

Snow & Lewis,
Dental Plugging Instrument,
No 59,284,
Patented Oct. 30, 1866.

Fig: 1.

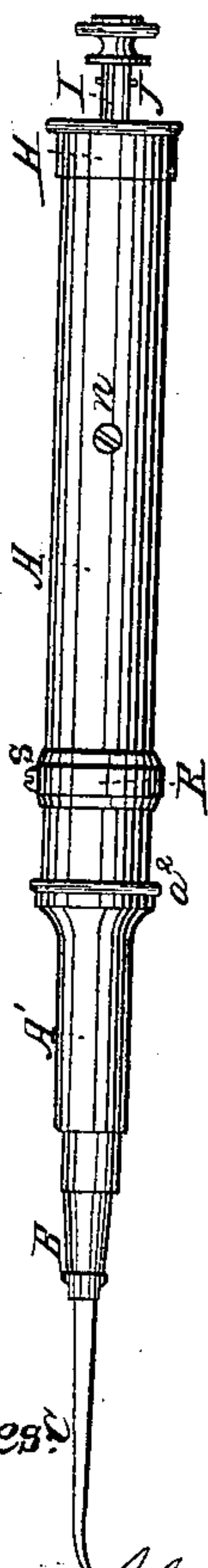


Fig: 2.

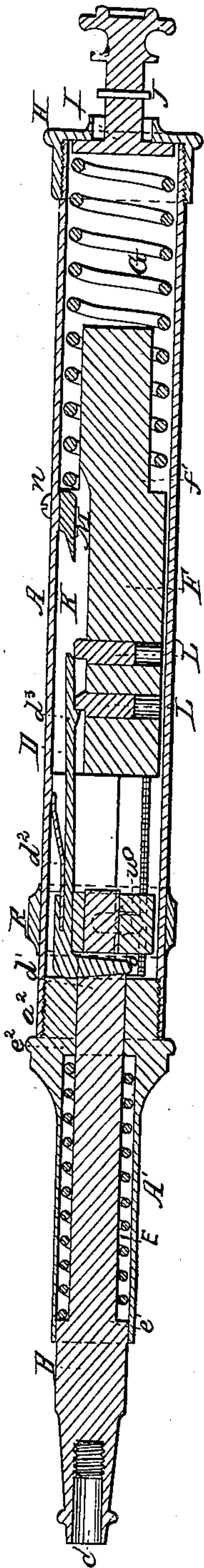


Fig: 3.

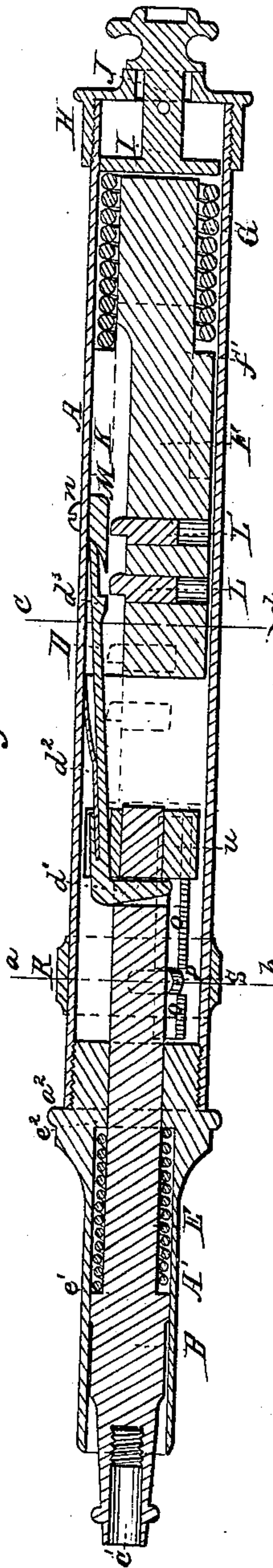


Fig: 4.

