

**Electric furnaces for porcelain work : appliances and materials for the making of porcelain inlays ... manufactured by the S.S. White Dental Mfg. Co.**

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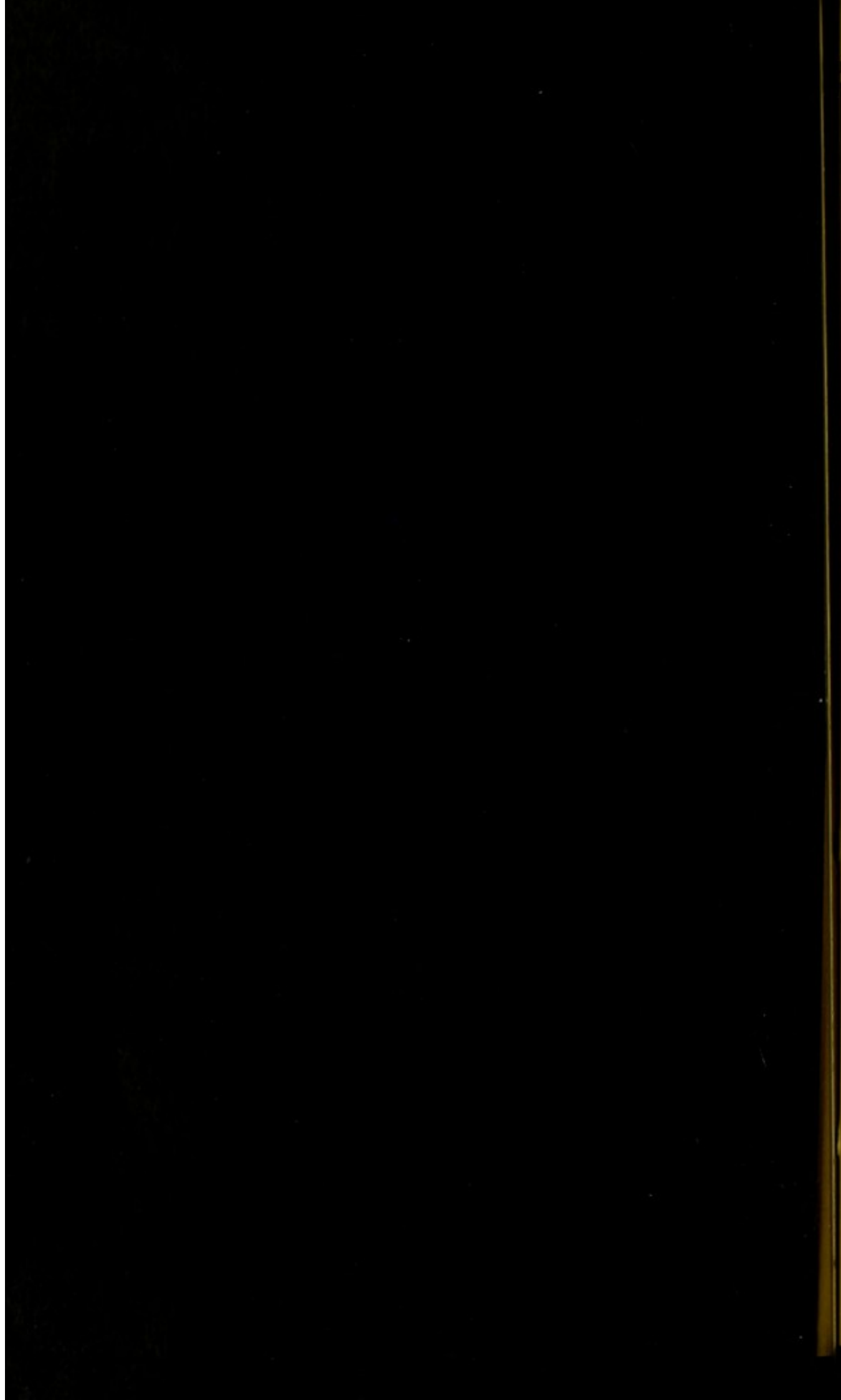
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# ELECTRIC FURNACES

## for Porcelain Work

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Appliances and Materials for the Making of

Porcelain Inlays  
 Porcelain Crowns  
 Porcelain Bridges  
 Porcelain Dentures

MANUFACTURED BY

# The S. S. White Dental Mfg. Co.

PHILADELPHIA, CHESTNUT ST., COR. TWELFTH

Cable Address: WHITE, PHILADELPHIA

### BRANCHES

NEW YORK: Spingler Building, 5, 7 and 9 Union Square;  
 Charles Building, Madison Avenue, corner 43d Street

BOSTON: Walker Building, 120 Boylston Street

CHICAGO: Atlas Building, Randolph Street, corner Wabash  
 Avenue

BROOKLYN: Nassau Building, 356 and 358 Fulton Street

ATLANTA: Grant Building, North Broad and Walton Streets

ROCHESTER: Chamber of Commerce, Main Street East,  
 corner South Avenue

NEW ORLEANS: Maison Blanche, corner Canal and Dau-  
 phine Streets

CINCINNATI: First National Bank Building, Fourth and  
 Walnut Streets

SAN FRANCISCO: Butler Building, 135 Stockton Street

LOS ANGELES: Mason Building, corner Fourth and Broadway

OAKLAND: Oakland Bank of Savings Building, corner  
 Twelfth and Broadway

TORONTO (Can.): Confederation Life Building, 110 and 112  
 Victoria Street

MONTREAL (Can.): Birk's Building, 14 Phillips Square

### EUROPEAN BRANCH:

Berlin, W., Mauerstrasse 83-84

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PRICES SUBJECT TO CHANGE WITHOUT NOTICE



# 

Furnace complete, Small Muffle .....	Vacate
“ “ Large “ .....	Vague
Pyrometer Furnace complete, Small Muffle .....	Vail
“ “ “ Large .....	Vain

### MUFFLES

Extra Muffle, Small .....	Veda
“ “ Large .....	Veer
“ “ Small, with Thermo Couple .....	Vehicle
“ “ Large, “ “ “ .....	Vein

For those having 110 Volt Furnaces and desiring to use them on 220 volts, we can supply Reducer Plates:—

Reducer for Small “A” Furnace 220 to 110 Volts .....	Voice
“ “ Large “A” “ 220 “ 110 “ .....	Vogue

Combination Reducer for either Large or Small “A” Furnace 220 to 110 Volts ..... Vale

For Slides, Doors, etc., see page 15.

## Code for Hammond Furnaces and Accessories

No. 4 Hammond Furnace complete .....	Valet
“ 4 “ Pyrometer Furnace complete .....	Valid

### MUFFLES

No. 1 Muffle .....	Venal	No. 3 Muffle Dome .....	Verb
" 2 Small Muffle .....	Vend	" 3 " Base .....	Verge
" 2 Medium " .....	Veneer	" 4 " Dome .....	Verse
" 2 Large " .....	Vent	" 4 " Base .....	Vesper
Muffles fitted with Thermo Couple for Pyrometer		Furnace, add .....	
		Pyro	

For all those having 110-Volt Furnaces and desiring to use them on 220 Volts, we can supply Reducer Plates:—

For No. 1 Furnace 220 to 110 Volts .....	Vocal
“ “ 2 “ 220 “ 110 “ Large Muffle .....	Voge
“ “ 2 “ 220 “ 110 “ Medium Muffle .....	Voice
“ “ 2 “ 220 “ 110 “ Small Muffle .....	Void
“ “ 2 “ 220 “ 110 “ Comb. for Large and Medium Muffle .....	Vome
“ “ 2 “ 220 “ 110 “ “ “ “ Small Muffle .....	Volley
“ “ 2 “ 220 “ 110 “ “ “ Medium and Small Muffle .....	Vouch
“ “ 3 and No. 4 Furnace 220 to 110 Volts .....	Vowel

### VARIOUS VOLTAGES

100 Volts .....	Tablet	150 Volts .....	Taker
104 “ .....	Tabor	200 “ .....	Taking
110 “ .....	Taffy	220 “ .....	Talent
115 “ .....	Tack	230 “ .....	Talisman
120 “ .....	Tailor		



## INTRODUCTION

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**T**HAT Individual Porcelain Work has advanced to a position of permanence among the esthetic branches of dentistry is an established fact. It is part of the regular work of the advanced classes in all the prominent dental institutions of learning and becomes part of the daily practice of those who make a fine art of dentistry.

In no department of practice are good instruments, appliances, and materials more essential to success than in porcelain restorations.

The development in Porcelain Materials, Electric Furnaces, and manipulative devices, by the S. S. White Dental Mfg. Co., has been appreciated to the extent that probably more of its products in this line are in daily use than those of all other manufacturers combined.

This Catalog supersedes all others issued by us in this class and contains all the most approved appliances and materials needed for porcelain work in dentistry.

The S. S. White Electric Furnace "A" has taken the place of the Hammond Furnace formerly made by us, for inlays, crowns and bridges, but for larger work including complete porcelain dentures the Hammond No. 4 Furnace is offered as the most desirable.

Pyrometers are furnished for all styles of furnaces including those of abandoned manufacture and no equipment has been produced to equal the Hammond Pyrometer for dental furnaces.

Furnaces are made for all voltages and currents.

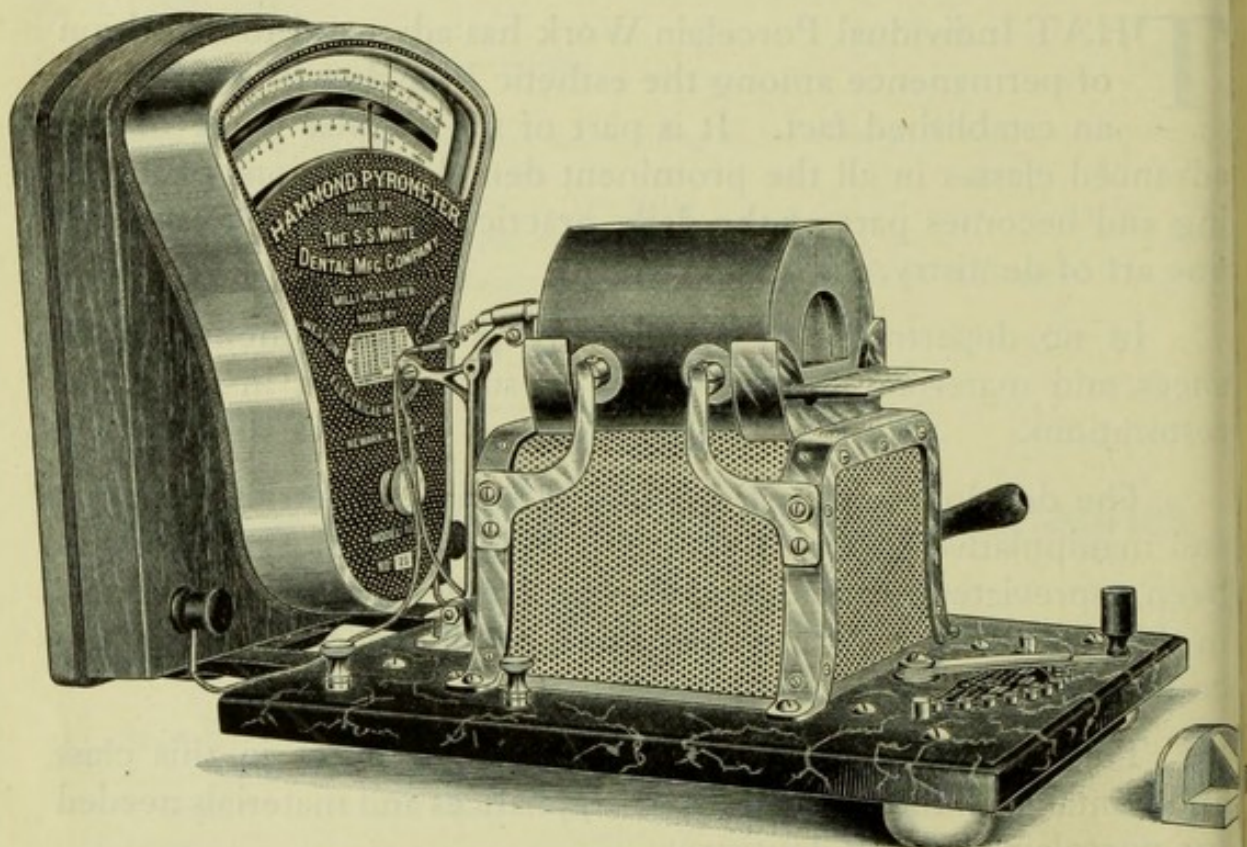


## THE S. S. WHITE ELECTRIC FURNACE "A" FOR 110 VOLTS

(Complete with Pyrometer)

Patented in United States, December 3, 1901; February 10, 1903; March 12, 1907; November 24, 1908; in England, November 10, 1902; in Germany, November 11, 1902; in France, February 16, 1903; in Canada, May 12, 1903. D. R. G. M. No. 336,908

FIG. 1



S. S. WHITE PYROMETER FURNACE

The S. S. White Electric Furnace "A" embodies the improvements which our years of experience in making, using, and selling the Hammond have brought to us. We put it forth as combining in the highest degree yet attained, efficiency and convenience of working, with compactness, neatness, and beauty of design.

