C. KING.

DENTAL PLUGGER.

No. 186,580. Patented Jan. 23, 1877.

Fig. 1.

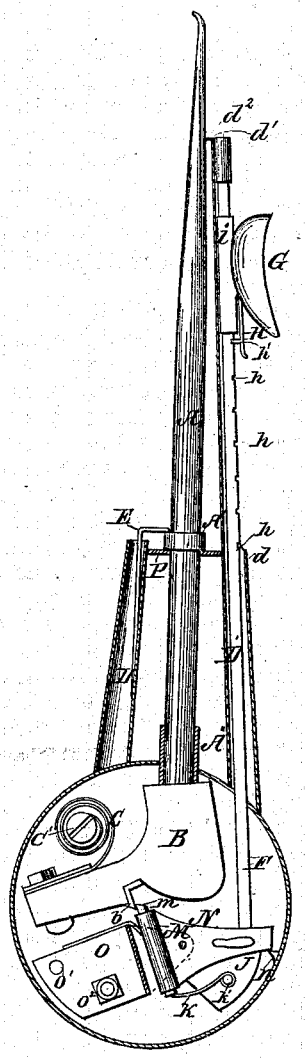
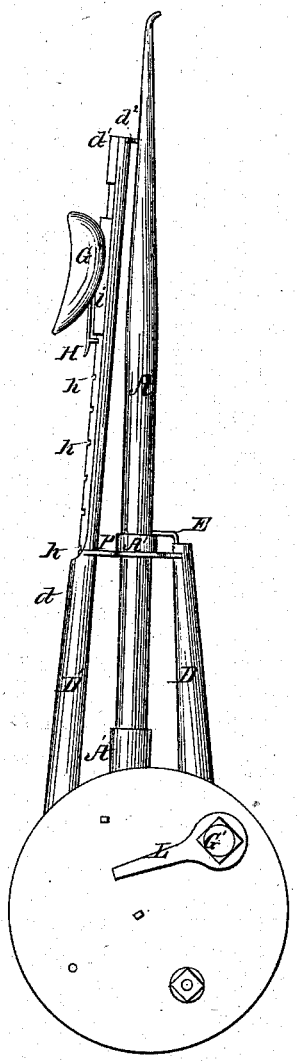


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

COURTLEN KING, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **186,580**, dated January 23, 1877; application filed July 24, 1876.

To all whom it may concern:

Be it known that I, COURTLEN KING, of Pittsburg, Pennsylvania, have invented a new and useful Improvement in Dental Pluggers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

Similar letters of reference indicate corresponding parts.

The objects of my invention are, first, an improvement on my dental plugger No. 179,201, granted June 27, 1876, by making the finger-hold adjustable to suit any sized hand, and also to give ease in the various stages or conditions in the plugging operation; also, the removal of one of the slotted stems or rods described in said Patent No. 179,201, and substituting a tube of about half the length, thereby giving more ease in the holding of the plugger and working the instrument.

The operating mechanism of Patent No. 179,201, as granted to me, is therein more fully described, rendering such full description unnecessary in this specification.

In the accompanying drawing, Figure 1 shows a longitudinal transverse section of my dental plugger, and Fig. 2 a reverse view of the same.

In the drawing, A represents the plugging instrument; B, the hammer; C, a coil-spring attached to and operating around the post C′. D and D′ are tubes depending from the circular box N, and are attached to the disk P. E is a steel spring, having the outer end angled, for the purpose of a bearing against the collar A′ of the plugging instrument A. F is the connecting-rod of the plugger. It extends from the point d^1 to the arm J. G is an adjustable finger-hold, to which is attached the spring H, which has a tooth, h', for fitting into the notches h h of the rod F. K is a wire spring, fixed to a pin or post, K′. L is a lever-regulator, being fixed to the post C′, and its office is to tighten or loosen the coil-spring C. M is a slotted cylinder affixed to the arm J, and in this cylinder the bolt m operates. O is a metallic frame-work, to which is secured the arm J. P is a metallic disk perforated through the center for the admission of the instrument A. N is the interior of the circular box inclosing the works of the plugger. A″ is a tube depending from the casing N, between tubes D and D′. b is the point of the hammer against which the bolt m works. d^2 is a semicircular brace with guide-groove, in which fits the instrument A. This groove or concavity is either formed in part of the tube, which is angled for the purpose, or is made of a separate piece, soldered on the tube D′. h h are notches in the rod F. h' is the tooth of the spring H.

To aid others skilled in the art to which it appertains, I will now proceed to describe how to construct and use my invention.

The plugging instrument A is provided with the collar A′ about in the center of the same. This collar may be raised, or, as an equivalent, it may be sunken in the instrument, and will answer the same purpose. The use of the collar is to hold the instrument A firm, preventing it from passing up through the disk P, and, by means of the spring E, from moving downward when operated upon. The groove d^2 serves also to keep firm the instrument A, preventing any lateral motion. The spring E serves to keep the instrument close up in the disk by pressure at the collar A′. In the tube D the spring E is situated, and is so placed as to always press against the instrument from below the collar A. The rod F extends from the arm J to the point d^1, down through the tube D′. The rod F is flat; though this is not a necessity to its office, as it may be any other shape. At the end of the rod, near the point d^1, it terminates in a round form, so as to fit more neatly in the tube D, as the latter is slotted from the points d^1 to d for the purpose of adjusting the finger-hold G. On and along the bottom of the hold G is constructed a slide, i, to work over the rod F, and on both sides of the same; and to this hold G and slide i is fixed the ratchet H, with the tooth h' for adjusting the finger-hold along the rod F, the latter being provided with the notches h for the purpose, the steel spring or ratchet H being arranged so as to press always against the rod F.

To enable others to understand the operation of my plugger, I will now describe the same.

The operator, having the plugger in his hands, can adjust the finger-hold G to suit the ease of his hand by raising the spring H,

drawing the tooth *h'* out of the particular notch *h* it may be in. The hold G may then be moved either way to suit, when the tooth *h'* again enters the proper notch, and the hold is secured against any longitudinal movement. The hold G being in the proper position on the rod F, the instrument A is placed against the filling in the tooth; then, by a sufficient pressure forward on the finger-hold G, through the medium of the rod F, arm J, and bolt *m*, the hammer B is raised some distance above the upper end of the instrument, and, as it raises up, the bolt *m*, by reason of its fixedness, and also that of the hammer B, slides off, and the hammer descends against the upper end of the instrument with the adequate force, the same being regulated by the lever L operating the coil-spring C. The stroke being given, a wire spring within the arm J restores the arm J to its former position, the bolt *m* being thrown into its place below the point *b* of the hammer B by pressure of the spring K against the end of the bolt *m*.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The adjustable finger-hold G, provided with the slide *i* and spring-catch H for securing the hold G in firm position on the rod F, substantially as described and shown.

2. In a dental plugger the combination of the finger-hold G, slide *i*, spring-catch H, and tooth *h'*, and rod F, substantially as described and set forth.

3. The rod F, having the notches *h h* for the purpose of adjusting the finger-hold G, substantially as described and shown, and for the purpose set forth.

4. The combination of the disk P, grooved brace or disk d^2, and the instrument A, substantially as described and shown, and for the purpose set forth.

COURTLEN KING.

Witnesses:
J. H. STEVENSON,
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