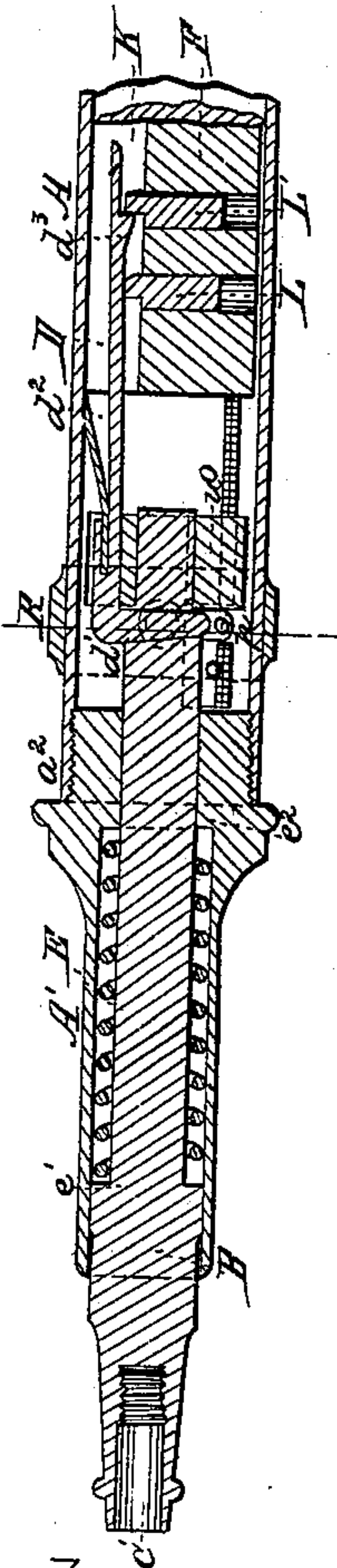


Fig: 5.

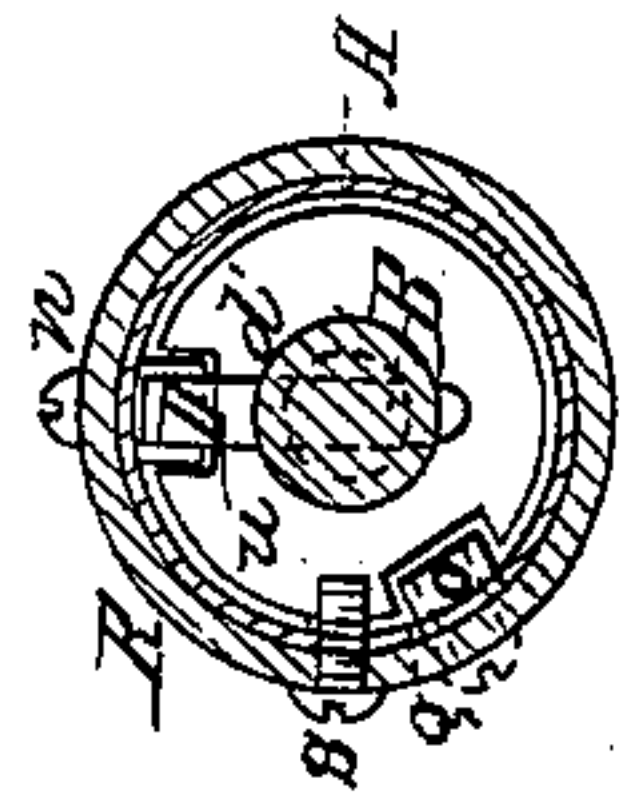
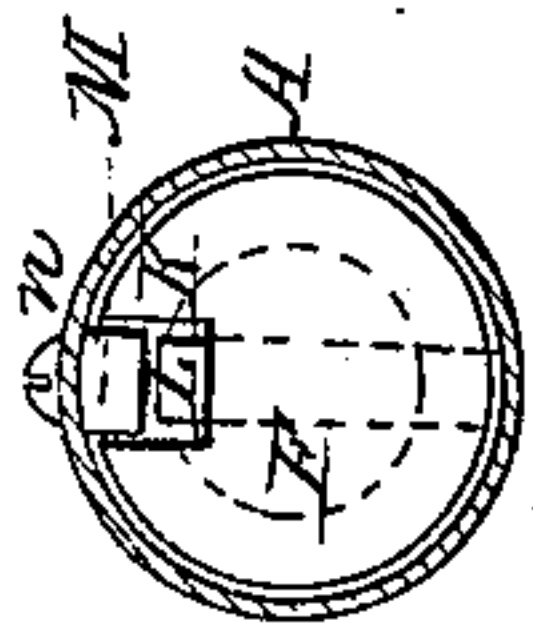


Fig: 6.



