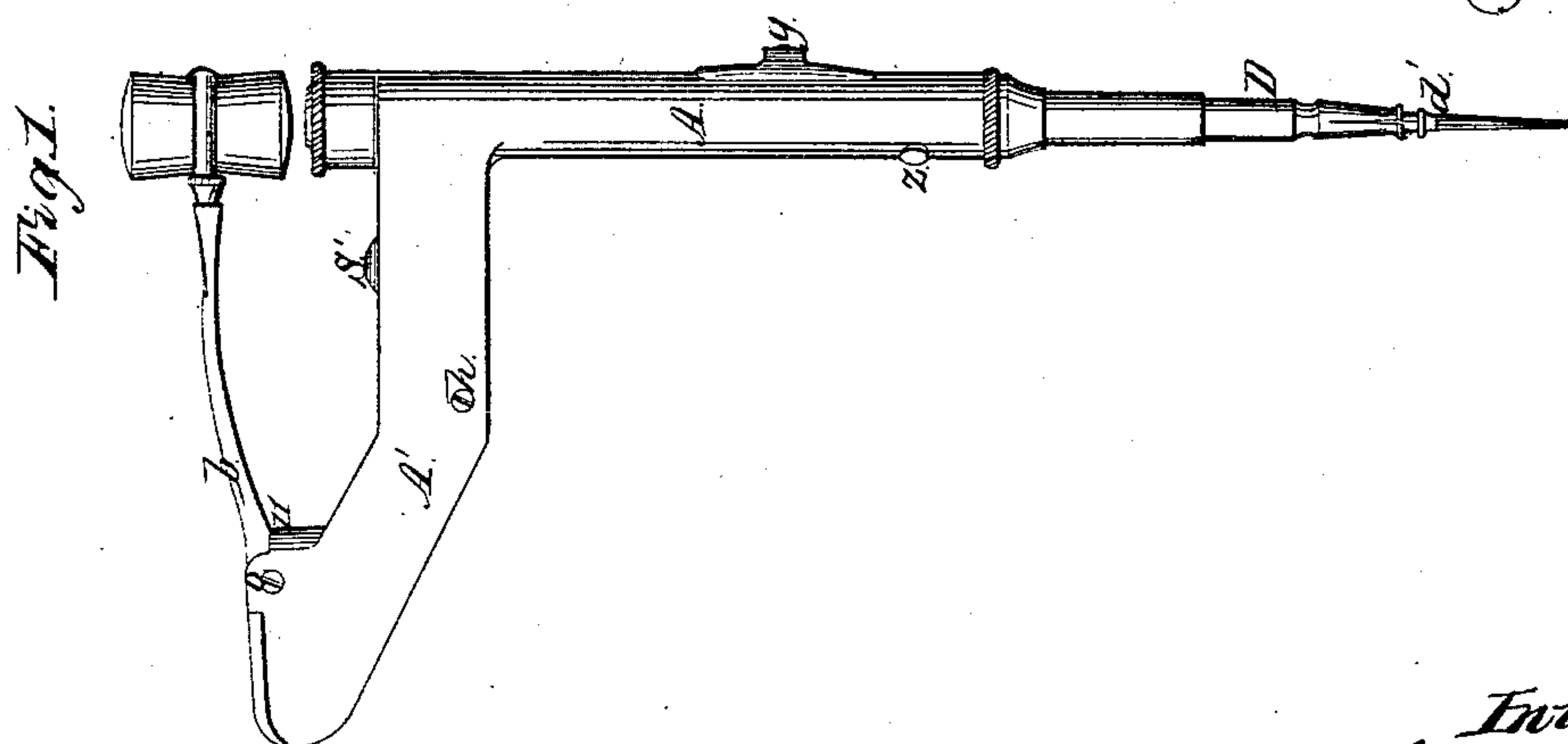
