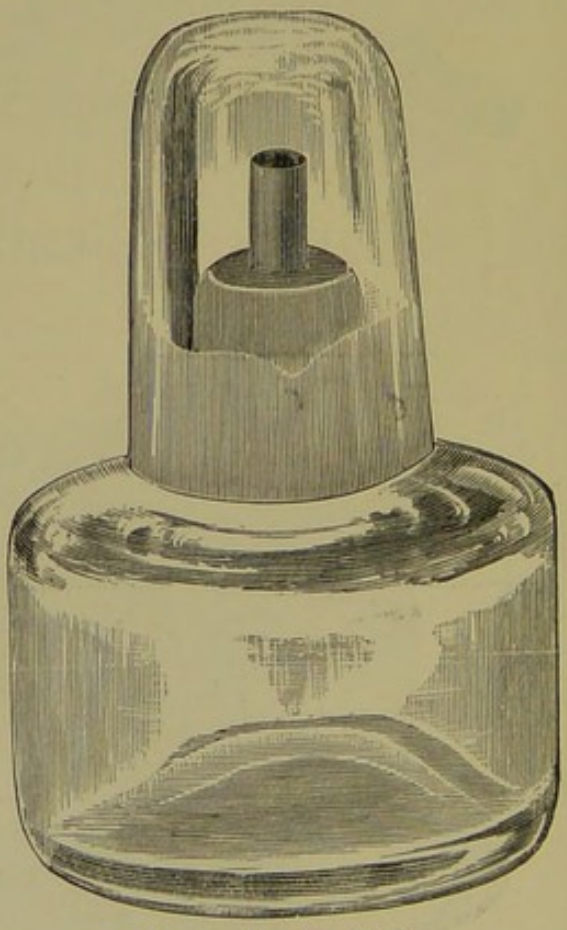
	s.	*d.*
Price, best make	6	0

GLASS SPIRIT LAMPS WITH CAPS,

FOR MODELLING AND FOR GENERAL PURPOSES.



Shallow—4 inches high.



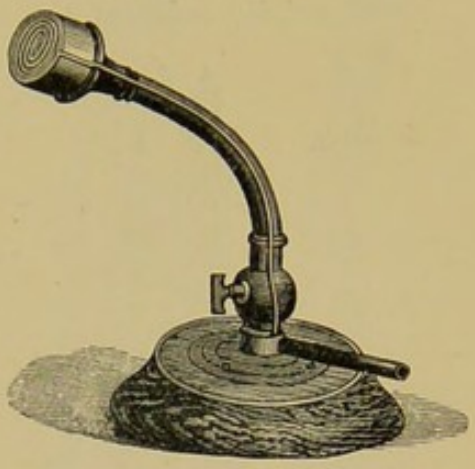
Deep—4 inches high.

		s.	*d.*
Price, either kind	each	1	6

IMPROVED GAS SOLDERING LAMP.

(Mr. Owen's.)

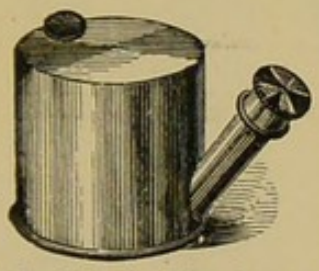
Useful also for modelling, &c.; consisting of a mahogany stand with bronzed pipe, and large wire coil burner; it has also a fine tube at the side, so that the flame may be turned down to a small jet, in order to save the gas at intervals when the lamp is left for other work, &c. Height, 8 inches.



	s.	*d.*
Price	10	6

SPIRIT LAMP,

FOR SOLDERING, MODELLING, &c.



3½ in. high by 3 in. diameter.

Brass Spirit-Lamp, with screw caps, for soldering, &c. It is substantially made, and well finished, and will be found very useful when travelling, the screw caps serving effectually against waste of the spirit.

	s.	*d.*
Price	7	6

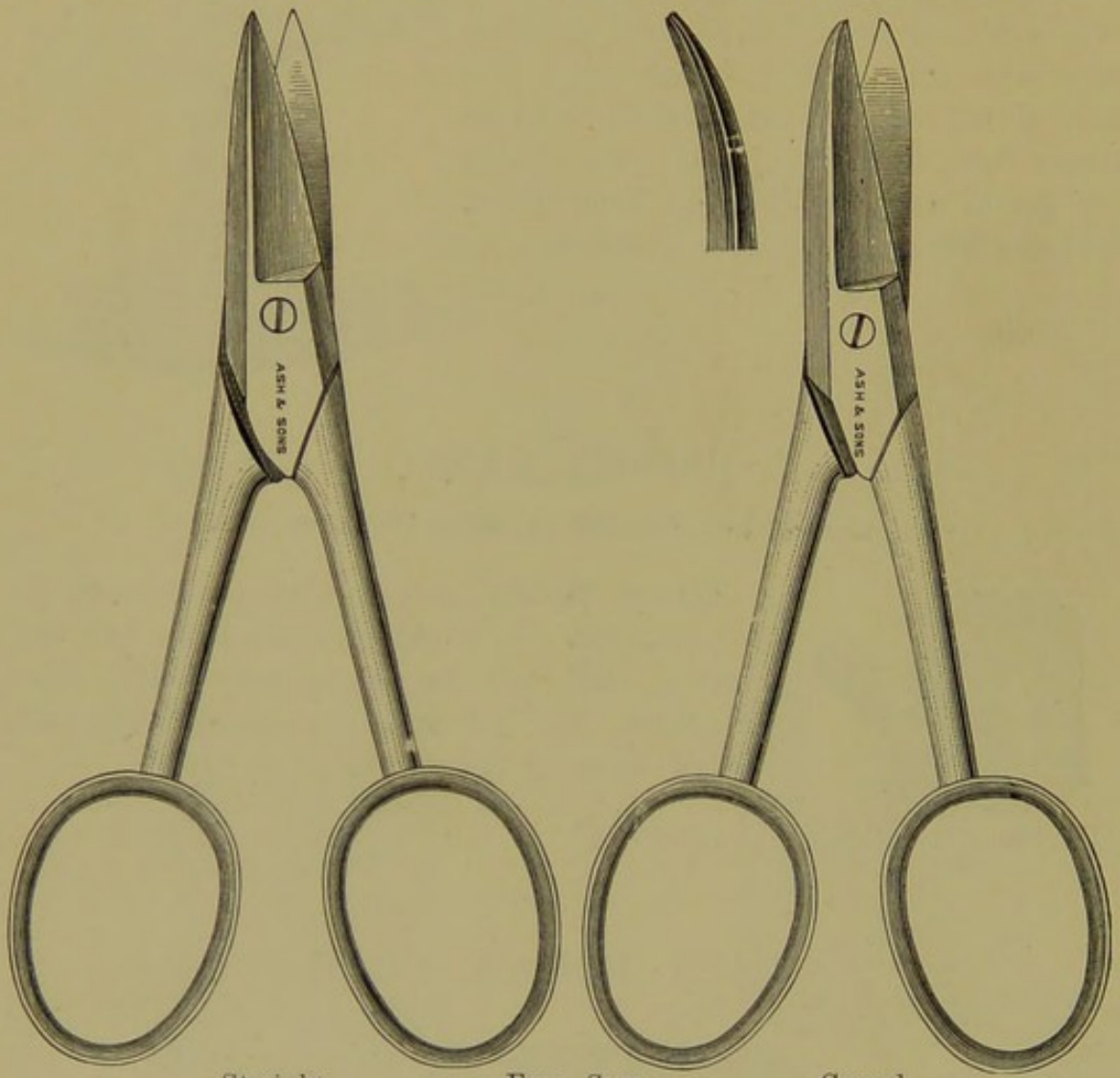
GLASS BORAX SLAB.

	s.	*d.*
Made of pure white glass, ground inside the cup part	1	0
Stone Borax Slabs, small . . . . . each	1	0
„ „ large . . . . . „	1	0
Borax, in lumps . . . . . per lb.	1	3
„ „ . . . . . per ¼ lb.	0	4

IMPROVED PLATE SCISSORS.

(Mr. Girdwood's.)

Specially adapted for the use of Crown and Bridge Workers.



Straight. Full Size. Curved.

For some years past, light shears have been extensively used by crown-workers, but the lightest of such shears cannot be compared to these scissors for convenience in cutting crown-gold, &c.

In the first place the scissors are very much more easily handled than shears, and secondly, the small blades allow of sharp curves and angles being readily cut out, thus saving a lot of filing.

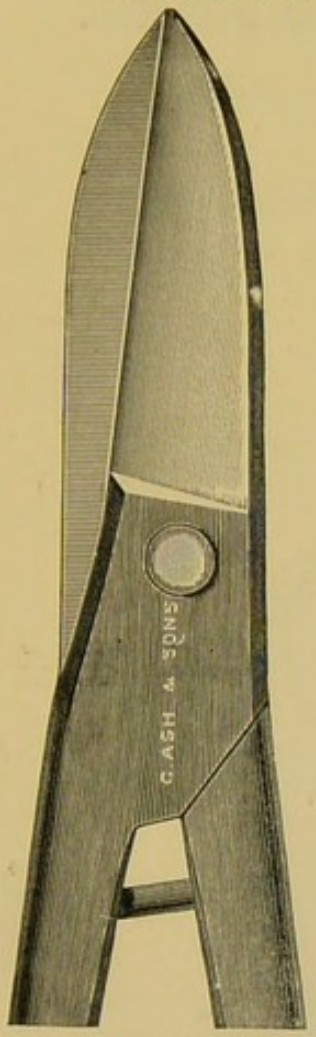
Mr. Girdwood finds them most useful and plenty strong enough for the purposes for which they are intended.

Prices :

		s.	*d.*
Straight Scissors, Nickel-plated	each	2	6
Curved „ „	„	4	0

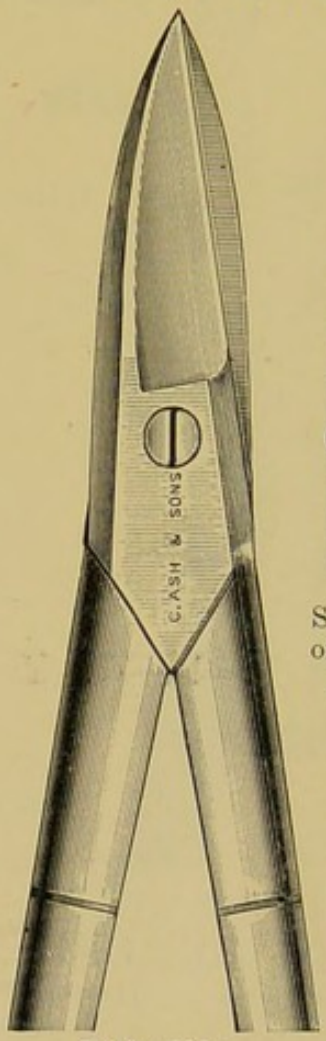
PLATE SHEARS.

FOR GENERAL WORK. **FOR CROWN WORK.**



Left Side.

Side View of Curved Blades.



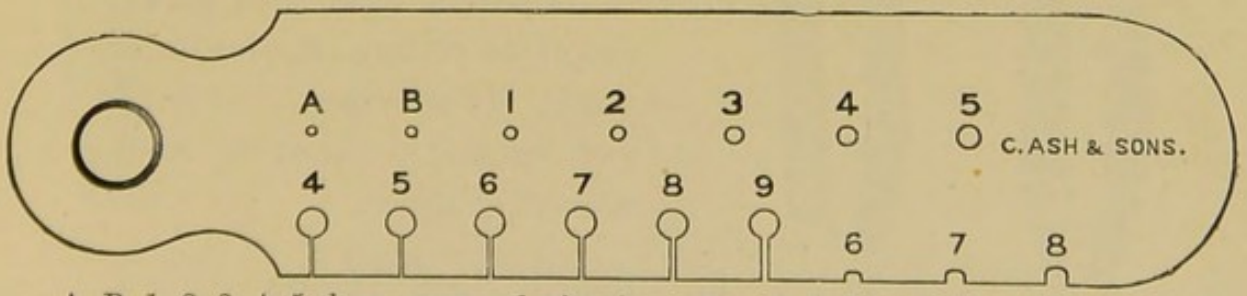
Right Side.

Side View of Curved Blades.

The Shears for general work (Stubs' manufacture) are made in right and left sides in two sizes—7 inches and 8 inches long. The Shears for Crown work have fine blades and light handles. They are only made in one size as illustrated—7 inches long.

PRICES :			7 inch.		8 inch.	
			s.	*d.*	*s.*	*d.*
Plate Shears for general work,	straight,	each	4	0	4	6
,, ,, ,,	curved	,,	4	6	5	0
Plate Shears for Crown work,	straight, Nickel-plated	,,	2	0	—	
,, ,, ,,	curved ,,	,,	2	6	—	

ASH'S PLATE AND WIRE GAUGE.



A, B, 1, 2, 3, 4, 5 show our round wire sizes ; Nos. 6, 7, 8 our half-round wire sizes ; Nos. 4, 5, 6, 7, 8, 9 on the lower part of the Gauge show our plate sizes.

	s.	*d.*
Price of Gauge, as illustrated, in polished steel	7	6

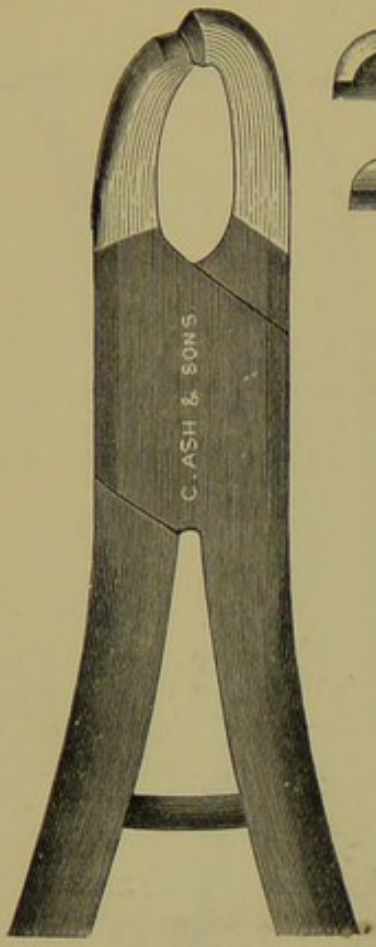


PLATE CUTTERS OR NIPPERS.

(STUBS'.)

With round noses; large, medium, and small, as illustrated, 6 ins. long . . each 5 0

PLATE BENDERS.

(Upper.) (Lower.)

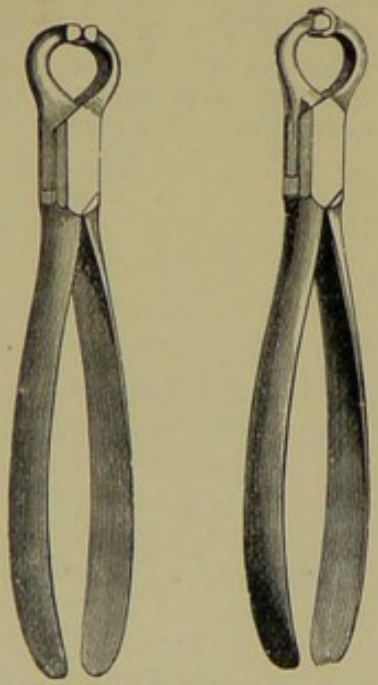
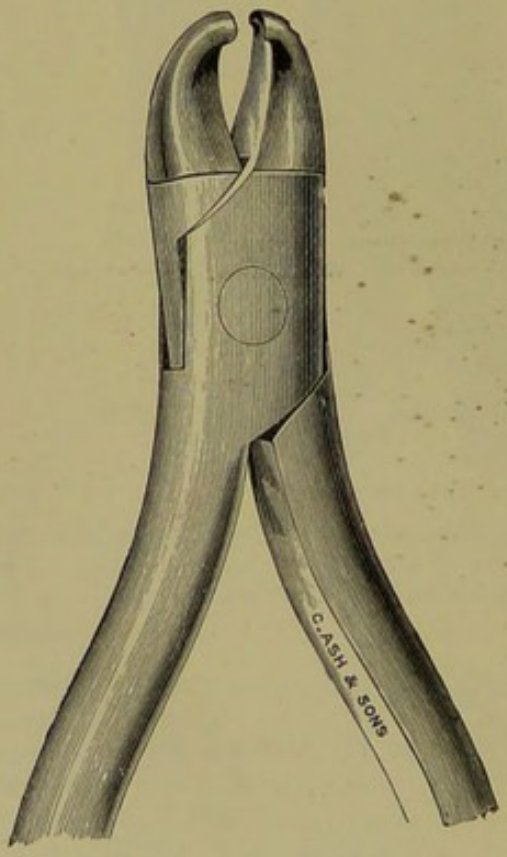


Plate Benders, $7\frac{1}{4}$ inches long . . . . each 5 6

ROUND-NOSE NIPPERS.



Improved form with curved chops, for cutting off pins inside plates. It is a most convenient tool for use in places which are difficult of access.

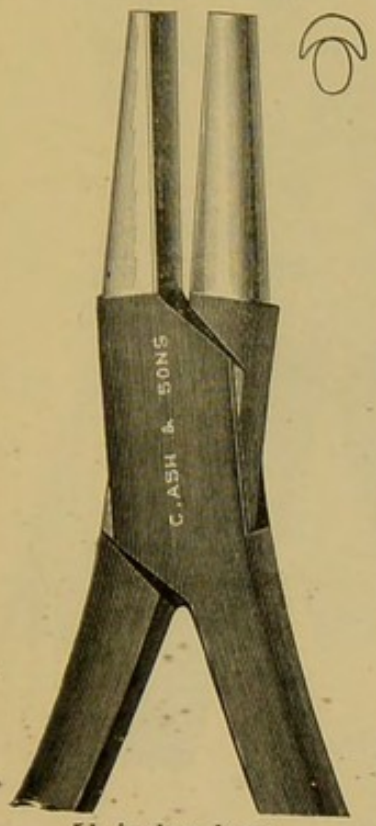
Round Nose Nippers, $5\frac{1}{2}$ inches long . . . 4 6

PLIERS—(Various).

