# A. J. POLK.

## Dental-Pluggers.

No. 166,139. Patented July 27, 1875.

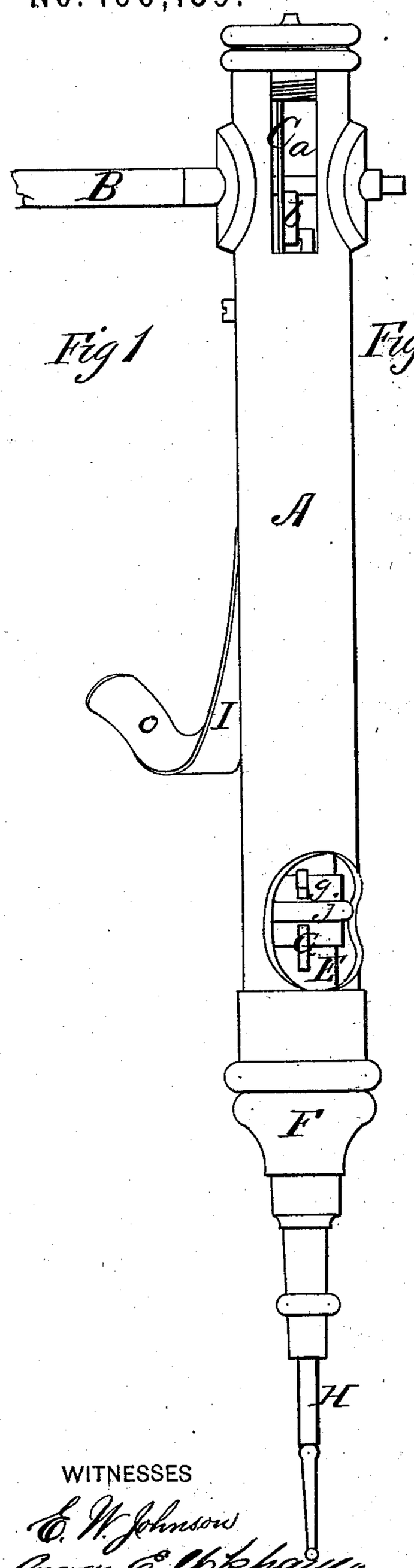


Fig 1

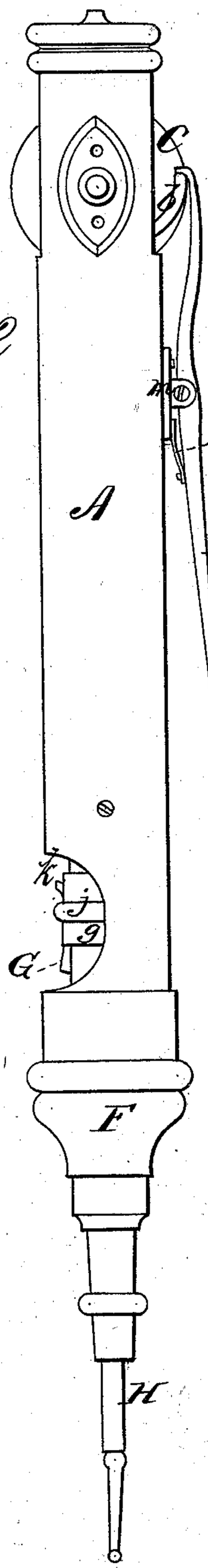


Fig 2

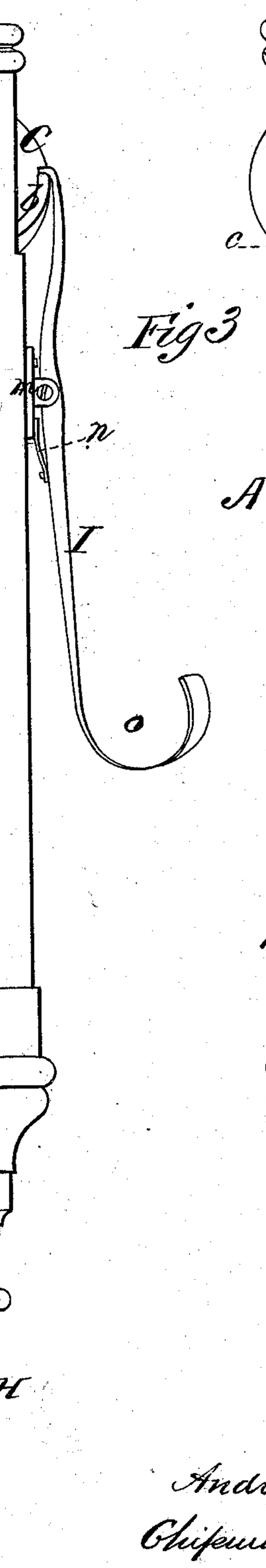


Fig 3

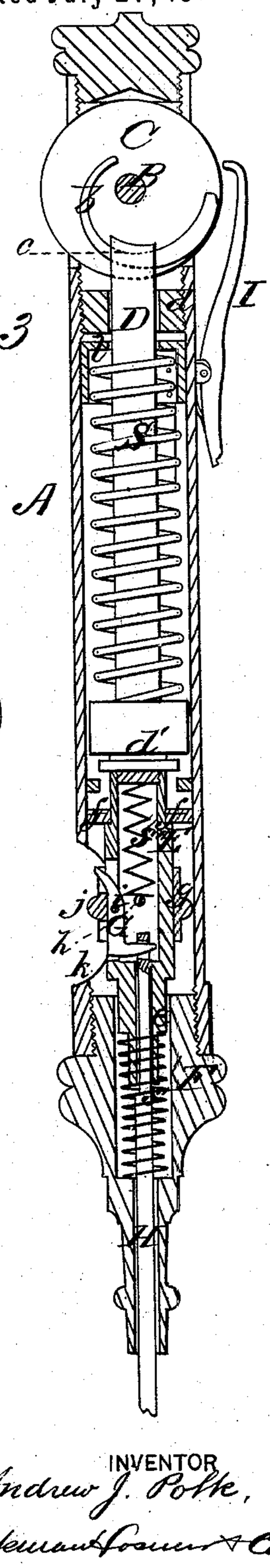


Fig 4

WITNESSES

E. W. Johnson

George C. Upham

INVENTOR

Andrew J. Polk,

Chipman & Souer & C.,

ATTORNEYS

# UNITED STATES PATENT OFFICE

ANDREW JACKSON POLK, OF MILLERSBURG, PENNSYLVANIA.

## IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **166,139**, dated July 27, 1875; application filed May 15, 1875.

*To all whom it may concern:*

Be it known that I, ANDREW J. POLK, of Millersburg, in the county of Dauphin and State of Pennsylvania, have invented a new and valuable Improvement in Dentists' Automatic Pluggers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawing are representations of plan views of my plugger, and Fig. 3 is a longitudinal central sectional view of the same.

This invention has relation to improvements in pluggers for filling teeth with gold or other foil; and the nature of the invention consists in combining with an intermittently-reciprocating plugger-bar and its actuating-spring a device whereby the spring may be compressed, increasing the strength of the stroke given to the plugger-bar according to the needs of the dentists, as will be hereinafter more fully explained and claimed.

In the annexed drawings, A designates the tubular casing of my improved dental plugger, the same being preferably of cylindrical form, and of any desired dimensions. In the upper end of this tube a metallic shaft, B, has its bearings, upon which a disk, C, is rigidly secured, which rotates through slots *a* cut therein, as shown in Fig. 1, and is provided with a strip-segment, *b*, of eccentric form, which engages with a notch, *c*, cut in the upper end of an endwise-movable hammer-rod, D, arranged in the said casing and guided in its movements therein by a diaphragm, *d*, through which it passes. Hammer-rod D is provided with a hard-rubber head, *d'*, between which and diaphragm *d* is arranged a suitable helical spring, S; and when the said rod is raised by the operation of eccentric strip-cam *b*, through the rotation of disk C, spring S will be compressed, causing rod D, when released from strip *b*, to impart a sharp tap to an endwise-movable tool-holder, E, which is held to its engagement with hammer-rod D by a spring, *s'*, recessed into a detachable nozzle, F, and compressed by a shoulder, *e*, upon the lower end of the said holder. Holder E is guided in its movements by means of its cylindrical lower end, which fits snugly into the recess of nozzle F and by a diaphragm, *f*, through which its reduced upper end passes; and it is tubular, so that a suitable spring, *s''*, may be placed therein for the purpose of holding a slide, *g*, applied upon the said holder and held against rotation thereon by means of a