The dentist who is equipped with the S. S. White Electric Furnace "A," complete with Pyrometer is prepared to fuse any of the usual porcelain bodies, whether high-, low-, or medium-fusing, with marvelous accuracy. Whatever is his conception of correct fusing, he can work out his idea to a certainty, not only once but all the time. The Furnace itself permits of a close control of the heat and the Pyrometer accurately measures and shows what the heat is.

The complete apparatus consists of the S. S. White Electric Furnace "A" and the Hammond Pyrometer, assembled in compact, convenient form. Every part of each has been designed and made with the one purpose in view, the successful fusing of porcelain, whether in crown, bridge or inlay work. Its efficiency and durability have been provided for will appear in the detailed description in following pages of this pamphlet.

We can supply Pyrometer Furnaces for any voltage. In stock specially wound for 104, 110, and 220 volts; for lower voltages we supply them to order; for higher voltages we provide a red.

For prices see page 9.



There are two sizes of Muffles for each voltage (small and large), the two for any given voltage being interchangeable. The inside measurements of these Muffles are,

\*110 Volts { Small,  $1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{3}{8}$  inches.  
                  { Large,  $2 \times 1\frac{1}{4} \times 2\frac{1}{4}$  " "

\*220 Volts { Small,  $1\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{7}{8}$  inches.  
                  { Large,  $2 \times 1\frac{1}{4} \times 3\frac{3}{8}$  " "

We call attention to the fact that the small Muffle for Furnace "A" is larger than the medium Muffle for the No. 2 Hammond Furnace.

Furnaces and Muffles for 104 volts are the same sizes and prices as those for 110 volts.

We carry in stock, Furnaces and Muffles wound specially for 104, 110, and 220 volts; for lower voltages we supply them to order; for higher voltages we provide a reducing resistance for use with furnace.

### Muffles Uniform

The Muffles of a given size for a particular current are all wired alike, so that under the same conditions they will give practically the same results.

### The Hammond Pyrometer

Patented March 12, 1907. D. R. G. M. No. 336,908

With the aid of a properly designed and correctly made Pyrometer all or nearly all the uncertainties commonly attending the fusing of porcelain may be eliminated. If the voltage of your current is steady and the porcelain is uniform, with the Pyrometer to gage the heat you can put 10,000 pieces of work through one after the other, and all will be fused practically alike. If the voltage given to "jumping," the Pyrometer will go a long way toward pointing out the difficulties. It saves strain, it eliminates nervous tension by relieving the operator of the necessity of keeping his eye on the second-hand of his watch, it reduces the work to a practical certainty.

There are differences of opinion as to what constitutes a proper glaze for dental porcelain. What one operator considers just right would be underfused in the opinion of another. One would carry fusing only far enough to develop the color; another would continue the heat until the sharp edges are in to round. Somewhere between these extremes every man finds his ideal fusing. With the aid of the Hammond Pyrometer,—because it is properly designed and correctly made,—any of these ideals can find expression and a given result can be duplicated every time by following out the same procedures.

### What the Hammond Pyrometer is

The Hammond Pyrometer is based on the principle that two dissimilar metals joined together and subjected to heat form what is technically known as a thermo-electric couple, which develops an

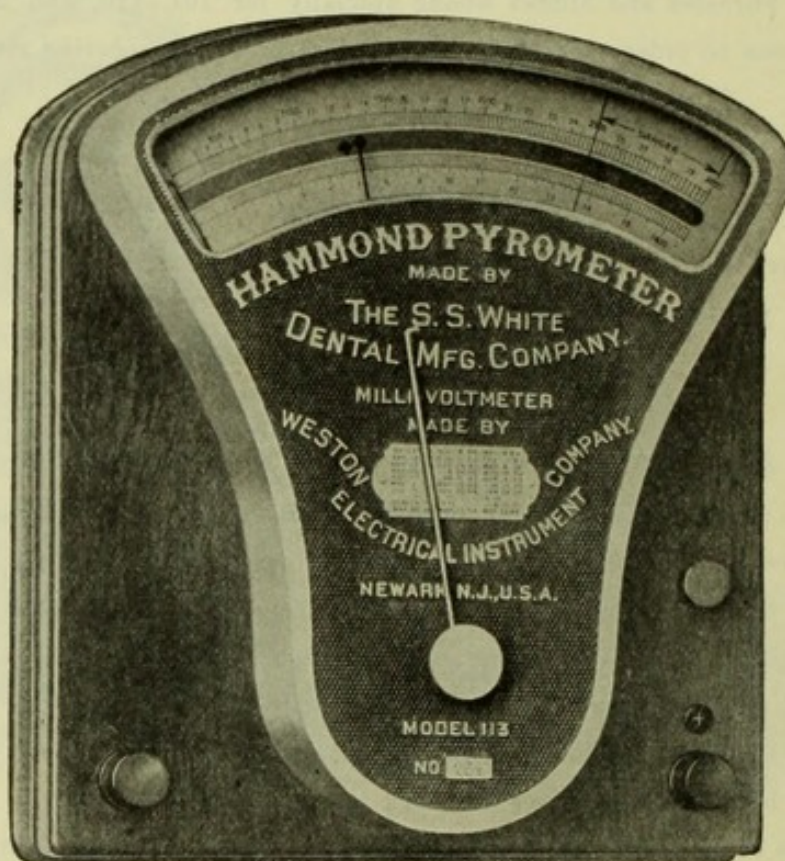
110 volts as here used, includes all voltages from 110 to 120; and 220 volts includes all from 200 to 250 volts.



electrical current exactly proportioned to the amount of heat applied. This pyrometer comprises a couple, composed of two high-fusing metals, inserted within the muffle chamber whose temperature it is desired to determine, and electrically connected with a sensitive measuring instrument outside. For purposes of identification the thermo-electric couple will hereinafter be called the "Thermo-Couple," and the measuring instrument the "Indicator."

The Thermo-Couple has no connection with the wires which heat the muffle, but because its location,—in the muffle-chamber,—it receives the full heat, and the electric current generated by it registers that temperature accurately on the Indicator.

FIG. 2



HAMMOND PYROMETER INDICATOR

### The Indicator

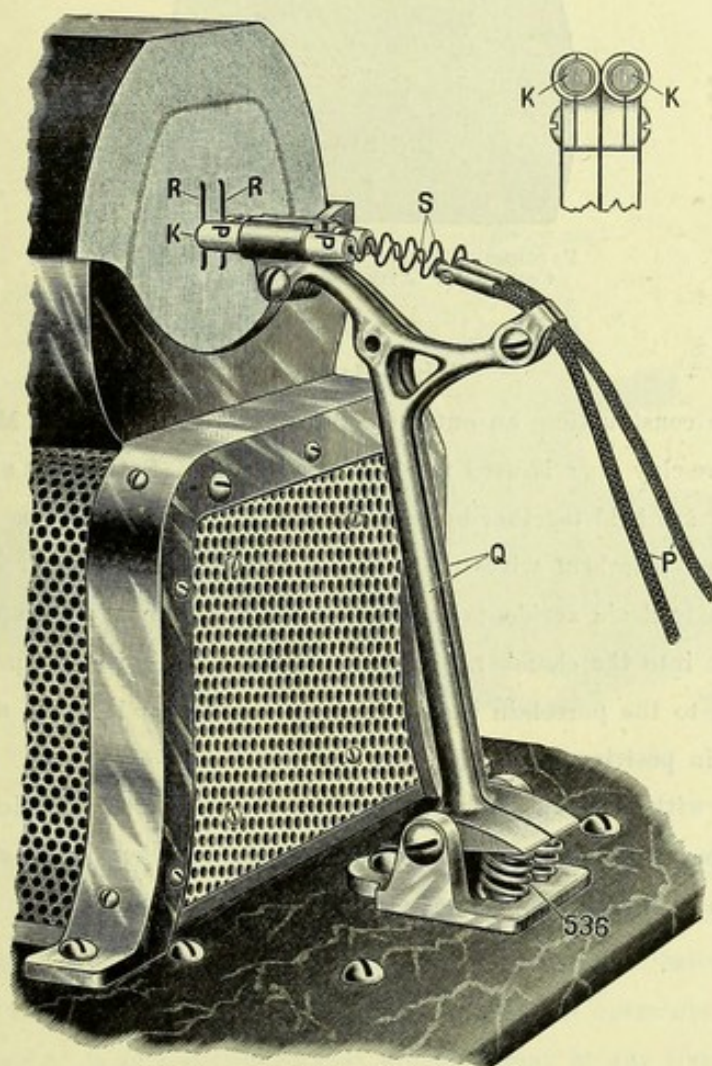
The Indicator, made for us by the Weston Electrical Instrument Co., whose name on electrical measuring instruments stands for the best, is especially constructed and calibrated to form a part of the Hammond Pyrometer. It has a large legible scale,  $6\frac{1}{2}$  inches long, on which the current generated by the Thermo-Couple is recorded in equivalent degrees of heat by a delicate index hand which sweeps over it from left to right. On withdrawing the current, the hand recedes as the heat disappears and gradually returns to zero. The diamond-headed index-hand is a guide which can be set during operations at the fusing-point of the porcelain to relieve the operator of the need of watching the Indicator pointer. It has no connection with the latter, but is moved by a wire handle connected to the pivot on which the index-hand swings. The Indicator is supported by an upright frame at the rear of the Furnace, with connecting wires leading to the Thermo-Couple.



### The Base and Frame

The base of the 110 Volt Furnace is a marbleized slab, 9 x 12 inches, supported on three short porcelain feet, the upper surface being  $1\frac{3}{8}$  inches from the table. It is light and practically indestructible. Upon this is mounted the frame which carries the Muffle and the Rheostat, the former mounted upon top and the latter inclosed within it in a cage of artistic design, which provides thorough ventilation. The height over all with the Muffle in place is 8 inches. All the contacts, the lever, and the electrical parts of the frame are nickel-plated, the Muffle jacket blued.

FIG. 3



Thermo-Couple extensions (S) and spring brackets (Q) for holding them in contact with the terminals of the muffle couple ("R" "R")

An upright fork, attached to the under side of the base, supports the Pyrometer Indicator, and movable fingers, attached to the upper side of the base, carry the extension wires connecting the Indicator with the Thermo-Couple.

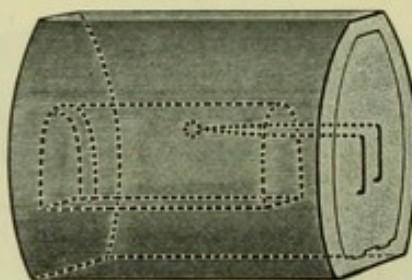
The construction here described gives us a very compact apparatus, of handsome design, with an unchanged working capacity. Its efficiency is well tested, its durability undoubted.



### The Rheostat

For regulating the heat a Rheostat is provided, governed by a control lever, working over a series of thirteen contacts. This unusually large number of contacts permits of more gradual increase or decrease of muffle temperature and makes a close register of the heat possible, an especially useful feature when the Pyrometer is used. The resistance wires are imbedded in enamel, assuring their protection from the effects of climatic changes. Therefore the Furnace is as long-lived in the tropics as in the driest climate. The 220 Volt Furnace is provided with an additional resistance at the base of the furnace, described on page 8.

