

No. 788,045.

PATENTED APR. 25, 1905.

F. W. HAMMOND & F. E. HENDERSON.
FLOOR CLAMP.

APPLICATION FILED DEC. 1, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

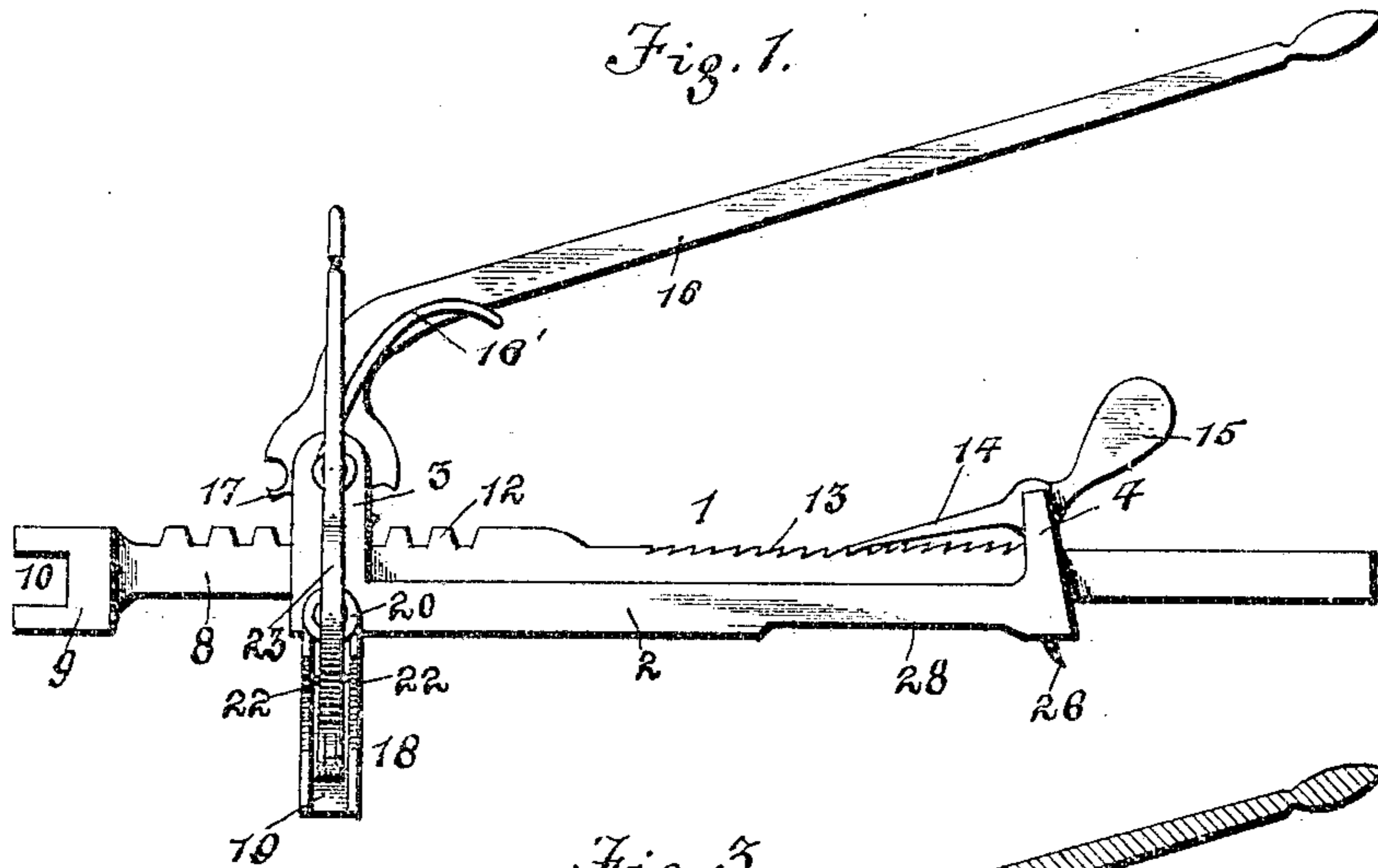


Fig. 3.

