

Specification of Bristow Hunt : dental drill.

Contributors

Hunt, Bristow.

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A.D. 1872, 24th JULY. N° 2207.

S P E C I F I C A T I O N

OF

BRISTOW HUNT.

DENTAL DRILL.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

25, SOUTHAMPTON BUILDINGS, HOLBORN.

Price 8d.

1873.





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A.D. 1872, 24th JULY. N° 2207.  
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Dental Drill.

LETTERS PATENT to Bristow Hunt, of No. 1, Serle Street, Lincoln's Inn, in the County of Middlesex, Gentleman, for the Invention of "A NEW OR IMPROVED APPARATUS OR MEANS FOR EXCAVATING, DRILLING, CLEANING, FILLING, OR OTHERWISE TREATING TEETH."—A communication from abroad by William M. Reynolds, of New York, in the United States of America.

Sealed the 17th January 1873, and dated the 24th July 1872.

PROVISIONAL SPECIFICATION left by the said Bristow Hunt at the Office of the Commissioners of Patents, with his Petition, on the 24th July 1872.

I, BRISTOW HUNT, of No. 1, Serle Street, Lincoln's Inn, in the
5 County of Middlesex, Gentleman, do hereby declare the nature of the said Invention for "A NEW OR IMPROVED APPARATUS OR MEANS FOR EXCAVATING, DRILLING, CLEANING, FILLING, OR OTHERWISE TREATING TEETH," (a communication to me from abroad by William M. Reynolds, of New York, in the United States of America), to be as follows:—

10 This Invention relates to new or improved means for excavating, drilling, cleaning, filling, or otherwise treating teeth, which the Inventor

Hunt's Improved Dental Drill.

designates by the name of a "dental drill," and which consists of a small hollow handle enclosing a rod capable of revolving therein, and which rod is made hollow at its outer end in order to securely hold the instrument with which the tooth is to be treated. The inner end of the rod fits in a flat spiral spring, which at its other end is suitably secured 5 to a rod capable of sliding in a slotted hollow rod, which latter has secured to its inner end another flat spiral spring, which in like manner is further secured to a revolving rod working (by preference) in an upright standard, and held in position at the top thereof by a cap, and having attached at its lower end (where it revolves in a step of the 10 standard) a small toothed pinion or (by preference) a leather or rubber friction disc or rim which engages with and receives motion from a small fly wheel placed at the lower part of the standard, revolving in suitable bearings thereon and worked by the foot and a treadle.

A spiral spring or other suitable means is connected to the spindle 15 of the fly wheel (which by a ball or wedge is prevented from revolving in the wrong direction) and keeps the latter in such a position that it can always be started by the foot and treadle without the necessity for at first starting it by hand.

The object of the springs, which form adjustable joints, and of the 20 adjustable rods, is to allow of the handle and its appliance being readily moved in any position or direction desired.

When the apparatus is required to be used for filling the teeth, the first mentioned spring at its outer end is secured to an instrument or attachment called by the Inventor a "mallet," and which consists 25 mainly of a hollow tube enclosing a small spring plug, which by the rotation of the fly wheel (which causes all the parts, except the standard and handle, to rapidly revolve) is caused continually to produce a series of blows, which direct the filling material, previously placed on the tooth, into the hollow thereof. 30

When desired to clean the teeth this attachment is replaced by suitably shaped brushes. Whatever the appliance or instrument used, whether it be for excavating, drilling, cleaning, or otherwise treating teeth, they are all caused rapidly to revolve by the means described, the flexible joints and adjustable rods allowing of the handle being readily 35 moved in any position so as to direct the instrument (which revolves loosely therein) with great ease wherever required.

Hunt's Improved Dental Drill.

The "mallet" alone is excepted, and when this is used the handle is removed and the tube serves as a handle by which to direct the plug (which receives a succession of blows instead of revolving) where required.