FIG. 4



Pyrometer Muffle, showing Thermo-Couple for Attached Pyrometer

### The Muffle

The Muffle is of double construction, an outer envelope inclosing the inner Muffle proper, which carries the heat wires. A fire-clay door is used to close the opening. Both units are of a specially refractory composition and they are held together by refractory fillings and plugs, a thin, tight-fitting steel jacket inclosing the whole. The heat wires pass around and around the inner Muffle, imbedded in its substance deep enough to avoid accidental short-circuiting, but not so deep as to interfere with the free radiation of heat into the chamber. There is thus a uniform temperature throughout the chamber, easily regulated to the porcelain used. Electric connection is made automatically by spring contacts upon the muffle in position. (See Fig. 3.)

The Muffle is equipped with a Thermo-Couple (see Fig. 4), the wires of which extend from near the center of the heat chamber through the rear end of the Muffle, where they are flattened to form a contact for the extension wires of the Pyrometer Indicator.

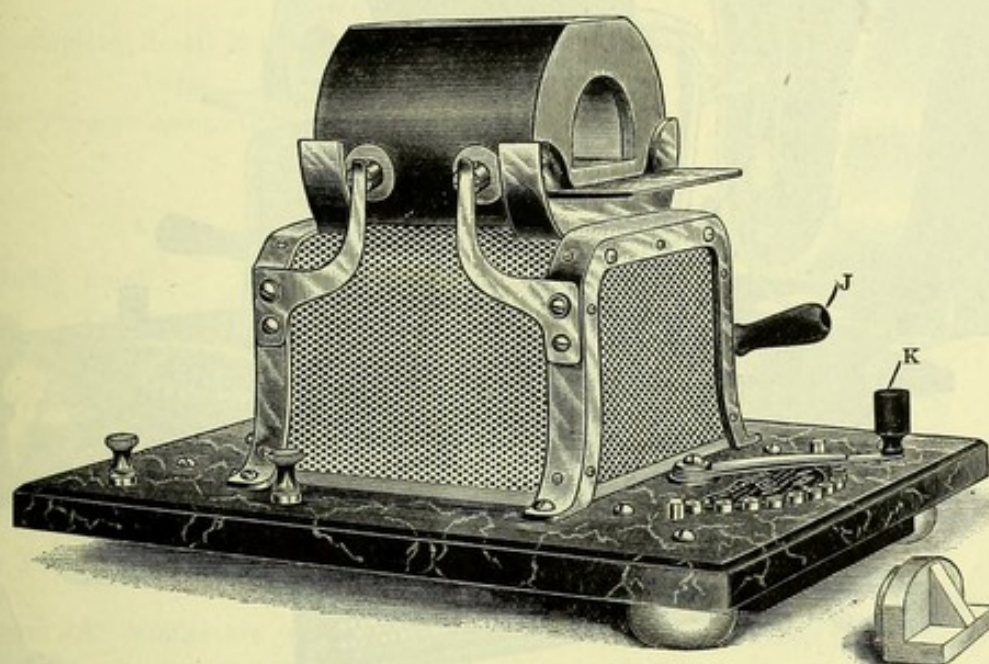
# THE S. S. WHITE ELECTRIC FURNACE "A"

(FOR 110 VOLTS)

## Without Pyrometer

Patented in United States, December 3, 1901; February 10, 1903, and November 24, 1908; in England, November 10, 1902; in Germany, November 11, 1902; in France, February 16, 1903; in Canada, May 12, 1903

FIG. 5



THE S. S. WHITE FURNACE "A," WITHOUT PYROMETER

S. White Electric Furnace "A" can be operated effectively without the Pyrometer, if desired, in the event a Muffle is provided without Thermo-Couple. While excellent results can be attained by an experienced practitioner with this Furnace without the Pyrometer, we believe that more satisfactory results can be done with the Pyrometer than without, and that most operators will eventually adopt it. To this end the Furnace "A" is so constructed that a dentist may at any time purchase the Pyrometer and readily make the attachment himself. A muffle with Thermo-Couple will then have to be provided. For prices see page 9.

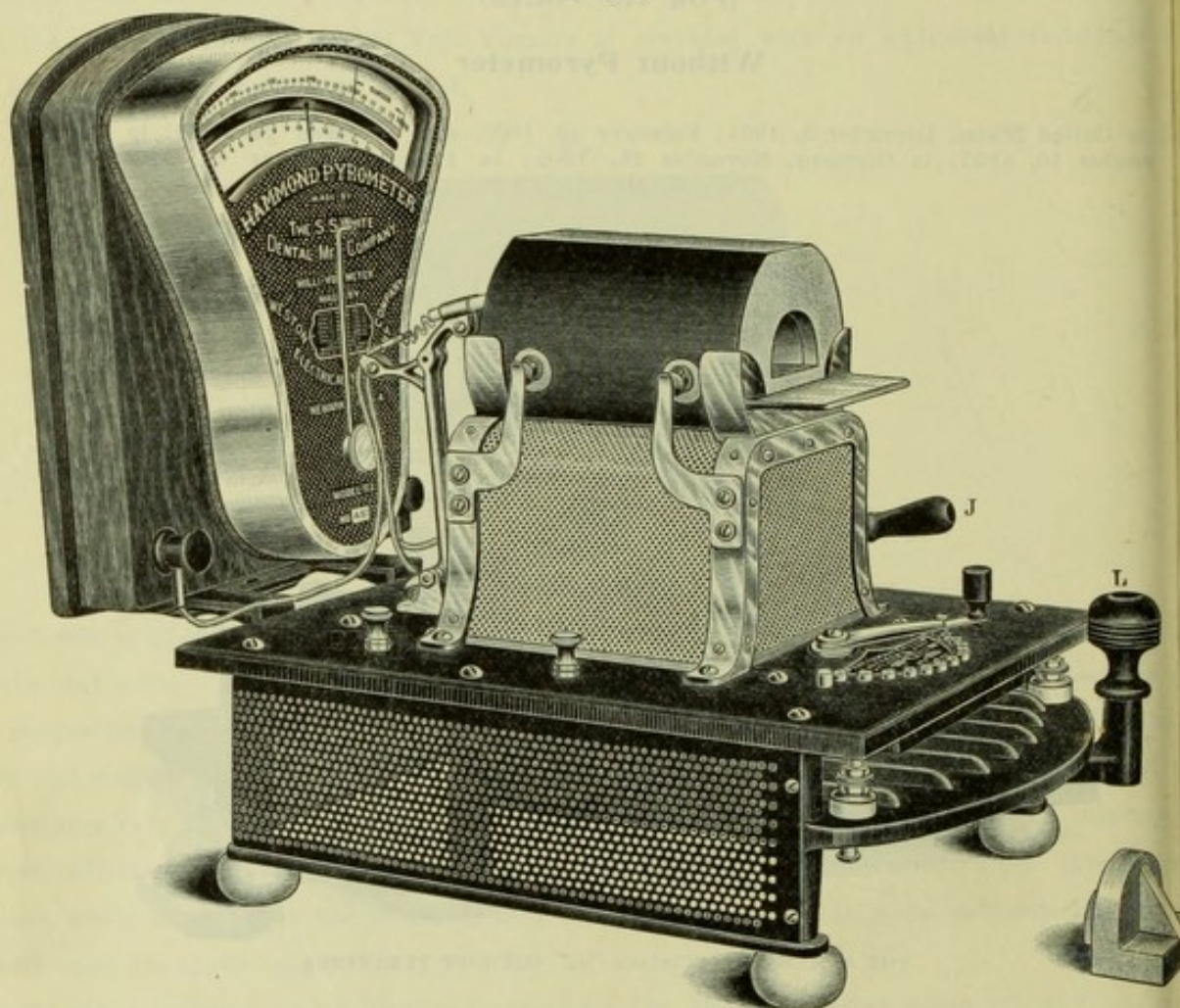


## THE S. S. WHITE ELECTRIC FURNACE "A"

(FOR 200 TO 250 VOLTS)

Complete with Pyrometer

FIG. 6



To provide for the widely varying pressure of currents designated as 220 volts we have added an adjustable resistance to the base of the Furnace.

This resistance can be separately controlled by means of lever (L), and used in conjunction with the regular furnace rheostat makes the furnace adaptable to all kinds of porcelain and all voltages from 200 to 250 volts, thus providing for fluctuations in voltage between these limits.

The added resistance in no way complicates the operation, but gives the furnace a range of utility impossible with the ordinary forms of furnaces for these voltages. All "A" Furnaces for voltages from 200 to 250 are equipped in this manner and are supplied either with or without pyrometer as desired.

The muffles for these furnaces are deeper than those for 110 volts and are described on page 6. The construction in general is the same as in the 110 Volt Furnaces.

Complete directions are sent with all furnaces.

For prices see page 9.



## PRICES FOR S. S. WHITE ELECTRIC FURNACE "A" AND ACCESSORIES

	110-120 V.	200-250 V.
Furnace complete, Small Muffle .....	\$51.00	\$70.00
"    "    Large    "    .....	55.00	76.00
Pyrometer Furnace complete, Small Muffle .....	114.00	133.00
"    "    "    Large    "    .....	118.00	139.00

### MUFFLES

Extra Muffle, Small .....	\$24.00	\$29.00
"    "    Large .....	28.00	35.00
"    "    Small with Thermo-Couple .....	27.00	32.00
"    "    Large    "    "    "    .....	31.00	38.00

Converting Plain Furnace into Pyrometer Furnace:—

Pyrometer Combination including Indicator, Fingers, Fork, and Connections .....	\$62.00
Inserting Thermo-Couple in Muffle..	\$3.00

In cases where "A" Muffles are worn out beyond repairing, we can insert a new inner muffle in the old if it is intact, allowing \$3.00 for the latter part and credit for the platinum scrap in old muffle at market price.

For those having 110 Volt Furnaces and desiring to use them on 220 Volts we can supply Reducer as follows:—

Reducer for Small "A" Furnace 220 to 110 Volts .....	\$20.00
"    "    Large    "    "    "    "    "    Volts .....	20.00
Combination Reducer for either Large or Small "A" Furnace 220 to 110 Volts .....	26.50

Slides, Doors, etc., see page 15.

**See Telegraph and Cable Code on second page of cover**

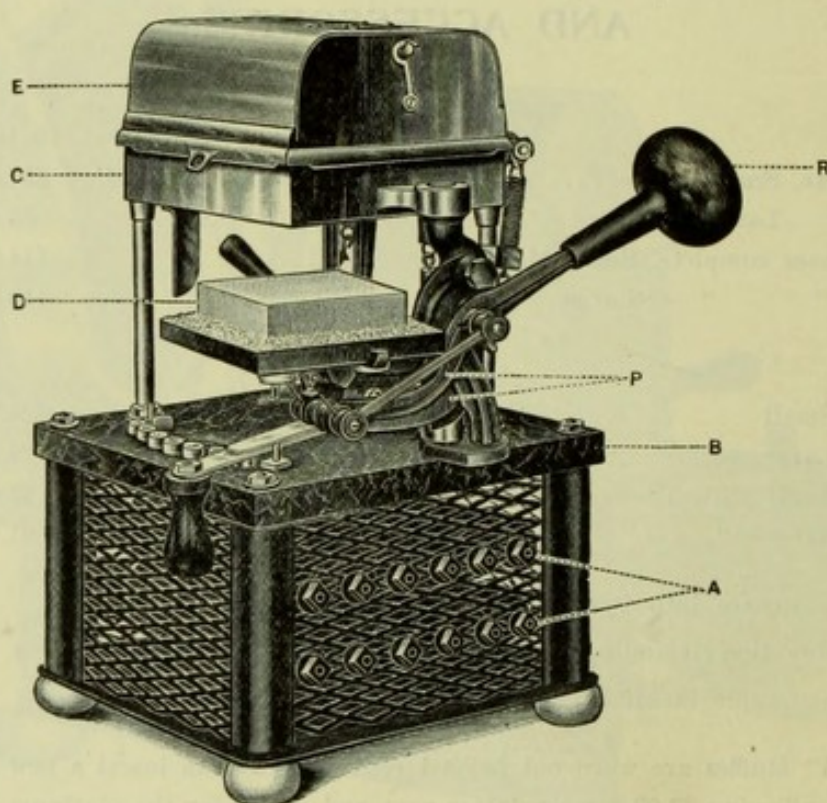


## THE HAMMOND ELECTRIC FURNACE No. 4

Without Pyrometer

WIRED FOR 110 OR 220 VOLTS AS ORDERED

FOR INLAYS, CROWNS, BRIDGES OF ALL SIZES  
AND CONTINUOUS-GUM WORK



The No. 4 Furnace, although specially designed for Continuous-Gum Cases and full size Bridges, may be used with equal facility for Inlays, Crowns, and small Bridges. In fact, the operator who is equipped with it is prepared for fusing any character of dental work, the ample dimensions of the muffle chamber providing for cases of the largest size that dentists are ever called upon to fuse. To provide for the heavier work the rheostat A is of twice the capacity of that in the Furnace "A".

