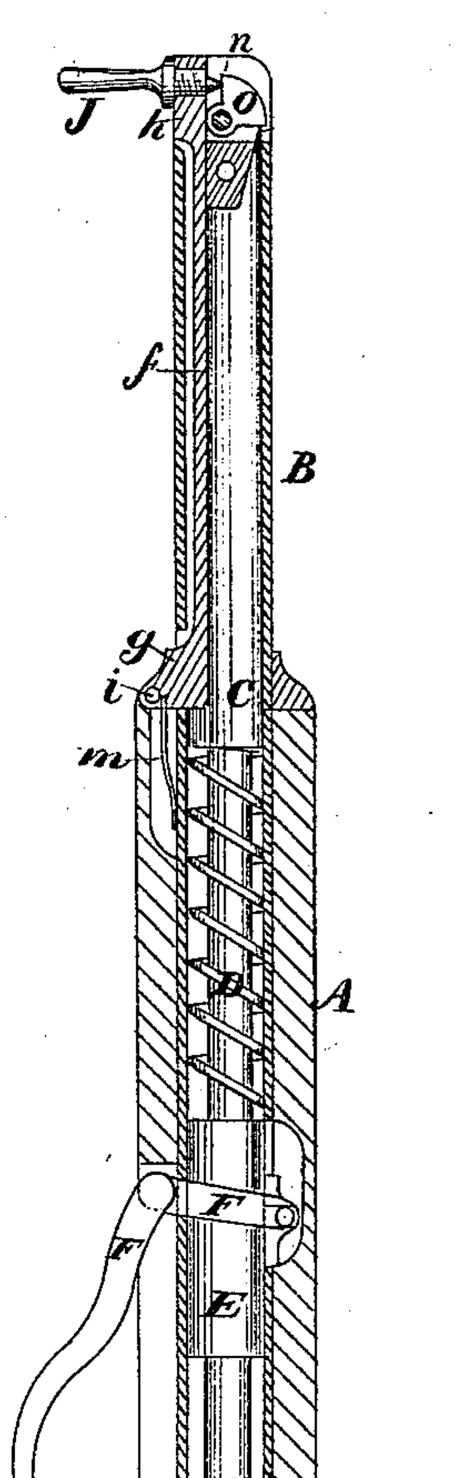
T. CROSSETT.

Dental-Plugger.

No. 166,752. Patented Aug. 17, 1875.



Witnesses

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UNITED STATES PATENT OFFICE.

TRUMAN CROSSETT, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **166,752**, dated August 17, 1875; application filed March 25, 1875.

CASE B.

To all whom it may concern:

Be it known that I, TRUMAN CROSSETT, of San Francisco city and county, State of California, have invented an Improved Dental Plugger; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to certain improvements in that class of dental pluggers in which the bit or striking-point is attached at a right angle to the end of the implement so as to be more conveniently handled and operated in the mouth.

My improvements consist, first, in a novel arrangement for transmitting the blow of the hammer or spring shaft to the bit or plugging-point; secondly, in an improved device for increasing the force of the blow when desired; and, thirdly, in the method of adjusting the position of the implement with reference to the driving-shaft of the engine or motive power, to which it is attached.

In the drawings accompanying this specification, Figure 1 is a longitudinal section in elevation.

A is a hollow handle, and B the hollow stem or shank, of a plugging implement. The hammer consists of a rod, C, which passes longitudinally through the hollow handle and stem. A spiral spring, D, surrounds a portion of this rod inside of the handle A, one end of which bears against an enlargement on the shaft, while its opposite end bears against the end of a sliding sleeve, E, through which the rod passes. This sliding sleeve is placed at about the middle of the handle, and is arranged to be moved against the end of the spring by means of a crank-lever, F, one arm of which projects through the shell of the handle, so that the operator can, by pressing down upon the projecting arm or lever, condense the spring and increase the force of the blow. *f* is an arm, which I place inside of the stem or shank B, alongside the hammer or shaft C. This arm extends from the termination of the handle A through the entire length of the stem, and has an enlargement, *g*, on its lower end, and another, *h*, on its upper end. The enlargement *g* passes through a slot in the lower end of the stem, and is secured by a pin, *i*, while the enlargement *h* on its outer end passes through a slot in the outer end of the stem, and into which the plugging-point J is secured at right angles to the stem. The arm *f* passes loosely through the stem, so that its outer end, to which the plugging-point is attached, can move back and forth between the hammer and shell of the stem, the center of motion being the pivot or pin *i* at the end of the handle, thus insuring a straight movement of the point. To transmit the blow of the hammer to the plugging-point I employ a pivoted metal block, O, in the end of the shank B. This block is constructed with two faces, which are at right angles to each other, and the pivot or center of motion is at the junction of these two sides, thus forming a pivoted segment with two faces at right angles to each other. One of these faces stands across an inward-projecting point, *n*, in the rear of the plugging-point, so that when the hammer strikes the face of the segment the blow will be transmitted by the segment to the plugging-point, and force it outward at right angles to the blow of the hammer. A spring, *m*, may be applied to retract the arm *f* and plugging-point after each stroke of the hammer, if desired; but, usually, the pressure of the point upon the filling in the tooth will be sufficient. The hammer or shaft C is raised by a spiral flange or screw-section, *p*, which is formed on the end of a short driving-shaft, Q, in the rear end of the handle. The rear end of the hammer-shaft is so formed with a projection, *r*, which catches upon the screw or spiral flange and withdraws the hammer with each revolution of the shaft. The shaft Q is driven by means of a crown-wheel, *t*, which is formed on its opposite end, and which engages with a toothed wheel, *u*, on the end of a shaft, V, that projects through the side of the handle at right angles to the shaft Q, or bevel-gears may be used to connect the two shafts Q V. The shaft V can be attached to the driving-shaft of any dental

engine, in order to provide the power and motion required to operate the hammer. The stem B can be made in two parts, which screw together, so that a straight point can be substituted for the right-angled one, if desired, by screwing on a different end piece.

In order to provide for shifting the position of the plugging-point with reference to the shaft V, I secure the shaft V in a cap, W, which fits against the rear end of the handle, and then secure the cap in place by means of a ring-coupling, X, so that, by loosening the ring, the instrument can be turned without detaching the shaft V from the engine, and thus accommodate the plugging-point to the position of the work, after which the ring can be tightened so as to fix the cap in place.

I thus provide a plugger for dental use which will be very convenient and easy to operate.

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

1. In a dental plugger, the arm *f*, pivoted, as described, and having the plugging-point J secured to its outer end at right angles to the stem B, in combination with the spring-hammer C and intermediate segment-block O, substantially as and for the purpose described.

2. The segment-block O, pivoted at its angle, and having two faces at right angles to each other, in combination with the hammer C and movable plugging-point J, all combined and arranged to operate substantially as above described.

3. The cap W, with its shaft V and pinion U, in combination with the coupling-ring X, substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal.

TRUMAN CROSSETT. [L. S.]

Witnesses:
JNO. L. BOONE,
C. M. RICHARDSON.