(Model.)

C. F. BLIVEN.

DENTAL PLUGGER.

No. 279,908. Patented June 26, 1883.

Fig. 1.

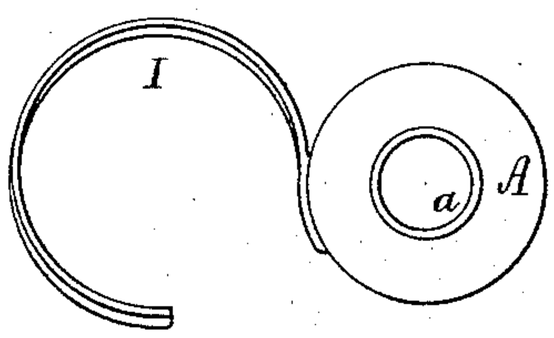


Fig. 4.

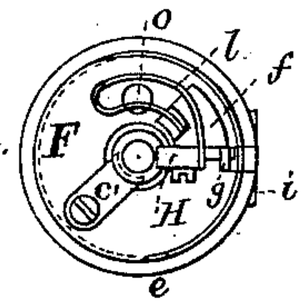


Fig. 2.

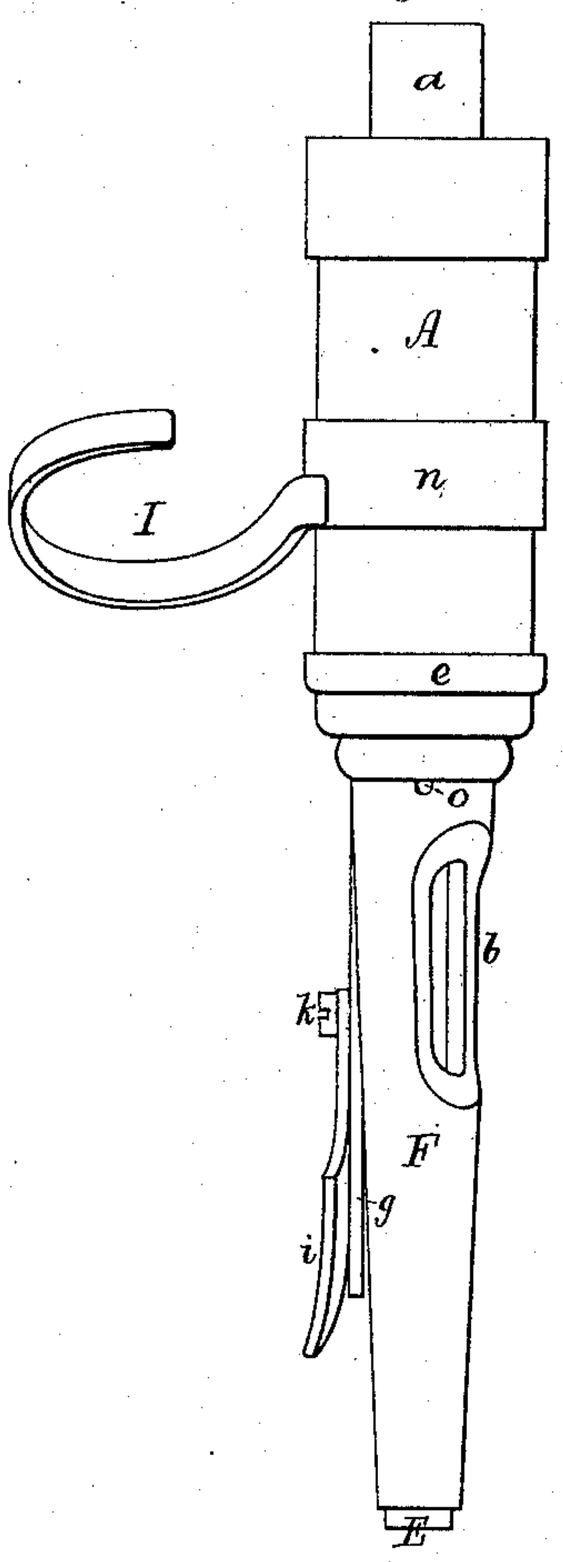


Fig. 3.