The muffle chamber is 3 inches wide,  $1\frac{3}{8}$  inches high, and 3 inches deep.

Supported upon three upright rods four inches above the marbleized slab B is a metal platform C on which the upper section or dome of the muffle rests.

This electrically wired fire-clay dome is contained in a metal frame and cover E which is hinged at the back.

The muffle base or platform D, also of fire clay wired with platinum, is attached to a movable frame which by means of parallel levers P and a weighted operating handle R may be lowered and swung entirely clear of the dome, and without disturbing it. The heat of the Furnace may be observed through a Peephole in top.



through this construction the base may be lowered from time to time, as occasion may require, to gain a view of the work, and when desired swung out from beneath the dome to one side into an open position for placing or examining the work. The weighted lever nicely balances the parts and makes the raising and lowering of the base easy. When the base is raised into position, the muffle is tightly closed. The construction is such that it is impossible to swing the base to one side until the muffle thereon has cleared the base frame. Consequently there is absolutely no danger of disturbing the work by lowering, elevating, or moving it horizontally. Moreover, the current is not broken when the muffle is lowered or swung to one side, and thus the heat of the furnace is preserved even when the muffle is open.

The advantages of this "drop platform" or base are numerous and important. It permits of a more careful watching of the work than the peephole with which the dome is provided affords, without interfering with the progress of the fusing. It also renders unnecessary any raising of the muffle dome, which can remain undisturbed unless it is desired to open it for examination.

A valuable feature of this Furnace is that the heat reaches the work from the entire surface of the muffle chamber, from the bottom, top, sides, and ends, all of which are electrically wired. Consequently there are no cold points to cause an uneven bake, and the piece, whatever its size, is fused uniformly throughout. This feature will be especially appreciable in the baking of large cases.

The complete No. 4 Hammond Furnace is fitted with 7 feet of covered conducting cord (two-way) lamp-socket plug, and is accompanied by the following outfit, all of which is included in the prices: bottle of liquid lining, 1 camel's-hair brush, 1 bottle of coarse silex, 1 pair tweezers, 6 pieces mica cover peephole doors, 2 fire-clay slides.

In place of the conducting cord and plug, we substitute, on order, at the difference in price, the Electricians' Cord, Switch, and Circuit-Breaker which are required in some localities.

For prices see page 14.

## SPECIAL NOTES

All Furnaces are supplied with Rheostats, and neither the Furnace nor the Rheostat will be sold separately.

Muffles will be supplied only to purchasers of Furnaces. They are simply furnished to replace burned-out muffles or to owners of Furnaces who wish to have a reserve Muffle on hand so as to insert it at once without the delay incident to waiting to order it.

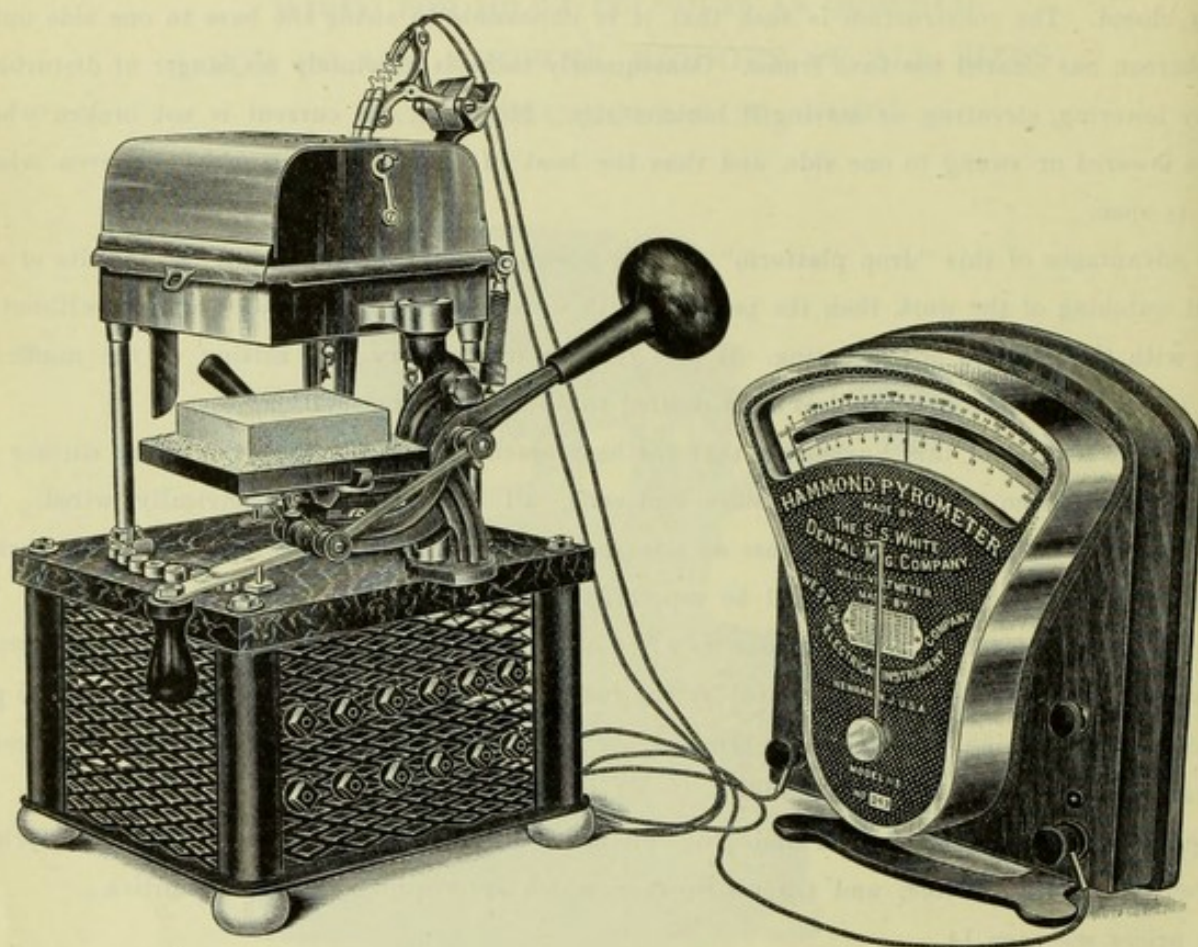
Old Muffles will be credited at the value of the Platinum wire they contain at the market price.



## THE HAMMOND ELECTRIC FURNACE No. 4

WIRED FOR 110 OR 220 VOLTS AS ORDERED

Complete with Pyrometer



The illustration shows the muffle base or platform lowered and swung to one side ready to receive the work to be fired.

Flexible conducting wires are attached to the Thermo-Couple extensions and these wires connect with the regular Pyrometer Indicator which instead of being supported by the furnace base as with the Furnace "A," stands on a separate cast iron bracket.

The whole equipment is simple in construction, readily understood, and easy to operate.

The Pyrometer equipment can be furnished for any No. 4 or No. 3 Hammond Furnace already in use with directions for making the attachment.

For the proper firing of large porcelain cases, the No. 4 Furnace with Pyrometer is the most complete and thoroughly practical outfit manufactured.

The Furnace for this combination is exactly like the illustrations and description of the No. 4 Furnace without Pyrometer, except that a Thermo-Couple is inserted in the upper section or dome of the muffle and suitable spring brackets for carrying the Couple extension wires, are attached to the rear frame of the upper hinged section.

For prices see page 14.



## PERFECTING THE FUSING OF PORCELAIN

The fusing of porcelain has passed the "hit-or-miss" stage. Uniformity of result requires accuracy of working, which in turn requires a reliable guide to the heat conditions in the muffle.

The Hammond Pyrometer is accurate,—each scale is made specially for the indicator to which it is attached; you have a reliable guide to the heat conditions.

It is durable,—the thermo-couple will stand the heat.

It is simple in operation,—any office assistant can run it.

It needs no "leveling;" with the needle adjusted to start at zero it records the temperature faithfully even if the indicator is set on a slant or out of true.

It overcomes all difficulties arising from variations in the wiring of muffles.

It even, to a large extent, overcomes a "jumping" current,—shows you the trouble so you can apply the remedy.

It works reliably as to time,—a fixed time at the fusing-heat gives an unvarying result.

It needs no hard and fast rules. Testing out your muffle and your porcelain gives you your own rule.

In a word, it makes accurate fusing a certainty.

Not the least of its advantages are that it saves the eyes and eliminates nervous tension.

## PARTS AND SUPPLIES FOR HAMMOND FURNACES

Although the smaller sizes (No. 1 and No. 2), of Hammond Furnaces and Hammond Pyrometer Furnaces, are no longer manufactured, we carry a stock of parts and supplies, for all the styles, constantly on hand. We can supply promptly from stock muffles with or without thermo-couples, and repair parts, or we will make repairs on any of the Furnaces, sold by the Company, at reasonable prices.



## PRICES OF HAMMOND FURNACES AND ACCESSORIES

	104 V.	110 V.	220 V.
No. 4 Hammond Furnace complete .....	\$122.00	\$113.00	\$125.00
“ “ “ Pyrometer Furnace complete .....	187.00	178.00	190.00

Converting Plain No. 4 Furnace into Pyrometer Furnace:—

Indicator, Attachment, Thermo-Couple, etc. ....	\$68.00
---	---------

**It is best to have Furnace come to us to have this work done**

## MUFFLES

	100 V.	104 V.	110 V.
No. 1 Muffle .....	\$15.00	\$15.00	\$15.00
“ 2 Small Muffle .....	15.00	15.00	15.00
“ “ Medium “ .....	28.00	25.00	22.00
“ “ Large “ .....	37.00	34.00	30.00

**Muffles fitted with Thermo-Couple for Pyrometer Furnace  
add \$3.00 to above**

	104 V.	110 V.	220 V.
No. 3 Muffle Dome .....	\$48.00	\$42.00	\$42.00
“ “ “ Base .....	24.00	21.00	21.00
“ 4 “ Dome .....	48.00	42.00	42.00
“ “ “ Base .....	24.00	21.00	21.00

**Muffle Domes with Thermo-Couple for Pyrometer Furnace  
add \$3.00 to above**

For those having 110 Volt Furnaces and desiring to use them on 220 Volts we can supply Reducer Plates:—

For No. 1 Furnace 220 to 110 Volts .....	\$18.00
“ “ 2 “ “ “ “ “ Large Muffle .....	20.00
“ “ 2 “ “ “ “ “ Medium Muffle .....	20.00
“ “ 2 “ “ “ “ “ Small Muffle .....	18.00
“ “ 2 “ “ “ “ “ Comb. for Large and Medium Muffle .....	26.50
“ “ 2 “ “ “ “ “ “ “ “ Small “ .....	25.00
“ “ 2 “ “ “ “ “ “ “ “ Medium and Small Muffle .....	22.50
“ “ 3 and 4 Furnaces 220 to 110 Volts .....	25.00

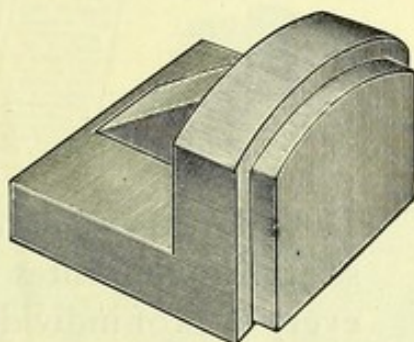
For Slides, Doors, etc., see page 15.