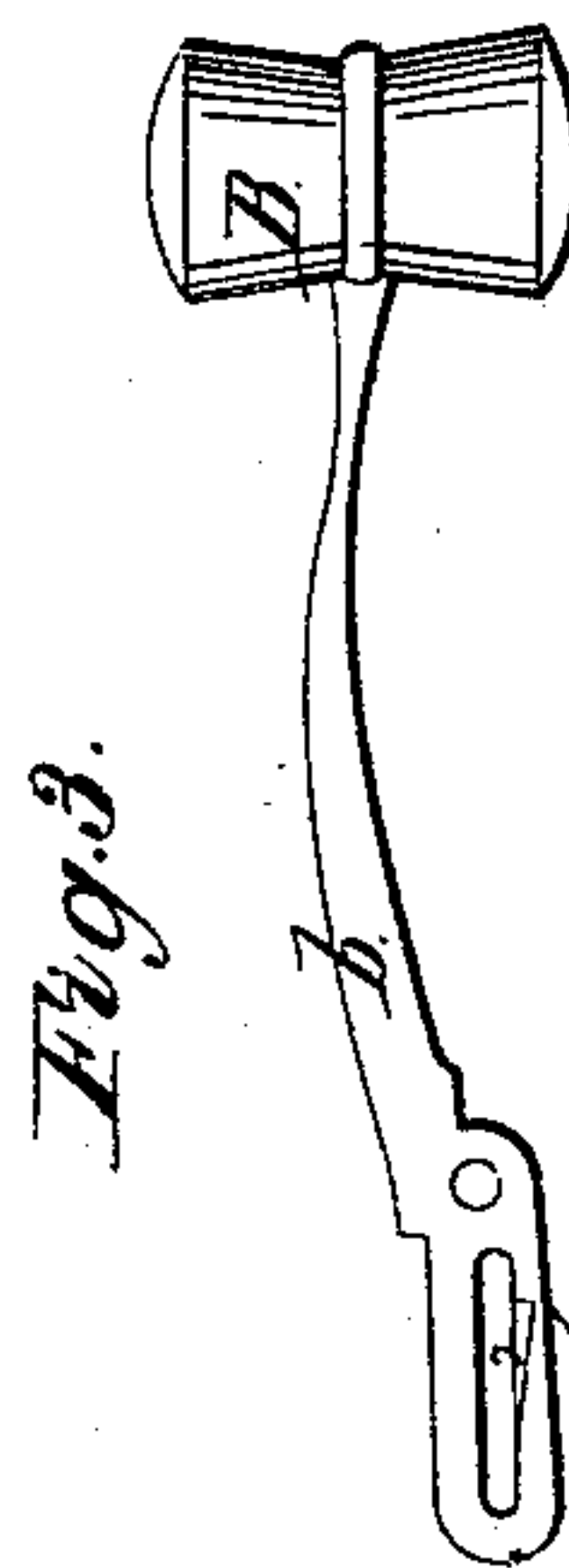