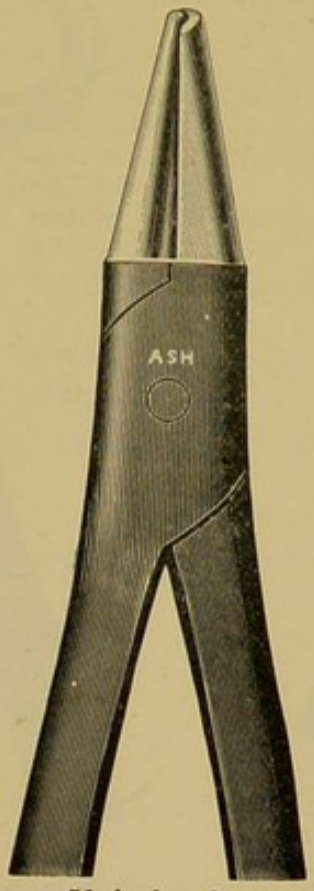
Plate.

Collar.

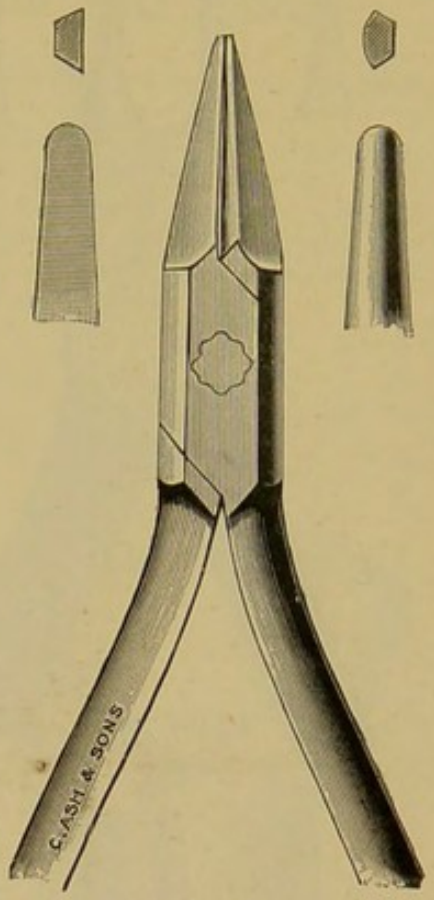
Hollow Chop.



5½ inches long.



5½ inches long.



5 inches long.

Clasp Benders.

7 inches long.

Hollow Chop Pliers, with one oval and one hollow chop, for bending clasps, making collars, bands, etc. . . . each — *s.* 2 *d.* 6

Plate Pliers, with oval and hollow chops for bending clasps, etc. This has been suggested to us as an improved form of pliers for the work in question, and we think it will be liked on account of its lightness . . . . . each — 3 0

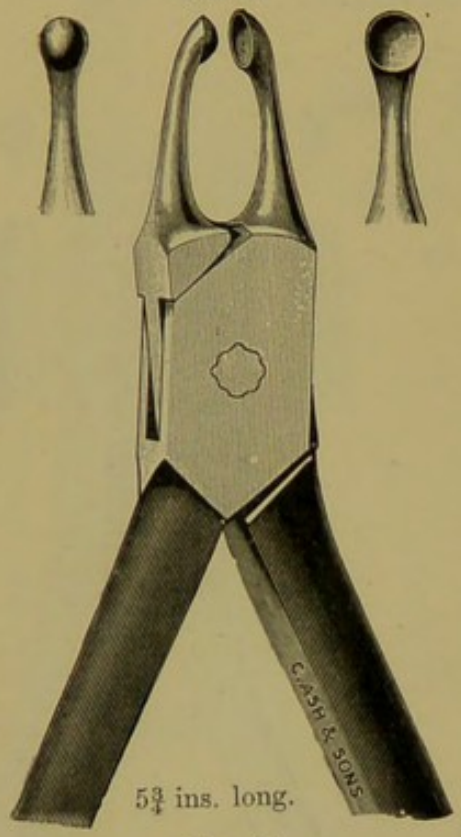
Collar Pliers, with flat and rounded chops in bright polished steel . . . . each — 2 0

Ditto Ditto Nickel-plated „ — 3 0

Clasp Benders, with one oval and one hollow chop . . . . . each — 5 6

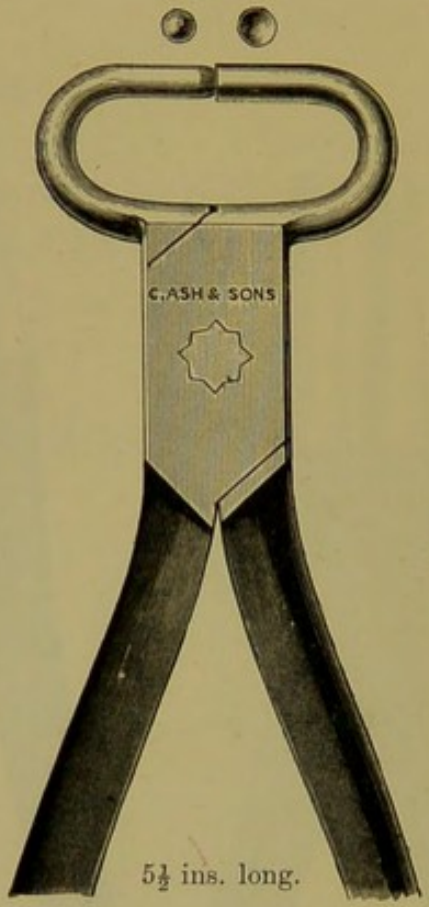
CONTOURING PLIERS.

FIG. 1.



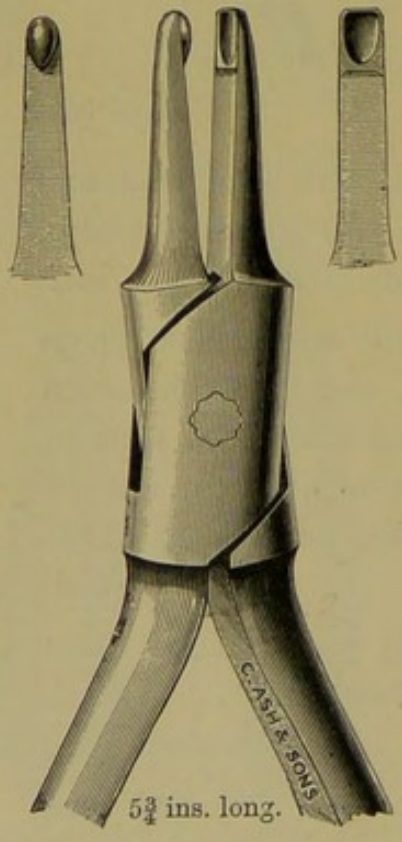
5¾ ins. long.

FIG. 2.



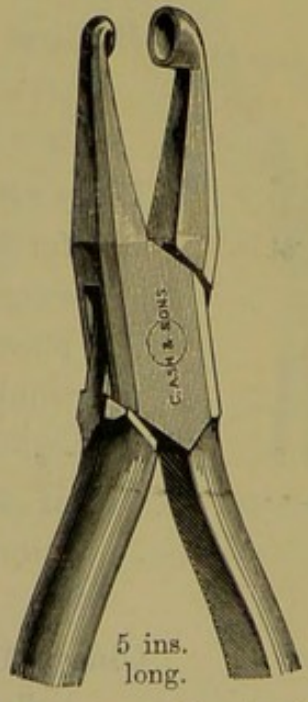
5½ ins. long.

FIG. 3.



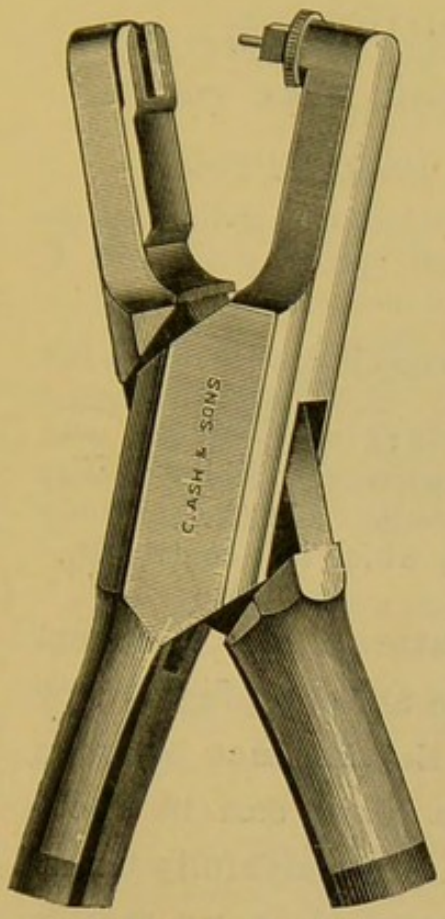
5¾ ins. long.

FIG. 4.



5 ins. long.

			s.	d.
Contouring Pliers (Dr. J. J. R. Patrick's), Nickel-plated . . .	(Figs. 1, 2)	each	6	6
,, ,, (Dr. W. Mitchell's), Nickel-plated	(,, 3, 4)	,,	6	6



6½ inches long.

A PIN NIPPERS,

FOR PUNCHING HOLES IN METAL BACKINGS FOR FLAT TEETH.

The Chop in which the pin is fixed is so arranged that the cutting pins can be renewed as often as necessary. This is accomplished by merely unscrewing the movable pin-holder *A*, and dropping in the pin from the back. The pins are flattened at one end, to prevent them turning round or falling through, and when the pin-holder *A* is screwed home in the head of the nippers the pin is perfectly secure.

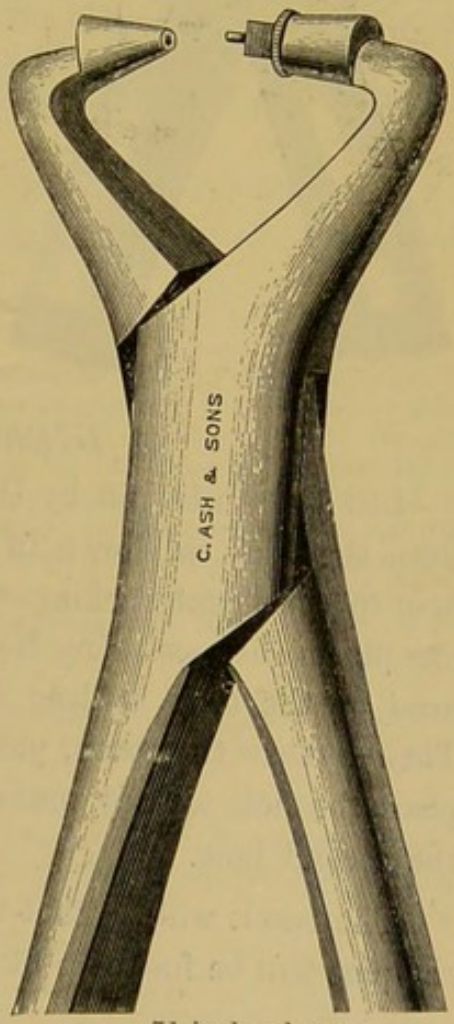
	s.	*d.*
Price, Nickel-plated, including 6 Pins .	5	6
Extra Pins . . . . . per doz.	1	0
Pin-Holder *A*, extra, for renewing . .	1	6

PERFORATORS,

FOR PUNCHING HOLES IN METAL PLATES FOR TUBE WORK.

There is a flat spring between the handles which is not shown in the illustration.

	s.	*d.*
Price, in polished steel with black handles and 6 Pins	6	6
Extra Pins . . . . . per doz.	1	0
Pin-Holder, extra, for renewing . . .	1	6

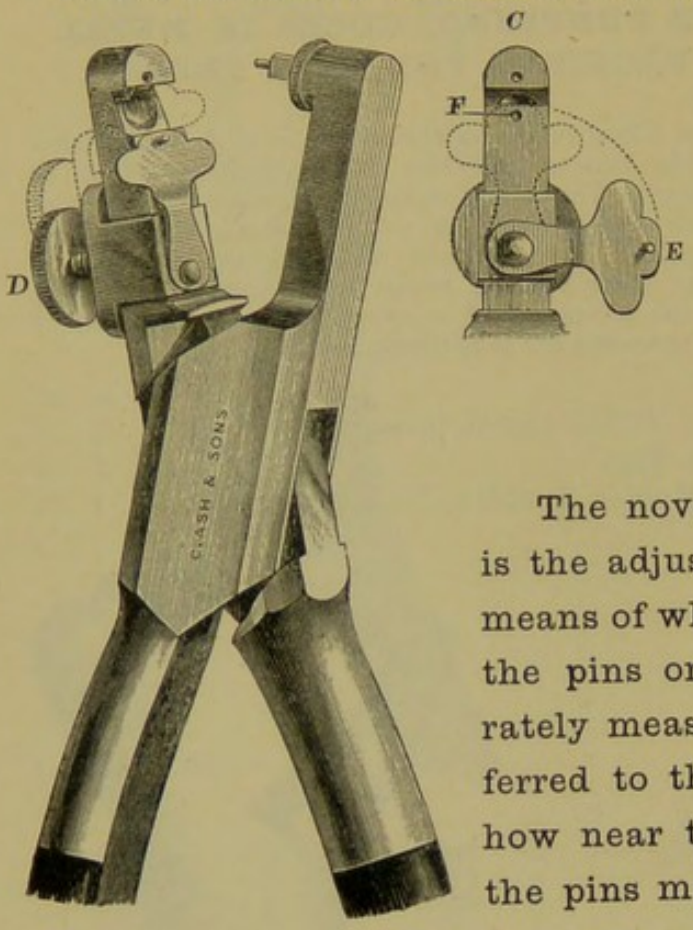


7½ inches long.

This tool is also supplied, at the same price, with pin-holder and pins the same size as in the Pin Nippers, for punching holes in metal backings for flat teeth.

PERFECTED PIN-HOLE NIPPERS,

FOR PUNCHING METAL BACKINGS FOR FLAT TEETH.



DESCRIPTION:

C Adjustable sliding gauge with spring guide pin ***E*** and measuring hole ***F***.

The illustration on the left hand side shows the upper part of the tool, full size, with the adjustable sliding gauge in position and the set screw ***D*** by which it is controlled.

The novel feature about this tool is the adjustable sliding gauge *C*, by means of which the distance between the pins on the tooth can be accurately measured and faithfully transferred to the metal plate, no matter how near together or how far apart the pins may be.

DIRECTIONS FOR USE:

Lift the guide pin by the projections on the spring and turn it away from the beak, as shown in the illustration ***C***. After punching the first hole in the metal backing, release the set screw ***D***, take the tooth and fit one pin in the measuring hole ***F***, and the other in the cutting hole in the head of the tool, holding it with the beaks while fixing the set screw. Then remove the tooth, push the guide pin back into the measuring hole, place the hole already made in the plate over the guide pin, and punch the second hole.

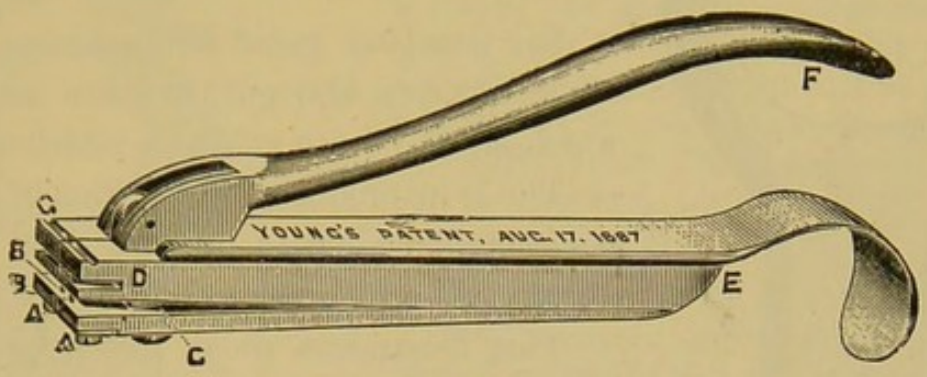
The result will be that when the tooth is placed on the metal backing the pins will be found to fit exactly in the two holes.

PRICES:

		s.	*d.*
Perfected Pin-hole Nippers, complete with 6 Pins . .		9	0
Extra Pins	per doz.	1	0

YOUNG'S ADJUSTABLE PERFORATORS.

FOR PUNCHING TWO HOLES AT ONCE.



Mr. Young claims that his tool secures, rapidly and with mathematical precision, exact correspondence between the holes in the metal plate used for backing teeth, and the pins of the tooth to be backed. It provides also for the quick and easy disengagement of the plate from the perforating pins after punching. The difficulty of separating, without twisting or injuring the perforated plate (the greatest obstacle to punching two holes at once), is entirely removed.

The risk of fracture in backing teeth is reduced to a minimum.

No measuring is required. The tooth is its own gauge, virtually punching its own holes.

METHOD OF USING:

Holding the Perforators in the right hand—like an ordinary pair of pliers—so that the end of the upper lever ***F*** rests loosely in the palm, the fingers and thumb readily grasp the lower lever ***E***. The tooth to be backed is taken in the left hand, and one of the pins placed in the nearest punch-hole in grove ***G***. Holding the tooth down with the thumb, the punch-holes are then slowly moved apart by pressure at ***E***, taking special care at the time not to have the slightest pressure on the top lever ***F***, or the jaws will not separate easily; the second pin of the tooth will slip into the second punch-hole immediately they come opposite each other, and the perforating pins are now fixed in position for punching.

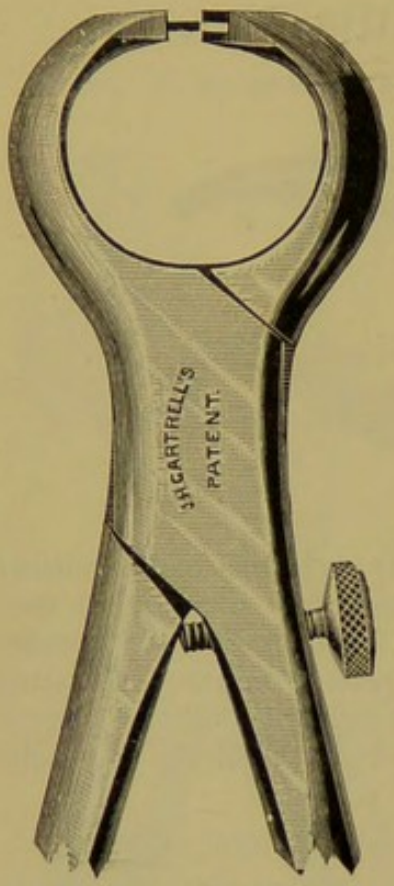
Retaining the tooth in its position, the metal backing is placed in the slotted recess ***D***, immediately under the tooth, and the holes are punched in it by pressing down the lever ***F***.