**See Telegraph and Cable Code on second page of cover**



## MISCELLANEOUS RENEWALS FOR S. S. WHITE ELECTRIC FURNACE "A" AND HAMMOND FURNACES

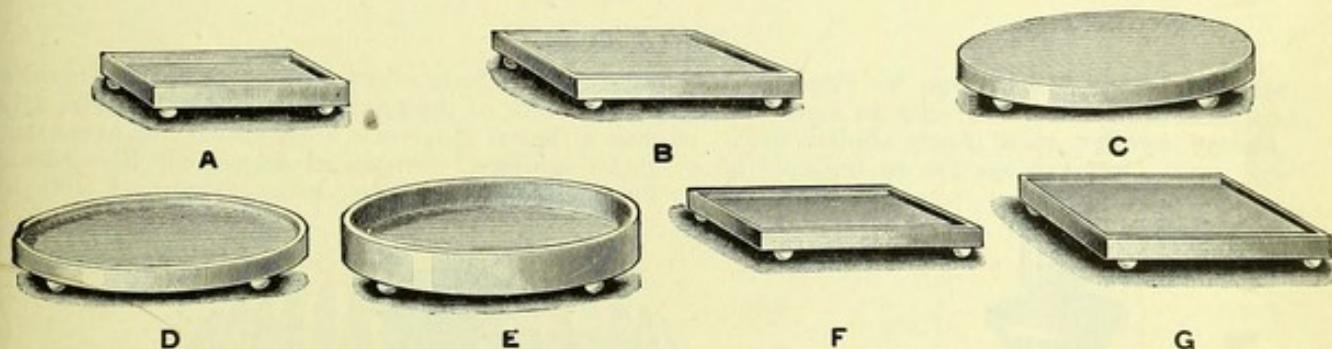
### FIRE-CLAY DOORS



We now furnish only Fire-Clay Doors for our Furnaces having Muffles with the open front, it having been proven that they are considerably better and will give longer service than the former mica ones.

Fire-Clay Doors for No. 1 Hammond Furnace .....	\$0.15
" " " " " 2 " " .....	.25
" " " " Small "A" Furnace .....	.25
" " " " Large "A" " .....	.25

### FIRE-CLAY SLIDES



A is oblong,  $1 \frac{9}{16} \times \frac{7}{8}$  inches, with raised rim; B is nearly square,  $1 \frac{3}{4} \times 1 \frac{1}{8}$  inches, with raised rim; C, D, and E circular, C and D  $2 \frac{1}{2}$  and E  $2 \frac{1}{4}$  inches diameter; C is rimless, D and E have raised rims, the former shallow, the latter deep; F is  $1 \frac{1}{8} \times 1 \frac{1}{4}$  inches, and G is  $1 \frac{1}{8} \times 1 \frac{1}{2}$  inches.

These Slides are made of carefully selected fire clay, which is free from base metals or minerals likely to be fluxed in the intense heat of the electric furnace, and they can be used with confidence.

All of the illustrations are half size, affording a range of sizes and forms which will be found suited to the requirements in any case of inlay, crown or bridge-work.

### PRICES

Fire-Clay Slides A, F, and G .....	each	\$0.15
" Slide B .....	"	.20
" Slides C, D, and E .....	"	.25
Prepared Fire Clay for repairing Muffles .....	per bottle	.30
Liquid Lining .....	" "	.15
Granulated Sillex .....	" "	.25
Extra Fine Powdered Sillex .....	" lb.	.25



## MATERIALS AND APPLIANCES FOR PORCELAIN WORK

THE following pages describe the requisites for every class of individual porcelain work. These materials have resulted from exhaustive laboratory experimentation, and have demonstrated their superiority for several years among the dentists.



## HIGH- AND MEDIUM-FUSING PORCELAIN FOR INLAY AND CROWN- AND BRIDGE-WORK

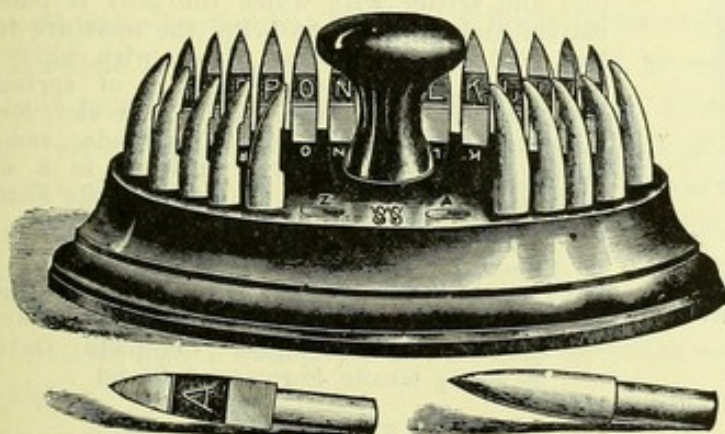


Two Porcelain bodies, alike in their twenty-five colors,—one Shade Guide serves for both,—and differing only in their fusing-points, offer ideal conditions for inlay or crown-work.

Each can be used by itself for the entire piece, because it will maintain carved lines in fusing and give dense, strong work; or the Medium-Fusing can be fused upon the High-Fusing with the certainty that the color will be uniform.

### THE COLORS

The twenty-five ready-mixed shades meet the needs of the majority of operators. The colors were carefully selected from several hundred, to afford the greatest range of selection with the closest approximation to the shades most commonly found in nature. They include grays, blues, yellows, browns, and greens,—all the shades in natural blendings likely to be required in average practice. They are also capable, by admixture, of indefinite expansion and variety of coloring.



Pipette Bottle

The qualities which have built up their reputation are, briefly stated:

They fuse at a high temperature. Medium at about 2200° F. High fusing at about 2300° F.

They maintain their colors in the fusing heat.

They can be readily carved, and they hold the fine lines of the carving.

They have a minimum of shrinkage.

Inlays or crowns made of them are strong and durable, approaching in this respect porcelain teeth.

They may be mixed with pure, clean water,—are economical.

They do not sputter and crack.

They can be used for the entire inlay or crown or for the foundation fusing only.

They can be fused in most of the electric, gas, or gasoline furnaces before the profession.



## SHADE FORMS

What these bodies will produce when fused is shown by a set of shade forms lettered to correspond with the jars from which they were made. The lettering on the shade forms is embossed on them. The forms are of convenient size and shape for determining the shade of the inlay or crown to be made. They are used by placing those approximating the requisite color one after the other beside the teeth in the mouth till the correct shade is found, and then making a mix of the corresponding body.

## MIXING

For mixing these bodies, water, alcohol, or a "mixing fluid" may be used. We prefer to mix with clean water, which gives every desirable quality and without any undesirable drawbacks.

Mixing the shades with clean water and clean instruments on a clean glass or porcelain slab, as will naturally be done to assure good work, there need be no waste of the powder where single colors are used. If more powder has been mixed than is required for the operation, the residue can be returned to the jar from which it was taken without the slightest injury to the remainder.

## EXPANDING THE VARIETY

The shades can be further varied at the will of the operator by combining two or more. As to just what proportion to make these combinations no rules can be given. Each operator will be guided by experience. A reasonable amount of experience in mixing on colors and fusing should precede practical work, as it gives a confidence not otherwise attainable.

## WORKING OUTFITS

The various colors are contained in screw-cap jars. These jars are lettered A to Z on the cover and on the side to avoid misplacing when two or more jars are opened at one time.

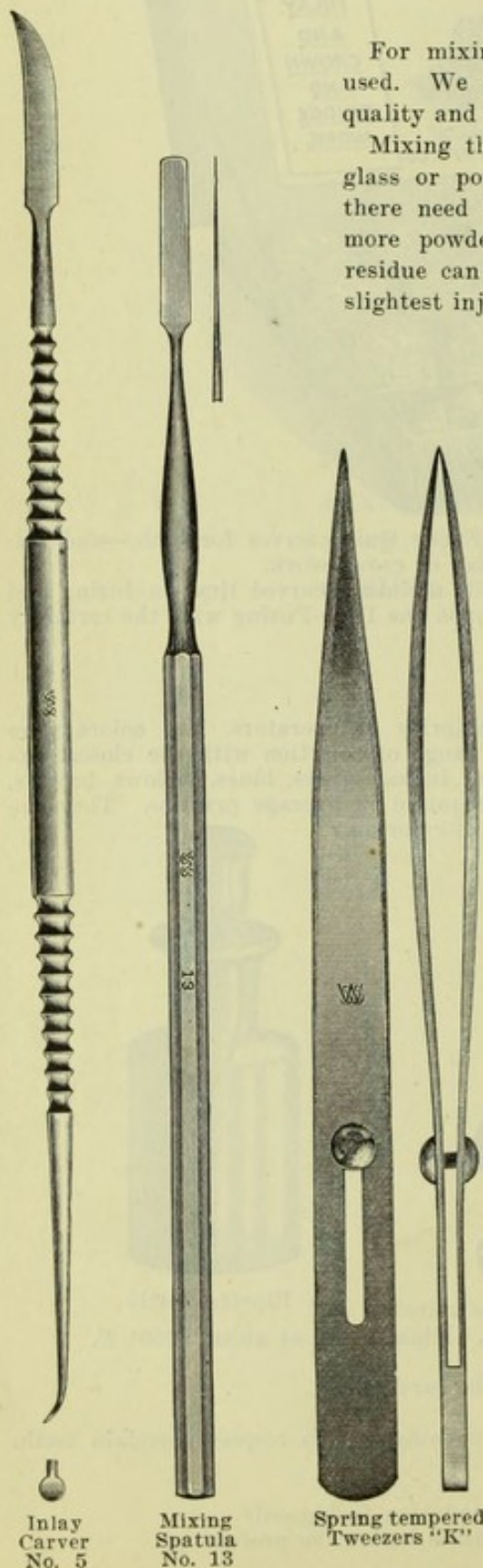
Beside the colors, each outfit includes a pipette bottle with ground-glass stopper, in which the exact quantity of the mixing fluid desired can be taken up; a carving tool and settler with which the body is placed in the matrix and "settled" to bring the moisture to the surface, and most important of all, with which any kind of carving may be done; a pair of spring-tempered tweezers, with a sliding lock-pin in a slot, for handling inlays or crowns, or for holding bands; and a No. 13 mixing spatula; the whole inclosed in a neat, well-made compartment case. A set of Shade Forms is also included.

## PRICES

Twenty-five jars of High-Fusing or Medium-Fusing Porcelain, A to Z, for Inlays, Crowns, and Bridges: Complete Outfit including Shade Forms and Stand .....\$12.50

## PARTS SEPARATELY

Case containing twenty-five jars High-Fusing or Medium-Fusing Porcelain, 1 Inlay Carver No. 5, 1 Locking Tweezers "K," 1 Pipette Bottle, 1 Spatula No. 13 .....	10.00
Stand with Twenty-five Shade Forms .....	2.50
Porcelain Bodies .....	.40 per jar
Inlay Carver No. 5 .....	.70
Pair Locking Tweezers "K" .....	.70
Pipette Bottle .....	.20
No. 13 Spatula .....	.20



Inlay  
Carver  
No. 5

Mixing  
Spatula  
No. 13

Spring tempered  
Tweezers "K"



## FOUNDATION PORCELAIN

It is the opinion of many porcelain workers that better results in inlay work may be obtained by the use of two grades of porcelain, a foundation body and an enamel. There is the same reason for this as in the use of two grades of gold solder in the construction of a bridge, in the abutments of which 20 or 22-K solder is used, and the soldering together of the several parts of the bridge is accomplished by using 16 or 18-K solder—this being done with less liability of melting and spoiling the abutments. The foundation body in porcelain inlay work serves the same purpose as the higher grade of solder in bridge work, and when once placed in the matrix and properly fused is not liable to be disturbed by the fusing of the successive layers of the enamel which fuses at a lower temperature than the body and which is to complete the inlay as regards shape and shade.

