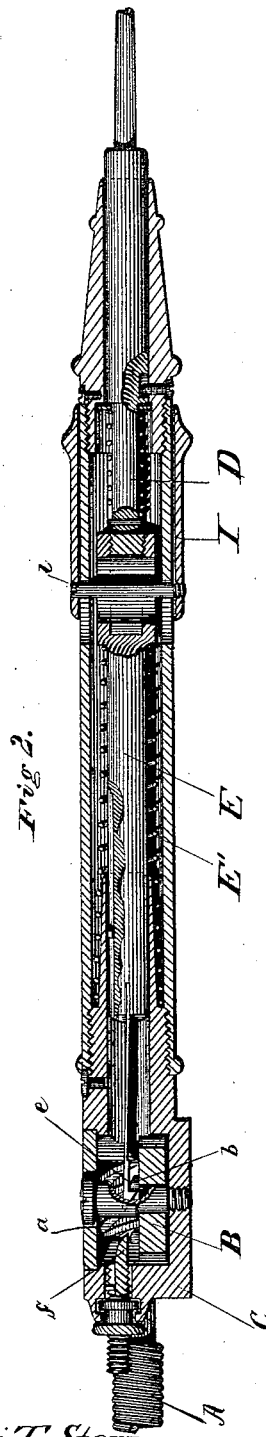
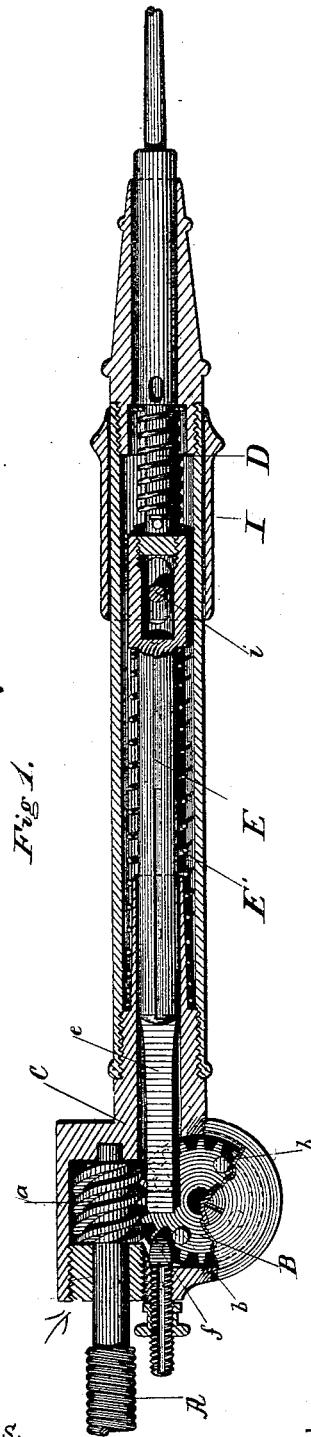


E. T. STARR.  
Dental-Plugger.

No. 167,203.

Patented Aug. 31, 1875.



WITNESSES.  
*Harry King*  
*Wm. J. Payson*

*Eli T. Starr* INVENTOR.

By *his* Attorney  
*Wm. Baldwin*

# UNITED STATES PATENT OFFICE.

ELI T. STARR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO SAMUEL S. WHITE, OF SAME PLACE.

## IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. 167,203, dated August 31, 1875; application filed July 12, 1875.

### CASE E.

*To all whom it may concern:*

Be it known that I, ELI T. STARR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Dental Pluggers, of which the following is a specification:

My invention relates to that class of automatic pluggers for dentists' use, in which a hammer, retracted and released at intervals by a cam or its equivalent, is thrown forward by a spring to give the blow. Its object is to enable the operator, at will, to throw the mallet out of operation without stopping the driving mechanism; to which end my improvement consists in the combination of a reciprocating mallet; a spring-hook on the mallet engaging with the cam or wiper by which the mallet is retracted; a trip-wedge or disengaging-incline, by which the spring-hook is, at the proper moment, released from the stud or cam; and a spring which actuates the mallet in giving the blow.

In the accompanying drawings my improvements are shown as applied to the tooth-plugger for which Letters Patent of the United States, No. 142,205, were granted August 26, 1873, to Thomas L. Buckingham.

Figure 1 represents a longitudinal section through the plugger parallel with the face of the cam or wiper wheel, and Fig. 2 a similar section at right angles thereto.

The flexible shaft A drives a worm, *a*, which rotates a gear-wheel, B, having spuds or wipers *b* on one of its faces. These parts are mounted in a casing, C, having a reciprocating spring plugger-point, D, and a mallet, E, inclosed therein. A spring-hook, *e*, on the mallet, engages with one of the wipers above-mentioned, and is retracted until its end slides over an incline, *f*, which releases the hook from the wiper, and allows the mallet to be thrown forward by its spring E'.

These parts are all shown in the patent of

Buckingham aforesaid, and are not claimed herein *per se*, but the Buckingham plugger could not be stopped without stopping the rotation of the driving-worm.

To enable the operator to throw the plugger out of action whenever desired without stopping the driving mechanism I form a longitudinal slot in the casing and in the head of the mallet, and insert therein a pin, *i*, which passes through a sleeve, I, capable of moving freely endwise on the casing. By retracting this slide away from the plugger-point the spring-hook *e* is forced upon the incline and held out of contact with the wipers, consequently holding the mallet inoperative; but the moment the sleeve is released the parts are thrown into gear again by the mallet-spring, and the operation is resumed. The operator is thus enabled instantaneously to stop or start the instrument without removing his hand therefrom.

I am aware that automatic pluggers heretofore have been thrown out of action by tripping mechanism mounted upon the instrument itself, and therefore do not broadly claim every mode of obtaining this result.

What I claim as of my own invention, and desire to secure by Letters Patent, is—

The combination, substantially as hereinbefore set forth, of the wiper-wheel, the spring-hook on the mallet, the disengaging-incline, the mallet-spring, and the sliding sleeve, whereby the spring-hook is held out of contact with the wiper when retracted by the slide, and automatically thrown into action by releasing it.

In testimony whereof I have hereunto subscribed my name.

ELI T. STARR.

Witnesses:

J. A. B. WILLIAMS,  
FRANK L. HISE.