Whilst perforating, the plate is easily held in position with the left hand, and the thumb placed over the tooth prevents its being jerked out. The tooth should be removed *before*, and the plate *after*, relieving the pressure at ***F***.

The holes in intermediate plate ***C*** support and stiffen the pins ***B B***, and their breakage in use is almost impossible. Should it be necessary, however, to replace the pins, it can be done with the greatest ease by taking out the screws ***A A*** and removing the back.

		s.	*d.*
Price		15	0
* ,, with Set Screw		16	6
Either kind, Nickel-plated	extra	1	0
Extra Pins	per doz.	2	0

* By means of the Set Screw the jaws can be locked at any desired point.



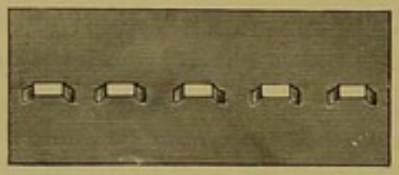
GARTRELL'S PUNCH.

GARTRELL'S LOOP PUNCH.

For punching metal strengtheners for vulcanite dentures, also gold or other metal plates which are to receive vulcanite attachments.

The loop produced by the Punch is split in the centre and curled over at each end, and affords very strong anchorage for the vulcanite.

This illustration shows five loops full size,

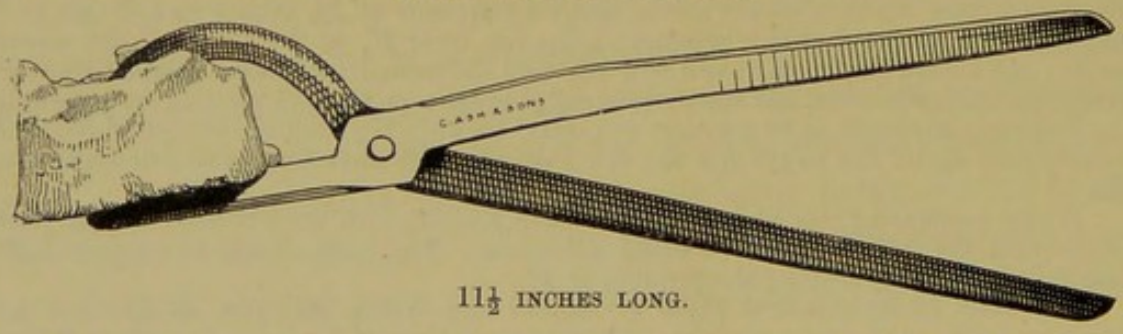


but any size smaller, within the range of the pointed chop, can be made by adjustment of the regulating screw ***A***.

	s.	*d.*
Punch, Nickel-Plated . . .	**9**	**0**

ZINC MODEL AND FLASK TONGS.

(MR. WALTER SUTTON'S.)



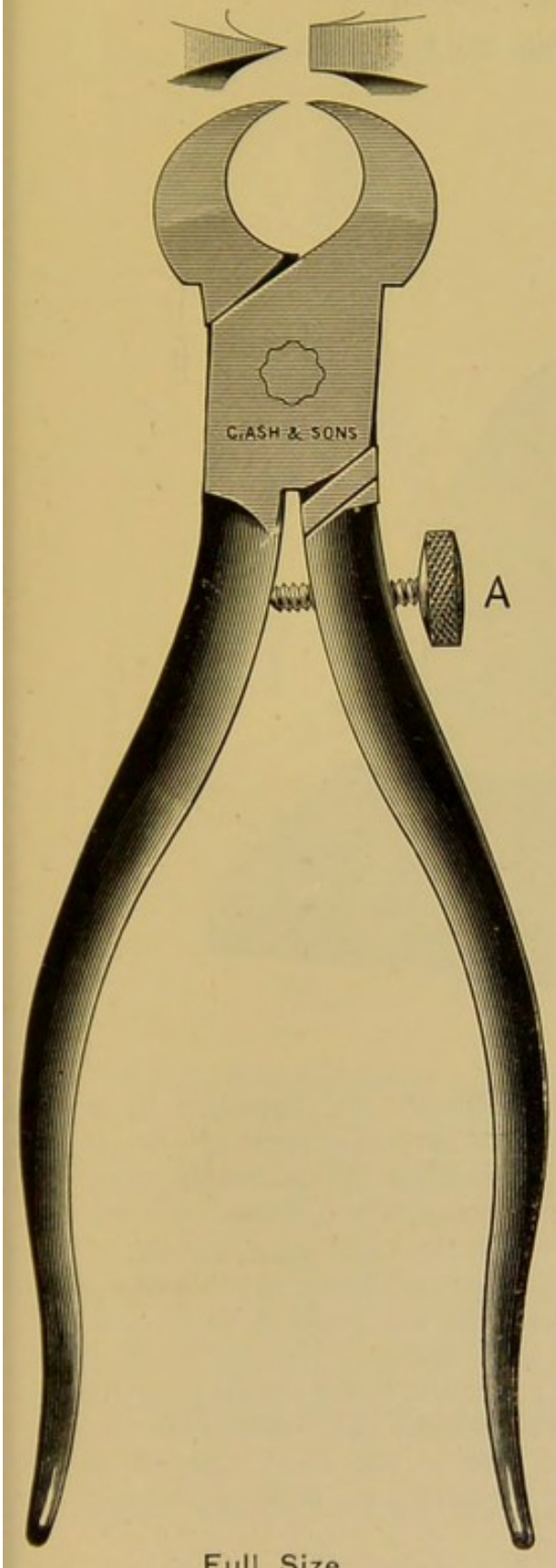
11½ INCHES LONG.

It is now some years since Mr. Sutton introduced the Zinc Model and Flask Tongs here illustrated. He says: "They grasp a zinc model so firmly that the teeth can be filed down without shifting. At present, I believe a rag or glove is generally used, and the result is a smouldering smell of burning rags. The tongs are so useful to me that I would not be without them if they cost a guinea. They only require to be known for members of the profession to appreciate their utility."

	s.	*d.*
Price	3	0

TOOTH-CUTTING PLIERS.

(Mr. A. Cocker's.)



Full Size.

For shortening mineral teeth this tool is one of the greatest time-savers in the dental workshop. Its value will be obvious when it is stated that as much of a tooth can be cut off in a few seconds as is desired, and that all the time and labour required for grinding the same away at the lathe is thus saved.

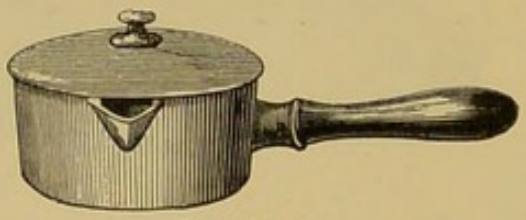
DIRECTIONS FOR USE.

Before cutting a tooth a shallow groove must be made on the face of it with a diamond disc or with a thin corundum or carborundum disc; the broad cutting jaw of the pliers must be inserted in this groove, which should, of course, be made where the mineral is to be cut off.

To ensure making a clean cut, the jaws of the pliers should never be allowed to come quite close together; they can be adjusted as desired by means of the set-screw A. Failure to observe this precaution may result in the mineral being splintered.

	s.	*d.*
Price of Pliers	**4**	**0**

ACID BOILING PANS.



Porcelain.

		s.	*d.*
Porcelain, $3\frac{1}{2}$ in. diameter	each	2	9
Copper, round, 4 in. diam.	,,	2	0
,, ,, $3\frac{1}{2}$ in. ,,	,,	1	9

ACIDS FOR THE LABORATORY.

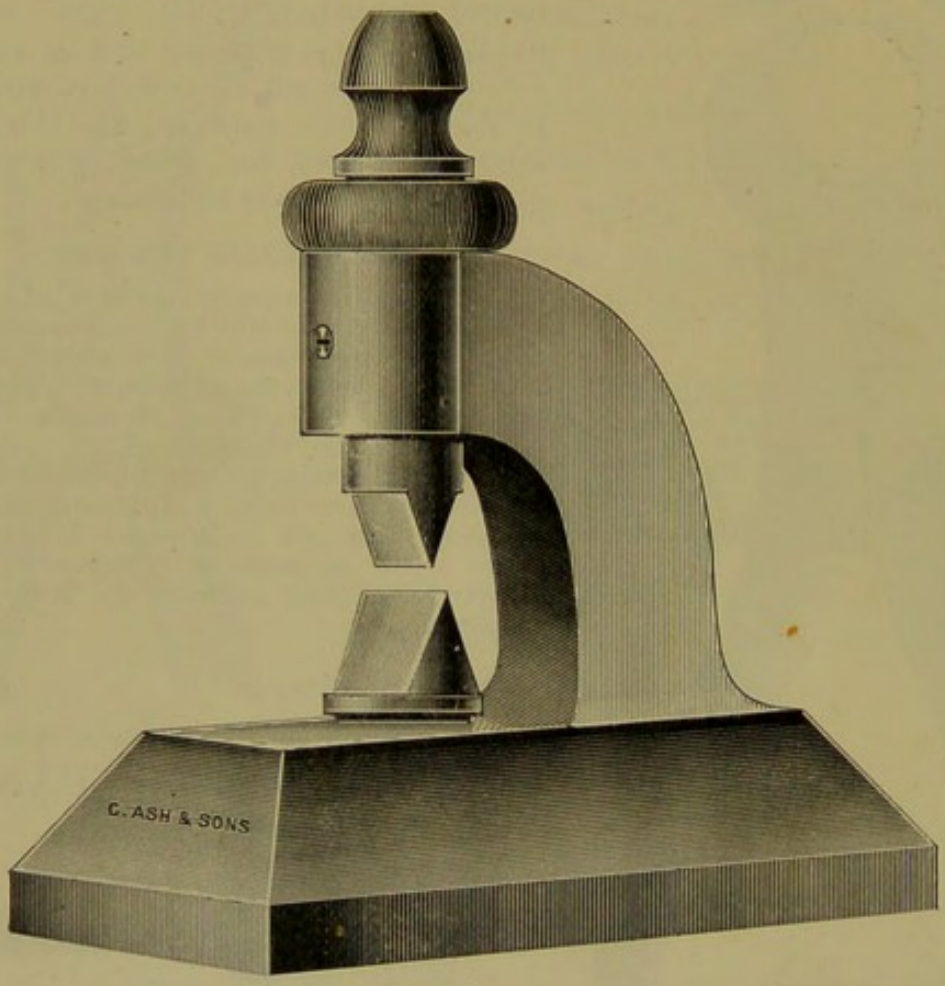
		s.	*d.*
Muriatic or Hydrochloric	per lb.	0	6
Nitric	,,	1	0
Sulphuric	,,	0	6
Bottles are charged extra	each	0	6

N.B.—We do not export these Acids.

ASH'S CUTTING TOOL

FOR SHORTENING TUBE TEETH.

(Revised at the Suggestion of Mr. R. P. Lennox.)



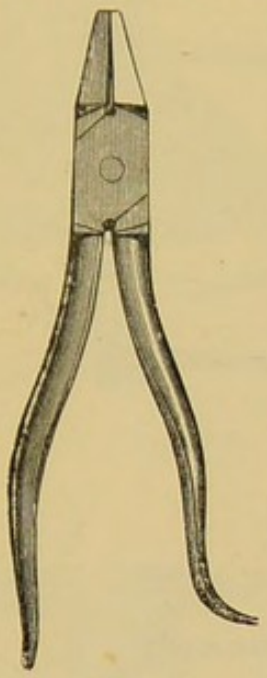
Full Size.

Mr. LENNOX says: "If Ash's Tube Teeth are shortened by a forcible grab with the cutters usually supplied, they are very apt to be splintered and otherwise damaged in a way that gives much trouble, even if it does not altogether spoil the teeth. The cutters which I use" (shown above), "and which are not nowadays figured in the catalogues, consist of two chisel-like edges facing each other, the upper one being capable of up and down movement so as to somewhat resemble a miniature guillotine. Placing the tooth to be shortened between these edges, I give the back of the upper edge a tap smart enough to just crack the tooth through to the tube; then with a thrust of a sharply tapering steel rod inserted in the tube, I am able to burst off the superfluous part of the tooth without in the least damaging the part required. The exposed portion of the tube is then, of course, easily sawn off."

	s.	*d.*
Price, as illustrated	10	6

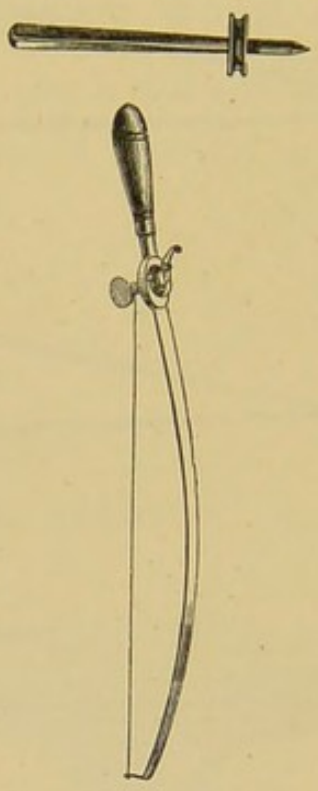
DRAWING TONGS, DRILL STOCK, &c.

Drawing Tongs.



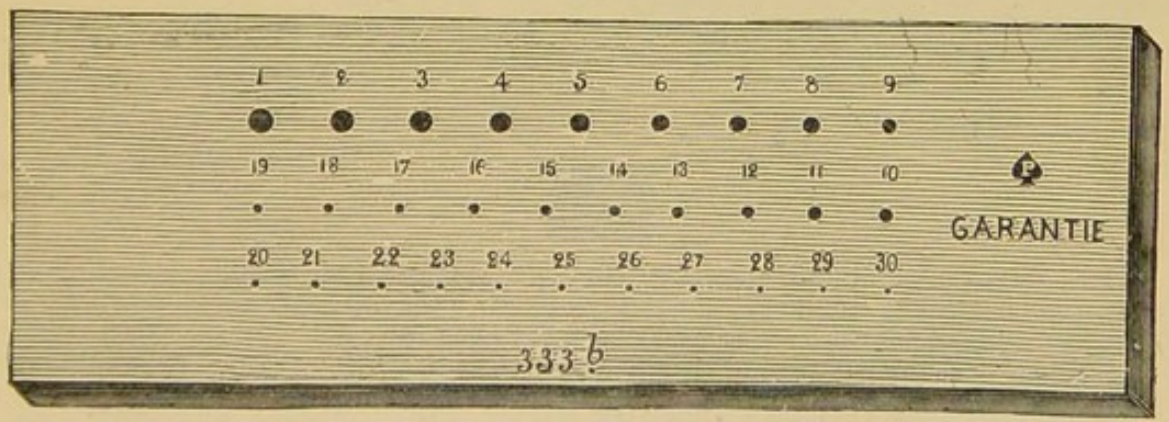
7 inches long.

Drill Stock and Bow.



		s.	d.
Drawing Pliers or Tongs (Stubs')	each	3	0
Drill Stocks, large, medium, and small bore	,,	1	8
Broach Drills for same, large, medium, and small	per doz.	2	4
Drill Bows, spring steel, with ratchet screw	each	5	0
Gut for Drill Bows, thick, medium, and thin	per hank	0	2½

DRAW PLATES—BEST QUALITY.

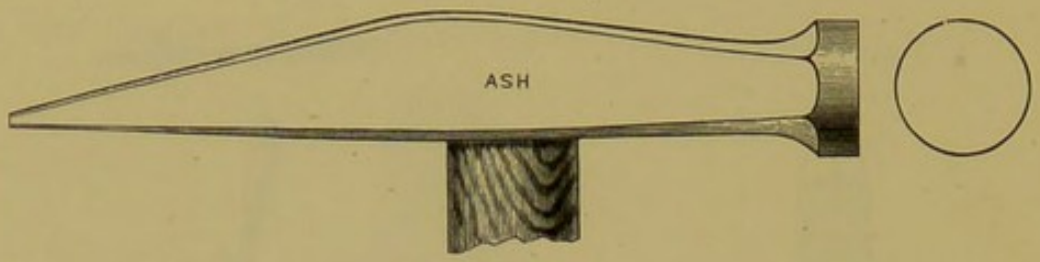


		s.	d.
Draw Plates, for round wire, 20 holes, small sizes	each	2	0
,, ,, 30 ,,	,,	3	0
,, for half-round wire, 20 holes	,,	4	0
,, ,, ,, 30 ,,	,,	6	0

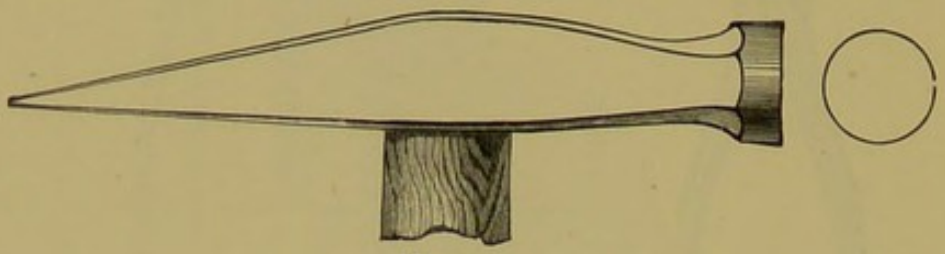
Draw Plates for square wire supplied to order.

RIVETING HAMMERS.

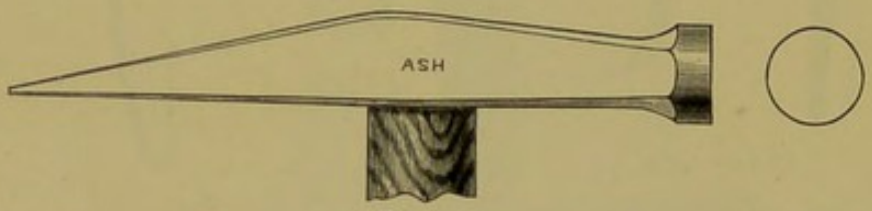
(STUBS'.)