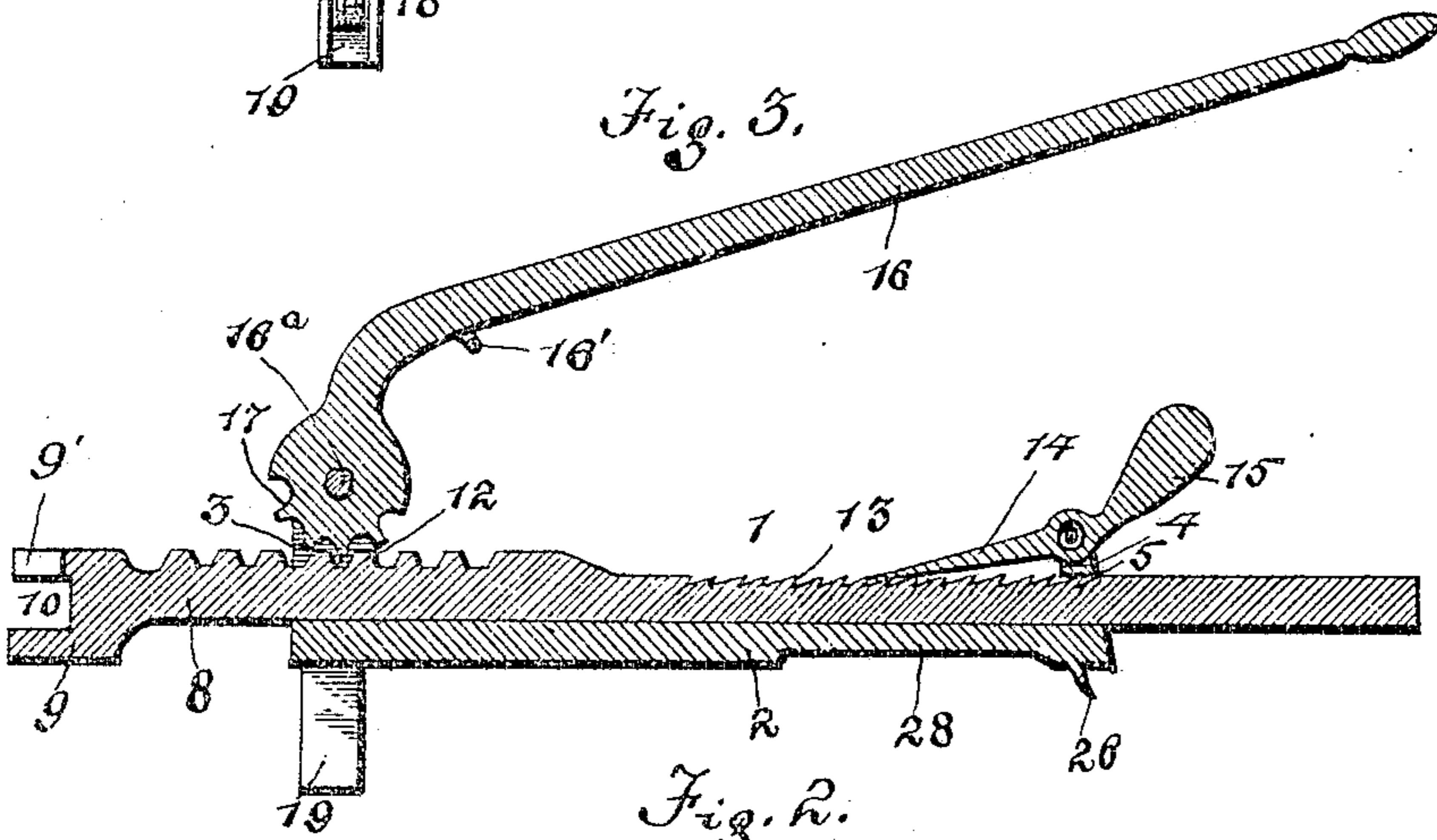