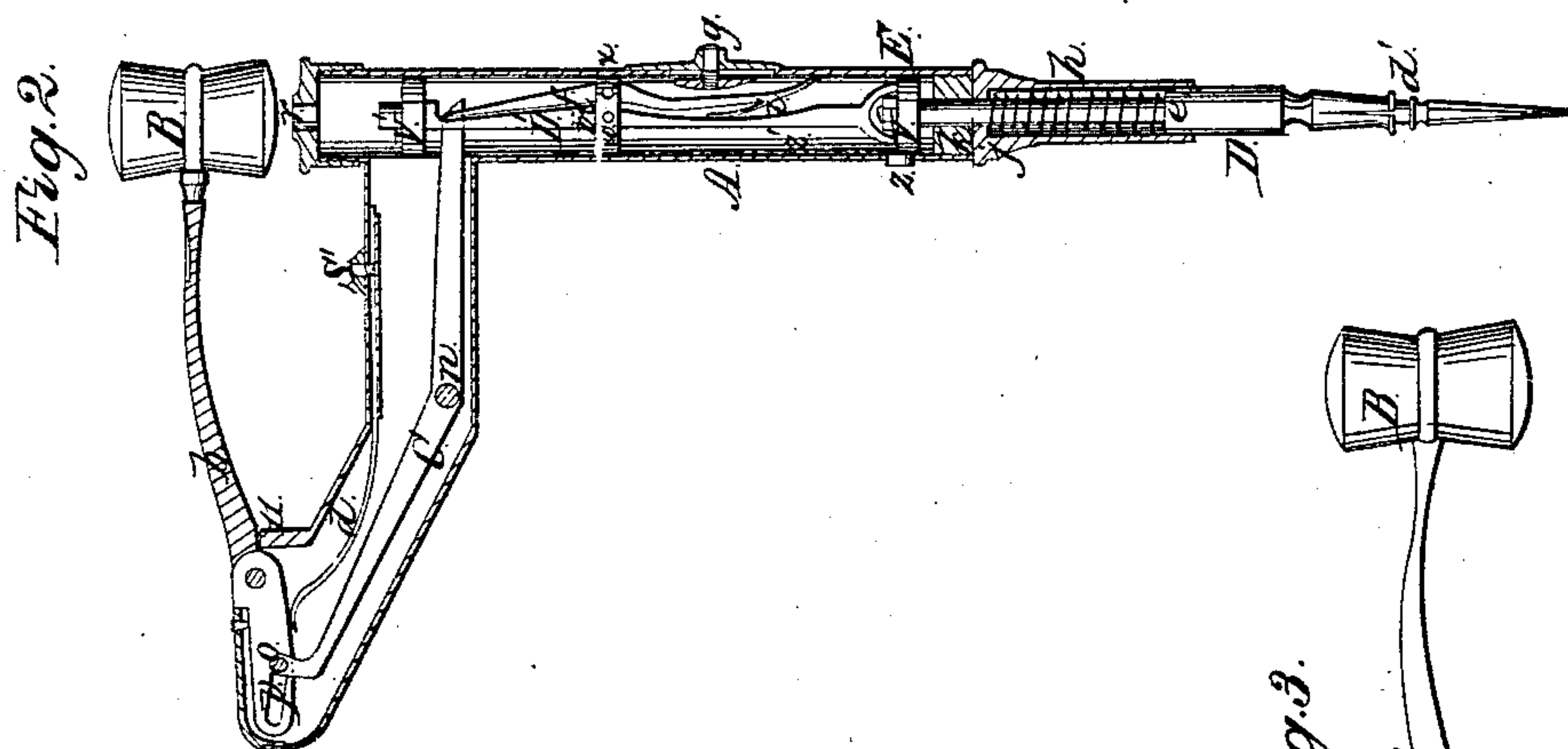