5 **SPECIFICATION** in pursuance of the conditions of the Letters Patent filed by the said Bristow Hunt in the Great Seal Patent Office on the 24th January 1873.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, BRISTOW HUNT, of No. 1, Serle Street, Lincoln's Inn, in the County of Middlesex,
10 Gentleman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-fourth day of July, in the year of our Lord One thousand eight hundred and seventy-two, in the thirty-sixth year of Her reign, did, for Herself, Her heirs and successors,
15 give and grant unto me, the said Bristow Hunt, Her special licence that I, the said Bristow Hunt, my executors, administrators, and assigns, or such others as I, the said Bristow Hunt, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term
20 therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**A NEW OR IMPROVED APPARATUS OR MEANS FOR EXCAVATING, DRILLING, CLEANING, FILLING, OR OTHERWISE TREATING TEETH,**" (a communication to me from abroad by William
25 M. Reynolds, of New York, in the United States of America), upon the condition (amongst others) that I, the said Bristow Hunt, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner
30 the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Bristow Hunt, do hereby declare the nature of the said Invention, and in what manner the same is to be
35 performed, to be particularly described and ascertained in and by the

Hunt's Improved Dental Drill.

following statement in writing, and on reference being had to the accompanying Drawings, that is to say:—

This Invention relates to new or improved means for excavating, drilling, cleaning, filling, or otherwise treating teeth, which the Inventor designates by the name of a "dental drill" or "Reynolds's dental machine."

On the accompanying Drawings Figure 1 represents a front elevation, and Figure 2 a side elevation of the improved apparatus.

The tool or instrument carrier consists of a small hollow handle *o* of a triangular section at the part *o*¹, Figure 3, which enables it to be held firmly in the hand in a free and natural position. The instrument holder socket or rod *p* passes through *o* and is connected by a flat spiral spring, stiff rubber tubing, or universal joint *l*¹ to a rod *n* fitted with a pin *n*¹ which slides up and down in internal grooves of a rod *m*. To *m* is secured a second joint *l* which is also secured to a revolving rod or shaft *i*¹, which works in an upright hollow standard or rod *k* fitted in a socket on the cap *b*, and has for its upper bearing a cap *k*¹, and for its lower one a step or lug *a*⁴ projecting inwards from the frame *a*¹, and also has attached at its lower part a small toothed pinion or a leather or rubber friction disc, rim, or pulley *i*, which engages with or receives motion from a fly wheel *c* fastened to the shaft *d*, which works in bearings in the side frames *a*, *a*¹, and receives primary motion by the action of the foot upon a treadle *h*, which rocks on a stay bolt *a*³ by means of lugs on its under side, and is connected to *d* by a connecting rod *f* and crank *e* pinned on the end of *d* which projects beyond *a*. The frames *a*, *a*¹, are held together by stay bolts *a*², *a*³, securing the lower parts or feet thereof, and by a cap *b* secured to the tops of them by screws *b*¹. The crank pin is thrown off the dead centre when the apparatus is at rest by a spring *g* which is secured to *h* and bears against *f*, so that the apparatus can be put in motion by the foot without the necessity of at first starting it by hand; the wheel *c* is prevented from revolving in the wrong direction by a wedge or ball *z*. The hook *q* on *k* is provided for keeping *o* out of the way when the machine is not in use by pressing *n* thereinto.

When the apparatus is required to be used for filling the teeth, *o*, *o*¹, and *p* are removed and the outer end of *l*¹ is secured to an instrument or attachment called by the Inventor a "mallet," which is illustrated

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full size in Figures 4 and 5, an exterior view and longitudinal section respectively.

