R. B. DONALDSON.

Dental-Pluggers.

No. 161,393. Patented March 30, 1875.

Fig. 1.

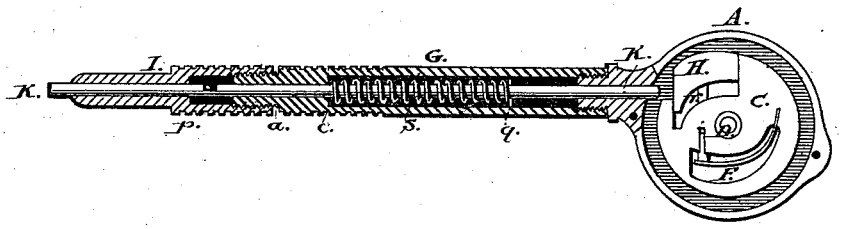
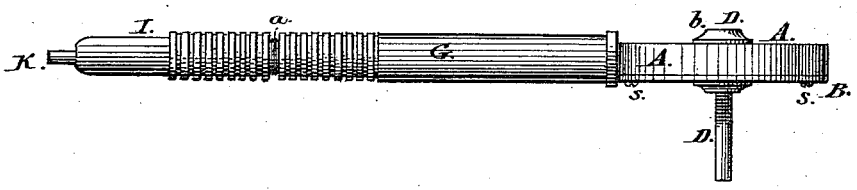


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT B. DONALDSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **161,393**, dated March 30, 1875; application filed March 9, 1875.

To all whom it may concern:

Be it known that I, ROBERT B. DONALDSON, of Washington City, in the District of Columbia, have invented a new and useful Plugging-Instrument for Dentists' Use; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of my improved dental instrument, and Fig. 2 is a side view of the same.

The same part is marked by the same letter of reference in both figures.

The nature of my invention consists in the peculiar construction of a plugging-instrument intended to be driven by the ordinary dental engine, in which the stock which carries the plugging-tool receives its impulse from a round-faced segmental hammer inserted in a recess in a revolving disk, the tool-stock being pressed toward the hammer by the reaction of an adjustable spiral spring coiled around it, all as hereinafter more particularly set forth.

In the accompanying drawings, A marks a flat cylindrical case, having a cap or cover, B, attached to it by the screws *s s*. Within case A rotates a disk, C, attached to the shaft D. This shaft is supported at its inner end upon a pivot received in a cavity in a boss, *b*, at the center of the side of case A. To the outer end of shaft D is applied the driving power derived from the ordinary dental engine. In the disk C is a recess, in which the round-faced hammer H plays. This hammer is attached to a rod, *r*, the other extremity of which is fixed to a spring, F, whose reaction tends to force the hammer out of the recess. The spring F is held in a recess in disk, C.

To the case A is screwed the tube G in which the tool-stock K is held and works. This tube is inserted not in the line of the radius of case A, but at an angle to the radius, as shown in Fig. 1. This angle I have found by trial to be the one at which the hammer gives the most direct blow upon the head of the tool-stock, avoiding the lateral jar and lost power which would result if the tube were inserted in the case on the line of the radius or a tangent.

To the tube G is screwed, at *a*, the tube I, which is continuous with it. The tool-stock K is pressed in the direction of case A by the spiral spring S wound around it, one end of said spring resting against a shoulder, *c*, in tube G, and the opposite end acting against a pin, *q*, in the tool-stock K. The tool-stock is held in tube I by means of a pin, *p*, received in a notch or recess in the stock, as shown in Fig. 1. The tension of spring S is slight, its function being to hold the lower side of the notch or recess in stock K lightly in contact with the pin *p* until the blow of the hammer is given.

The force of the blow of the hammer depends upon the distance the upper end of the stock K projects into the case A, and this is regulated by screwing the tube I up or down on tube G. Thus, by turning tube I while operating, the dentist has complete control over the force of the blow transmitted by the instrument. The plugging-tool (not shown) is inserted in the ordinary manner in the end of stock K.

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

1. The combination of the rotating disk C, provided with the spring-hammer H, the tubes G I, tool-stock K, and spring S, in the manner and for the purpose described.

2. The combination of the disk C, hammer H, spring F, and tool-holder K, together with mechanism for driving the disk, as and for the purpose specified.

3. The combination of the tubes G I, connected together and with the case A, in the manner and at the angle described, the spring S, and tool-stock K, with mechanism for driving the tool-stock, as set forth.

R. B. DONALDSON.

Witnesses:
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