C. SCHAERFF.

Dental-Pluggers.

No. 217,412. Patented July 8, 1879.

Fig. 1.

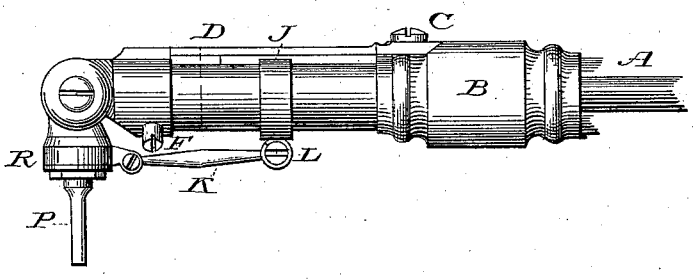


Fig. 2.

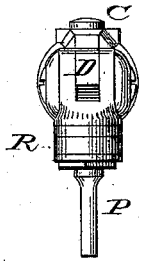


Fig. 3.

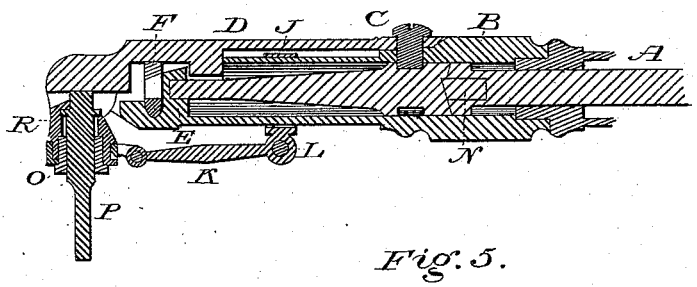


Fig. 4.

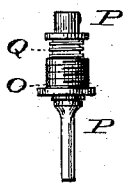


Fig. 5.

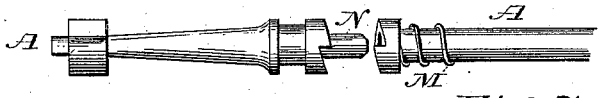


Fig. 7.

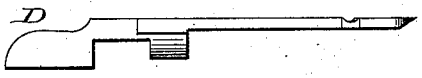
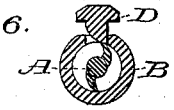


Fig. 6.



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UNITED STATES PATENT OFFICE.

CARL SCHAERFF, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **217,412**, dated July 8, 1879; application filed October 11, 1878.

To all whom it may concern:

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

The object of this invention is to furnish an improved dental plugger as an angle attachment to the dental engine, which shall be preferable to others of the kind by its not transmitting a reverse rotation of the arm of the engine, and thereby not injuring the mechanism of the plugger, and which also, by its more effective and satisfactory working of the bit and bit-holder, and by its simpler construction, shall improve upon others of the kind known before.

The invention consists in the combination of two rotating shafts with the spring-hammer, the rear shaft being provided with a coil-spring and ratchet-head corresponding with the ratchet-foot of the forward shaft, the latter held in place by a set-screw and corresponding recess, and provided at its head with fangs to lift the spring-hammer.

It also consists in the combination of the bit-holder, the recoil-spring, and the bit with the spring-hammer, which applies its blows directly to the head of the bit, all of which is fully described in the following specification.

In the accompanying drawings similar letters of reference indicate like parts.

Figure 1 is a plan view of the device embodying my invention. Fig. 2 is a side view of the same, and Fig. 3 is a vertical longitudinal section of the same. Fig. 4 is a detail view of the bit and bit-holder, and Fig. 5 is a detail view of the two rotating shafts. Fig. 6 is a vertical section indicated in Fig. 1 by a dotted line, and Fig. 7 is a view of the spring-hammer.

Within the cylindrical-case B (see Fig. 3) is inserted the rotating shaft A, fitting at its swell in the case, and held in position by its coil-spring M, acting in the rear of the swell. This shaft is provided with a ratchet-head corresponding to the ratchet-foot of the forward shaft, N, for the purpose of transmitting the proper rotation to the same, or neutralizing the effect of a reverse rotation. The ratchets are cut on the vertical surface of each shaft (see Fig. 5) obliquely, and reverse to each other, so that the projection of the one fits in the recess of the other, and by being cut obliquely, and also by the aid of the coil-spring M, the shaft A will, in case of a reverse rotation, rotate without any effect on shaft N. Thus connected with shaft A by said ratchets shaft N is further provided with a bolt (see Fig. 5) projecting from the center of its ratchet-foot, and fitting in the corresponding hole made in the ratchet-head of shaft A, and also with a circular recess at its swell, in which the smooth end of set-screw C, which fastens the spring-hammer D to the case B, fits, all for the purpose of holding said shaft N in place. The head of shaft N, which rests in socket E, is provided with two fangs. (See Fig. 5.) The curved sides of these fangs meet the downward-projecting and correspondingly-curved fang of the spring-hammer D, (see Figs. 3 and 7,) and thereby, when in rotation, lift the spring-hammer D, which moves in a slot made through the upper surface of case B, and applies its blows directly to the head of the bit. Into the bore of the angled and movable case of the bit-holder the bit-holder O (see Figs. 3 and 4) is screwed. Through the six-cornered recess in the holder the six-cornered shanked bit P is previously inserted. The socket and bit being six-cornered prevents the turning of the bit in its sockets. Between the bit-holder and the head of the bit is the recoil-spring Q, (see Fig. 4,) which, after each blow from the spring-hammer D, pushes the bit back, and also keeps it from falling out.

The operation of the device is as follows: The shaft A, after the connection with the rotating arm of the dental engine is made, transmits the proper rotation to shaft N, which lifts the spring-hammer D by its fangs, which slide down the curved side of the fang of the spring-hammer. As soon as the one fang of shaft N, by its rotation, leaves the fang of the spring-hammer the latter fang beats down upon the head of the shaft N, to be lifted up again by the other fang, and so forth, whereby the hammer part of the spring, by each beating-down motion, applies a blow on the head of the bit.

I claim—

1. In a dental plugger, the combination of shaft A, its ratchet-head, and coil-spring M, the shaft N, its fangs at the head, its ratchet-foot and recess, and set-screw C with the spring-hammer D, substantially as described.

2. In a dental plugger, the combination of the bit-holder O, having a six-cornered hole to receive the bit, and the recoil-spring Q, and the six-cornered bit P with the spring-hammer D, substantially as described.

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