The mallet consists mainly of a hollow tube 1 provided with a screw cap 2, and with an internal worm 3. Within this is placed a slotted 5 hollow guide tube 4, within which acts a rod 5 having a groove 6 in an enlarged head 7, and a projection 8 with a cam pin 9 at its lower part, and encircled by a spiral spring 10 and a loose nut 11 which takes in 3 and regulates the tension of 10, so as to increase or reduce the force of the blows given by a loose plug 12 which emerges at the point of the 10 nozzle 13 of 4. The plug is provided with a notch at 14 in which engages a projection on the inner end of a finger spring 15, Figure 6, which end, when the outer end is pressed into the position shewn in Figure 5, falls into the groove 6 and allows 5 to act on the plug, but when the pressure of the finger is released, a second spring 16 forces the 15 inner end inwards beyond 6 and prevents 5 acting and the projection catches in 14, and prevents 12 from falling out, see Figure 6. The plug is actuated by a cam 17 on the end of a rod 18 which is fixed in *l*, and which by the rotation of *c* (which causes all the parts of the apparatus except *k* (*o*, *o*¹), and 1 to revolve rapidly) causes the plug to produce a 20 series of blows which direct the filling material previously placed on the tooth into the hollow thereof.

I would here remark that by slightly modifying the construction of the above described apparatus, such as lowering the height of the standard and making suitable alterations in other minor details, the 25 apparatus when used with the mallet is well adapted for the use of jewellers and other mechanics who require a similar action to perform their work, that is a rapid series of light blows.

When desired to clean the teeth the mallet attachment is replaced by suitably shaped brushes. Whatever the appliance or instrument used, 30 excepting the mallet, whether it be for excavating, drilling, cleaning, or otherwise treating teeth, it is caused to revolve rapidly by the means described and so act upon the teeth, the joints and rods *l*, *l*¹, *m*, *n*, allowing of the handle being moved readily into any desired position so as to direct the instrument (which revolves loosely therein) with great 35 ease wherever required.

Having now described the nature and object of the said Invention for "A New or Improved Apparatus or Means for Excavating, Drilling,

Hunt's Improved Dental Drill.

Cleaning, Filling, or otherwise Treating Teeth," together with the manner in which the same is to be or may be performed or carried into practical effect, I would remark in conclusion that I claim as the Invention communicated to me by the above-named William M. Reynolds,—

5

Firstly. The handle *o* with the part *o*¹ made three-sided, a section of which is an equilateral triangle, through which the socket *p* turns, as set forth, when used in a dental drill, substantially as and for the purposes set forth.

Secondly. The treadle *h* and fly wheel *c* in combination with the 10 friction pulley *i* and upright shaft *i*¹ revolving in the step *a*⁴ constructed and operated for a dental drill, substantially as set forth.

Thirdly. The combination of the handle *o*, upright shaft *i*², adjustable rods *m*, *n*, and flexible joints *l* and *l*¹ constructed and operated, substantially as set forth.