The S. S. White Foundation Porcelain is admirably suitable to be used as a foundation body in connection with either the S. S. White High-Fusing or Medium-Fusing Porcelain as the enamels. The Foundation Porcelain fuses at about 2400° F. which is approximately 100° higher than the fusing point of the High-Fusing Porcelain and 200° higher than the Medium-Fusing Porcelain.

The Method of using Foundation Porcelain is as follows:—Construct matrix of 1/1000 platinum-oil either by the direct or the indirect method, as may be desirable. Mix the porcelain with as little water as possible and place it in the matrix, filling it a little more than half full and spreading the porcelain as evenly as possible over the entire floor. With a very thin sharp knife or spatula score this layer into sections so as to divide the whole into, say six or eight smaller masses. This is to control the shrinkage, or to make the shrinkage take place *away* from the center of the whole mass instead of *towards* the center which would cause warping of the matrix. The matrix and scored porcelain should then be placed in the furnace and subjected to a heat sufficient to obtain a hard biscuit bake and to get rid of the shrinkage in the porcelain. After cooling, the matrix and porcelain may be placed back in the cavity and refitted by burnishing around the edges, after which more of the Foundation Porcelain may be added and fused to fill up the scored places made by the knife, which have become wider by the first baking. A lower fusing material either the High-Fusing or Medium-Fusing Porcelain is now added to complete the inlay, as regards shade and shape. This may require two or more fusings depending on the size of the inlay. These successive fusings should also be done at a heat just under what is sufficient to produce a full glaze, as the best results are obtained by bringing the whole mass to a complete glaze only at the last fusing.

If the High-Fusing Porcelain is to be used as the enamel, the No. 2 Foundation Porcelain gives the best results. If the Medium-Fusing Porcelain is to be used the No. 1 will be better.

S. S. White Foundation Porcelain is made in four colors,—White, Brown, Yellow, and Blue,—and in two textures, Nos. 1 and 2, the No. 2 being somewhat coarser than the No. 1 and therefore fusing a little higher.

Put up in quarter-ounce jars, with screw-cap.

Price .....per jar \$0.40



## MINERAL STAINS FOR PORCELAIN WORK



Recent improvements—largely due to the practical experimental work of Dr. Edward A. Royce—in the S. S. White Mineral Stains, make their application easier and give better results.

The most important improvement is the grinding of the color powders under water until they are almost impalpable.

Scarcely second in importance is the change in the mixing medium, to glycerin (which is Dr. Royce's preference), or a properly prepared oil which we supply. These carry the finer ground powders better and distribute them more evenly.

A third important improvement is the intensification of two of the Stains, Yellow and Pink, and the addition of a Black Stain for the darkening of any of the colors.

Our Stains are true Porcelains. With their fine texture and the improved mixing mediums they spread easily with a sweep of the brush. They flow and fuse smoothly. They fire at about the fusing temperature of pure gold, but stand a much higher heat without changing color. They fire true; firing merely intensifies the color shown by the wet powder. The Stain becomes a permanent part of the tooth, can only be displaced by the wearing away of the surface. The simplicity of the outfit and the process places this beautiful work at the service of every practical dentist.

Full directions with every outfit. The outfit consists of eight stains: Brown, Yellow, Gray, Blue, White, Green, Pink, and Black, a color guide, a mixing spatula (No. 13), and two brushes for applying the Stains. The oil which we supply is not included in the Outfit, as many will prefer to use glycerin.

Outfit complete .....	\$5.00
Extra Stains .....	per bottle .75
Oil for Mixing .....	" " .15



## THE S. S. WHITE DENTAL MFG. CO.'S EXPERIMENTAL OUTFIT



### FOR THE BEGINNER IN PORCELAIN WORK

To do good Porcelain Work requires experience. Mere possession of an outfit will not give the skill and judgment necessary to the production of practical and satisfactory results. The only way to acquire these is to try and try again the different steps, thus acquiring a practical knowledge of the manipulation of the porcelain, shading, etc.

On the other hand, the art is not difficult of acquirement. Our Experimental Outfit affords all the equipment necessary to work in both High-Fusing and Medium-Fusing Porcelains.

This outfit consists of eight porcelain teeth with cavities cut in them, two jars each of High-Fusing and Medium-Fusing Porcelain, a pipette bottle for the mixing fluid (pure water), and two brushes, one for filling the matrix and one for brushing off any excess of material.

The teeth embrace forms for both sides of the mouth of the central and lateral incisors, canines, and first bicuspid. These porcelain teeth will be found more serviceable than extracted teeth, which would soon fall apart or crumble and break under the instrument. The cavities are not typical, but are simply prepared with good, strong walls to stand considerable work, and so formed as to permit the ready withdrawal of a matrix. The cavity forms can be changed with little trouble.

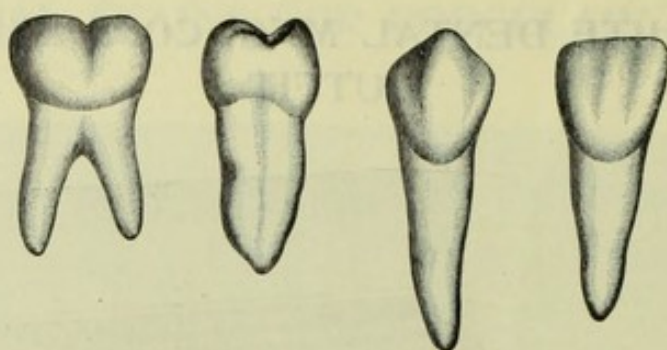
The porcelain powders are of our regular stock,—M and R of the High-Fusing, and G and N of the Medium-Fusing,—so that they can be used in practical cases. The quantity is sufficient for many inlays.

By combining the different powders in varying proportions an extended line of shades can be produced.

Price, Complete Outfit .....	\$4.00
“ Porcelain Teeth .....	each .20



## BISCUITED TECHNIC TEETH



These Teeth offer the dentist an excellent means for perfecting his technique in all the steps of inlay making. They also afford a striking object lesson to the patient, who often wishes to know why filling made of porcelain should be superior to one made of other material.

They are typically formed teeth, comprising incisors, cuspids, bicusps, and molars, rather larger than natural size. They are made of our High-Fusing Porcelain, and as sold they are dried out and brought to a soft "biscuit" stage, so that they are in the ideal condition for the uses of the beginner in porcelain work. He can readily cut any shape of cavity he wishes,—the biscuited material will greatly facilitate the cutting,—then fuse them and proceed with the making of the matrix and inlay.

Price, Centrals, Cuspids, and Bicusps .....	each	\$0.10
" Molars .....	"	.15

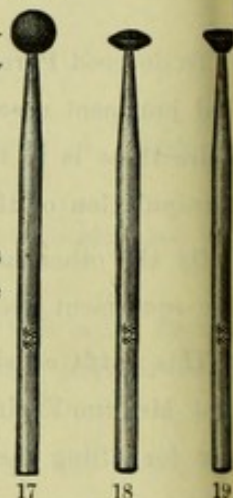
## THE PREPARATION OF CAVITY MARGINS

The proper preparation of the cavity margins is essential to the success of Porcelain Inlaying. The appliances illustrated and described on this page afford every variety of form which has been found useful.

### Carborundum and Corundum Cavity Points

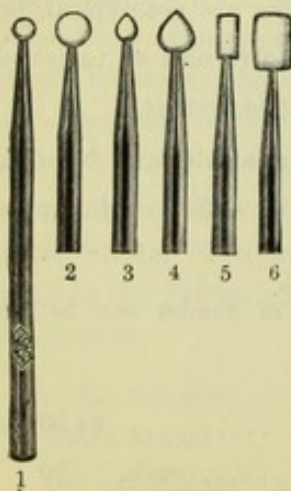
These small size points of very fine grit were suggested by Dr. Brophy and others for shaping and finishing the margins of cavities. The three forms cover a wide range of needs. They can be used till worn down almost to the mandrel.

Price, Corundum Points, not mounted .....	each	\$0.04; per doz.	\$0.40
" " " mounted .....	"	.15; "	1.50
" Carborundum Points, not mounted .....	"	.04; "	.40
" " " mounted .....	"	.15; "	1.50



## ARKANSAS STONE POINTS

Designed by DR. N. S. JENKINS



These fine Points are turned up on the mandrels to which they are attached. The construction, a small stone head mounted on a mandrel and then used for the polishing, forbids heavy pressure upon them.

Arkansas stone is a polisher only, and these Points for finishing the enamel margins of porcelain inlay cavities should be used accordingly. Properly used, they put a beautiful, smooth finish on the margin, without filling the cavity with debris.

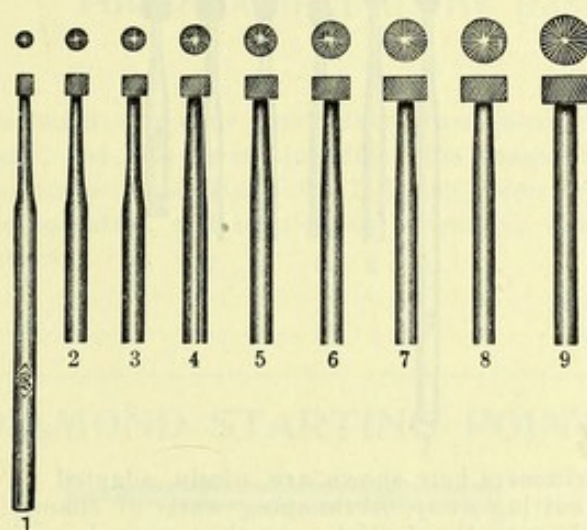
Three forms, round, bud, and barrel-shaped, two sizes of each. Made for any of our Handpieces.

Price .....	each	\$0.50
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## PORCELAIN INLAYS WITHOUT FUSING

### INLAY BURS

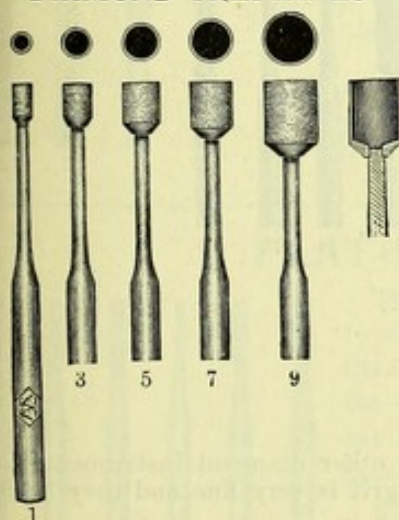


For making Porcelain Inlays of a circular or nearly circular form the method of cutting the Inlays from porcelain teeth or rods is frequently practiced. Instruments for the various steps in this process are illustrated and described below.

### FORMING THE CAVITY

The carious portion of the natural tooth is cut out in the usual way with excavating burs, etc., and then formed into the proper shape to take the inlay by means of the inlay burs. These inlay burs are slightly coned and are fine cut on sides and ends. They will, if handled properly, give a perfectly circular outline and smooth finish to the cavity. They can also be used and are largely used in preparing cavities for fused inlays, for which they are perfectly adapted. They are also very useful as plug-finishing burs.

### DIAMOND TREPHINES



### CUTTING THE INLAY

In making inlays after this method when the rod is used, it is only necessary to cut off a sufficient portion of the rod with the diamond disk and fit it to the cavity. Where the portion of the tooth to be replaced by the inlay is in the region where the blending of colors or shades occurs, it often becomes necessary to select a porcelain tooth matching the natural tooth and cut the inlay from the corresponding location. By this means it is possible to have a perfect matching of the colors. For the work of cutting these inlays we furnish diamond trephines in five sizes. These trephines are made of copper, charged with diamond, and correspond in sizes with inlay burs, Nos. 1, 3, 5, 7, and 9, of the set shown above. The cavities formed by the intermediate burs are readily fitted by grinding the inlays.