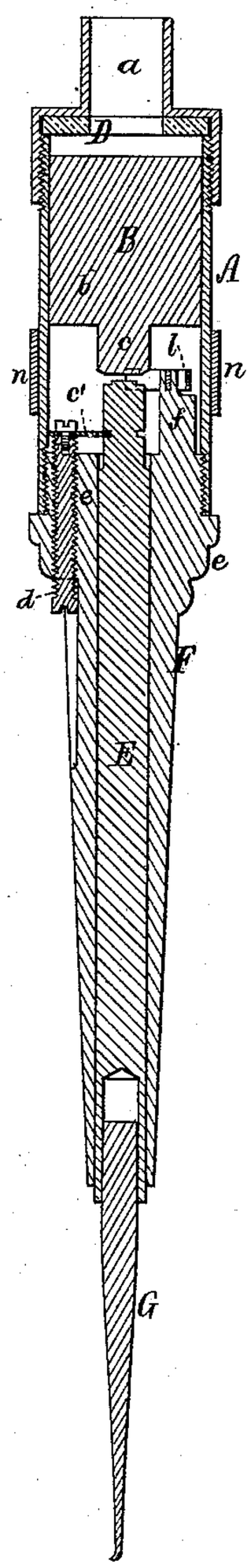
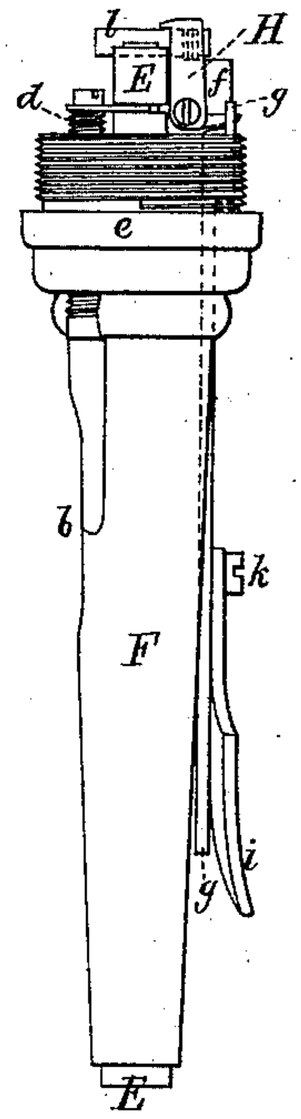


Fig. 5.



Witnesses.

S. N. Pipes

E. B. Pratt.

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UNITED STATES PATENT OFFICE.

CHARLES F. BLIVEN, OF WORCESTER, MASSACHUSETTS.

DENTAL PLUGGER.

SPECIFICATION forming part of Letters Patent No. 279,908, dated June 26, 1883.

Application filed May 8, 1883. (Model.)

To all whom it may concern:

Be it known that I, CHARLES FRANCIS BLIVEN, of Worcester, in the county of Worcester, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Apparatus for Plugging Teeth or Condensing Gold in their Cavities; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a longitudinal section, of an apparatus embodying my invention, the nature of which is defined, or attempted to be, in the claims hereinafter presented. Fig. 4 is a top view, and Fig. 5 a side elevation, of the tool-carrier supporter independently of the cylinder to be described.