LARGE.



MEDIUM.

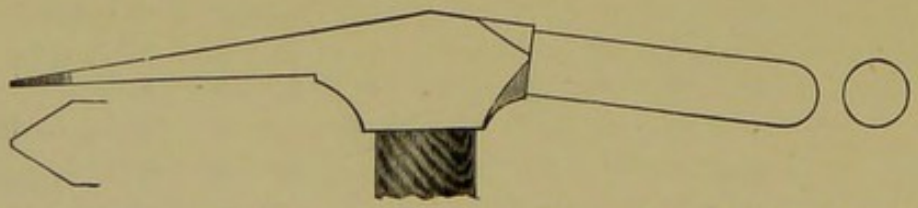


SMALL.

		s.	*d.*
Riveting Hammers, Large, Medium, or Small	each	1	6
Extra Handles for any size	,,	0	4

RIVETING HAMMER.

DESIGNED BY MR. W. W. DYKES.

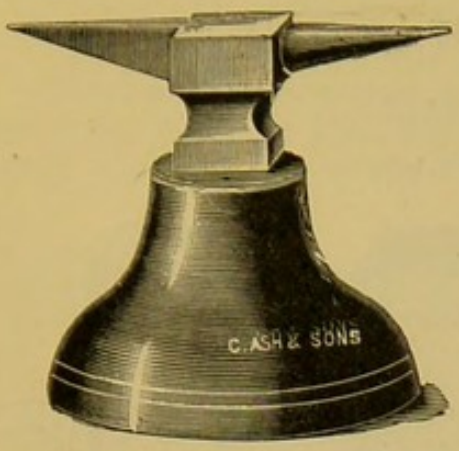


Mr. Dykes says: "This Hammer will be found useful in dishing bands to fit the contour of molars and bicuspids, for touching up the cusps of gold crowns, putting a finish upon the heads of pins in riveting backs upon flat teeth, &c., &c.

"It was specially designed to ensure the easy and thorough cupping of the rubber discs —Hall's, Lord's and others—in suction uppers, and for making a solid smooth head on the pin in the counter-sink. While in the act of riveting there is no danger with the rounded end of chipping or indenting the vulcanite or of injuring the washer which is used with Hall's disc."

	s.	*d.*
Price complete with handle	1	6

Hammers for striking up plates supplied to order.



About half size.

LIGHT ANVIL,

FOR CROWN WORK, &c.

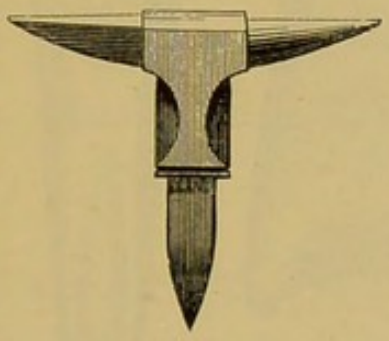
The bright part is nickel-plated and the base on which it is mounted is japanned black.

	s.	*d.*
Price	4	0

BEAK IRONS,

WITH TANG AND ON STAND.

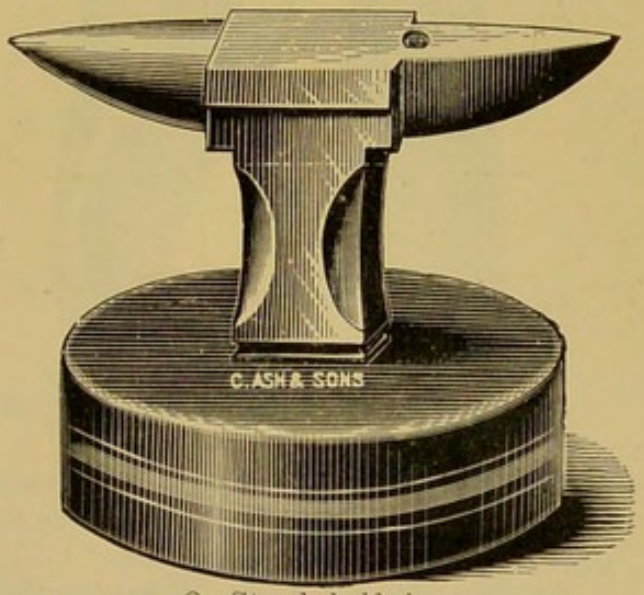
(STUBS'.)



With Tang.

For Crown Work and for general use.

Supplied in one size, about $\frac{7}{8}$ inch across the face.



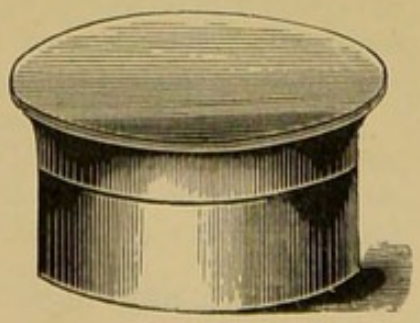
On Stand, half size.

	s.	*d.*
Price, with Tang	3	6
„ on Stand	5	6

BOXES FOR METAL SCRAPS.

In Japanned Tin, Circular, with Sifters.

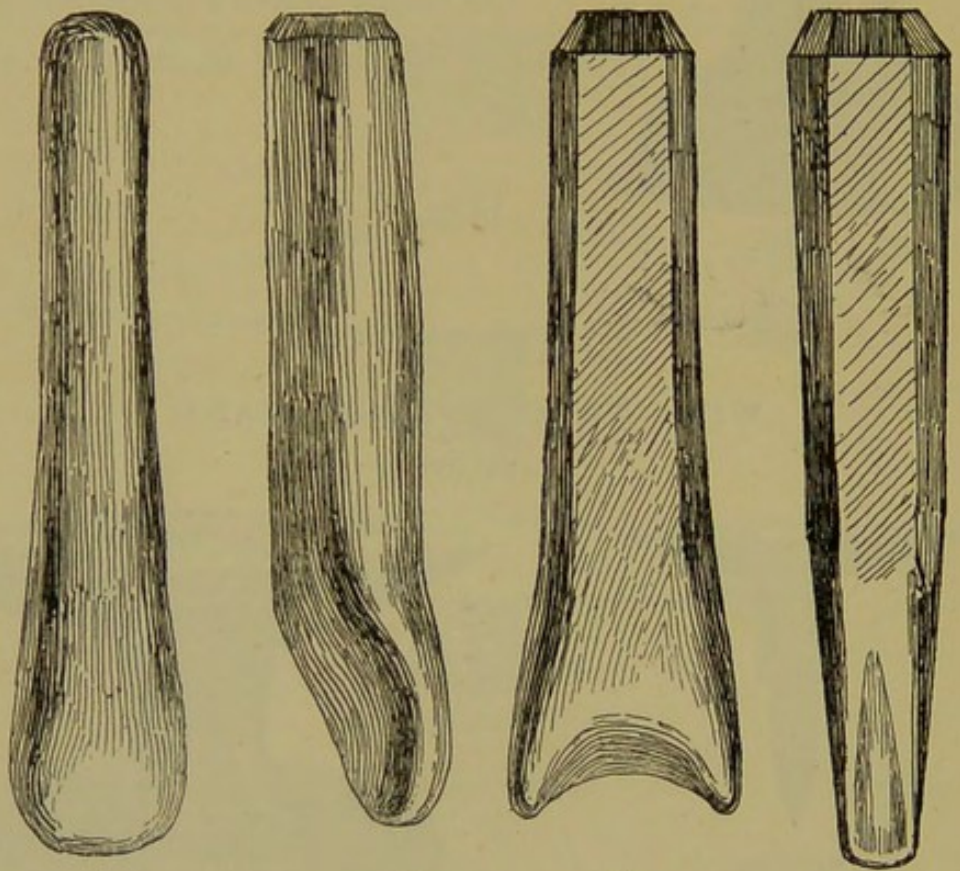
		s.	*d.*
Made in three sizes	$3\frac{1}{4}$ in. diameter, each	1	3
	4 in. „ „	1	6
	$4\frac{1}{2}$ in. „ „	1	9



COPPER PLATE PUNCHES.

(Mr. W. BOOTH PEARSALL'S.)

Registered. Reg. No. 303,109.



1. 2. 3. 4.

Mr. PEARSALL says:—"Close adaptation of difficult plates to the surface of a die can often be obtained by the use of the chasing punch among the rugæ of the palate *while the plate lies in the counter die.*

"Narrow punches should not be used, but such as are here illustrated in Figs. 2 and 4, with rounded ends, which bear some resemblance to the surface to be 'bossed' out. The end of each can readily be *filed* to a suitable contour for use on a special plate.

"Figs. 1 and 3 are very serviceable for adapting a plate *to the surface of a zinc die or a die made of Gartrell's metal.*

"Of the two, Fig. 1 is especially useful for gently forcing a plate into a deep palate, while Fig. 3 is invaluable for working it over the alveolar ridge, where it sometimes has a tendency to buckle; it is also of great use on plates for V-shaped edentulous cases, when it is intelligently employed.

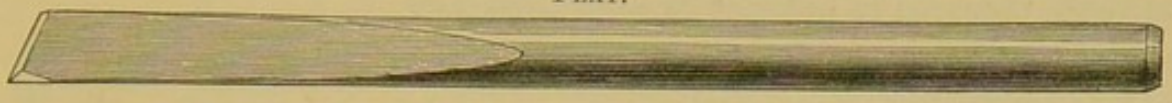
"A few experiments made with brass plates on zinc dies, or dies made of Gartrell's metal, and in lead counter dies, will demonstrate the superiority of the copper punches over the existing forms of steel and brass punches, and also over the pieces of bone, soft wood, and boxwood, which are sometimes used."

		s.	*d.*
Price, any shape	(Figs. 1–4) each	1	0

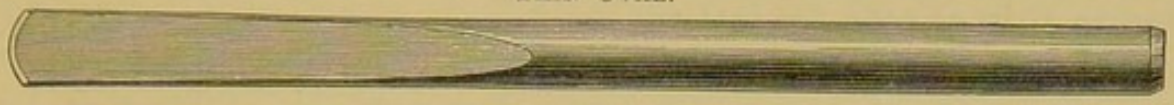
PLATE PUNCHES.

These punches are used for forcing metal plates close to the necks of the teeth while on the metal casts. They are made in three widths—broad, medium, and narrow. The illustrations show the medium width.

FLAT.



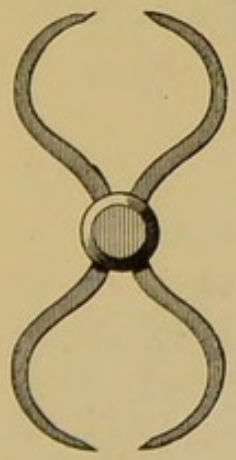
THIN OVAL.



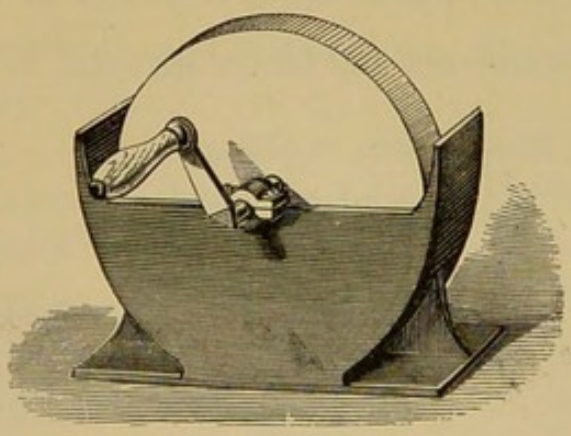
HOLLOW.

		s.	*d.*
In polished Steel	each	0	9
„ Brass	„	0	6
Steel Numbers for stamping Metal Plates	per set of nine	5	6
Steel Numbers or Letters, to order, per number or letter	from	0	6

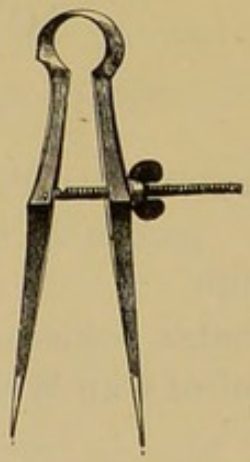
CALLIPERS, GRINDSTONES, AND DIVIDERS.



CALLIPERS.



GRINDSTONE.



DIVIDERS.

		s.	*d.*
Callipers, bright Steel, for gauging plates, &c., 3½ ins. long	each	2	3
Dividers, spring Steel, with set screw, 4½ ins. long . . .	„	3	0
Grindstones, for Hand, in Trough, 6 to 12 ins. diameter, from		5	6
„ **for Lathes**, about 3 ins. diameter . . .	each	1	6

Other Grindstones supplied to order.

METALS—VARIOUS.

		s.	d.
Aluminium, obtained to order at current price.			
Babbitt's Metal, for making Dies	per lb.	2	0
Bismuth, obtained to order at current price.			
Copper, fine, in grain . . . . . per oz. 3*d*.	„	2	0
Lead (price fluctuates)	„	0	3
Lead in thin sheets, for patterns, &c.	„	0	7
Mercury, common, for Vulcanizers and Batteries . .	„	5	0
Meter Metal for Humby's Swager, thick or thin . .	„	2	6
Nickel, plate and wire	„	5	0
Soft Solder	per piece	0	2
Spence's Metal, sulphide of iron, for models . . .	per lb.	0	9
Tin in Bars (price fluctuates)	„	2	0
„ **in Grain** „ „	„	2	3
Weston's Metal and Solder, *see* page 14.			
Zinc (price fluctuates)	„	0	4½

Other Metals supplied to order.

SCALES AND WEIGHTS,

FOR WEIGHING PRECIOUS METALS, &c.

		s.	d.
Scales, with Pillar, Beam, &c., to fold and pack in the drawer of the mahogany stand .	10 in. by 5 in.	24	0
Ditto ditto ditto .	8 in. by 4¼ in.	20	0
Scales, common, in Oak box	9 in. by 4½ in.	10	6
Set of Cup Weights, Troy	1 oz. to $\frac{1}{10}$ per set	2	9
„ „ „	2 ozs. to $\frac{1}{10}$ „	3	3
„ „ „	3 ozs. to $\frac{1}{10}$ „	3	9
„ „ „	5 ozs. to $\frac{1}{10}$ „	5	0
„ „ „	10 ozs. to $\frac{1}{10}$ „	7	6
Set of Weights, Decimals of the ounce troy ·5 to 001	„	4	0
„ „ Drachms and Scruples	„	1	6

Other Scales and Weights supplie to order.

TOOTH BRUSHES WITH BONE HANDLES.

(*As shown on pages* 64, 65.)

Made with **Hard**, **Medium** and **Soft** Bristles.

FIRST QUALITY.

	per gross. s.	d.	per doz. s.	d.
Adults', all forms. . . . . (Figs. 1–5)	84	0	7	6
Children's . . . . . (Fig. 4)	72	0	6	6
„ all forms except Fig. 4	57	0	5	3
Palate Brushes, round and square forms	84	0	7	6
Any of the above with **very hard** bristles, extra			1	0
Double-ended Brushes in Horn Handles, one end for the teeth, the other for the plate	per doz.		9	6
Badger's Hair Brushes for solutions, Adults' . . .	„		14	0
„ „ „ „ Children's . .	„		8	0
Black Tooth Brushes, best quality, for tinctures and solutions; length of brush head, $1\frac{1}{2}$ inches, form of Fig. 1	„		7	6

Tooth Brushes made to Dentists' own patterns by the gross.

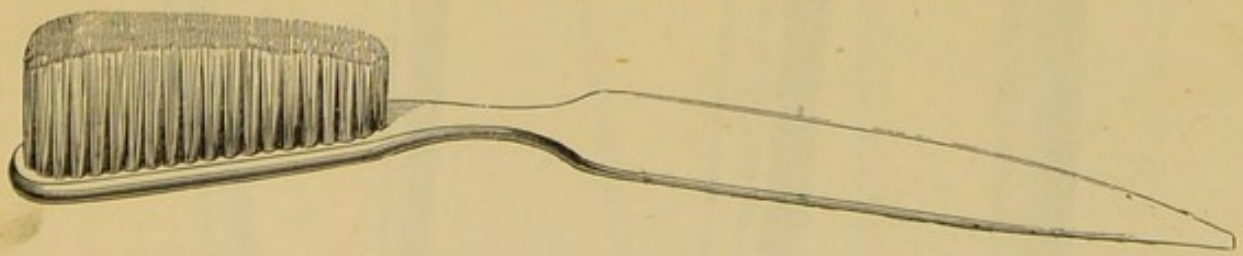
All forms of Tooth Brushes made or obtained to order.

Steel Punches, with name, title, &c., made to order, 6*d.* per letter.

Tooth Brushes stamped with name, &c., free of charge.