15

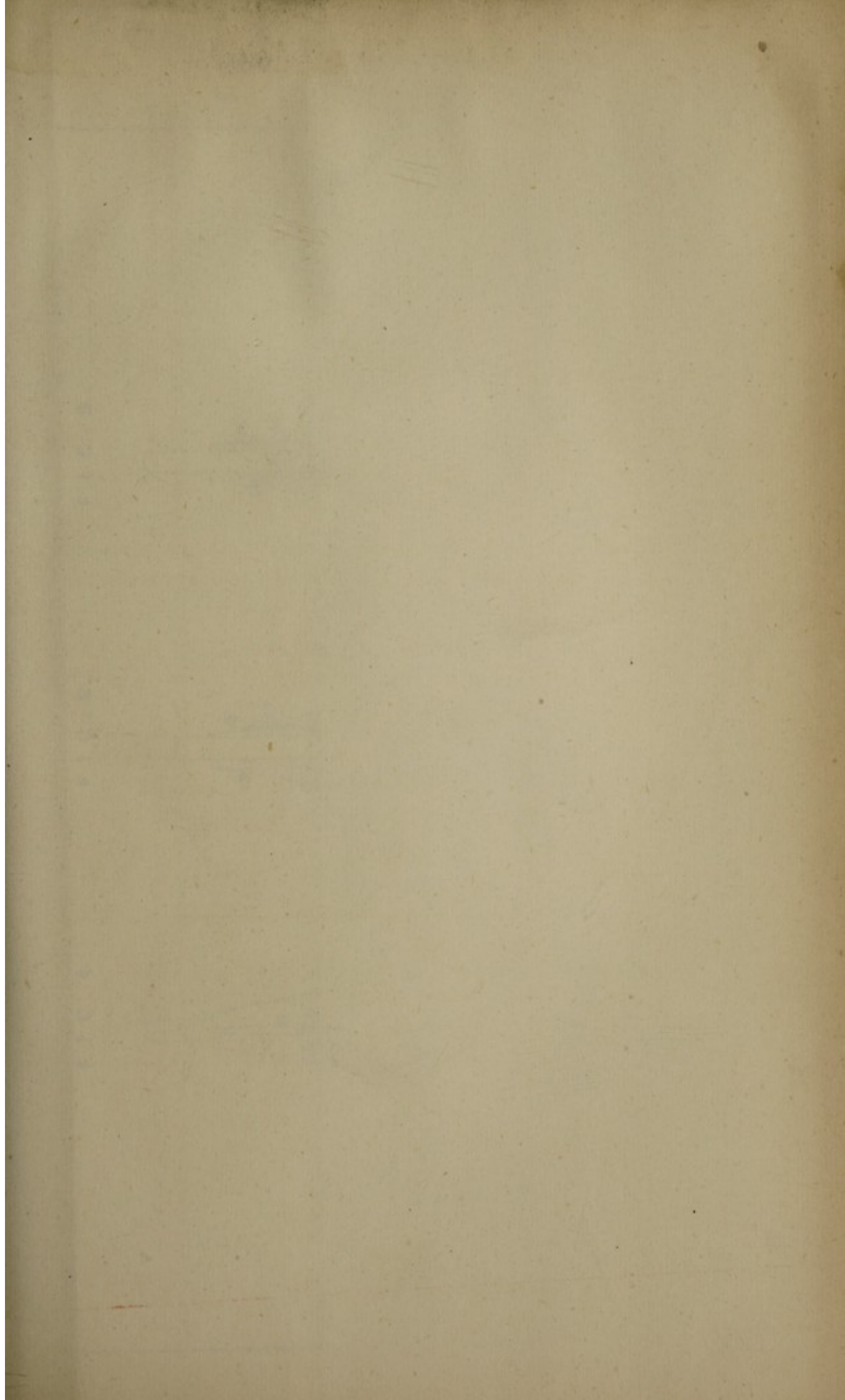
And, fourthly. The general construction and action of the mallet and its employment for the purposes set forth, substantially as above described and as illustrated on the accompanying Drawings.