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IMPROVEMENT IN DENTAL PLUGGING-INSTRUMENTS.

Specification forming part of Letters Patent No. 59,284, dated October 30, 1866.

To all whom it may concern:

Be it known that we, GEORGE B. SNOW and THEODORE G. LEWIS, of the city of Buffalo, county of Erie, and State of New York, have invented a new and Improved Dentist's Plugging-Instrument; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is an elevation of the instrument, full size. Fig. III is a longitudinal section, double size, showing the hammer, in its lower position, resting upon its stop or feather, and the tool-holder in its extreme outward thrust, and all the parts in a position to be elevated for a new blow. Fig. III is a longitudinal section, showing the tool-holder in its innermost position, and the hammer raised to its highest position and just released from the first stop and ready to give a blow. Fig. IV is a longitudinal section, showing the tool-holder in its second outermost thrust, and the hammer in its lower position, and the lifting-bar engaged with the second stop, and all the parts in a position to be raised for another blow. Fig. V is a transverse section on line *a b*, and Fig. VI is a transverse section on line *c d*.

Letters of like name and kind refer to like parts in each of the figures.

The nature of this invention relates, first, to causing the tool-holder to recede from the hammer immediately after a blow is given, in order to obtain distance between the hammer and the head of the tool-holder, and bring the parts into position to raise the hammer and tool-holder simultaneously and equally for a new blow; second, in placing a spiral spring in the top of the case, in such connection with an adjusting-stopper or screw-cap and hammer so that a light or heavy blow may be given by the hammer, as required; third, connecting a lifting-bar and spring with the top or head of the tool-holder, and the combination thereof with a stop or stops placed upon the hammer, and a stationary releasing-wedge placed on the inside of the case, so that the hammer may be moved upwardly by the inward movement of the tool-holder, and at a sufficient distance therefrom to allow the descent of the hammer to give the required blow upon the head of the tool-holder; fourth, to placing a ring around

the case, in combination with a collar on the tool-holder and a stop-screw passing through the ring, so that by turning the ring to the right or left the force of the blow may be increased or diminished.

A represents the upper section, and A¹ the lower section, of the case. It is in the form of a tube or hollow cylinder, and the lower section has a hollow plug, which screws into the upper section, as shown at *a*².

B is what we call the "tool-holder." It passes entirely through the lower section of the case, projecting below to receive the plugging-tool C, and above and into the upper section to receive the lifting-bar D at its upper end. A hole is made through its upper end to receive the bent end or hook of the lifting-bar, as shown at *d*¹. The plugging-tool screws into the lower end, as shown at *c*¹.

A spiral spring, E, is placed around the tool-holder and within the lower section of the case, to effect its proper receding movement immediately after a blow has been struck. This spring rests upon a shoulder, *e*¹, formed on the tool-holder, and between it and a shoulder, *e*², formed within the case.

F represents the hammer, which is placed wholly within the upper section of the case. A spiral spring, G, is placed around its upper end and within the upper section of the case. A shoulder, *f*¹, is formed on the hammer for the spring to bear against. A screw-cap, H, is put upon the top of the case, and an adjusting-stopper, I, passes through it, which may be raised to the height shown in Fig. II for a light blow, or lowered to the position shown in Fig. III for a heavy blow. A pin, J, passes through the stem of this stopper, which, when the stopper is turned in one position, will catch under the screw-cap, holding the stopper down upon the spring and compressing it to give a heavy blow, as shown in Fig. III, and when turned in another position the pin will pass out of the screw-cap through a slot and allow the stopper to return to the position shown in Fig. II, thereby allowing the spring to expand in a manner to cause the hammer to strike a lighter blow.

A groove, K, is formed in the hammer, in which are placed the stops or catches L L¹.

A releasing-wedge, M, is placed on the inside of the upper section of the case, which is

held stationary and in place by the screw *n*. This wedge projects into the groove and serves as a guide to the up-and-down movements of the hammer, the groove being deep enough to allow the stops to pass freely under the wedge. The upper part of the lifting-bar *D* also lies in this groove. The flat spring *d*², which is connected to the lifting-bar, presses against the inside of the case, and serves to keep this lifting-bar pressed down to the bottom of the groove, so that the notch *d*³ will engage with one of the stops or catches, as shown in Figs. II and IV, when the bar is moved upward by the tool-holder, and thereby carries the hammer upwardly until the lifting-bar is disengaged by passing over the incline of the releasing-wedge, as shown in Fig. III, and the hammer thereby allowed to strike the head of the tool-holder.