DENTURE BRUSH,

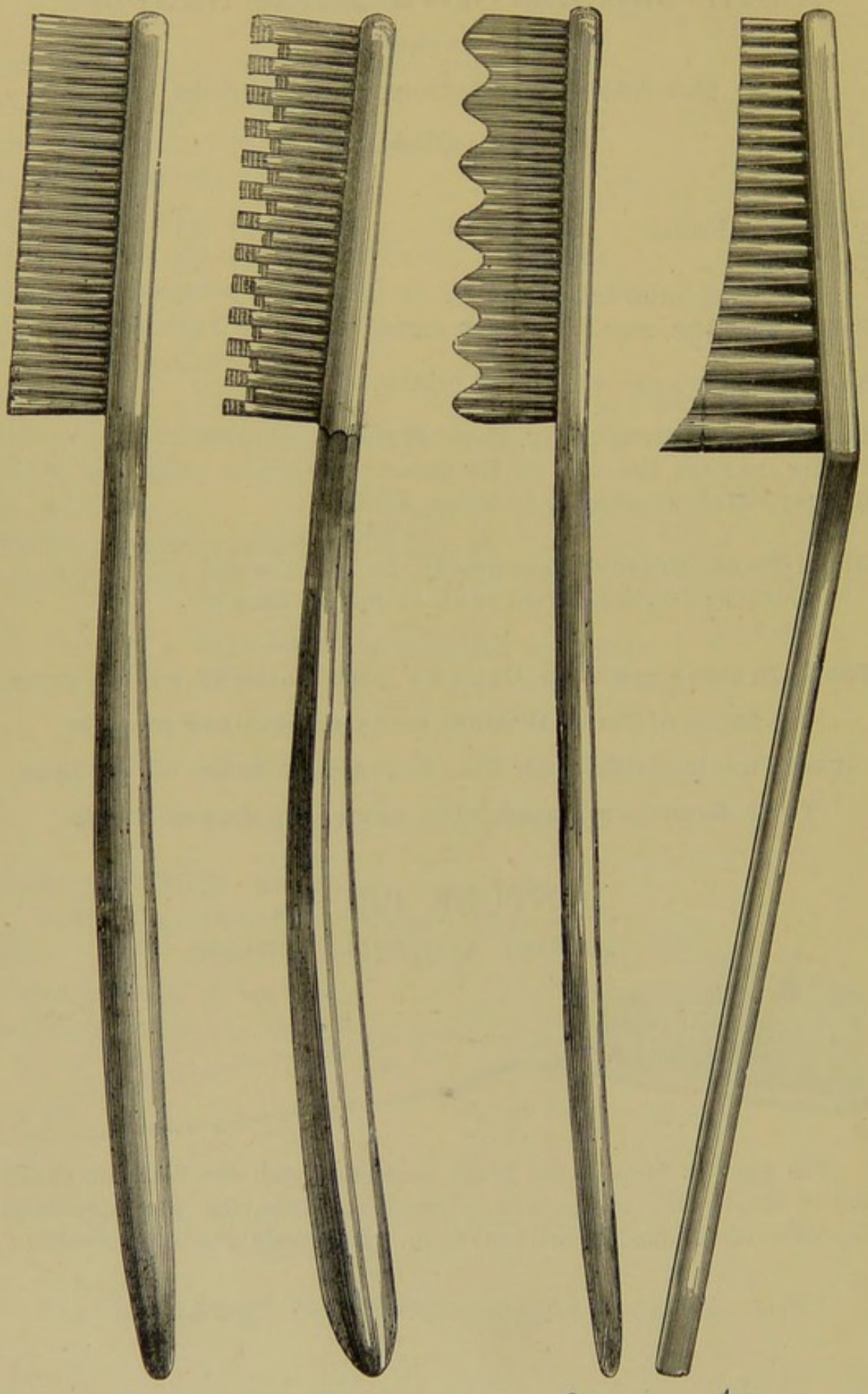
FOR CLEANING ARTIFICIAL DENTURES.



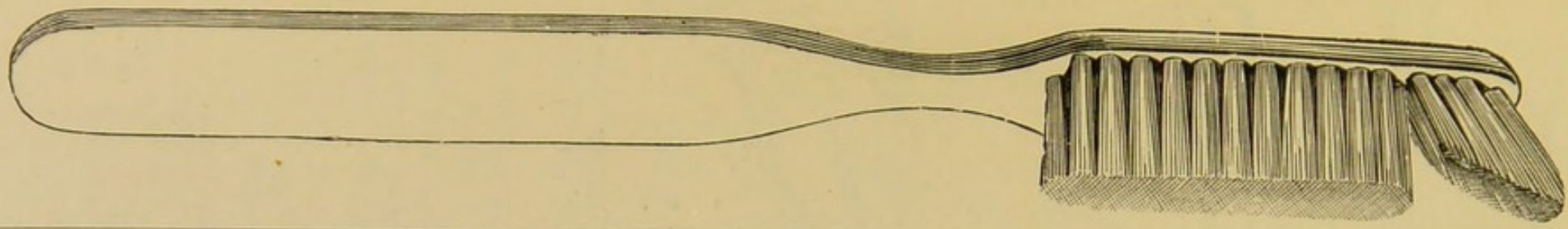
The peculiar form of the brush, combined with the flat point at the end of the handle, is specially adapted for removing the unpleasant deposit so often found on artificial teeth. It is made with hard bristles.

		s.	d.
Price	per doz.	9	0

FORMS OF TOOTH BRUSHES.



1. 2. 3. 4.

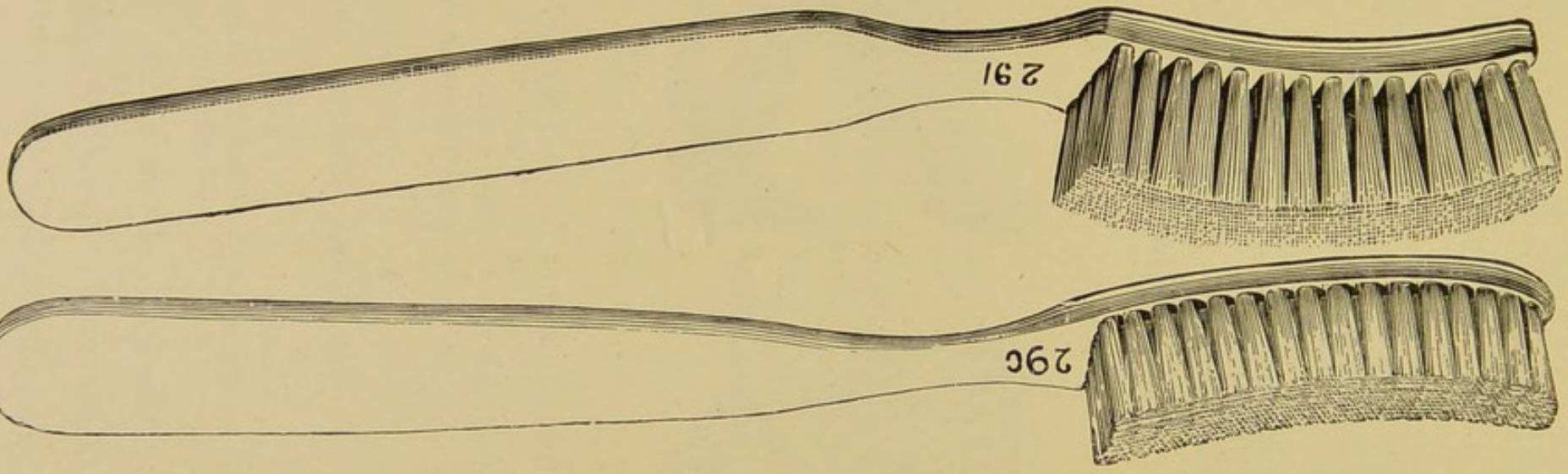


5. M

"INSIDE" AND "OUTSIDE" TOOTH BRUSHES.

BEST QUALITY.

Made with hard, medium, and soft bristles.



Inside.

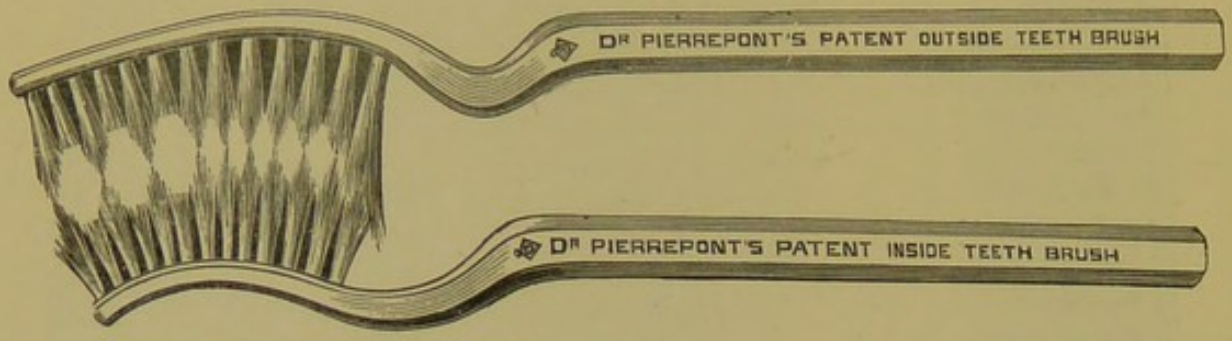
Outside.

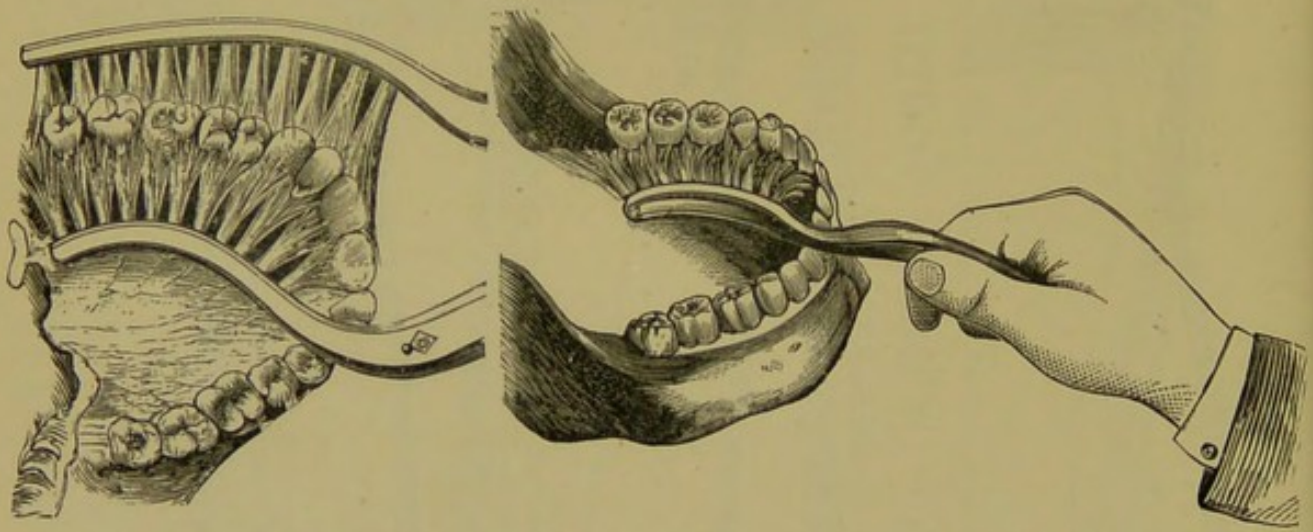
F

		s.	d.
Price, in cardboard box	per pair	1	6
" " "	per doz.	9	0

OUTSIDE AND INSIDE TOOTH BRUSHES.

PIERREPONT'S THOROUGH-CLEANSING.





The illustrations show (1) an "**Outside**" and an "**Inside**" brush; (2) the same applied on an upper dental arch; and (3) an "Inside" brush applied on a lower dental arch.

The brushes are made in the following Grades and Sizes :—

GRADES:

With **Hard**, **Medium**, and **Soft** bristles.

SIZES:

"**Outside**"—A—Full size. C—Small.
B—Medium. D—Child's.

"**Inside**"—E—Full size. F—Smaller size.

In ordering be careful to state grade and sizes required.

		s.	*d.*
Price, in cardboard boxes	per pair	2	0
" " "	per doz.	12	0

TOOTH BRUSH

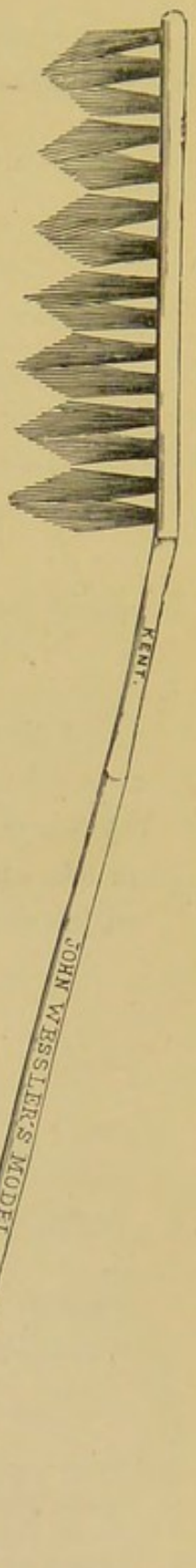
WITH THREE ROWS OF BRISTLES.

Designed by Mr. JOHN WESSLER, Director of the Stockholm Dental Clinic.

Mr. Wessler claims that this brush can be used "with equal success on both the interior and exterior sides of the teeth."

Supplied with Hard, Medium, or Soft Bristles.

Prices:		*s.*	*d.*
Adults'	per doz.	8	0
,,	per gross	90	0
Children's	per doz.	6	0
,,	per gross	66	0



Adults' full size.

TOOTH PICK.

(Mr. PALMER'S.)

FULL SIZE.

In Gold, set in Ivory, fitted in square ivory handle, inside which it slides.

Price . . . . . each 5*s.*

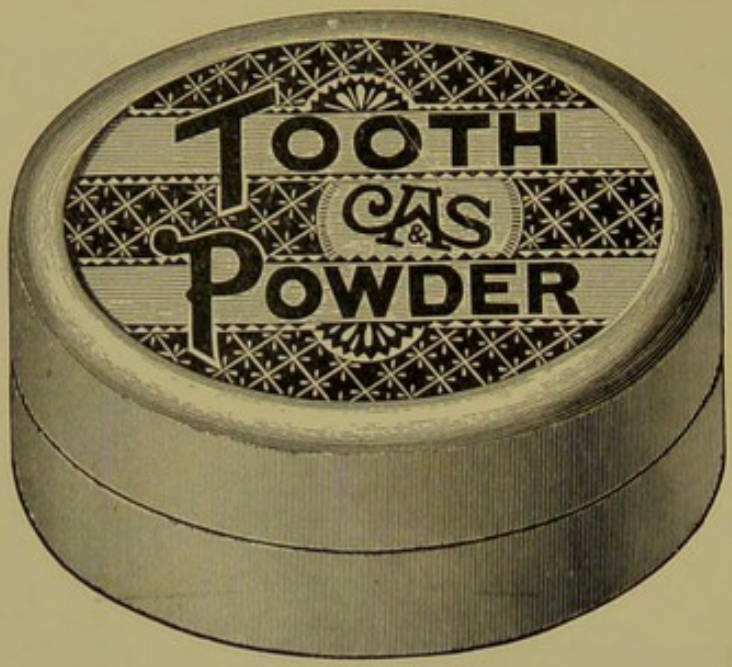
Other Tooth Picks supplied to order.

MOUTH WASHES.

	Per doz. *s.*	*d.*	Each. *s.*	*d.*
Astringent Mouth Wash, in 3oz. bottles	12	6	1	3
Euthymol, in 1lb. bottles	40	0	3	6
Listerine, in 14oz. ,,	—		4	0
Myrrh, Fluid Extract of, in 16oz. bottles	—		9	6
Myrrh Gum . . . . . per lb.	—		5	9
,, Tincture, in 8oz. bottles	—		2	9
,, ,, 16oz. ,,	—		5	0
Oraline Mouth Wash, in 4oz. bottles	14	6	1	6
Salodent, in 2oz. bottles, with sprinklers	14	0	1	6

Other Mouth Washes supplied to order.

METAL TOOTH POWDER BOXES.



Made of Tin, in two sizes—Small and Large. Each size is supplied in two colours—Silver and Bronze. The Small holds 1 oz., and the Large 1½ ozs. of Tooth Powder. They are far superior to wooden boxes, cleanly in use, unaffected by climatic conditions, and consequently do not swell or shrink during wet or dry weather.

PRICES:

	Silver colour.				Bronze.			
	per gross.		per doz.		per gross.		per doz.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Small, labelled Tooth Powder . .	15	0	1	6	18	0	1	9
Large „ „ „ . .	18	0	1	9	21	0	2	0
*Small, without Labels	12	0	1	3	15	0	1	6
*Large „ „	15	0	1	6	18	0	1	9

* These unlabelled boxes are supplied by the gross with the dentist's own labels on them, provided not less than five gross (720) of labels are ordered at a time.

If fewer than five gross of boxes are ordered at the same time as the labels, the labels which are over will be held at the disposal of the owner for future use. The cost of such special labels increases the price of each kind and size of box by 8/0 per gross.

TOOTH POWDER BOXES—*continued.*

We are prepared to supply any of the Tooth Powder Boxes mentioned on the previous page, filled with any of the following Tooth Powders, at an extra charge per lb. for the Powder.

For Wooden Tooth Powder Boxes, see page 73.

ASH'S TOOTH POWDERS.

These Powders are prepared with great care, the ingredients being thoroughly well ground and mixed. The materials of which they are composed are of the purest quality, and such as are generally recommended by the best authorities.

No. 1, **Fine, Scented with Oil of Bergamot.**
„ 2, **Medium,** „ „ **and Otto of Roses.**
„ 3, **Coarse,** „ „

		s.	d.
Supplied in 1 lb. Tins	per lb.	4	0

A discount of 10 *per cent. is allowed off* 5 *lbs.*

Special terms for Tooth Powders in larger quantities than 5 *lbs.*

AMERICAN TOOTH POWDERS.