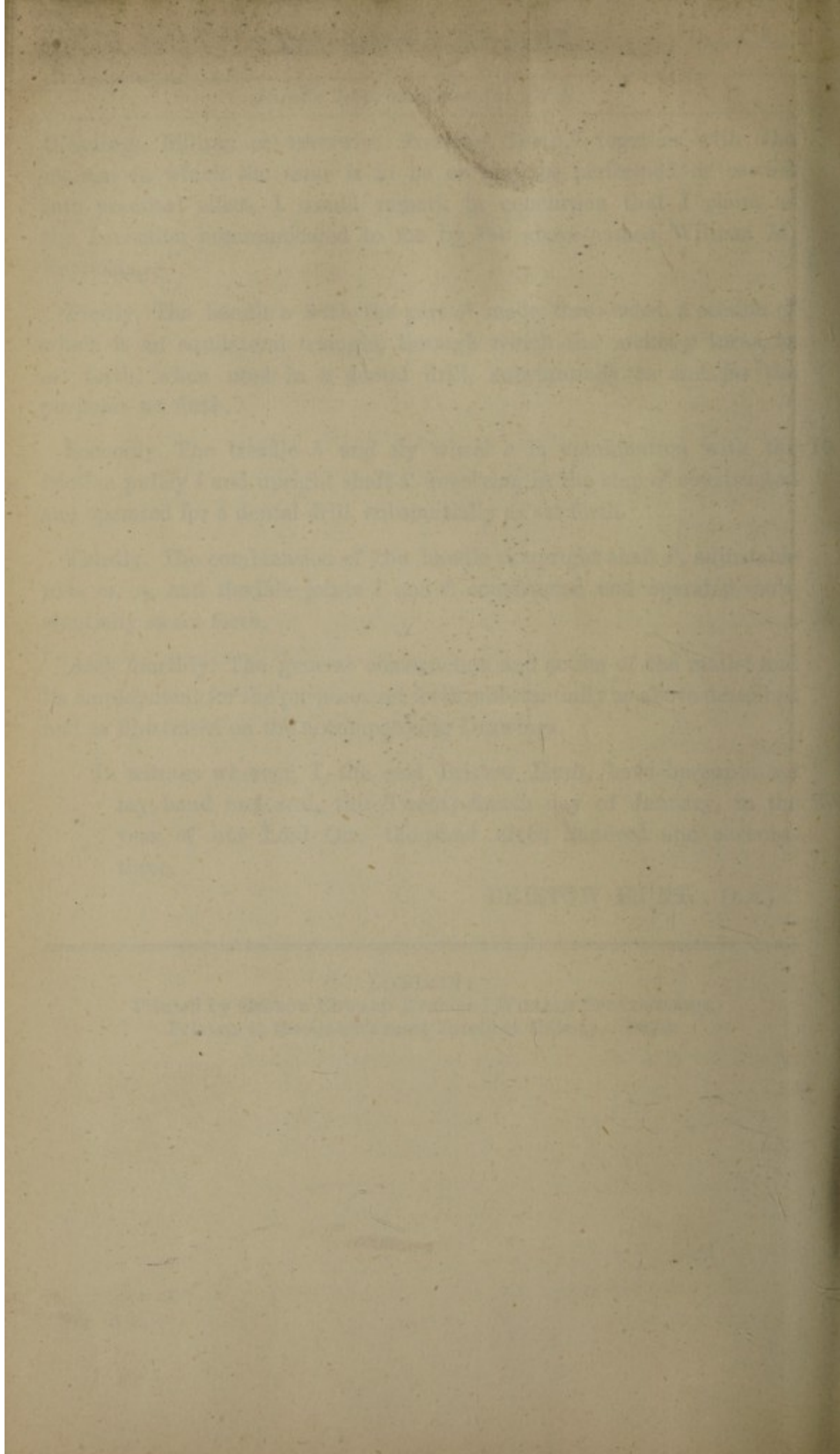
In witness whereof, I, the said Bristow Hunt, have hereunto set my hand and seal, this Twenty-fourth day of January, in the 20 year of our Lord One thousand eight hundred and seventy-three.

BRISTOW HUNT. (L.S.)

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1873.





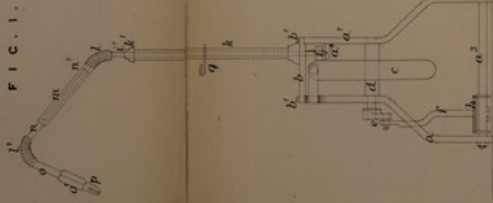


FIG. 1.



FIG. 2.

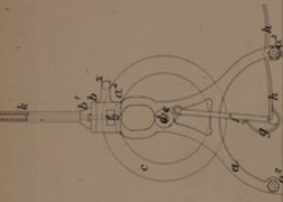


FIG. 3.



FIG. 4.



FIG. 5.

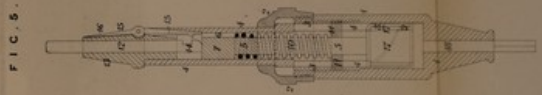


FIG. 6.