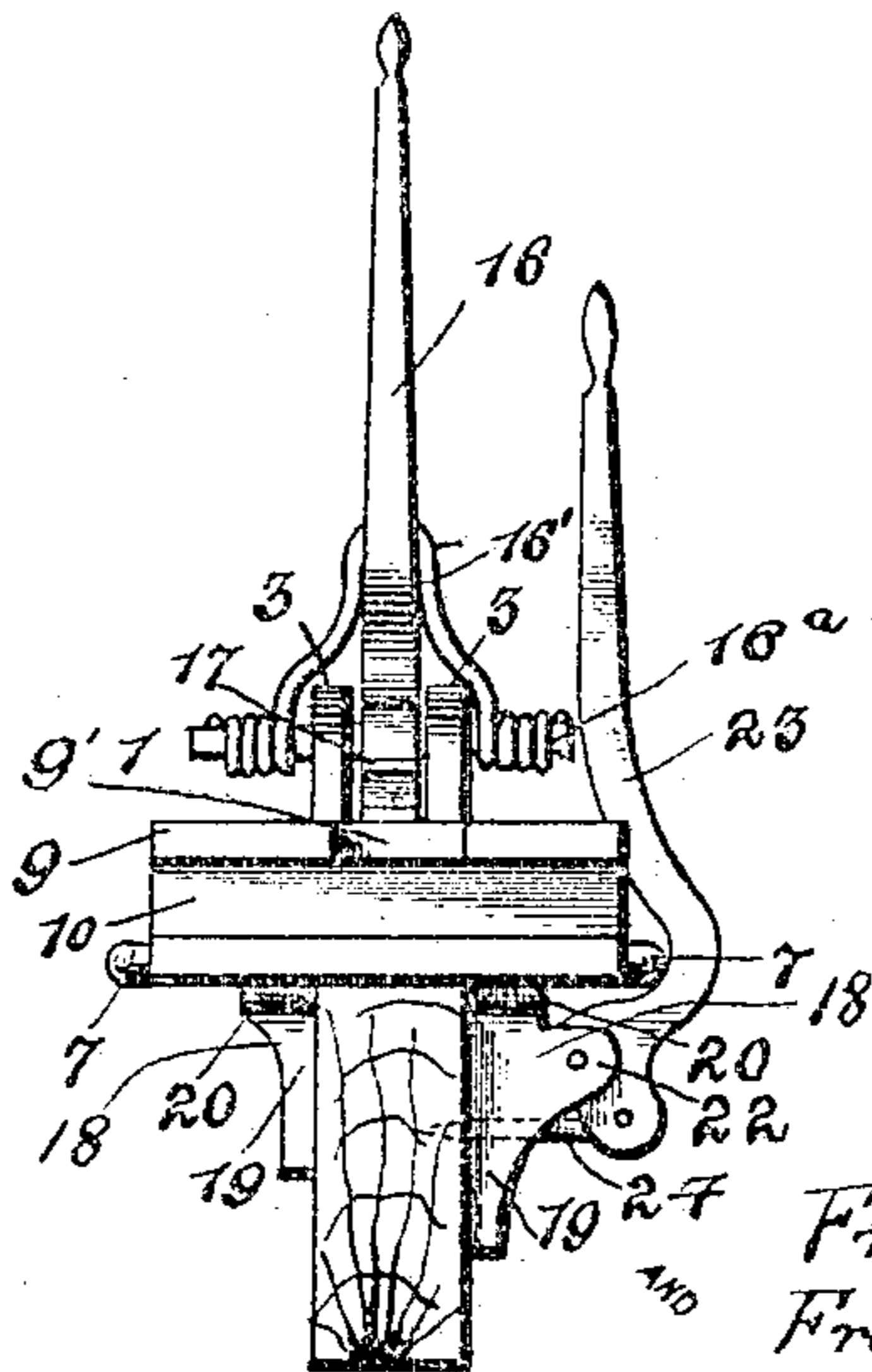