(The S. S. White D. M. Co.'s.)

		s.	d.
No. 1. Rose flavour, in 1 lb. Tins	per tin	6	3
„ 1. „ „ in 4 lb. Tins, *to order*	„	21	0

A discount of 15 *per cent. is allowed off* 5 *lbs.*

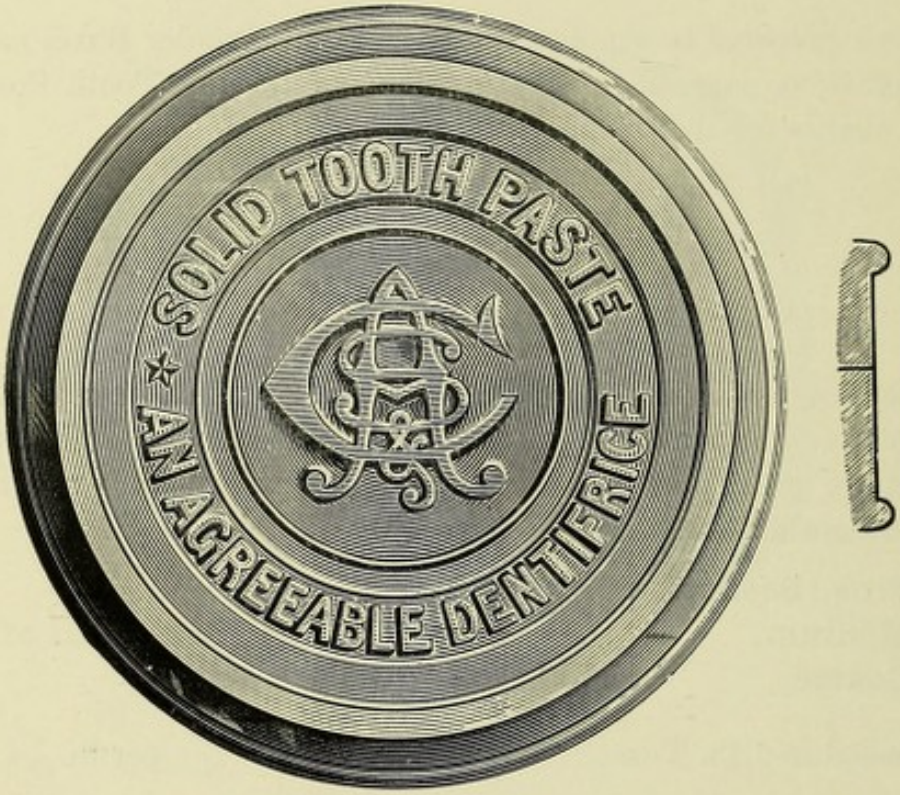
The No. 1 can be had, *to order*, flavoured with Wintergreen instead of Rose.

		s.	d.
No. 2, in 1 lb. enamelled Tins	per tin	4	2
„ 2, „ 4 lb. . „ „ *to order*	„	14	6

A discount of 10 *per cent. is allowed off* 10 *lbs.*

		s.	d.
Cuttle-Fish Powder	per lb.	2	0
Orris Root	„	2	0
Precipitated Chalk	„	0	6
Prepared „	„	0	3

SOLID TOOTH PASTE.



This Tooth Paste is composed of the best and purest materials obtainable ; it is a most agreeable and refreshing dentifrice, and we can strongly recommend it as an elegant toilet requisite.

Supplied in Glass Boxes, also in Tin Boxes with glass lids, flavoured with **Rose, Cherry,** or **Peppermint.**

Prices :

		s.	*d.*
In Glass Boxes, any flavour	per box	0	10
,, ,, ,, ...	,, doz.	9	0
,, ,, ,, ...	,, gross	100	0
In Metal Boxes with Glass Lids, any flavour	,, box	0	9
,, ,, ,, ,, ,,	,, doz.	8	0
,, ,, ,, ,, ,,	,, gross	84	0

Solid Tooth Paste can be had stamped with the dentist's own name and address on the following condition :—

Not less than one gross to be ordered at a time.

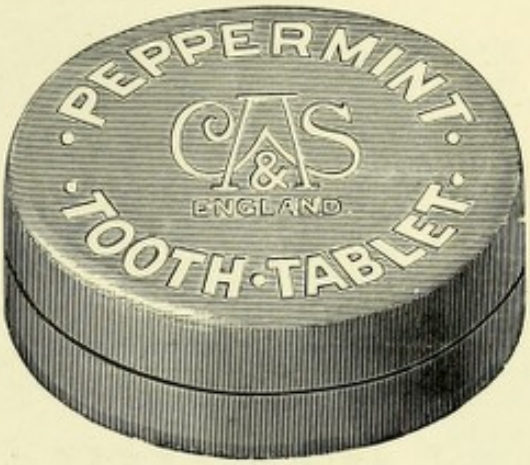
No charge is made for stamping beyond the first cost of the die, which is twenty shillings. The die will serve for a long time.

ASH'S TOOTH TABLET.

In Turquoise Blue Celluloid Boxes.

This Tablet can be had stamped with the dentist's own name and address, on condition that not less than one gross be ordered at a time. No charge is made for stamping beyond the first cost of the die, which is twenty shillings. The die will serve for a long time.

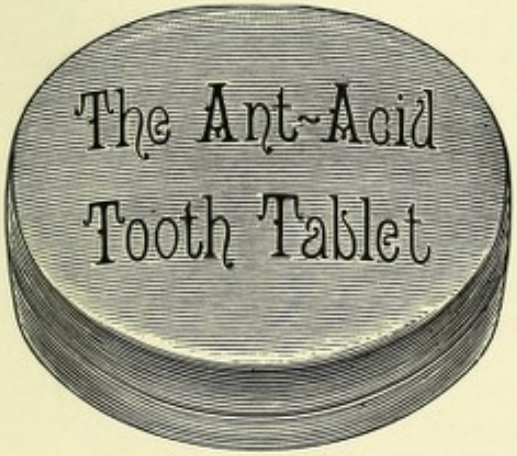
The Box can also be had in White, Blue, Pink, or assorted, with the dentist's name and address on lid, at a cost of 8*s.* 6*d.*, provided not less than one gross be ordered. When five gross or more are ordered at a time no charge is made for the name plate.



Elegant and refreshing. Made in three flavours—Rose, Peppermint and Aromatic.

		s.	*d.*
Price	per doz.	4	6
,, ...	per gross	48	0

THE ANT-ACID TOOTH TABLET.

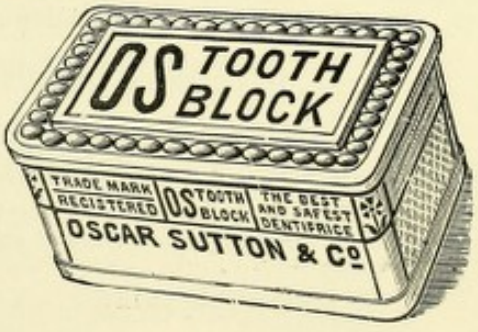


An agreeable and refreshing dentifrice. Put up in pink-coloured celluloid boxes.

		s.	*d.*
Price . . .	per doz.	6	0
,, . . .	per gross	60	0

O.S TOOTH BLOCKS.

		s.	*d.*
In glass boxes . . .	each	2	0
,, ,, .	per doz.	21	0
In metal ,, . . .	each	1	0
,, ,, . .	per doz.	10	0



AMERICAN TOOTH SOAP.

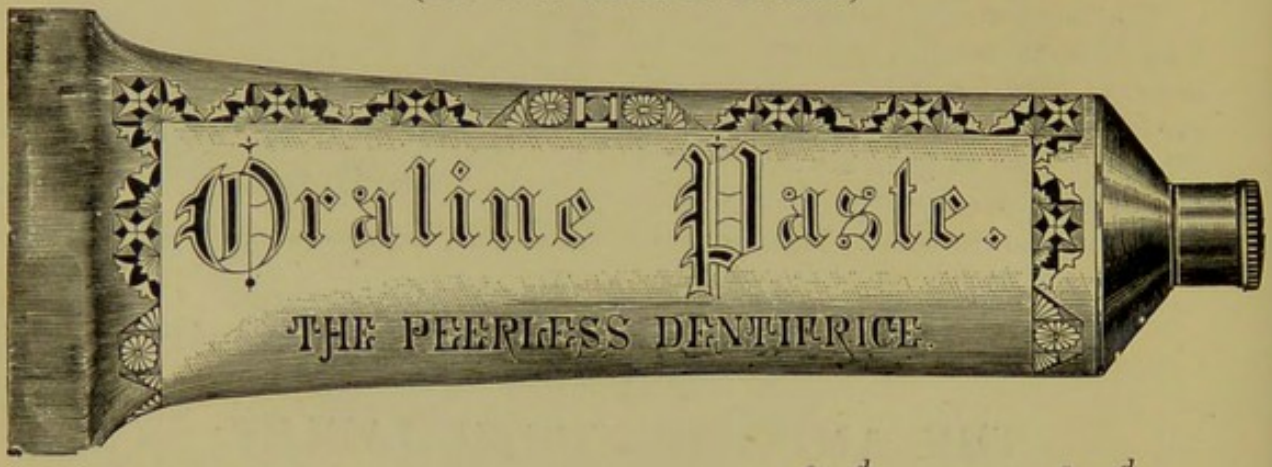
(The S. S. White D. M. Co.'s.)

Mint, Wintergreen and Rose Flavours.

		s.	d.
Mint Flavour, in cardboard boxes	per doz.	8	4
Wintergreen ,, ,, ,, ...	,,	8	4
Rose ,, ,, ,, ...	,,	10	5

ORALINE PASTE.

(The S. S. White D. M. Co.'s.)



		s.	d.		s.	d.
In collapsible tubes . . .	per tube	1	0	per doz.	10	6
In jars of 2½ ozs.	per jar	1	6	,,	16	8
,, ,, 1½ ,, ...	,,	1	0	,,	10	6

EUTHYMOL TOOTH PASTE.

AROMATIC, DEODORANT, ANTISEPTIC.

(Parke, Davis & Co.'s.)

This is a superior preparation containing Euthymol with other carefully selected and harmless ingredients. Supplied in collapsible tubes.

		s.	d.
Price	per doz.	9	6

EUTHYMOL TABLETS.

For reducing inflammation of and cleansing the mouth and throat and sweetening the breath.

Directions for Use.—Allow a tablet to dissolve in the mouth as often as required.

		s.	d.
Price, in boxes of 40 Tablets	per box	0	8

EUTHYMOL CREAM.

An excellent toilet preparation—emollient and antiseptic; most useful to the dental surgeon for keeping the hands soft and in good condition.

		s.	d.
In collapsible tubes	per doz.	9	6

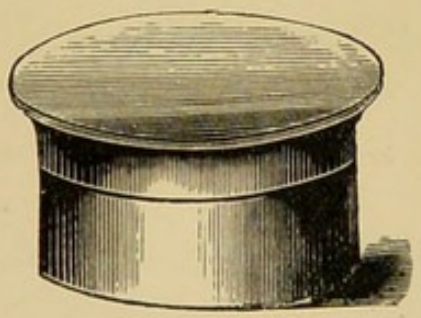
ODONTINE.

AN ELEGANT CREAM DENTIFRICE.

		s.	d.
In opal glass boxes	per doz.	10	0
,, ,, ,, ...	per gross	108	0

WOODEN TOOTH POWDER BOXES.

(VARNISHED.)



	Per gross. s.	d.
With Projecting Tops, $2\frac{1}{2}$ in. by $\frac{3}{4}$ in. deep inside, size No. 1	25	0
,, ,, ,, $2\frac{1}{4}$ in. by $\frac{3}{4}$ in. ,, ,, ,, 2	20	0
,, ,, ,, 2 in. by $\frac{3}{4}$ in. ,, ,, ,, 3	16	0

Plates for Tooth Powder Box Labels made and engraved any style, price varying according to the design.

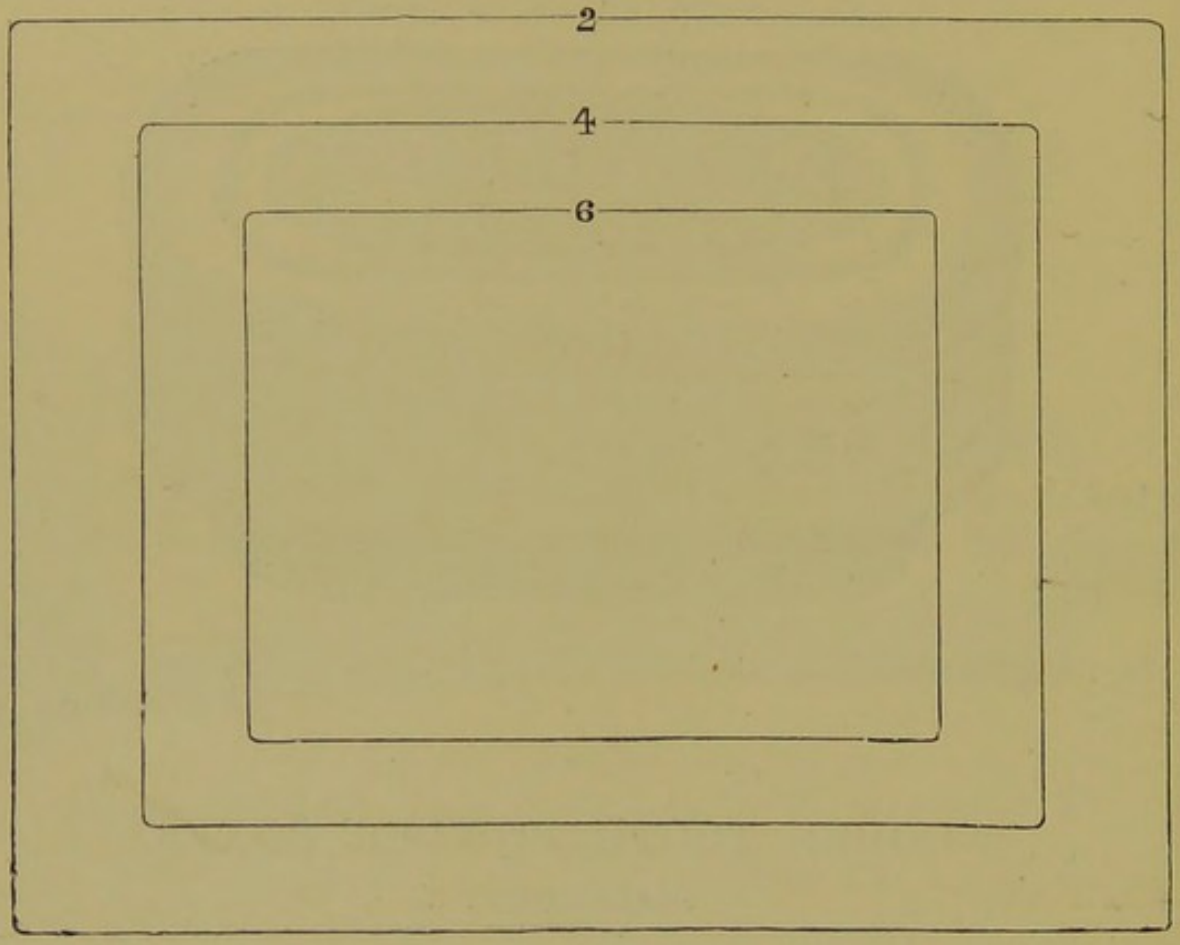
Labels printed from Dentists' own Plates.

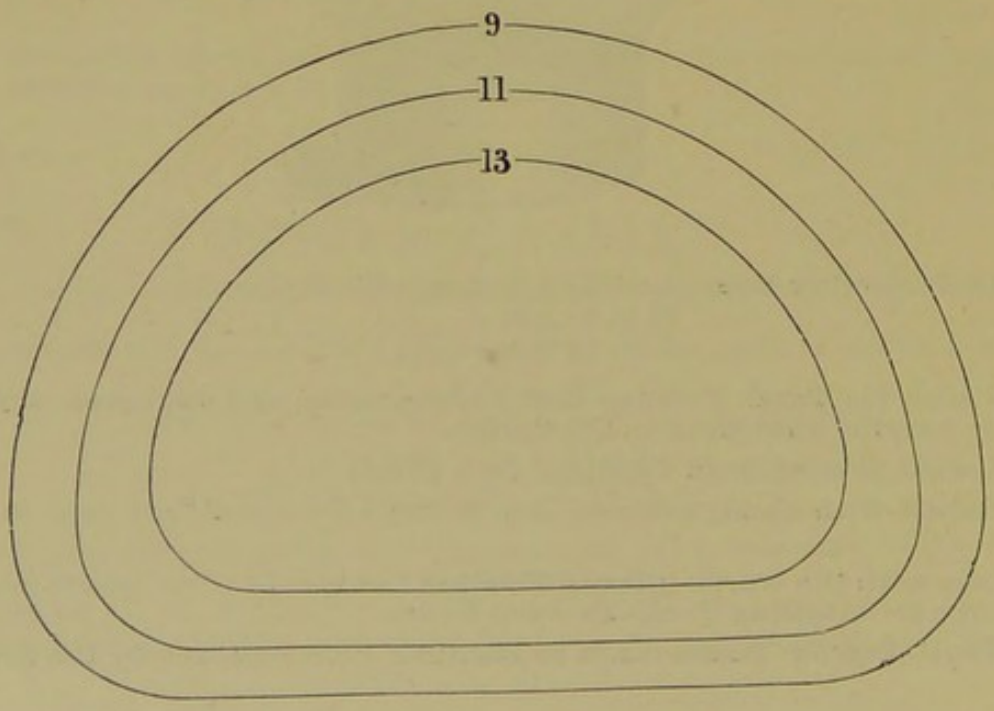
Labels with name, address, &c., printed from ordinary type to order.

		s.	d.
Labels with the words "Tooth Powder" only . . .	per 100 from	1	6
Charge for labelling Tooth Powder Boxes	per gross	1	0

Tooth Powder Boxes made to Dentists' own patterns by the gross.

SIZES OF CASES.





LEATHER CASES.

The sizes on the opposite page represent the **outside** dimensions of each case. The **inside** measurements are, roughly speaking, about an eighth of an inch less each way.

Names, addresses, &c., printed inside the lids of the **first quality** to order, at the expense of the buyer, when purchased by the dozen.

SQUARE.

	Sizes	2.		4		6.	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
First Quality, with Lock and Key . .	each	5	0	3	3	—	
„ „ with Spring	„	2	3	1	9	1	3
Second „ „ „	„	1	10	1	6	1	1

HALF-OVAL,

FOR LOWER PIECES.

	Sizes	9.		11.		13.	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
First Quality, with Spring	each	1	6	1	4	1	1
Second „ „ „	„	1	2	1	1	1	0

Other sizes supplied to order.

