Scranton & Parsons,

Dentists' Plugging Mallet.

No. 50,633. Patented Oct. 24, 1865.

Fig. 1.

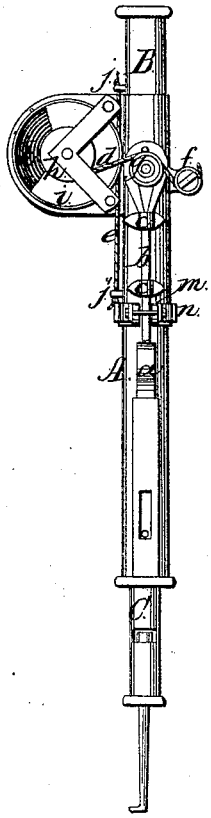


Fig. 3.

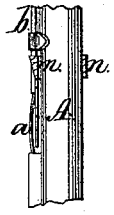
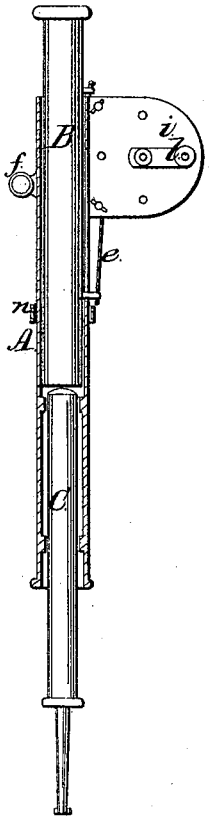


Fig. 2.



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UNITED STATES PATENT OFFICE.

J. N. SCRANTON, OF BENNINGTON, VERMONT, AND H. H. PARSONS, OF HOOSICK FALLS, NEW YORK.

IMPROVEMENT IN DENTISTS' MALLETS.

Specification forming part of Letters Patent No. **50,633**, dated October 24, 1865.

To all whom it may concern:

Be it know that we, J. N. SCRANTON, of Bennington, Bennington county, Vermont, and H. H. PARSONS, of Hoosick Falls, Rensselaer county, New York, have invented a new and Improved Dentist's Mallet; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of this invention. Fig. 2 is a sectional side view of the same, showing the opposite side from that represented by Fig. 1. Fig. 3 is a detached sectional view of the device for releasing the hammer.

Similar letters of reference indicate like parts.

This invention consists in a mallet for the use of dentists, and for such other purposes as the invention is applicable to, the blow of which is produced by the action of a spring, the hammer being made in the form of a rod of cylindrical or other suitable form, which is guided in a suitable case and subjected to the action of a spring. The inner end of said rod or hammer is opposite to the inner end of another rod, which forms the socket intended to receive the tool, said two rods being connected by a spring-dog. When the tool is pressed on a tooth or on the material to be used in filling a tooth, the hammer is forced back against the action of its spring, and at a certain point the spring-dog is released and the hammer is allowed to come down with some force upon the tool-holder, thereby producing the action of a mallet. The force with which the hammer comes down depends upon the tension of the spring which acts on it, and said tension is adjustable so that the force of the blow can be regulated. The spring-dog is released by an inclined plane which raises the same above the end of the rod that connects it with the hammer.

A represents a case made in the form of a cylinder, or in any other suitable form or shape, of sheet brass or any suitable material. This case forms the guide for the hammer B, which is inserted in one end thereof, and for the tool holder or socket C, which is inserted in its opposite end. The inner ends of the hammer and of the tool-holder are close together, and the hammer is raised by a spring-catch, *a*, which is secured to the tool-handle and the point of which bears against the end of a rod, *b*, that is guided in suitable loops, *c*, on the outside of the case and connects by means of cords *d e* with the hammer. The cord *d* extends from a plug over a friction-roller, *g*, secured to the end of the rod *b*, and round a pulley, *h*, which is attached to the outside of a drum, *i*, and one end of this cord is fast to the plug *f*, while its other end is fast to the pulley *h*. The cord *e* is wound around the drum *i* and its ends are tied to studs *j j'*, which project from the hammer, as shown in Fig. 1 of the drawings. When the hammer is down, the stud *j* bears on the edge of the case A and the stud *j'*, which projects through a slot in the case, bears against the end of the slot. The drum *i* incloses a spring, *k*, the tension of which can be increased or decreased by turning the handle *l* on the outside of said drum, and which is so arranged that it has a tendency to hold the hammer down in the position shown in the drawings. When the tool-holder is pressed down upon a tooth or other resisting object the hammer is forced up against the action of the spring *k*, and by the proportion between the diameter of the drum and that of the pulley the motion of the hammer is quicker than that of the tool-holder, so that the inner end of the former moves away from that of the latter. This upward motion of the hammer continues until the point of the spring-catch *a*, by sliding up the inclined plane *m*, is disengaged from the end of the rod *b*, and the hammer is allowed to follow the action of the spring and to come down upon the tool-holder with a force which depends upon the tension of the spring. By increasing this tension the force of the blow is increased, and vice versa. The force of the blow depends also in some measure upon the time when the spring-catch releases the rod *b*, and this time is regulated by shifting the inclined plane *m* up or down, said plane being secured in a strap, *n*, which surrounds the case A and can be moved up or down on the same at pleasure.

When the operator desires to cause the instrument to strike a lighter blow he can do so

to a certain extent without changing the tension of the spring *k*. This he does by holding down toward the point of the tool the inclined plane *m* with his finger, and thereby disengage sooner the spring-catch and hammer. As soon as the finger is withdrawn the inclined plane *m* will be pushed upward on the case to its limit by the action of the spring-catch, and the instrument will resume blows of the same weight as before.

Should the operator desire to vary the weight of the blow beyond the limits attained by moving the inclined plane, it is effected by changing the tension of the spring *k*, as before described.

It is obvious that the connection between the hammer and the spring can be effected in a great many different ways, and we do not wish to confine ourselves to the precise mechanism shown in the drawings.

By the use of this instrument a dentist is enabled to produce blows of the requisite force with one hand, and he can use his other hand in holding open the mouth of the patient or in performing such work for which, with a mallet of the ordinary construction, he has to depend upon an assistant.

With our mallet the operation of filling a tooth and other similar operation can be performed expeditiously, and without the aid of an assistant.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of the tool-holder, hammer, spring-catch, and spring, substantially as herein described, so that by pressing the tool or tool-holder C against a resisting object, the hammer is forced back against the action of the spring, and then allowed to come down upon the tool-holder and to produce a blow of more or less force.

2. Making the tension of the spring *k* adjustable, substantially as herein described, so that the force of the blows of the hammer can be regulated.

3. The inclined plane *m*, in combination with the spring-catch, tool-holder, and hammer, applied and operating substantially as and for the purpose set forth.

4. Making the inclined plane adjustable on the case A, substantially as and for the purpose described.

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Witnesses:
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