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 5.

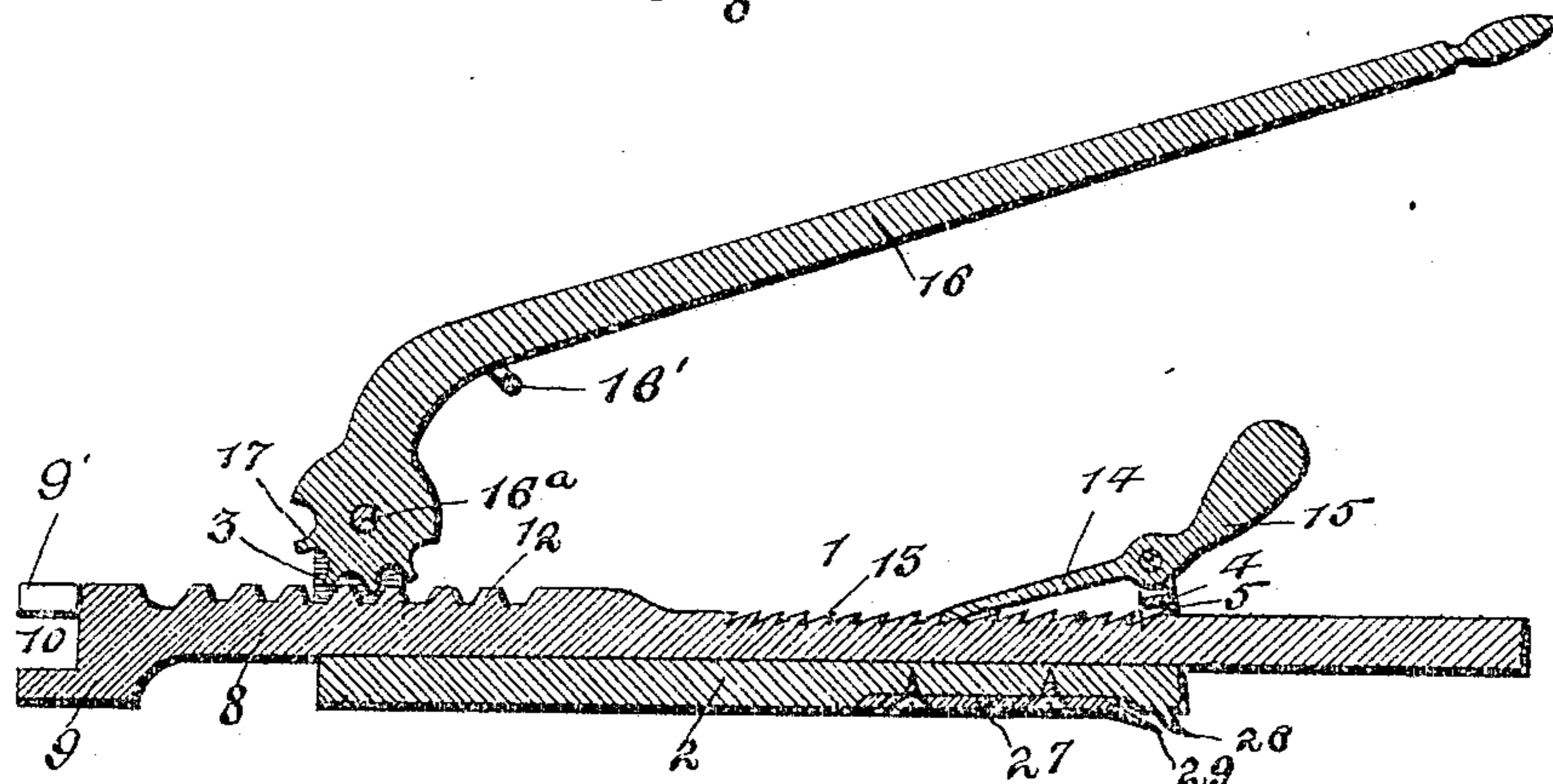


Fig. 6.