W. G. REDMAN.
DENTAL PLUGGER.

No. 61,460.

Patented Jan. 22, 1867.



Witnesses.
Geo. Fusch
Wm. Jewin

Inventor.
William G. Redman
Per Munn & Co
Attorneys

United States Patent Office.

WILLIAM G. REDMAN, OF LOUISVILLE, KENTUCKY.

Letters Patent No. 61,460, dated January 22, 1867.

IMPROVEMENT IN DENTAL PLUGGERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM G. REDMAN, of Louisville, in the county of Jefferson, and State of Kentucky, have invented a new and improved Gold Condenser; and I do hereby declare that the following is a full, clear, and exact description thereof.

The nature of my invention consists in constructing an instrument for condensing gold in the process of filling teeth, and for preparing the cavity for filling, whereby the operation is much more perfectly performed than by the old method.

And to enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the accompanying drawings, which form a part of this specification, and to the letters of reference marked thereon.

Figure 1 represents a side view of the instrument complete.

Figure 2 is a longitudinal section of fig. 1, showing the internal arrangement of the parts of the instrument.

Figure 3, represents a modification of the hammer-helve.

Similar letters indicate corresponding parts.

The machinery by which this instrument is operated is enclosed in a metallic case, A and A', the hammer B, with its spring helve, b, being exposed to view. The arm C, and the spring d, which act directly on the hammer-helve, are enclosed in that part of the case marked A'. D is the bar, the top end of which receives the blow from the hammer. This bar is in two pieces, the two being connected together by a swivel joint at E. The upper portion of the bar is represented by D'. f is the let-off bar, which moves up and down with D and D'. g is a movable inclined plane, the position of which determines the force of the blow. The lower end of f is kept from D', and against the casing, by a little spring, i, which is attached to f, and bears against D'. The lower end of the bar D is split into two or more parts, which parts form springs to keep the condensing tool or chisel in place. Further up there is a shoulder within the case at e, against which rests one end of a spiral spring, seen at h. The other end of this spring bears against a portion, j, of the casing. This portion of the casing is attached by a screw, as seen in fig. 2, at k. The upper portion of the bar D' has a long slot in it which receives the end of the arm C. The end of the arm C is seen at l, projecting through the slot; the lower end of the slot is indicated by dotted line at m. The projecting end of the arm C rests in the top end of the let-off bar f, that end of f being in the form of a fork to receive it. The arm C works upon a pin or fulcrum, n, the other end being attached to the spring-helve of the hammer, at o. This end of C is forked with a pin, at o, which works in the slot seen at p, in the spring-helve. Under the spring-helve, and attached to the casing at s', is a spring, d. The end of the spring-helve b, as well as the arm or lever C, has room to move and operate in the casing A'. The casing A also allows play for the parts which it contains. The upper end of the bar D', when raised to receive the blow, passes through the cap of the case at r. This cap is seen at u, and screws on as seen in the drawing. V V' are disks attached to the bar. One, V', is seen near the top of the bar D', where it acts as a guide for the bar. The other disk, V, forms a portion of the swivel joint. There is another plate or partial disk, w, attached to the bar D'; it is slotted to the let-off bar f. The bar f works in this slot, being secured and kept in position by a pin or bolt, X. At z there is a stop, the end of which projects through the case. The other end is attached to a spring, indicated in the drawing by z'. This spring, z, is attached to the case at its upper end, as is indicated in the drawing by a red line. By crowding this stop in the working of the machinery is immediately stopped.

To operate with the instrument it is held as one would hold a pen between the thumb and forefinger, with A' hanging over the back of the hand. Now by pressing down on the point or tool d', the bar D D' is raised, carrying the let-off bar f with it. The spiral spring at h is compressed and the end of the arm C is raised; this brings the end of the spring-helve down and raises the hammer. When the lower end of the let-off bar f reaches the inclined plane at g, the upper end of f is forced off the end of the arm C; when this takes place the bar is not high enough to receive the blow, but the recoil of the spiral spring throws the top of the bar through the casing at r, where it receives the blow from the hammer. The liberation of the arm C, and the recoil of the spring, are of course simultaneous movements. After a blow is struck the machinery is in position for another blow from a like pressure upon the point. If a light blow be desired, move the inclined plane g down;

for a heavy blow move it up. The inclined plane is moved up or down by the thumb of the operator, and the force of the blow is determined accordingly, as the inclined plane regulates the elevation of the hammer. The flat spring *d*, which operates against the short end of the helve *b*, is strained when the hammer rises, and when the arm *C* is liberated the recoil of the spring throws the hammer down with a force proportioned to its elevation. The swivel joint allows the lower portion of the bar *D* to rotate with the tool, which motion is necessary when preparing a cavity for filling. The modification represented in fig. 3 relates to the slot in the helve of the hammer. When the pin or bolt which works in this slot reaches the offset at *i*, the hammer drops, and the pressure being continued, it rises again and strikes the blow required. After the blow is given, the spring represented by 2 in the drawing carries the bolt back to its place. By this arrangement a light blow can be given before the main blow is struck. It will be noticed that when the instrument is at rest as represented in the drawing, the hammer does not rest upon the top of the case but stands above it. This is because the spring-helve strikes the casing *A'* at 11, and rests there, so that the main force of the blow is given by the momentum of the hammer acting upon the spring-helve from the point 11. After the blow, the spring re-acts and remains as seen in the drawing.

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

1. The casing as represented in form by *A* and *A'*, containing the bar *D D'*, the let-off bar *f*, the spiral spring *h*, the spring and stop *z* and *z'*, the disks *V* and *V'*, the partial disk or joint piece *w*, and the swivel joint *E*, constructed substantially as described for the purpose specified.

2. I claim the arm or lever *C*, connected with the spring-helve, by slot and bolt, substantially as described.

3. I claim the spring-helve *b*, and its connection with the case at 11, and also the spring *d*, acting against the helve.

WILLIAM G. REDMAN.

Witnesses:

OSCAR B. THAYER,
JAS. K. LEMON.