

(No Model.)

W. H. BALDWIN.

# DENTAL PLUGGER.

No. 356,221.

Patented Jan. 18, 1887.

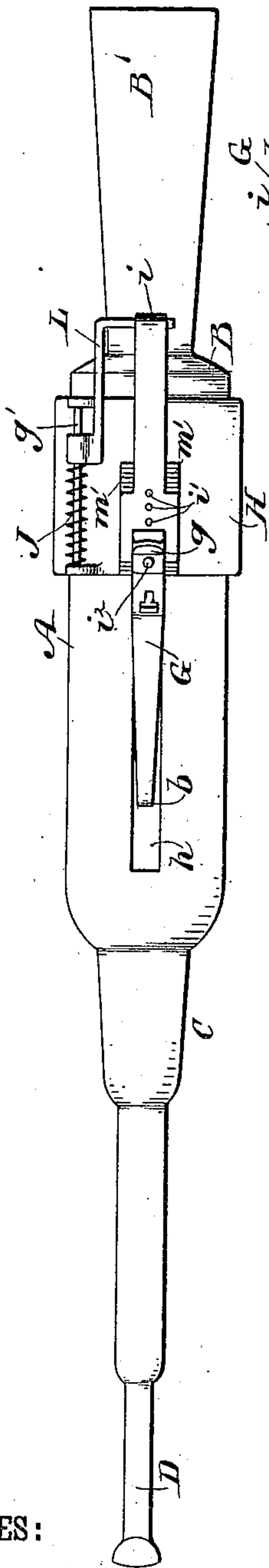


Fig. 3.



Fig. 4.