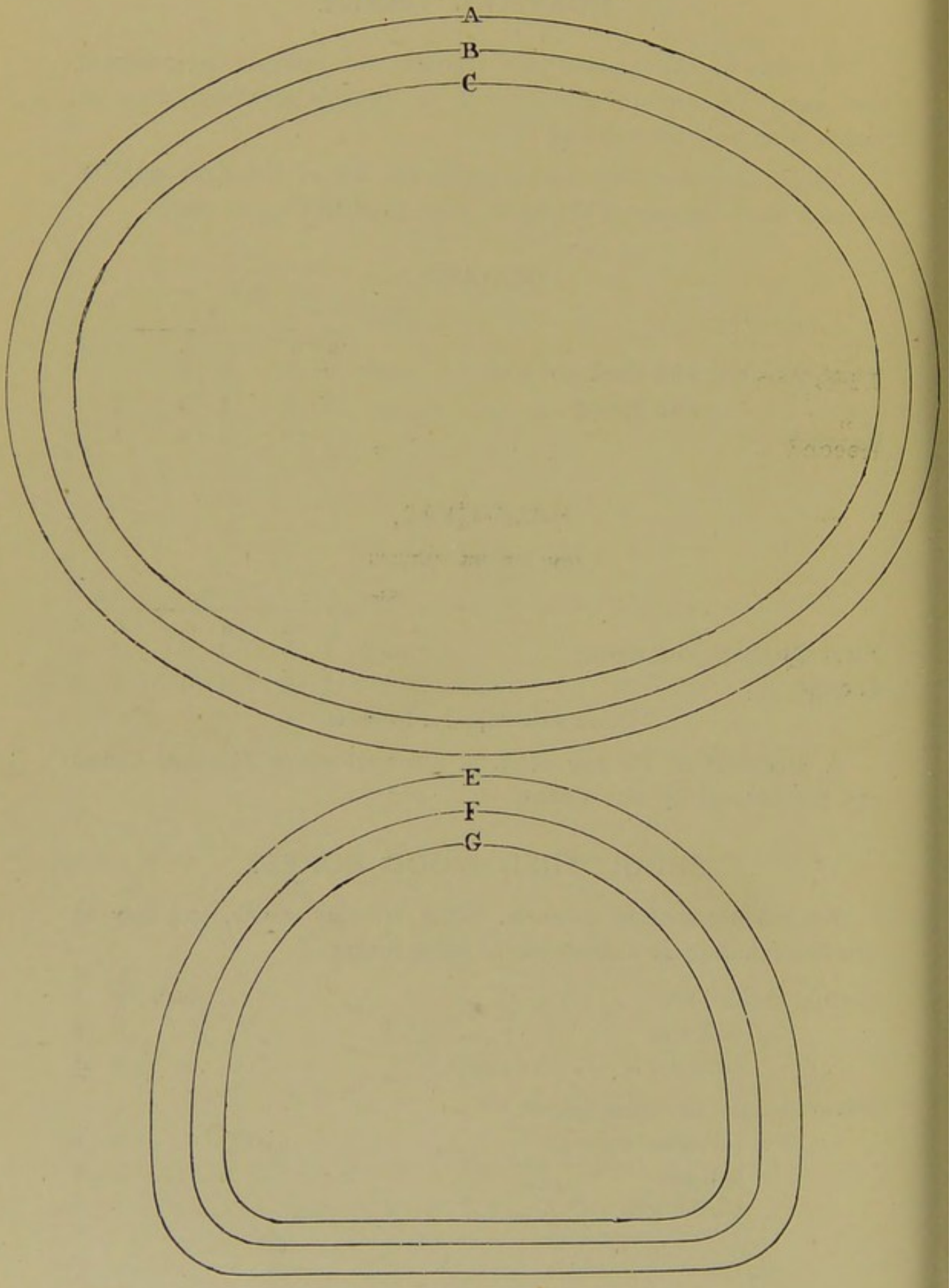
A discount of 10 per cent. is allowed when Leather Cases are purchased by the dozen.

SHOULDERED WOOD BOXES.

For holding artificial dentures. They are very strong, and may be sent through the post without fear of being broken.

		s.	*d.*
Plain: For full sets	each	0	4
„ half sets	„	0	3
„ partial sets	„	0	2
Covered with morocco paper:			
For full sets	„	0	5
„ half sets	„	0	4
„ partial sets	„	0	3

SIZES OF CASES.



LEATHER CASES.

The sizes on the opposite page represent the **outside** dimensions of each case. The **inside** measurements are, roughly speaking, about an eighth of an inch less each way.

Names, addresses, &c., printed inside the lids of **first quality** cases to order, at the expense of the buyer, when purchased by the dozen.

OVAL.

	Sizes	A.		B.		C.	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
First quality with Spring . . .	each	2	6	2	0	2	0
Second „ „ . . .	„	2	0	1	9	1	7

HALF-OVAL.

	Sizes	E.		F.		G.	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
First quality with Spring . . .	each	1	9	1	7	1	3
Second „ „ . . .	„	1	3	1	1	1	0

Other sizes supplied to order.

A discount of 10 per cent. is allowed when Leather Cases are purchased by the dozen.

CARD BOXES,

FOR HOLDING ARTIFICIAL DENTURES, ETC.

Sizes as on page 74.	Nos.	2.		4.		6.	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
Drab, with red edges . . .	per doz.	5	0	3	0	2	0

TOUGH BOXES FOR POST PARCELS, &c.,

STRENGTHENED WITH METAL AT THE CORNERS.

		s.	*d.*
For sets	per doz.	1	6
„ half-sets	„	1	3
„ pieces	„	0	10

Less 10 per cent. by the gross. These boxes are light, very strong, and extensively used.

Cases or Boxes in Card, Wood, Leather, Britannia Metal, or Japanned Tin made to order or special directions.

ELECTROTYPES,

FOR APPOINTMENT BOOKS, RECORD FORMS, &c.

Fig. 3.

Fig. 4.

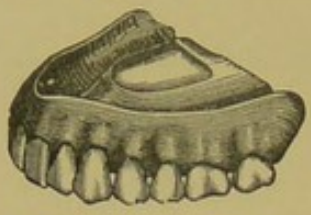


Fig. 7.

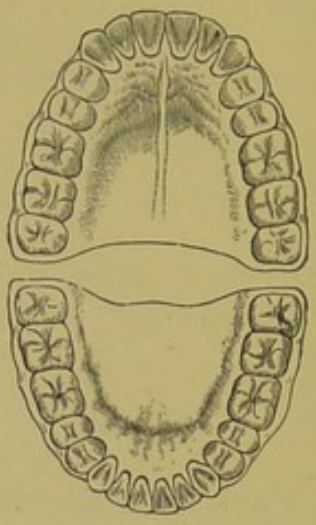


Fig. 5.

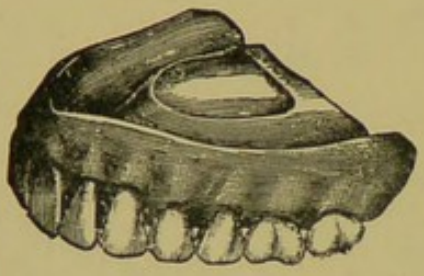


Fig. 6.

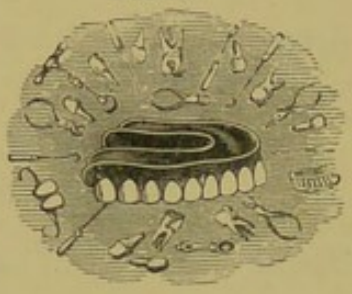


Fig. 9.

Fig. 8.

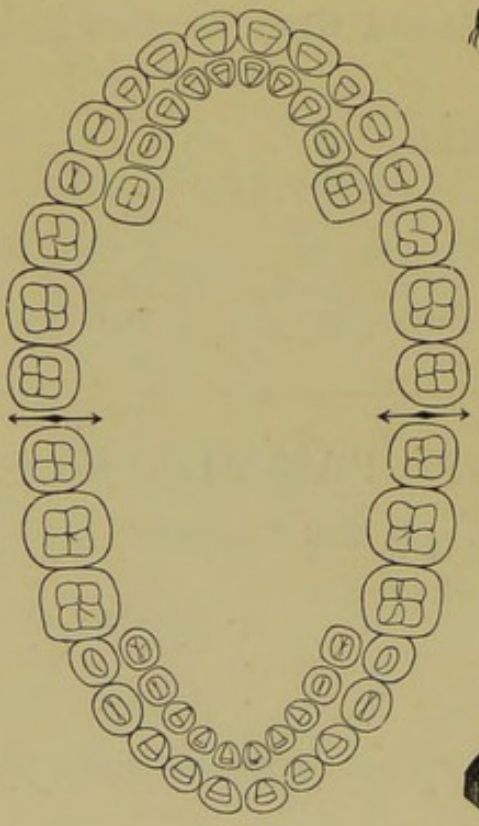


Fig. 1.

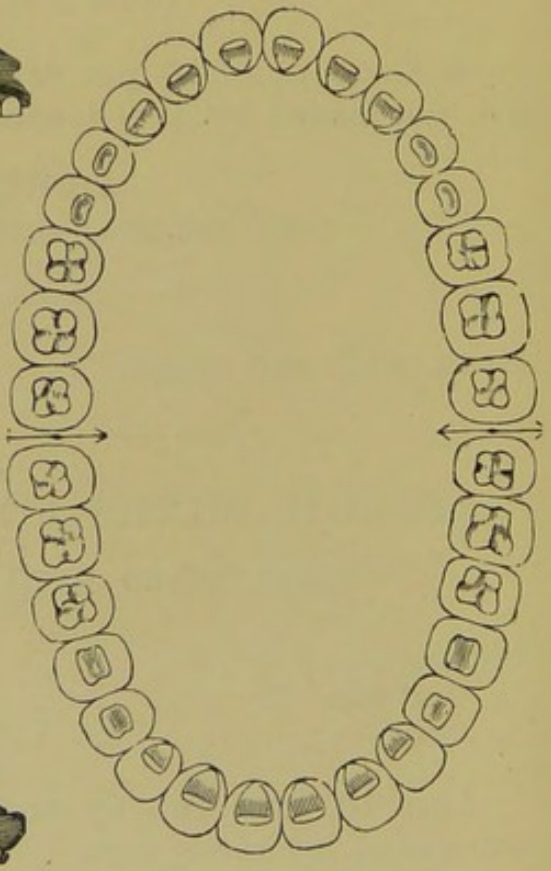


Fig. 2.

Prices :

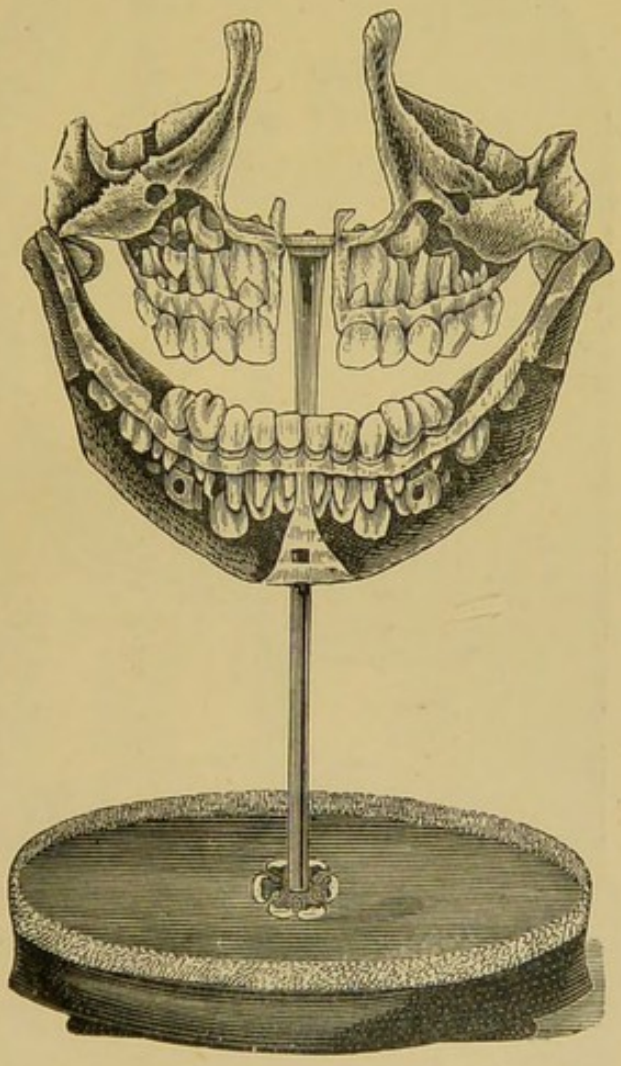
Fig.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Each ..	9*d.*	9*d.*	1*s.*	1*s.*	1*s.* 6*d.*	1*s.* 6*d.*	3*s.*	3*s.*	3*s.*

ANATOMICAL PREPARATIONS.

FIRST AND SECOND DENTITION.

These preparations are not only instructive to the Dental Student, but useful to the Dentist for explaining to Patients the causes of irregularities in the teeth of children, and for showing why some Teeth have a greater tendency to irregularity than others.

Fig. 1.



This is supplied in two kinds ; one showing the dentition of children between the ages of six and seven years, the other between the ages of seven and eight years. The bones and teeth are perfectly bleached, and mounted on pillar and stand covered with a glass shade.

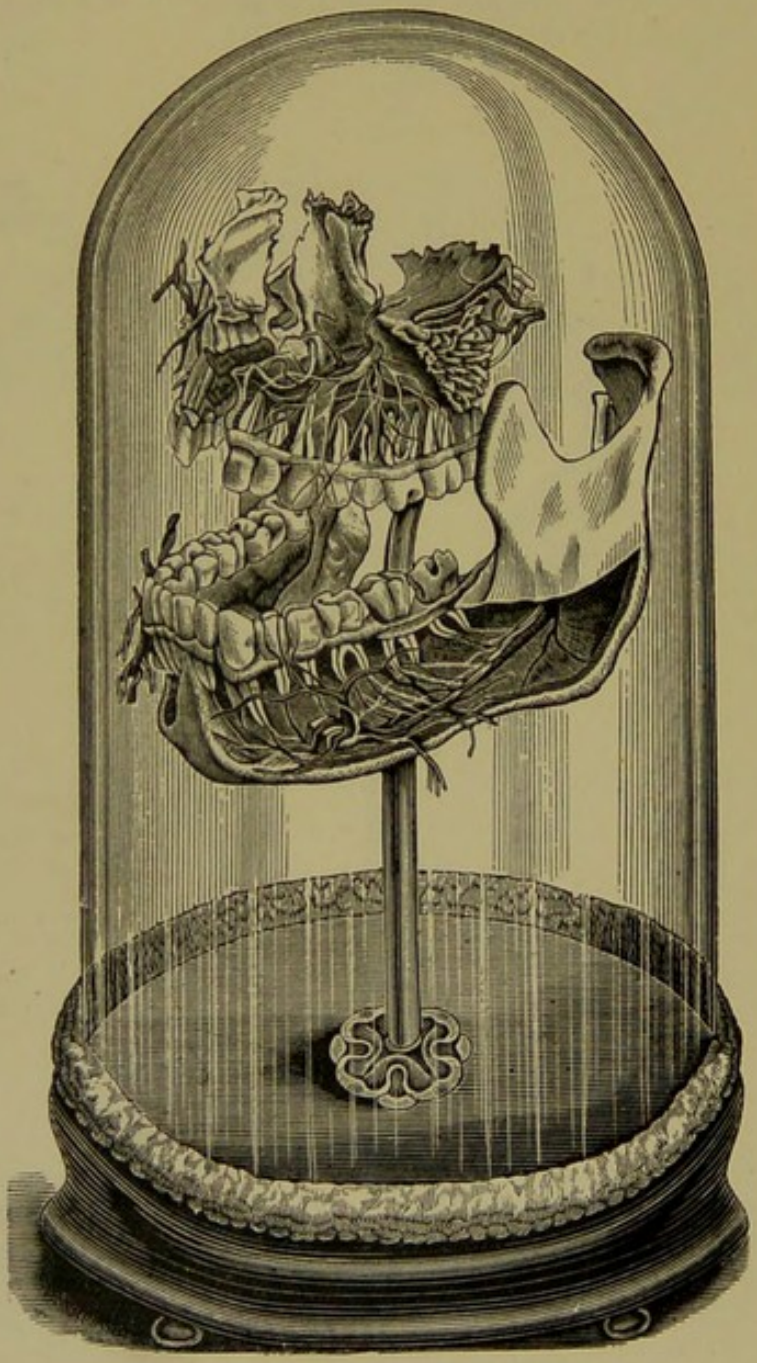
		s.	*d.*
Price	(Fig. 1)	52	0

Children's Skulls, showing First and Second Dentition, mounted or unmounted, supplied to order.

ANATOMICAL PREPARATIONS—*continued.*

SECOND DENTITION.

Fig. 2.