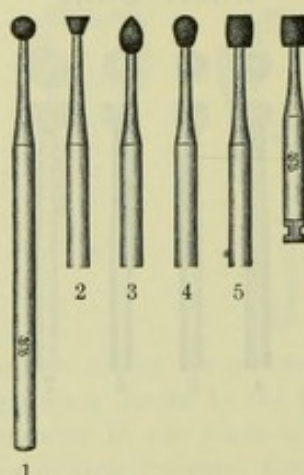
### PRICES

Inlay Burs Nos. 1, 2, 3, 4, 5, 6	.....each	\$0.40
" " No. 7	....."	.50
" " Nos. 8 and 9	....."	.60
Diamond Trephines, No. 1, 3, or 5	....."	.70
" " " 7 or 9	....."	.90



## CAVITY TRIMMERS

### GEM—CARBORUNDUM



The five shapes of Cavity Trimmers here shown are nicely adapted to the work of preparing the margins of cavities, and for cutting away overhanging walls of enamel usually found in cavities of decay as they present themselves to the dentist. As they wear down in service they can be used in smaller and smaller cavities, as they will continue to cut until worn almost to the shaft of the mandrel on which they are mounted.

### GEM CAVITY TRIMMERS

can be used wet or dry, but they are best used dry, as the debris can be readily blown away, and thus a clear view of the operation will be presented at all times. High speed with light pressure gives the best results. Sold mounted on mandrels only.

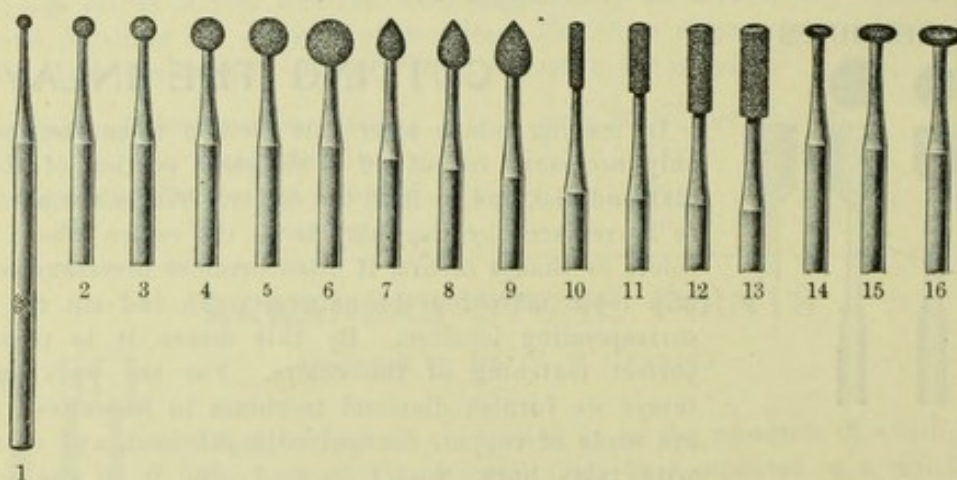
Made for all our Handpieces and Angle Appliances .....each \$0.15; per doz. \$1.50

### CARBORUNDUM CAVITY TRIMMERS

put the well-known abrasiveness of Carborundum into the service of the dentist in this fine work. Used in the same way as those of Gem. They can be had unmounted, or mounted (on a mandrel made specially) for our Direct or Angle Handpieces.

Unmounted .....	each \$0.04; per doz. \$0.40
Mounted .....	" .15; " 1.50

## DIAMOND BURS



The Diamond Burs possess all the wonderful cutting qualities of our other diamond instruments in the small forms needed for finishing and shaping cavity margins. The grit is very fine and they leave the margins very smooth.

The heads are made of soft steel, and the diamond is thoroughly incorporated. They should be run at a high speed and kept wet.

Price, Nos. 1, 2, 3, 14 .....	each \$0.50
" No. 4 .....	" .60
" " 7 .....	" .70
" Nos. 5, 8, 10, 11, 15 .....	" .80
" " 6, 9, 12, 13, 16 .....	" 1.00

In ordering Engine instruments, always specify Handpiece for which they are desired





No. 2

## DIAMOND DISKS

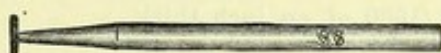
### FOR ROUGHENING THE BASE OF INLAY

Our Diamond Disks will be found extremely serviceable in roughening the bases of porcelain inlays previous to applying the cement, and also in cutting down the enamel walls in shaping the cavity. They are charged all over, and made in two sizes, No. 1,  $\frac{3}{4}$ -inch diameter, and No. 2,  $\frac{7}{8}$ -inch.

Should be kept wet when in operation, and should not be pushed, but simply held to their work, when they will "feed" themselves.

Price, No. 1	\$1.75
" " 2	2.25

## DIAMOND STARTING POINT



For removing the enamel surface as a starting point in excavating natural teeth or in forming cavities in porcelain teeth. Cuts on face or side. Must be kept wet in operation. As it is charged all over, it will also be found excellent in smoothing cavity-margins and other uses, more especially in etching porcelain teeth for the reception of stains.

Price ..... each \$0.75

## ROUND-END, FINE-CUT INLAY FISSURE BURS



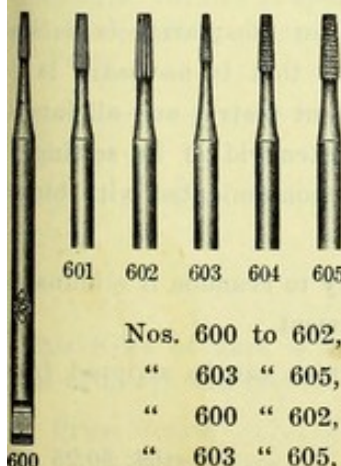
The four sizes of Inlay Burs here shown were specially designed for the purpose of preparing cavities for the reception of inlays. They are provided with long multiple leaves which permit rapid and smooth cutting of the enamel without danger of fracturing or crumbling the same.

The long parallel sides of these burs enable the operator to shape the sides of the cavity without rounding the margins, and the rounded ends prevent the cutting of sharp angles at the base of the cavity. The four sizes of the burs adapt them to all sizes of cavities. For No. 7 Handpiece only.

## PRICES

Nos. 1, 2, 3 .....	each	\$0.25
No. 4 .....	"	.30

## FLAT-END, TAPERED INLAY BURS



The advantages of these Burs are that with them there is no tendency to make an undercut and that you can make sharper angles in the cavity than with round-headed instruments. The heads are long enough to permit the dressing of the entire length of the cavity at one sweep, and the ends cut as well as the sides. Also useful in dressing a tooth for a porcelain jacket.

Fine cut, three smooth and three dentate. Made for No. 6 Handpiece, for Chuck Handpieces, and for Angle Appliances.

Nos. 600 to 602, Plain Cut for Chuck Handpieces and Angle Appliances . . . . .	each	\$0.20
“ 603 “ 605, Dentate “ “ “ “ “ “ . . . . .	“	.25
“ 600 “ 602, Plain Cut for No. 6 Handpiece . . . . .	“	.25
“ 603 “ 605, Dentate “ “ “ 6 “ . . . . .	“	.30



## SOFT PLATINUM FOIL

### FOR INLAY MATRICES

This Soft Platinum Foil of ours gives the greatest satisfaction for matrices.

It is peculiarly soft, for a platinum product, and annealing makes it softer. The most economical way to anneal it is to place it in the muffle at the close of work, turn off the heat and allow it to remain till cold. So treated you have the softness in its greatest perfection, so that it is ready adapted to the inequalities of the cavity, and you always have it ready for use.

It is sufficiently stiff to hold its form perfectly,—can be removed from the cavity without changing shape, can be handled in the necessary manipulations with little fear of damage resulting.

Will stand the heat of even the highest-fusing porcelains without *warping*.

If you have not used it in making inlay matrices, you don't know how easy it is to make a platinum matrix nor how much more satisfaction a platinum matrix gives than one of gold.

Supplied in pennyweight pieces 1/1000 of an inch thick.

To accommodate customers who occasionally desire extra thin, we manufacture one-half-pennyweight pieces 1/2000 of an inch thick.

Platinum Foil, 1/1000 of an inch thick, 1-dwt. pieces .....	} Prices fluctuate, will be
“ “ 1/2000 “ “ “ “ ½ “ “ .....	

## GOLD FOR INLAY MATRICES

24 karat, 1/1000 in. thick, 1½ in. wide, per dwt. .... \$1.13

## MATRIX-EASE

The making of matrices for porcelain inlays is facilitated in three important particulars by the use of Matrix-Ease.

1. It acts as a swage to conform the matrix accurately to every inequality of the cavity walls.
2. Its use saves time and labor. You can burnish forcibly against it without hardening the platinum of the matrix, because the preparation is to an extent self-lubricative. Less annealing of the metal is therefore required.
3. It lends itself to the easy removal of the matrix from the cavity. When the matrix is packed full of the preparation, no "teasing" is required to assist its removal. All that is necessary is to insert a pointed instrument into the mass of Matrix-Ease, and you can lift out matrix and all intact. Then after the fitting of the matrix is completed, the Matrix-Ease is gotten rid of by setting it afire; it burns out leaving no residue. Should the Matrix-Ease have become contaminated with blood, soaking for a few minutes in warm alcohol will remove it.

Matrix-Ease is a preparation of gum-camphor so treated that its tendency to crumble is eliminated while its rigidity is maintained. It is entirely tractable under the instrument.

Put up in sticks, 2 inches long, ⅜ inches diameter, wrapped in tin-foil, which can be stripped from the sticks as desired.

Price .....per stick \$0.25



## HARVARD QUICK-SETTING INLAY CEMENT

Many dentists who know and appreciate the advantages of the regular Harvard Cement in setting inlays and crowns make it more to their liking by grinding it finer before using. They are thus enabled to get a closer adaptation of the inlay to the cavity walls by reason of the thinner film of cement possible, and they get perhaps also a little quicker crystallization.

Both of these desirable features are incorporated in the Harvard Quick-Setting Inlay Cement, which in reality the regular form of the Harvard Cement specialized for a special use. It adheres tenaciously to the walls of the cavity and the inlay; it has the necessary strength to permit its use in very thin film; it resists the action of the fluids of the mouth; and it sets quickly, greatly shortening the time during which the inlay must be kept under pressure.

Used for setting inlays, crowns, bridges, and orthodontia appliances; also for fillings wherever the rapid crystallization is no objection.

The Harvard Quick-Setting Inlay Cement comes in these colors:

No. 1. White	No. 5. Yellow	No. 9. Gray
2. Bluish White	" 6. Gold Yellow	" 10. Green Gray
3. Yellowish White	" 7. Light Pearl Gray	" 11. Bluish Gray
4. Light Yellow	" 8. Pearl Gray	" 12. Brown

Each color is put up in half-ounce and quarter-ounce bottles.

The half-ounce bottles are sold singly in a box which contains also an ample quantity of liquid for mixing and a small vial of varnish for protecting the work while setting.

The quarter-ounce bottles are sold in a box (as a set of 12) for the convenience of those who like to match the inlays closely. The box contains four bottles of liquid of the size supplied with the half-ounce bottles of powder, and a vial of the varnish.

Powders and liquid can each be ordered separately,—the powders by number.

Price, Single Color Box $\frac{1}{2}$ -oz. Powder, Liquid, and Varnish .....	per box	\$1.25
" $\frac{1}{2}$ -oz. Powder, any color .....	per bottle	.63
" Twelve-Color Box, $\frac{1}{4}$ -oz. each Powder, 4 bottles of Liquid, and Vial of Varnish,		
	per box	5.00
" $\frac{1}{4}$ -oz. Powder, any color .....	per bottle	.30
" Liquid .....	" "	.63

Every genuine package bears on the label a facsimile of the signature of Rob. Richter, D.D.S., by whom every portion is thoroughly examined before being placed on sale.

## SANDARAC VARNISH

Our Sandarac Varnish is made with 95% grain alcohol, whose advantages over a lower-grade solvent for use in the human mouth are apparent to every one.

Of the very best quality and quite heavy; can be diluted with alcohol.

Sandarac Varnish is specially recommended by expert inlay workers as a protection to the inlay until the cement is thoroughly hardened.

Price .....	2-oz. bottle	\$0.25
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## SILEX

### PUT UP IN 1-LB. BOXES

This Sillex of ours is especially well prepared, and will be found most satisfactory in the investment of inlays and crowns.