pin, *h*, passing into a slot cut longitudinally therein from upward displacement, whereby a catch, G, pivoted at *i* in a second slot in the said tool-holder would be allowed to escape from its engagement with the perforated end of a plugging tool, H. This catch is of angular form, and its power end is turned outwardly, so that when slide *g* is forcibly thrust upward, it will depress the said power end, thus disengaging its other end from a perforation in the end of the plugging-tool. The shank of this tool is prismatic in form, and it fits into a correspondingly-shaped socket in the holder, so that it is prevented from all rotation independent thereof; this rotation, when necessary for guiding the end of the plugging-tool to a tooth in different part of the mouth, being obtained by rotating the holder itself through the medium of a milled annulus, *j*, on slide *g*, to which access is had for the purpose through a suitable opening, K, cut in the wall of the case, as shown in Fig. 2.

With a view to increasing the power of hammer-spring S to suit the wants of the dentist under different circumstances, the upper end of the said spring is inclosed within a sliding cap, *l*, in the interior of casing A, which slide is rigidly secured to a metallic plate, *m*, upon the outside thereof, as shown in Fig. 2, which plate affords a fulcrum for a vibrating lever, I, the weight end of which is adapted to hook over strip-eccentric *b* on disk C, and arrest its rotation when necessary; this engagement being made automatic and positive by by means of a spring, *n*, rigidly secured to the under side of the power-arm of the said lever-pawl, with its free end resting upon plate *m*. The extreme end of the power-arm of pawl I is turned upward, as shown at *o*, thereby affording a thumb-rest, whereby the dentist is afforded

a convenient means for thrusting sliding cap *l* downward, thereby compressing spring S and greatly increasing its hammering power.

Shaft B, as shown in Fig. 1, projects considerably out from case A, and a pulley-wheel may be applied thereon, thus allowing disk C to be actuated by means of an endless belt, connected with a suitable motor.

What I claim as new, and desire to secure by Letters Patent, is—

1. The spring S, adapted to be compressed by slide *l*, in combination with tool-holder E and hammer-rod D, substantially as specified.

2. The lever-pawl I, in combination with slide *l* and actuating-spring S, substantially as specified.

3. The lever-pawl I and spring *n*, in combination with a disk, C, having eccentric segmental strip *b*, substantially as specified.

4. The locking-slide *g*, having milled annulus *j*, in combination with a latching-dog, G, and its retainer-spring *s'*, substantially as specified.

5. The case A, having aperture *k* for operating a rotating tool-holder, E, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ANDREW JACKSON POLK.

Witnesses:
D. W. PERRY,
M. WEAVER.