G. W. LEVIN.

Automatic Dental-Plugger.

No. 166,710. Patented Aug. 17, 1875.

Fig. 1.

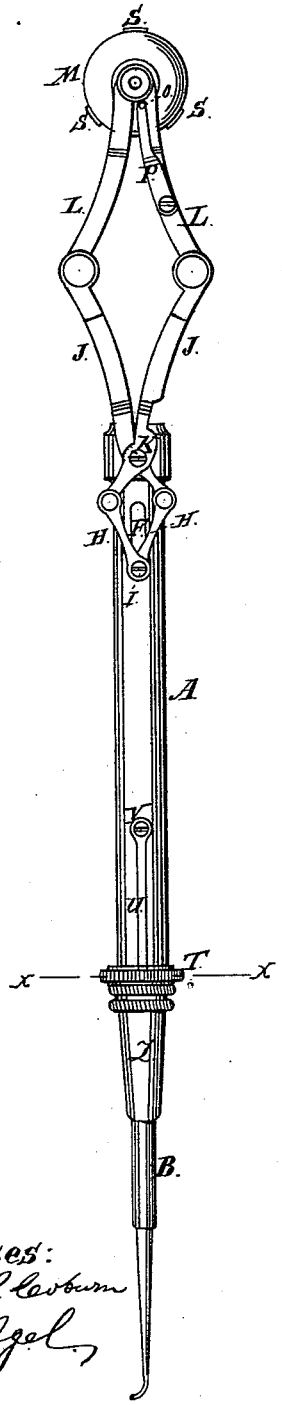


Fig. 2.

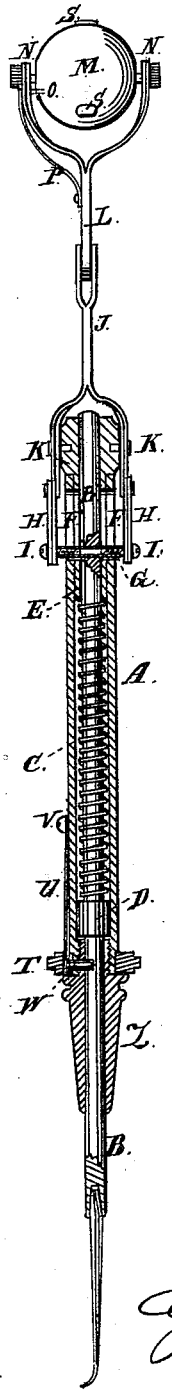
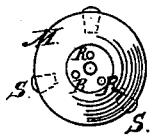


Fig. 3.



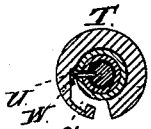


Fig. 4

Witnesses:
Lewis L. Coburn
Hugo Bigelow

Inventor:
G. W. Levin.

UNITED STATES PATENT OFFICE.

GEORGE W. LEVIN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN S. SWARTLEY, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **166,710**, dated August 17, 1875; application filed June 14, 1875.

CASE A.

To all whom it may concern:

Be it known that I, GEORGE W. LEVIN, of Chicago, county of Cook and State of Illinois, have invented an Improvement in Automatic Mallet, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

The object of my invention is to make a simple and effective dental instrument, which can be used in filling teeth by the dentist, and dispense with an assistant ordinarily employed to use the mallet.

My invention consists in the combination of the parts which operate the mallet; also, in the devices which are operated to convert the instrument from a mallet to a hand-pressure instrument, and in the mallet furnished with striking-surfaces of different kinds, so that it may have a steel surface or a yielding surface, all as hereafter fully explained.

In the accompanying drawings, Figure 1 represents a side elevation of my instrument; Fig. 2, a vertical section of the stock of the instrument; Fig. 3, a detached view of the mallet; Fig. 4, a cross-section of the instrument, taken at the line *x x* in Fig. 1.

A is the instrument stock or handle which the operator clasps to operate the instrument. B is the tool-holder, and extends loosely through the stock or body of the instrument, as shown in Fig. 2. C is a spiral spring, whose tension forces the tool-holder into the position shown in Fig. 2. This spring presses against the shoulder D on the tool-holder, and also against the lower end of the top piece E, which slips into the upper end of the stock A of the instrument. There are slots, F, through the stock A of the instrument and the lower part of the top piece E, through which the trunnion-pin G, which is attached to the tool-holder B, passes. The arms H H are pivoted to the end of this trunnion by means of screws I I. They are also pivoted to the lower end of the levers J J. The levers J J are pivoted to the top piece A at K, and also to the lower end of the arms L. These arms L are pivoted to the mallet-ball M by trunnions N. The mallet-ball M is made to turn with one of the arms L by means of a pin, O, attached to the spring P. This pin projects into holes R, (shown in Fig. 3,) and adjusts either of the striking-faces S of the mallet, so that it will strike the tool-holder when the instrument is opened.

I make these striking-pieces S, which are set in the mallet-ball M, of different material for a dental instrument. I make one of steel, and another of hard rubber, and another of soft rubber, so that the character of the blow produced by the instrument may be changed as desired.

T is a slotted ring, which passes upon the lower end of the stock A of the instrument. U is a spring attached to the stock A by means of the screw V. One end of this spring carries a pin, W, which, when forced down its entire length by turning the ring T into the position shown in Figs. 2 and 4, projects into the tool-holder B, and holds it stationary in the instrument. The instrument can then be used as any other instrument, its force being applied by pressure, while the mallet remains inoperative. By turning the ring T, so that the end of the spring U rises into the recess Y, the pin W releases the tool-holder B, and it will slide freely through the stock A of the instrument. Z is a piece which screws into the lower end of the stock A of the instrument, and forms a shoulder for the ring D, which is firmly attached to the tool-holder B, to strike against, and also holds the ring T in place, and makes a support for the lower end of the tool-holder. When the operator desires to use my instrument he pulls the pin O back from the mallet and turns the mallet, so as to give the desired striking-surface; he then places the tool in the instrument where he wishes to apply the blow, and, by pressing down on the stock A, slides it on the tool-holder B. This movement carries the trunnion G up in the slots F, and, by means of the pivoted arms H, vibrates the levers J on the pivots K, and causes a sharp blow of the mallet M upon the upper end of the tool-holder B.

When the operator relieves the pressure,

the spring C throws the stock A of the instrument up again, and restores the mallet into the position shown in the drawing, ready for another blow. If the operator desires to use the instrument as a hand-pressure instrument, he turns the ring T into position shown in Fig. 4, which presses the pin W down into the tool-holder B. This pin prevents the sliding motion above described, and enables the operator to press upon the instrument without operating the mallet.

I claim—

1. The stock A, the tool-holder B, the arms H, the pivoted levers J J, pivoted arms L, and mallet M, as specified.

2. The pin W, ring T, tool-holder B, and stock A, substantially as described.

3. The mallet M, provided with the striking-surfaces S, of different material, and hung upon bearings, as and for the purposes described.

G. W. LEVIN.

Witnesses:

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HEINRICH F. BRUNS.