Price, Coarse .....	per lb.	\$0.10
" Extra Fine .....	"	.25



## THE S. S. WHITE DENTAL SWAGER

We say of this Swager that it is universal, for two reasons:

First, you can swage inlays, cusps, backings, or crowns in it. It is big enough for the largest crown, little enough for the smallest inlay.

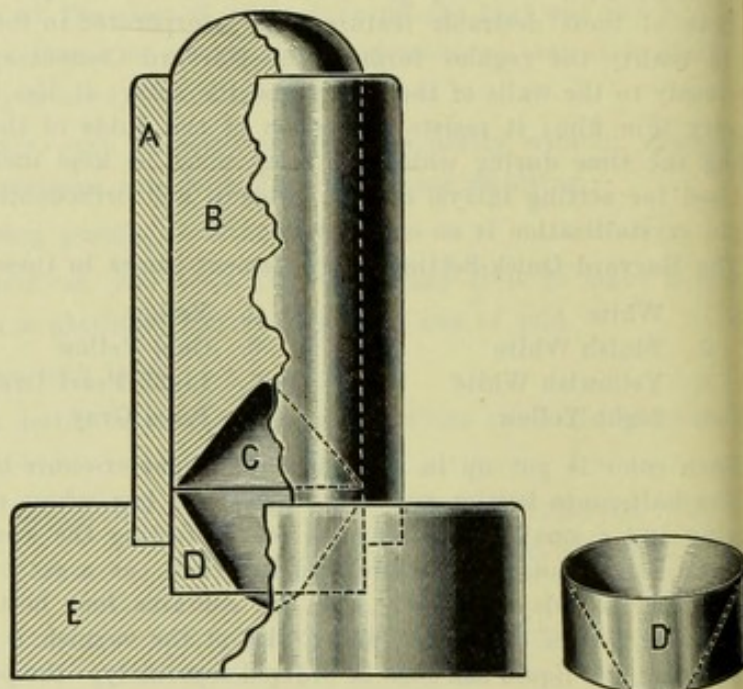
Second, you can use for the cushion in it Moldine, waterbags, corn-meal, or shot, as you prefer. We recommend Moldine because it packs down hard without any rebound.

Besides its practical universality, this Swager is of the simplest construction, and therein is one of the strongest elements of its effectiveness. It is made of

steel, and consists of only four parts; the barrel or cylinder, the plunger, the cup, and the base.

The plunger is hardened to stand the hammering to which it is necessarily subjected. The base is substantial and protects the lower end of the barrel, saves it from being battered out of shape. The barrel is, of course, a mere holder for the plunger and the cup. There are two of the cups to permit two cases to be poured at one time. They are made of steel, with a cone-shaped cavity perforating the base, so that when inverted over the impression the die can be formed by pouring S. S. W. Inlay Metal through the perforation directly upon it. The advantage is that the die, after being trimmed, can be placed with the cup containing it in the Swager, with little likelihood of its being distorted in the swaging process, the strong walls of the cup preventing the spread of the metal.

All there is to the swaging process is to set the cup with the die right side up in the Swager base, cover it with a rubber disk, pack with Moldine, hit it a few taps, and the swaging is done.



Partly sectional view of the S. S. White Swager, about three-fourths actual size. A, cylinder; B, plunger; C, cavity in plunger; D, cup; E, base.

Price ..... \$3.00



## THE S. S. WHITE SWAGING OUTFIT

### FOR INLAYS (PORCELAIN OR GOLD) CUSPS, CROWNS AND BACKINGS

This outfit for dental swaging is complete,—nothing lacking for accurate, rapid work,—and yet so simple that there is no danger of getting mixed up over it. The dentist who has it is prepared to do any of the small swaging operations required in his practice, up to the forming of a molar crown.

It consists of—

DENTAL LAC for taking impressions;

CELLULOID STRIPS for inclosing the space of which the impression is to be taken;

MOLDINE for investing the impression and for packing the swager;

INLAY METAL for making models or dies;

POURING LADLE (see below) for melting and pouring the inlay metal;

DENTAL SWAGER for swaging matrices, cusps, crowns, and backings (see illustration page 28);

RUBBER DISKS for preventing the adhesion of Moldine to the matrix.

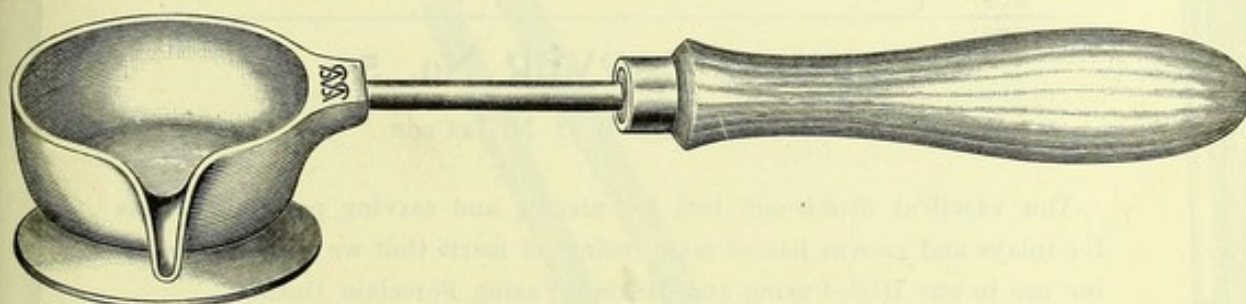
Most of the component parts are well known for their practical usefulness. The sharpness of impressions made with DENTAL LAC is proverbial, and S. S. White Inlay Metal reproduces them in the same just as sharply.

The two new items in the outfit, the Swager (described on page 28) and the pouring Ladle (see below), will be found to be very effective appliances.

Full directions with each outfit.

Price, Swaging Outfit complete ..... \$4.25

## THE S. S. WHITE POURING LADLE No. 9



This ladle has a cast metal bowl with a long, narrow lip, slightly curved to facilitate control of the molten metal. The base is flared in an inverted saucer shape, to spread the flame and prevent oxidation of the inlay metal. The wood handle is detachable. The illustration is three-fourths actual size.

Price ..... \$0.35

## S. S. WHITE INLAY METAL

Especially compounded for the purpose of making models upon which matrices of gold and platinum can be perfectly swaged. It can also be used for making dies of dentures upon which clasps, etc., can be fitted, and for making models for crowns and regulating appliances.

S. S. White Inlay Metal flows at a temperature so low that it may be poured on Modeling Composition or Dental Lac. It sets immediately, making a sharp, accurate model which separates easily from the impression and is hard enough to withstand the necessary swaging and burnishing of the matrix in place.

May be used over and over again.

Put up in a box containing 3 ingots.

Price, per box ..... \$0.25



## INLAY MATRIX PLIERS No. 60

The special use of these Pliers is the forming of inlay matrices. The flat inner faces of the beaks will grasp the foil for the matrix firmly but safely. After the foil is placed in the cavity, a bit of spunk or a pellet of cotton can be carried into it. Then closing the ball points gives an almost unequaled instrument for pressing the pad against the foil, causing the matrix to follow every inequality in the walls and floor of the cavity.

These "ball-nose" Pliers will also be found superior to those with sharp beaks in any manipulations where there is risk of puncturing the material.

Price .....per pair \$1.75

## CEMENT SPATULA No. 24

This spatula designed more especially for mixing cements for fillings, has a long thin blade, affording a peculiar elastic action in the process of spatulation and assisting in the intimate incorporation of the cement powder with the liquid, a desirable result in all cases, but especially in thin mixes for inlays and crown and bridge work.

Price ..... \$0.50

## INLAY CARVER No. 5

Devised by DR. D. O. M. LECRON

This excellent double-end tool for placing and carving porcelain bodies for inlays and crowns has so many points of merit that we have adopted it for use in our High-Fusing and Medium-Fusing Porcelain Outfits.

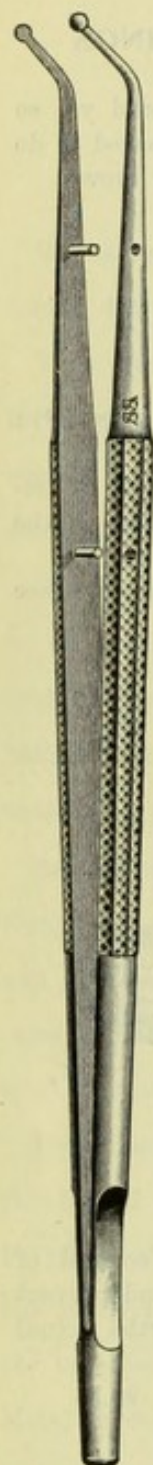
One end is the Carver. The blade is pointed and slightly curved, with the concave edge just sharp enough for smooth, accurate carving. The convex back of the blade has sharply defined corners, making an excellent scraper.

The other end is a round, flat-faced spoon, for carrying and placing the mixed body in the matrix.

A most important feature of the instrument is the series of annular grooves on each shank, which give an excellent grip for thumb and fingers, and, more important, serve for the bringing of the overplus of moisture to the surface. Merely moving the grooved portion of the Carver back and forth across the pliers holding the matrix two or three times, causes sufficient "jostling" to settle the powder down firmly and bring the moisture to the surface.

Nickel-plated all over.

For illustration and price see page 18.



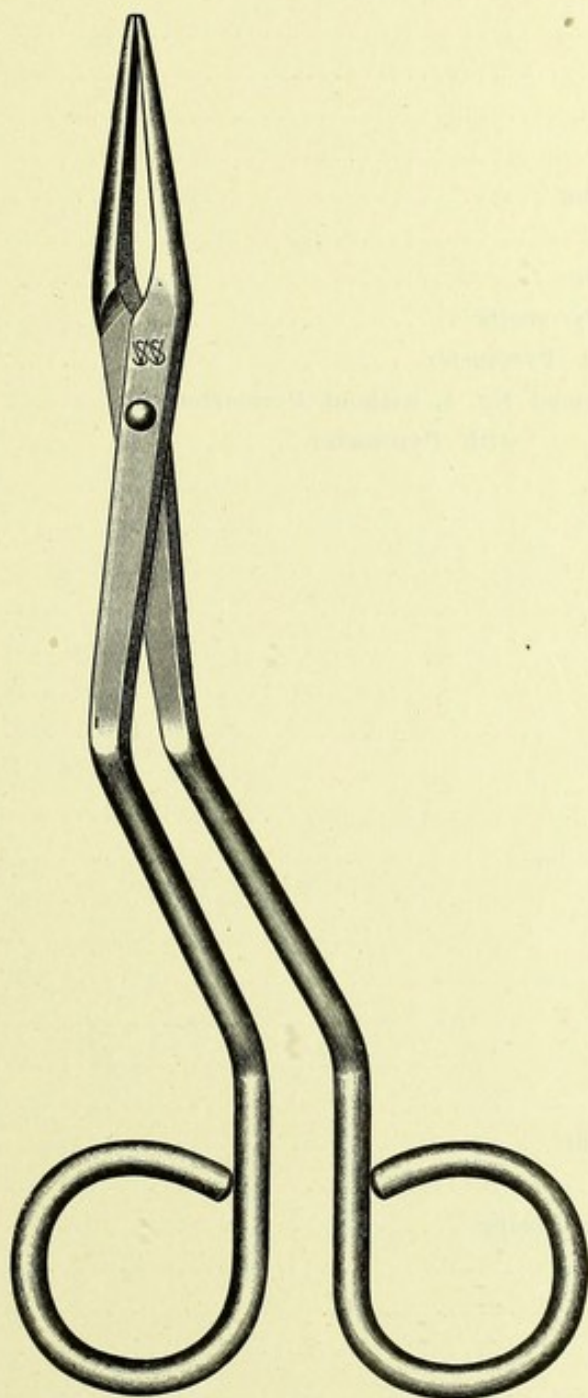
No. 60  
Inlay Matrix  
Pliers



No. 24  
Cement  
Spatula



## FURNACE TONGS "M"



Designed especially for placing trays containing porcelain inlays, crowns, etc., in the dental furnace, and removing them. The bend in the handles allows the hand to do the work without being exposed to the heat from the furnace.

Price .....each \$0.35



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