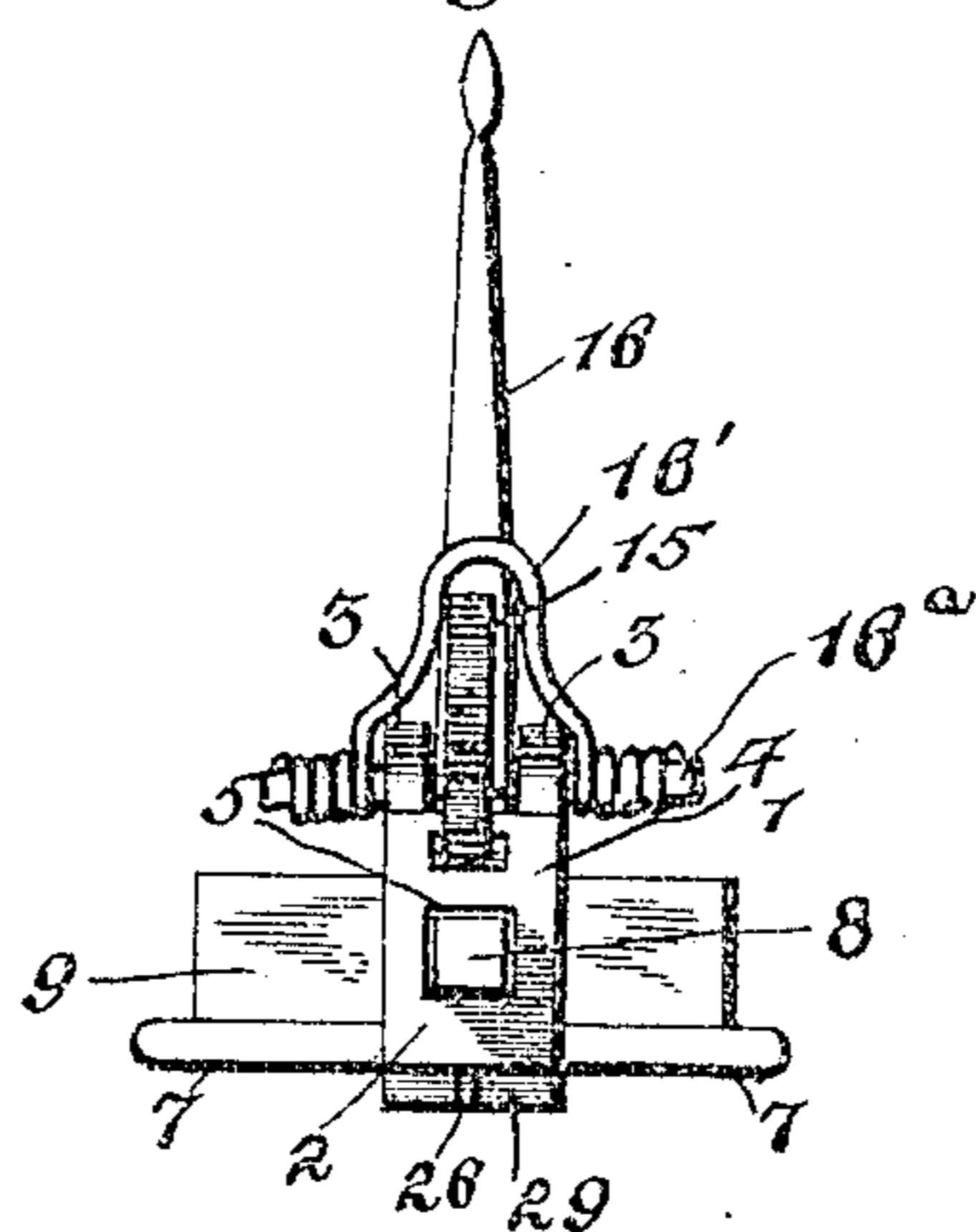


Fig. 7.