A feather, *O*, is formed on the inside of the case, in two parts, with a space, *p*, between the parts, and a horizontal slot, *Q*, is made through the case. A band or ring, *R*, is placed around the case and over this slot, and a screw, *S*, is fitted into this ring, which projects through the slot, as shown in Fig. V.

A collar, *U*, is placed around the top of the tool-holder, which has two slots. The lifting-bar passes up through one of these slots, and the other slot works over the feather *O*, thereby preventing the tool-holder from turning, and keeping the parts in position. Now, when the ring is turned to the left, so as to place the screw in the position shown in Fig. V, the outward thrust of the tool-holder will be arrested by this screw, when the parts are in the position shown in Fig. IV, so that the lifting-bar will engage with the second stop, *L'*, as shown in Fig. IV, and thereby lessen the force of the blow by lessening the distance through which the hammer falls. When the ring is turned to the right, so as to bring the screw *S* in the space between the two parts of the feather, as shown by the red lines in Fig. V, then the slot in the collar *U* will pass over the screw, (it being in line with the feather,) so that the outward thrust or receding movement of the tool-holder will be continued to its utmost limit, and the lifting-bar will engage with the first stop, *L*, as shown in Fig. II.

Now, the greater distance is obtained between the hammer and the head of the tool-holder, so that when the parts are again moved up and the hammer disengaged it will fall through a greater distance, and hence increase the force of the blow.

The feather *O* will limit the fall of the hammer, and the hammer will rest upon it when the blow is given, so that the tool-holder will be enabled to recede from it and gain position for a new blow.

Thus, by means of the arrangement of these last-mentioned parts, as described, we are enabled to vary the force of the blow in two degrees by varying the distance through which the hammer falls; and by means of the adjustable stopper or screw-cap at the top we are

also enabled to vary the force of the blow in two degrees by increasing or diminishing the tension of the spring *G*, and thus we obtain blows of four different degrees of power, at the will of the operator.

The red lines in Fig. III show the hammer resting upon the head of the tool-holder when the blow has been given.

The operator holds the instrument in his hand and presses the plugging-tool against the filling of the tooth, which becomes a resisting object. A moderate pressure upon the instrument will cause the tool-holder to pass within the case, imparting its movement to the lifting-bar and to the hammer until the lifting-bar passes over the incline of the wedge and releases its hold upon the catch, and then the hammer is driven down by the force of the spring *G*, striking a blow of more or less power upon the head of the tool-holder, the force of the blow being graduated by the conditions before described.

When the blow is given the pressure of the hand upon the instrument is lessened, so that the spring *E* will instantly act and cause the tool-holder to recede to its extreme limit for the lifting-bar to take a new hold upon the hammer, and thus the blows may be repeated as often as the operator desires.

Having now fully described the construction and operation of our improved plugging-instrument or dentist's mallet, what we claim as our invention, and desire to secure by Letters Patent, is—

1. Causing the tool-holder to recede from the hammer immediately after a blow is given, in order to obtain distance between the hammer and the head of the tool-holder for a new blow, substantially as described.

2. Placing a spiral spring, *G*, in the top of the case to act upon the hammer, in combination with either the adjusting-stopper *I* or screw-cap *H*, for the purpose of causing the hammer to give heavier or lighter blows, as required.

3. The combination of the ring *R* and stop-screw *S* and collar *U*, for the purposes and substantially as set forth.

4. Constructing the lifting-bar *D* with a bent end, in combination with a receiving-hole in the upper end of the tool-holder, as shown at *d*¹, and with a notch or shoulder at its upper end, as shown at *d*³, to allow it to engage with the stops *L* *L'* on the hammer, for the purpose of forming a direct connection between the tool-holder and hammer, substantially as set forth.

5. The feather *O*, in combination with the hammer *F*, for the purpose of arresting the descent of the hammer and holding it at that point until again raised, substantially as described.

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