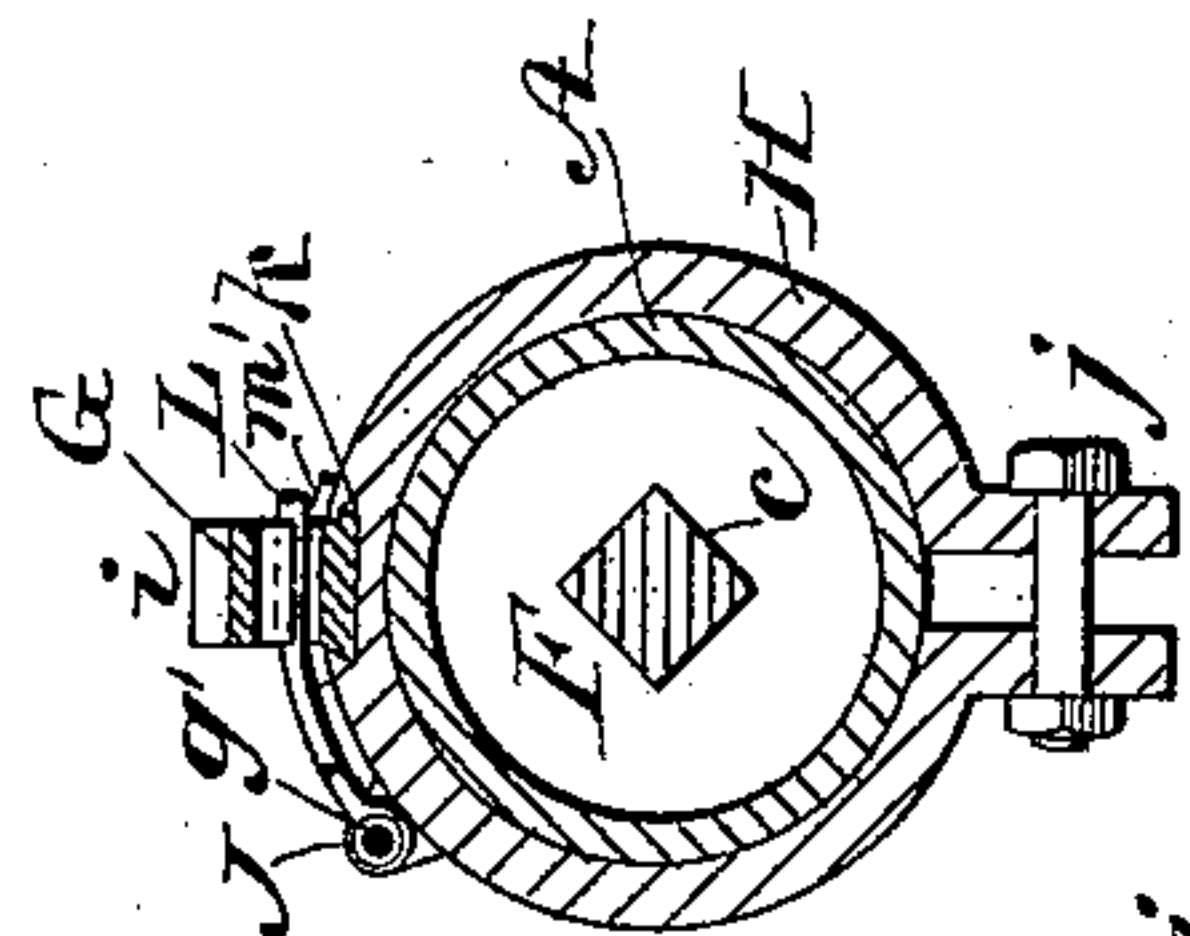
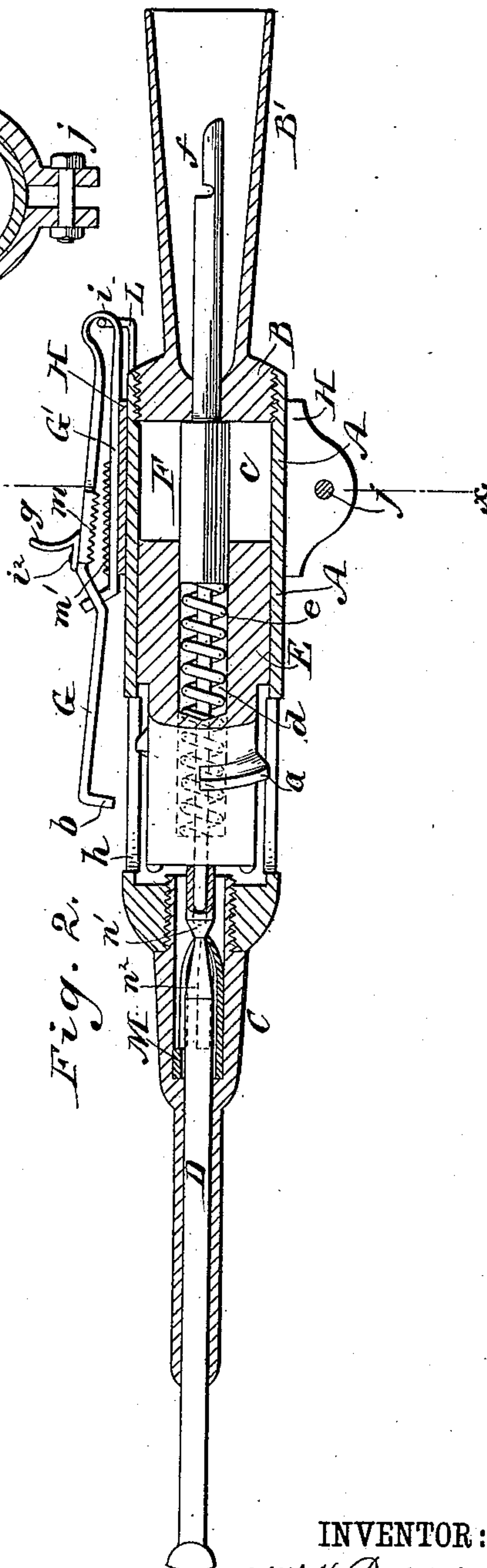


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## DENTAL PLUGGER.

SPECIFICATION forming part of Letters Patent No. 356,221, dated January 18, 1887.

Application filed May 21, 1886. Serial No. 202,875. (No model.)

*To all whom it may concern:*

Be it known that I, WINFIELD H. BALDWIN, of Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and Improved Dental Mallet, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my new and improved dental mallet. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is an enlarged view of the plugger or other dental tool; and Fig. 4 is a section on line *x*, Fig. 2.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