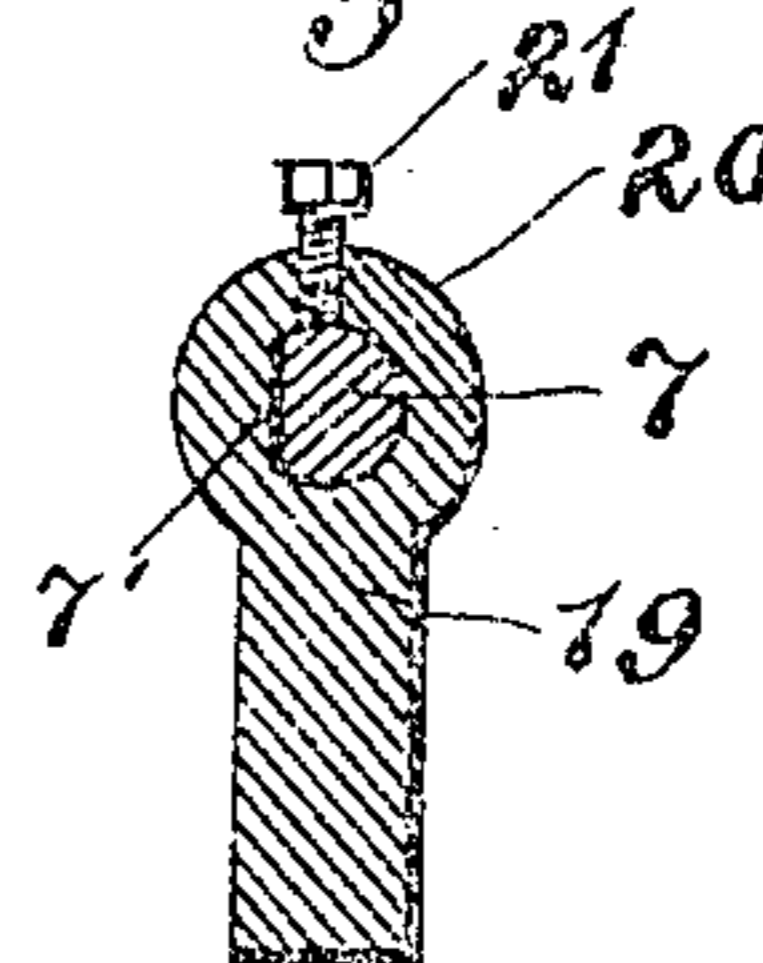
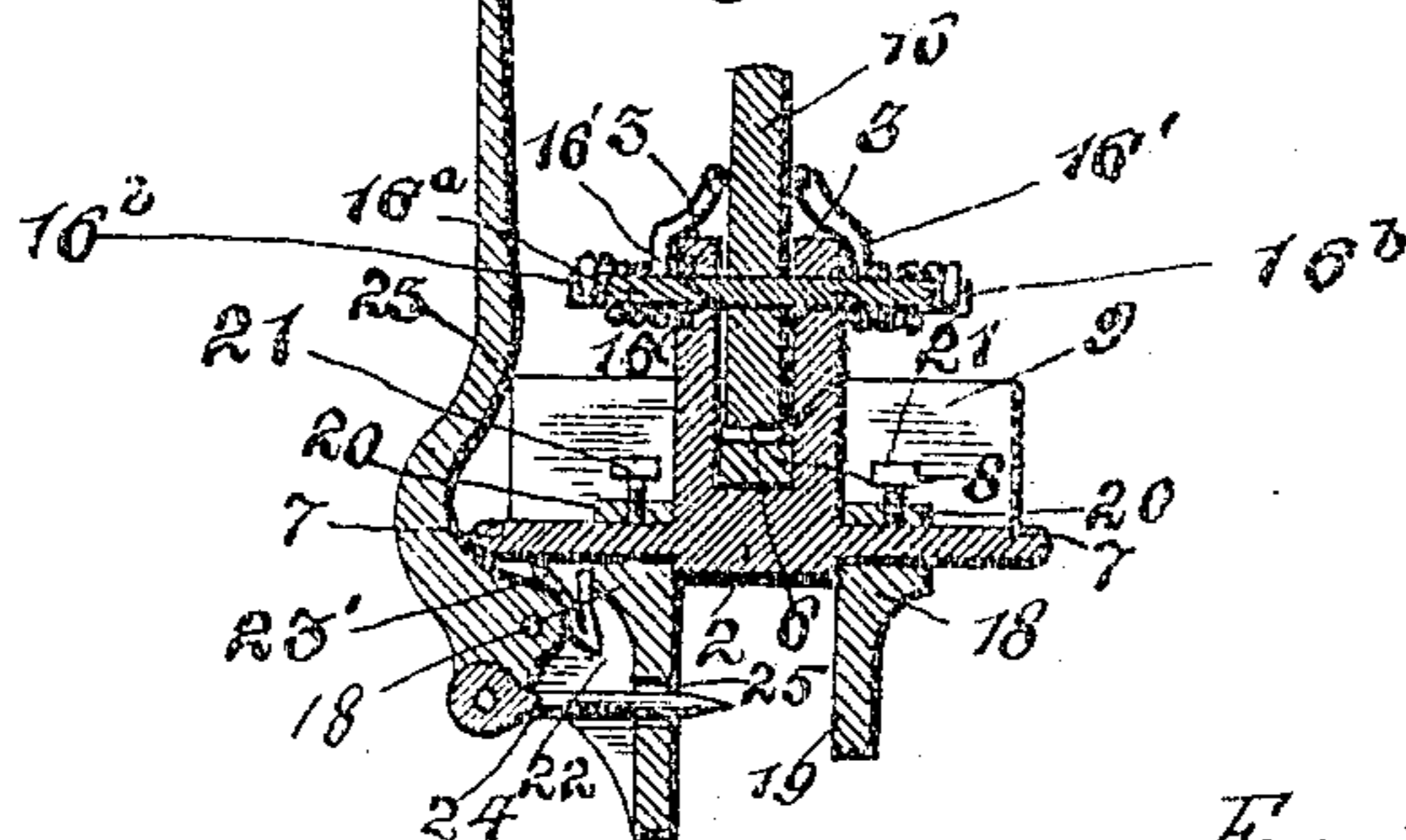


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK W. HAMMOND AND FRANK E. HENDERSON, OF COMSTOCK,
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FLOOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 788,045, dated April 25, 1905.