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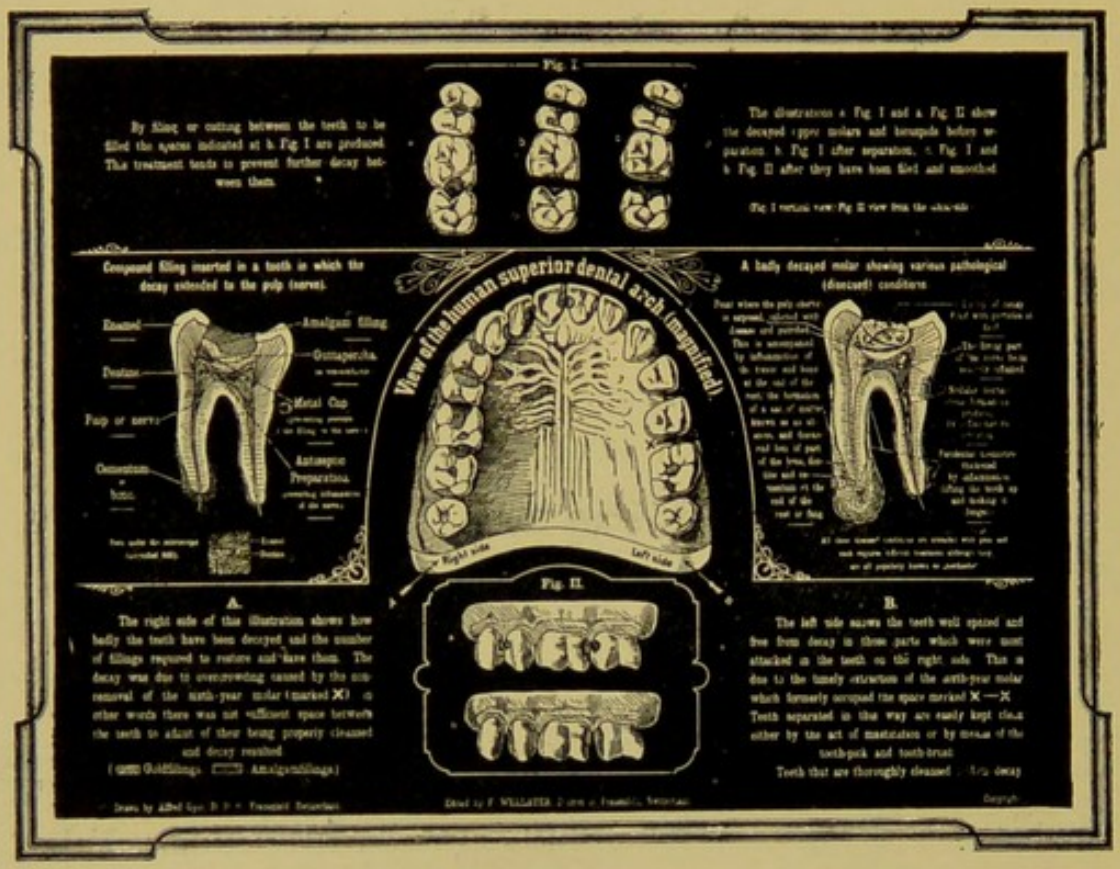

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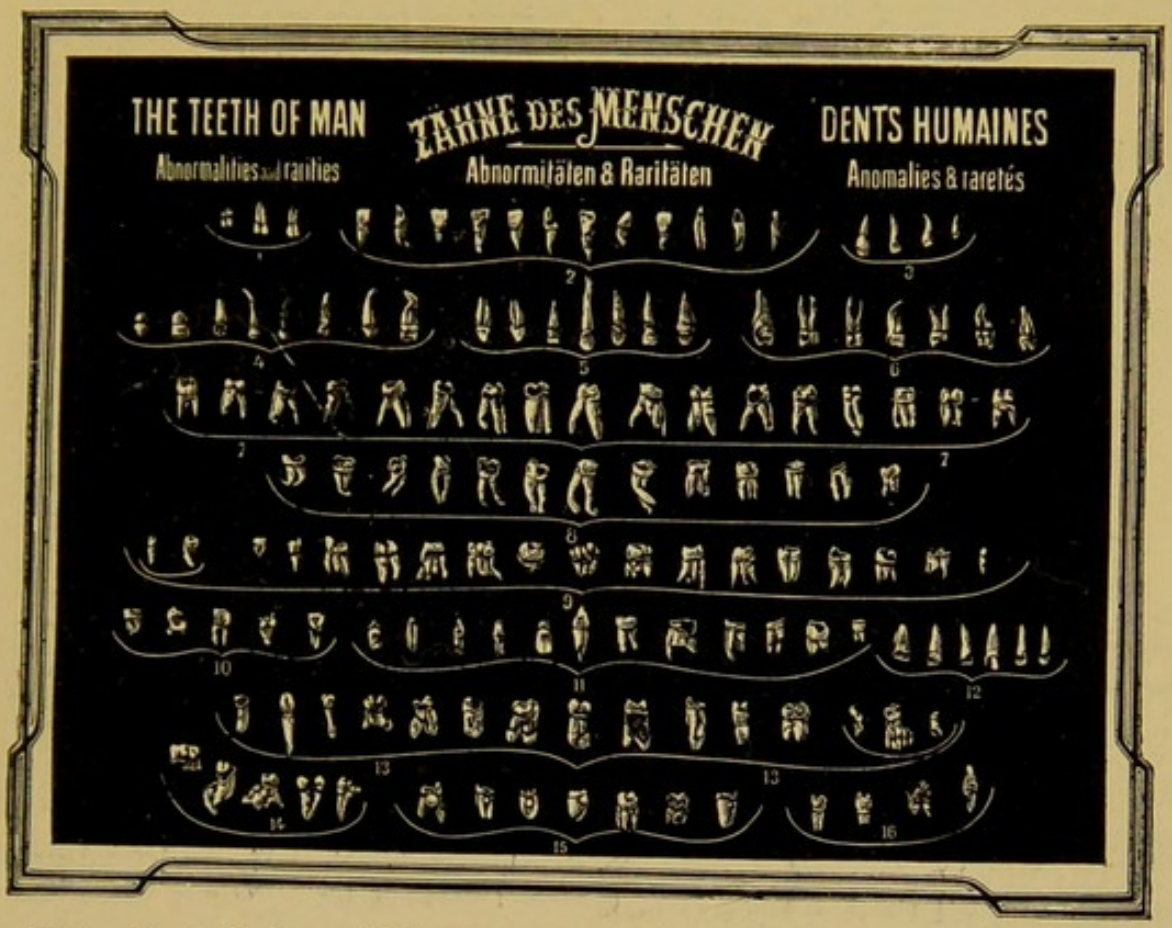

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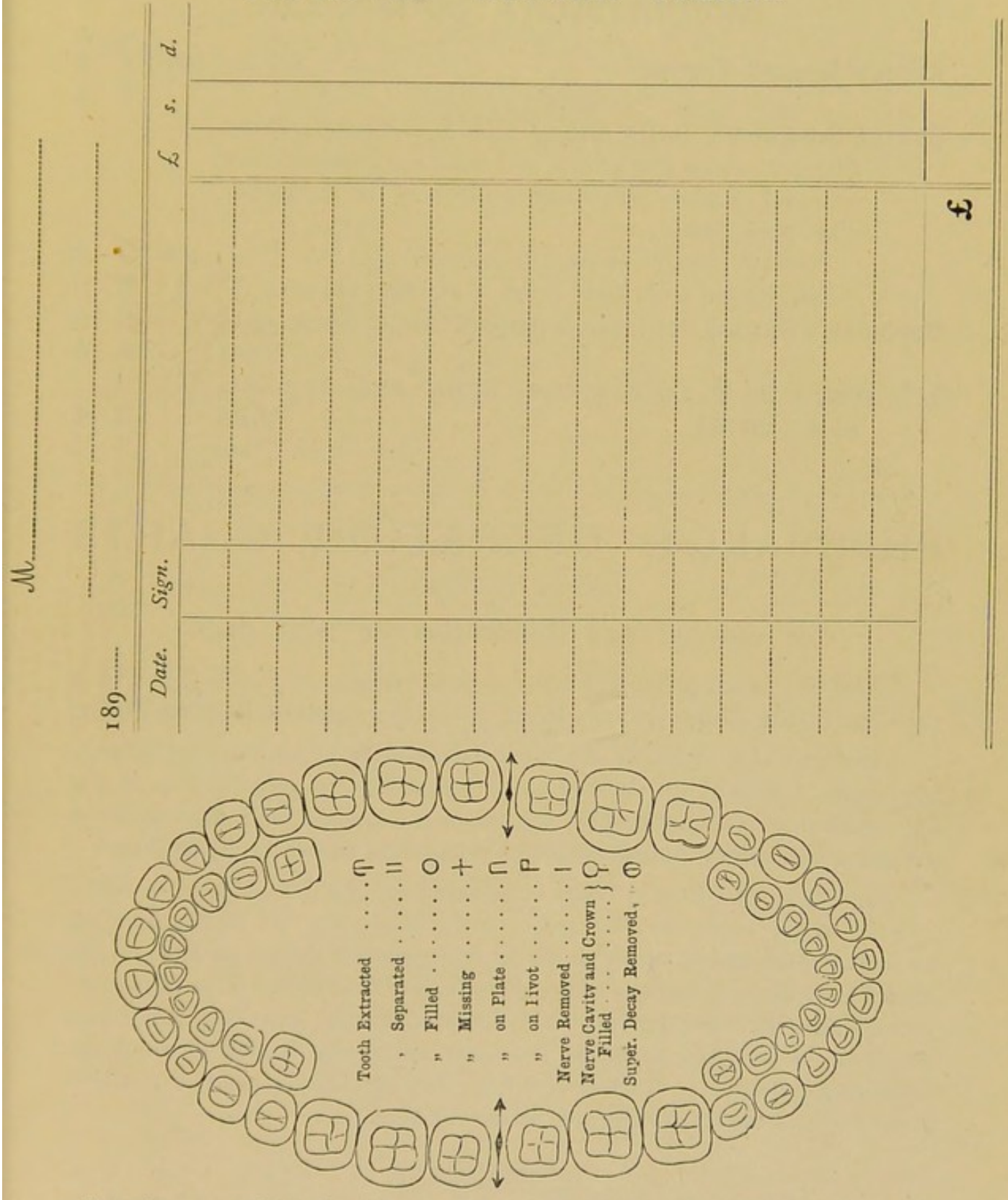

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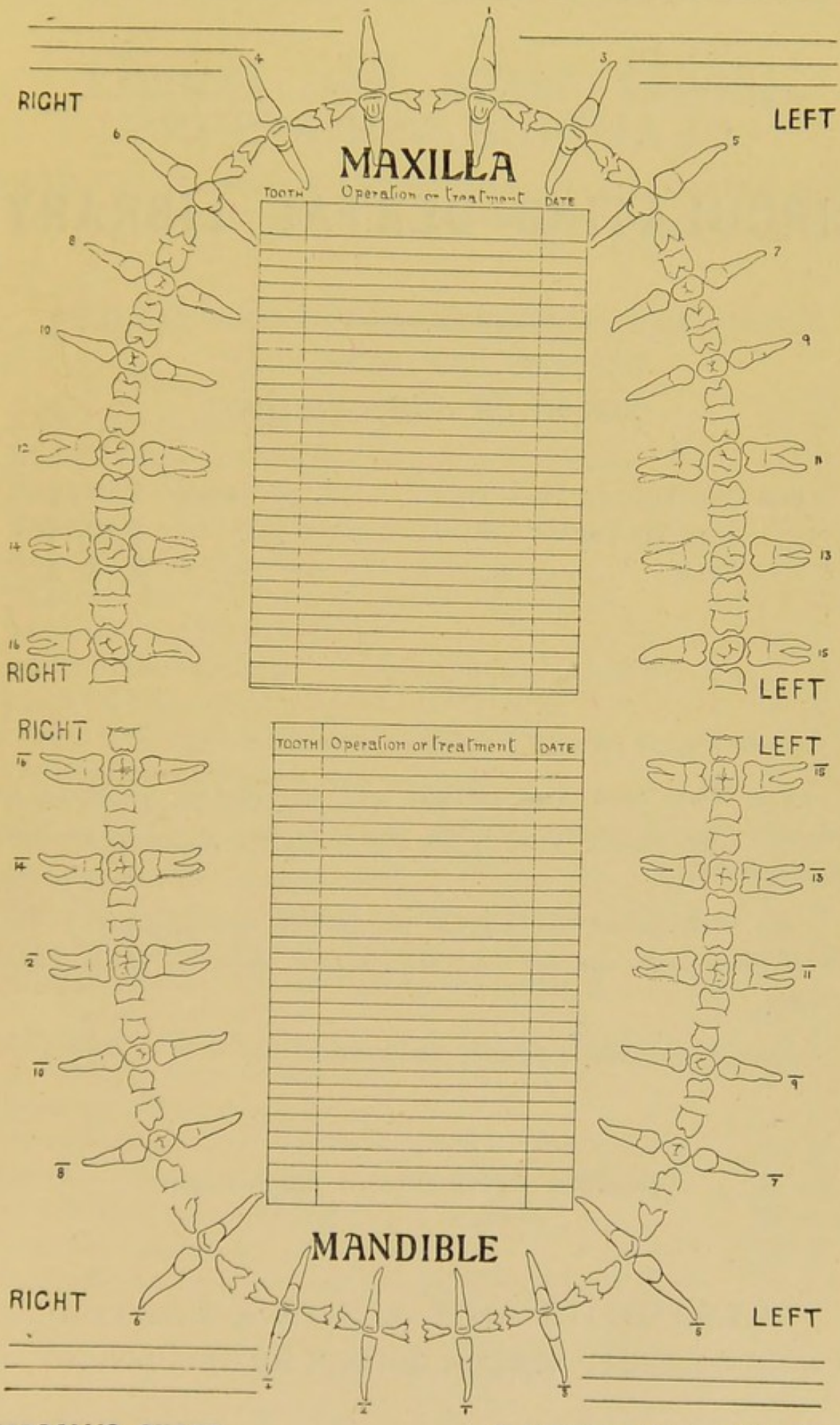

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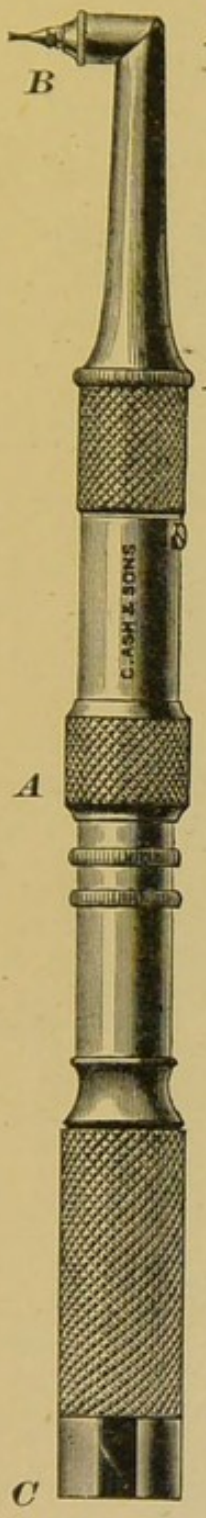
RIGHT ANGLE MALLET.



Full Size

REGISTERED. REG. No. 340,589.

In all essential features this Miniature Mallet is similar in construction to the Power's Mallets shown on page 18 of our latest Dental Engine List, but for certain cases it has these advantages over them in use :

1. It affords better reach to the Operator owing to its longer neck.
2. It is particularly useful for filling lingual and distal cavities not easy of access, because
3. The head is so small that it does not obscure the Operator's view of his work.

It has the greatest range of blow of any very small Mallet with which we are acquainted.

Description :

A—Milled Collar for regulating strength of blow.
B, C—Nose and Tang ends of Mallet.

To keep the Mallet in good working order apply a little oil occasionally between the nose and the outer case at ***B*** and pour a few drops down by the Tang at ***C***.

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	£	*s.*	*d.*
Mallet for No. 4, 6, 7 or 8 Handpiece, with Spanner .	1	15	0
„ No. 1 or No. 2 Slip-Joint Attachment, with Spanner	2	3	6
Points for Mallet . . . each 1/6 ; per set of 3	0	4	6

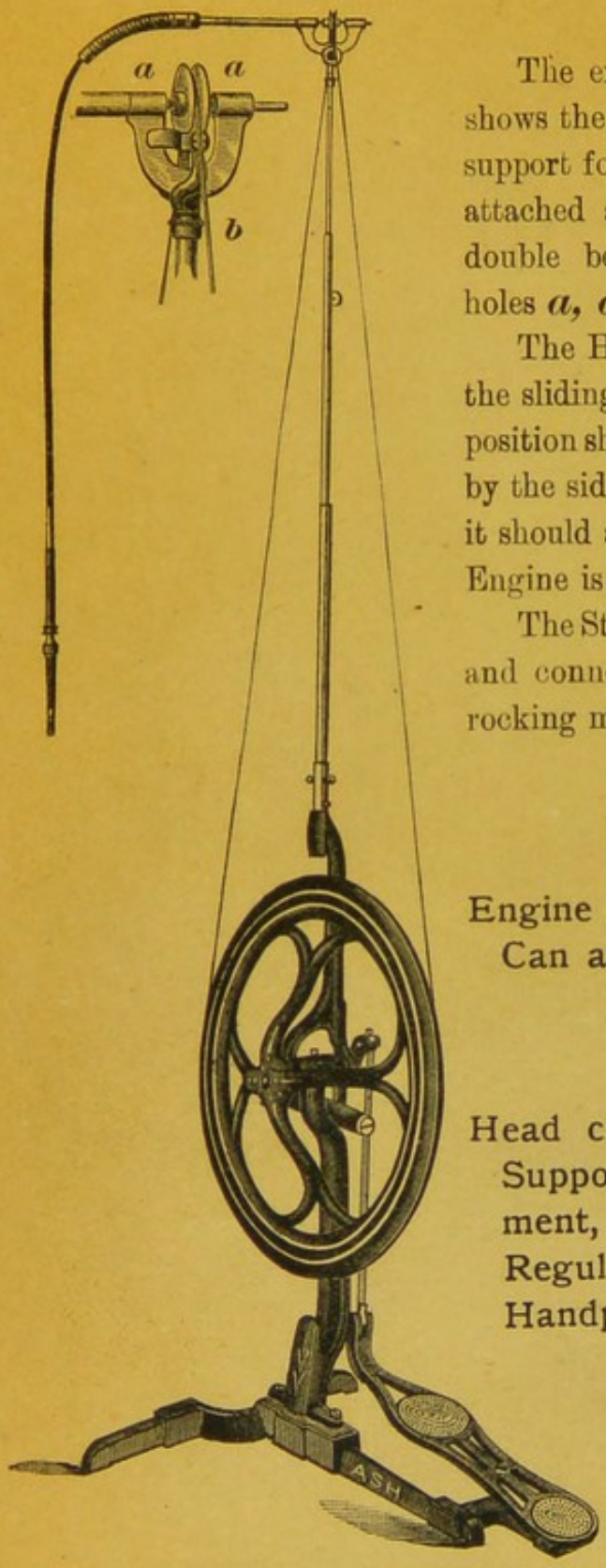
The Head of this Mallet ***X X*** can be had for use on existing Power's Mallets at a cost of 15*s.* including Spanner for Points and Spanner for screwing on Head.

In ordering it will be necessary to send the Mallet for the Head to be adjusted to it.

While we are quite ready to supply the Head separately in this way, we do not recommend it, for experience has proved that a Mallet with interchangeable Heads is not so satisfactory in use as a Right-Angle or Straight Mallet which is kept complete with the Head that is supplied with it. The reason for this is that the constant changing of the Head of a Mallet interferes with the delicate adjustment which is necessary for perfect working.

DOUBLE-BEARING CABLE ENGINE.

(ASH'S ENGLISH MANUFACTURE.)



The enlarged drawing in the illustration shows the double bearing, which affords good support for the spindle to which the cable is attached and ensures steady running. This double bearing is provided with two oil holes ***a, a.***

The Head of the Engine is controlled by the sliding collar ***b,*** and can be kept in the position shown in the illustration, or let down by the side of the upright, in which position it should always be allowed to rest when the Engine is not in use.

The Stand consists of Tripod with Treadle and connecting Rod, Upright with forward rocking motion, and large Driving Wheel.

PRICES:

	£	s.	d.
Engine complete with Oil Can and Spanner . . .	6	10	0
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Head complete with Arm Support, Flexible Attachment, and Ash's Cone-Regulating or No. 7 Handpiece	3	10	0
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