In such drawings, A denotes the cylinder, which has within it a piston or hammer, B. At its upper end the cylinder is provided with a nipple, *a*, to receive a flexile pipe, for conducting air into the cylinder for depressing or forcing downward the hammer, the main part *b* of which is cylindrical and fits the bore of the cylinder. The striking part or head of the hammer is shown at *c* projecting from the lower end of the portion *b*, and is concentric therewith. The cylinder screws upon the upper part of the tool-carrier supporter F, and there is in the upper part of the said cylinder a spring or elastic washer, D, against which the hammer is brought at the termination of each upward stroke, and from which it rebounds at the commencement of each downward stroke. This washer prevents the hammer from striking the cylinder-head with force, so as to produce noise, and, besides, it aids in depressing the hammer. This hammer is to be operated by an apparatus of suitable kind, to rapidly alternately force air into and withdraw it from the cylinder, or the part thereof above the hammer. In descending the hammer strikes upon the head or upper end of the tool-carrier E, arranged within and adapted to slide lengthwise in a tapering tubular supporter, F, such tool-carrier being at its lower part or end suitably socketed to support in it a tool, G. In the tool-carrier supporter F is a notch, *b*, to receive the thumb of a person while using the instrument, and to allow such thumb to rest in contact with or bear against the tool-carrier. Near its upper end the tool-carrier is notched to receive the end of a spring, *c'*, which is pivoted to the upper end of a screw, *d*, arranged as shown, and adapted to screw upward into the head or upper part, *e*, of the supporter F, the connection between the spring and screw being such as to join them together and admit of the screw being revolved in the spring. The spring is to lift the tool-carrier after each blow of the hammer upon it, and by means of the screw the spring may be adjusted in altitude, so as to operate with more or less force, as occasion may require, the screw at its lower end being nicked to receive a screw-driver for revolving it.

There is to the supporter F what I term the "back-stop" H, which is a small knee-lever fulcrumed to a projection or short post, *f*, extending upward from the head of the supporter. This knee-lever, formed as represented, has its lower arm projected into a slider, *g*, adapted to move longitudinally in the supporter F, and provided with a finger-bearing, *i*, adjustable on the slider lengthwise thereof, and connected to it by a clamp-screw, *k*, extending through a slot in the shank of such finger-bearing, and screwed into the slider. A spring, *l*, fastened to the top of the post *f*, bears near its free end against the back-stop, so as to force such inward or toward the tool-carrier and underneath the hammer-head. Such back-stop is to support the hammer and hold it, as occasion may require, from striking the tool-carrier.

A hook, I, to clasp the index-finger of the hand of an operator, projects from an annulus, *n*, encompassing the cylinder and fitting closely thereto, such ring being revoluble on the cylinder and adjustable lengthwise thereof, in order for the hook to be arranged to suit the index-finger of the dentist when such finger is on the bearing *i* and his thumb may be in the notch *b*. A hole, *o*, extending down through the head of the supporter F, allows air to flow into or out of that part or space of the cylinder which is below the hammer.

In using the instrument a dentist has to press it firmly forward, so as to crowd the tool against the mass of gold to be condensed. In doing so he is also to press downward with

his forefinger the bearing *i*, so as to cause the back-stop to be moved backward out of the path of movement of the head of the hammer. The hammer then will be free to operate and rapidly make its blows upon the head of the tool-carrier, the movement of which can be more or less modified by pressure of the thumb against it.

I claim—

1. The combination of the back-stop provided with mechanism for operating it, as described, with the tool-carrier and its supporter, the cylinder and its hammer, all being adapted and to operate substantially as set forth.

2. The combination of the tool-carrier and its operative spring with the tool-carrier supporter, the back-stop and its operative mechanism, and the cylinder and hammer, all being arranged and adapted substantially as set forth.

3. The combination of the screw *d* with the supporter F and the spring *c'*, such screw being connected with the spring and screwed into the supporter, substantially as specified, and the spring being adapted to the tool-carrier, as set forth.

4. The combination of the screw *d* with the spring *c'*, tool-carrier and its supporter, and the cylinder and its hammer, all being adapted and to operate substantially as represented.

CHARLES FRANCIS BLIVEN.

Witnesses:

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E. R. FISKE.