Application filed December 1, 1904. Serial No. 235,130.

To all whom it may concern:

Be it known that we, FRANK W. HAMMOND and FRANK E. HENDERSON, citizens of the United States, residing at Comstock, in the county of Custer and State of Nebraska, have invented certain new and useful Improvements in Floor-Clamps; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in floor-clamps.

The object of the invention is to provide a device of this character whereby the boards of floors, sidings, and the like may be forced up in place and firmly held while being nailed.

Another object is to provide means whereby the device may be adjusted to secure the same to different thicknesses of floor-joists and means whereby the same may be secured to the sheathing of sidings or the lower course of double floors.

A further object is to provide a device of this character which will be simple, strong, and durable in construction, efficient in operation, and well adapted to the purpose for which it is designed.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of the clamp arranged for laying floor-boards upon joists. Fig. 2 is an end elevation. Fig. 3 is a longitudinal vertical sectional view. Fig. 4 is a transverse vertical sectional view. Fig. 5 is a longitudinal vertical sectional view of the clamp arranged for laying double floors or siding-boards on sheathing. Fig. 6 is an end view of the same, and Fig. 7 is a detail sectional view through one of the clamping-bars and the supporting-arm of the same.

Referring more particularly to the drawings, 1 denotes a clamp which consists of a

longitudinally-disposed base-plate 2, on the forward end of which is formed upwardly-projecting parallel bearing-lugs 3 and on the opposite end of which is formed an upwardly-projecting guide-lug 4. In the lug 4 is formed a rectangular guide-aperture 5. In the upper side of the base-plate 2 is formed a longitudinally-disposed groove or channel 6, which extends throughout the length of said plate and communicates with the aperture 5 in the guide-lug 4. On each side of the base-plate 2, at the forward end of the same, is formed a laterally-projecting cylindrical arm 7.

Slidably mounted within the channel 6 of the base-plate is a longitudinally-adjustable push-bar 8, on the outer end of which is formed a transversely-disposed head 9. On the forward edge of the head 9 is formed a horizontally-disposed groove or channel 10. On the upper edge of the push-bar 8, near the forward end of the same, is formed a series of rack-teeth 12. On said edge adjacent to the rack-teeth 12 are formed a series of ratchet-teeth 13, which are adapted to be engaged by a pawl or dog 14. The pawl or dog 14 is pivotally mounted in the upper end of the lug 4 and is provided on its pivoted end with a weight 15, whereby when the same is released from the teeth 13 of the push-bar said weight will rock the pawl out of engagement with said teeth.

Pivotally mounted between the lugs 3 is an operating-lever 16, on the pivoted end of which is formed a circular head having arranged therein a series of teeth 17. Said teeth are adapted to be engaged with the teeth 12 on the push-bar, whereby when said lever 16 is raised or lowered said push-bar will be projected or retracted by the same.

The lever 16 is pivoted between the lugs 3 on a bolt or pin 16^a, the ends of which project laterally beyond the sides of the lugs and have formed therein slots 16^b. The bolt or pin 16^a is also provided with a squared portion 16^c, which fits within a square opening in one of said lugs 3, thereby holding the bolt against rotation.

Bearing against the under side of the lever 16 is a spring 16', the ends of which are coiled upon the projecting ends of the bolt or pin 16^a and are secured in the slots 16^b, formed in said ends of the bolt. By means of the spring 16' the lever 16 will be raised and normally held in raised position.

On the laterally-projecting arm 7 are arranged laterally-adjustable clamping-jaws 18, by which the base-plate 2 may be secured to the floor or other joists of different widths. The clamping-jaws 18 preferably consist of downwardly-projecting plates or bars 19, on the upper ends of which are formed apertured heads 20, through which are adapted to project the arms 7. In the upper sides of the heads 20 are arranged set-screws 21, which are adapted to be screwed into engagement with said arms, thereby holding the jaws at any desired position upon the arms 7. The arms 7 are flattened on one side, as shown at 7', and the apertures in the heads 20 of the clamping-bars 19 have a flattened side to engage the flattened side of said arms, thereby assisting said set-screws in holding the bars in place. One of the plates or bars 19 of said jaws is here shown as formed of greater length than the other bar, and on the outer side of said bar are formed laterally-projecting parallel ears or lugs 22. Between the lugs 22 is pivotally mounted the lower end of a clamping-lever 23. In the bifurcated lower end of the lever 3 is pivotally mounted a clamping-needle 24, which is adapted to work through an aperture 25, formed in the plate or bar 19, and to be forced into the joist by means of the clamping-lever 23, thereby firmly holding the base-plate 2 in place upon said joist. Between the pivoted end of the clamping-lever 23 on the adjacent wall of the clamping-bar is arranged a flat spring 23', one end of which is adapted to bear upon a projection formed on the lever, whereby said lever is held in an upright position. On the opposite end of the base-plate 2 is formed a short downwardly-projecting prong 26, which is adapted to be forced into the upper side of the joist to form an additional holding means.