A represents a casing, closed at one end by the head B. The opposite end of the casing carries the hollow point C, in which the plugger or other dental tool D is held. The interior of the casing A forms a cylindrical chamber or cylinder to receive the striker or mallet E, which is adapted to be revolved by the spindle F. Upon the outer surface of the striker E is formed a spiral rib, *a*, with which the stud *b* is adapted to engage, for causing the striker as it revolves to have also a reciprocating motion for delivering blows upon the inner end of the tool D. The striker E is connected to the spindle F by the square portion *c* of the spindle, which fits in a square cavity, *d*, formed nearly through the striker. In the cavity *d* is placed a coiled spring, *e*, which acts between the bottom of the cavity *d* and the square portion *c* of the spindle, so that when the striker is elevated on the spindle by the spiral flange *a*, running in contact with the stud *b*, the spring will be compressed, so when the spiral flange passes the stud *b* the spring will force the striker forward and cause it to strike a blow upon the inner end of the tool D. The spindle F may be revolved by a flexible shaft coming from a foot-power or any dental motor in common use, the shaft being connected to the end *f* of the spindle, which is surrounded by the guard B', formed in this instance as a part of the head B.

The stud *b* is formed as a part of a thumb-plate, G G', which is arranged in line with the

slot *h*, made in the casing A, so that when the plate G is depressed the stud *b* will pass through the slot in position to engage the spiral flange *a* and cause the striker to reciprocate when revolved by the spindle F. The plate G is held normally slightly away from the casing A, as shown in Fig. 2, by a spring, *i*, formed in this instance as a part of the plates G G'; but a separate spring might be used, if desired. The plate G' is for attaching the plate G to the casing, and it is placed in a dovetailed groove, *k*, formed in the band or clamp H, which is held on the casing by a bolt, *j*. The plate G' fits loosely in the groove *k*, so it may be easily moved longitudinally for changing the position of the stud *b* to cause the striker to deliver hard or light blows upon the tool D, as desired. In this manner the user of the mallet has full control of the force of the blow delivered by the striker, and he can easily vary it by simply forcing the plate G forward, which will diminish or weaken the force of the blow, or draw it backward, which will increase the force of the blow, owing to the increased distance the striker is caused to move.

To facilitate the movement of the plate G G', I provide it with the stud *g*, against which the thumb of the user may be pressed to force it forward, and to draw the plate backward I apply the spring J to it, the spring in this instance being placed upon the rod *g'*, in front of the slide L, which is placed loosely upon the rod *g'*, and is bent to connect with the plate G G', as shown clearly in Figs. 1 and 2. The stud *g* is made adjustable by means of a series of holes, *i'*, and screw *i''*, so it may be adjusted to suit the hand of the user.

When the plate G is depressed for causing stud *b* to enter the casing A, to engage the spiral flange *a*, the tendency of the striker is to force the plate G and stud *b* forward. This I counteract by a series of teeth, *m*, formed upon the under surface of the plate G, combined with a series of teeth, *m'*, formed upon the band H, arranged so that the teeth *m* will engage the teeth *m'* when the plate G is depressed, but will disengage such teeth when pressure is removed from the plate G.

The tool D is formed at its inner end with a socket or cup, *n*, to receive the lower end of the spindle F, and below the cup it is reduced to form the inclines *n' n''*, arranged to be en-



- gaged by the tongues of the cluster-spring M, so the spring will act to hold the tool in place in the point C, and also to return the tool after each stroke of the striker E upon it. The in-
- 5 cline  $n'$  is made polygonal in cross-section, so that the tongues of the spring M, acting upon the flat surfaces, will prevent the tool from turning in the point C of its own accord. The incline  $n^2$  might be left circular.
- 10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—
1. In a dental mallet, a cylinder, a revolving spindle, and a spirally-ribbed striker
- 15 placed within the cylinder; in combination with a spring arranged to act upon the striker, and a studded thumb-plate arranged to engage the spiral rib of the striker, substantially as described.
- 20 2. The casing A, slotted at  $h$ , in combination with the spirally-ribbed striker E, spindle F, spring  $e$ , and sliding and studded thumb-plate G, substantially as described.

3. The dental tool D, formed with a socket at its upper end, in combination with the spindle F and striker E, substantially as described. 25

4. The tool D, formed with double adjacent inclines  $n' n^2$ , in combination with the point C, provided with the springs M, substantially as described. 30

5. The tool D, formed with the double adjacent polygonal inclines  $n' n^2$ , substantially as described.

6. The thumb-plate G, having stud  $b$  and teeth  $m$ , in combination with the teeth  $m'$ , for 35 holding the plate stationary, substantially as described.

7. The combination, with the sliding plate G, of the spring J, arranged to return the plate, substantially as described.

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Witnesses:

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