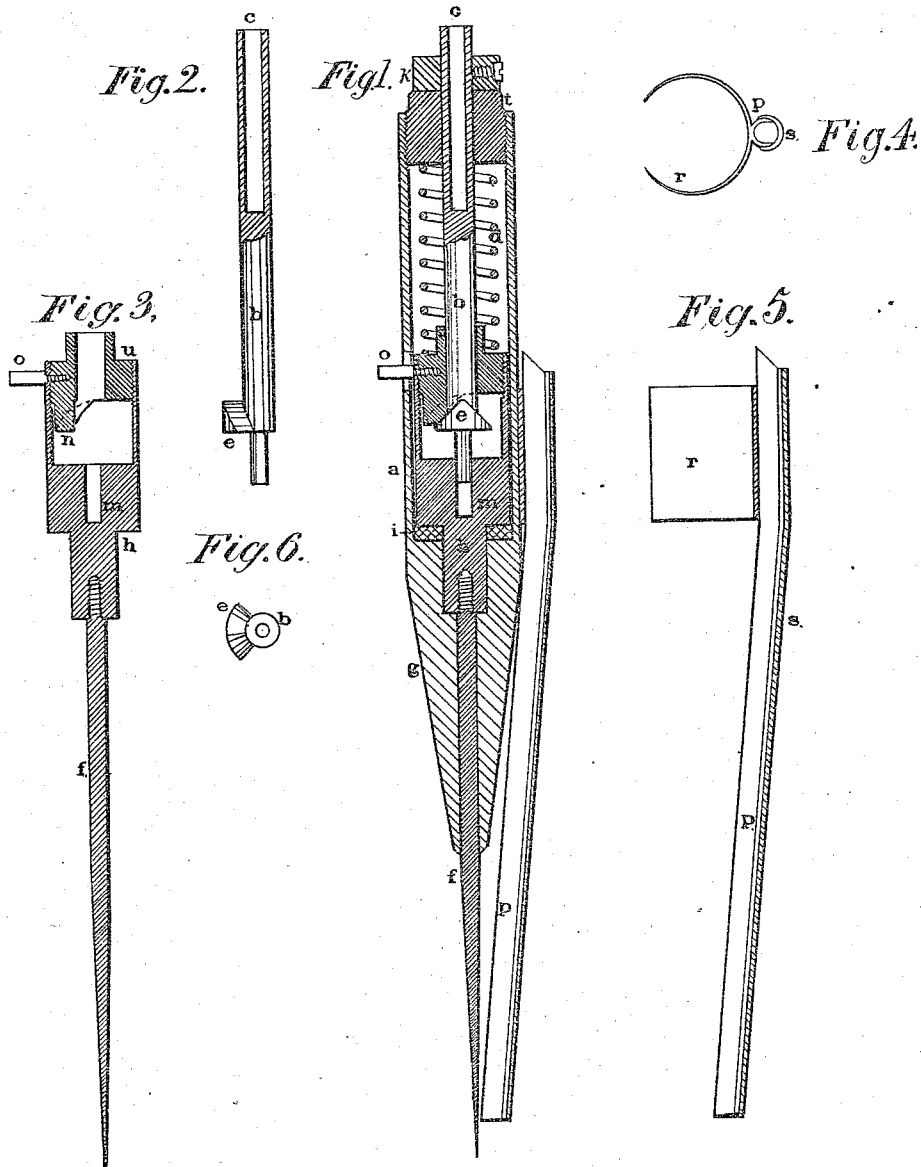


L. DUVINAGE.

Attachment to Automatic Dental-Pluggers.

No. 163,306.

Patented May 18, 1875.



Witnesses. {  
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# UNITED STATES PATENT OFFICE.

LOUIS DUVINAGE, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN ATTACHMENTS TO AUTOMATIC DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **163,306**, dated May 18, 1875; application filed March 16, 1875.

*To all whom it may concern:*

Be it known that I, LOUIS DUVINAGE, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Dentist's Automatic Plugger; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in the provision of a gold-leaf feeding-tube as an attachment to automatic pluggers, and in the arrangement of a vibrating bar, and the mechanism for vibrating the same combined therewith, as hereinafter described.

The object of the invention is to make an efficient instrument for the automatic plugging of teeth.

In order to enable others to use and practice my invention I will proceed to describe its construction and operation.

On reference to the accompanying drawings, which form part of the specification, Figure 1 represents a longitudinal section through the center of the instrument; and Figs. 2, 3, 4, 5, and 6 represent sectional parts of the same.

Similar letters refer to similar parts, of which *a*, Fig. 1, is casing or tube, formed tapering at its lower end *g*, through which the plugging-bar *f* is made to reciprocate. Said plugging-bar is shown in Fig. 3, and consists of the bar *f* screwed into the cylinder *h*, and has screwed in its upper end a nut, *u*, having a lug of a cam shape, *n*, for the rotating cam *e* on rod *b* to play against, and has a journal, *m*, for supporting the rotating cam-rod, and is provided with a nipple, *o*, that reciprocates in slot shown in Fig. 1, which permits a reciprocating and prevents a rotary motion of said plugging-bar. The plugging-bar, Fig. 3, is inserted in the top of case *a*, together with the cam-rod *b* and spring *d*, and are secured in place by nut *t* and collar *k*. The cam-rod *b* has its cam *e*, which is of a triangle shape, with its base at right angles to the line of direction of the casing of the tube, as shown in Fig. 2, and occupies about one-third of the circumference, as shown in Fig. 6. The upper end of said cam-rod is bored for the reception of couplings or mandrels to connect the same with the various dental engines, &c., for rotating the same.

Fig. 4 represents a transverse section of the gold-leaf feeder, which consists of a tube, *p*, slotted on one side, and a covering, *s*, for closing said slot, the covering being slid over and secured tightly in place. By reason of its tapering form the feeder is held in position on the instrument by the spring-clamp *r*.

When operating this instrument the cam-bar *b* is connected with one of the ordinary dental engines, which causes said rod to rotate, and on each revolution the cam *e*, playing upon the lug *n*, lifts the plugging-bar *f*, and when the cam *e* passes the lug *n* the spring *d* forces the bar quickly downward, which operation is repeated every revolution, causing a pounding action of the bar *f*. A piece of gum, *i*, prevents any severe shock to the instrument when the blow is not received on the tooth. The cam *e* permits a rotation of either backward or forward with a like result.

The vibrating bar is prevented from pounding while the cam-rod is rotating by placing the finger upon and holding back the nipple *o*.

Gold-leaf is placed in the groove of tube *p* in narrow strips or rolls, the slot permitting its proper location by the insertion of a pointed instrument. The leaf is thus fed to the point of bar *f* in a thread-like character, and the repeated blows of bar *f* draws down and feeds to itself the necessary gold-leaf without the risk of handling the leaf by hand, which damages it for welding.

The tension of the spring *d* can be regulated by adjusting the nut *t*. The covering *s* can be slid over or hinged to the tube *p*, as most desired.

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

1. The tube *p*, in combination with the vibrating bar *f*, for feeding gold-leaf, substantially as and for the purpose set forth.

2. The vibrating bar *f*, in combination with casing *g*, cam *e*, spring *d*, and tube *p*, as described.

LOUIS DUVINAGE.

Witnesses:

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