When it is desired to use the clamp for laying double floors or for applying siding to sheathing-boards, the clamping-jaws 18 are removed from the arms 7 and in place of the same is arranged a holding-chisel 27. Said chisel is secured within a recess or depression 28, formed in the lower side of the base-plate 2 adjacent to the forward end of the same. The forward end of the chisel 27 is inclined downwardly, as shown, to form a gripping or holding edge 29. Said edge is adapted to be forced into the surface of the lower course of floor-boards or into the sheathing-boards of a siding, thereby, together with the tongue 26, holding the clamp in place while the floor-board or siding is being forced up and held in place by the push-bar and operating-lever, as hereinbefore de-

scribed. The chisel 27 preferably extends across the entire width of the base-plate 2, thereby forming a firm grip at this end of the same. In the upper portion of the head 9, midway between the ends, is formed a recess 9' to facilitate the nailing of the board at this point.

A clamping device of this character constructed as herein shown and described may be readily attached to floor or other joists of different thicknesses, and when the same is to be used to lay boards upon plane surfaces the parts may be readily and quickly transformed to accommodate the machine to such use, thus combining in one device a machine which may be used in laying all kinds of boards which require forcing up and holding in place while being permanently secured.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a clamping device of the character described, the combination with a supporting-frame comprising a longitudinally-channeled base-plate having upwardly-projecting bearing-lugs and laterally-projecting arms formed on its forward end, an upwardly-projecting apertured guide-lug formed on its opposite end, of a push-bar slidably mounted in the channel of said base-plate and through said apertured guide-lug, a board-engaging head arranged on the forward end of said push-bar, an operating-lever pivotally mounted in said frame, means whereby the same is engaged with said bar to project and retract the same, means for holding the same in projected position, clamping-jaws adjustably mounted on the laterally-projecting arms of said frame whereby the same may be applied to joists of different thicknesses, and means whereby said frame is secured to said joists, substantially as described.

2. In a clamping device of the character described, the combination with a supporting-frame, comprising a base-plate having laterally-projecting arms formed on the forward end of the same, clamping-jaws adjustably mounted on said arms, whereby said frame may be engaged with joists of different thicknesses, a clamping-lever pivotally mounted in one of said jaws, a needle connected to the lower end of said lever and slidably mounted in an aperture in said jaw whereby the same may be forced into a joist, a prong arranged on the opposite end of said frame to engage

said joist at this end of the frame, of a push-bar slidably mounted in said frame, means whereby said push-bar is projected and retracted, and means whereby the same is held in its projected positions, substantially as described.

3. In a clamping device of the character described, the combination with a supporting and guiding frame comprising a base-plate having a recess formed in its lower side, of a holding-chisel removably mounted in said recess, a holding-prong arranged on the rear end of said base-plate, a push-bar slidably mounted on said plate, a board-engaging head formed on said bar, an operating-lever mounted in said frame to engage said bar whereby the same is projected and retracted, and a locking-pawl pivotally mounted on said frame to engage and hold said bar in its projected positions, substantially as described.

4. In a clamping device of the character described, the combination with a supporting

and guiding frame, comprising a base-plate having a recess formed in its lower side, of a holding-chisel removably mounted in said recess, a holding-prong arranged on the rear end of said base-plate, a push-bar slidably mounted on said plate, a board-engaging head formed on said bar, a spring-retracted operating-lever mounted in said frame to engage said bar whereby the latter is projected and retracted, and a locking-pawl pivotally mounted on said frame to engage and hold said bar in its projected positions, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

FRANK W. HAMMOND.
FRANK E. HENDERSON.

Witnesses:

THOMAS S. JACKSON,
AMANDA JACKSON.