

W. A. HURST.

LOCK.

APPLICATION FILED JAN. 31, 1908.

928,761.

Patented July 20, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

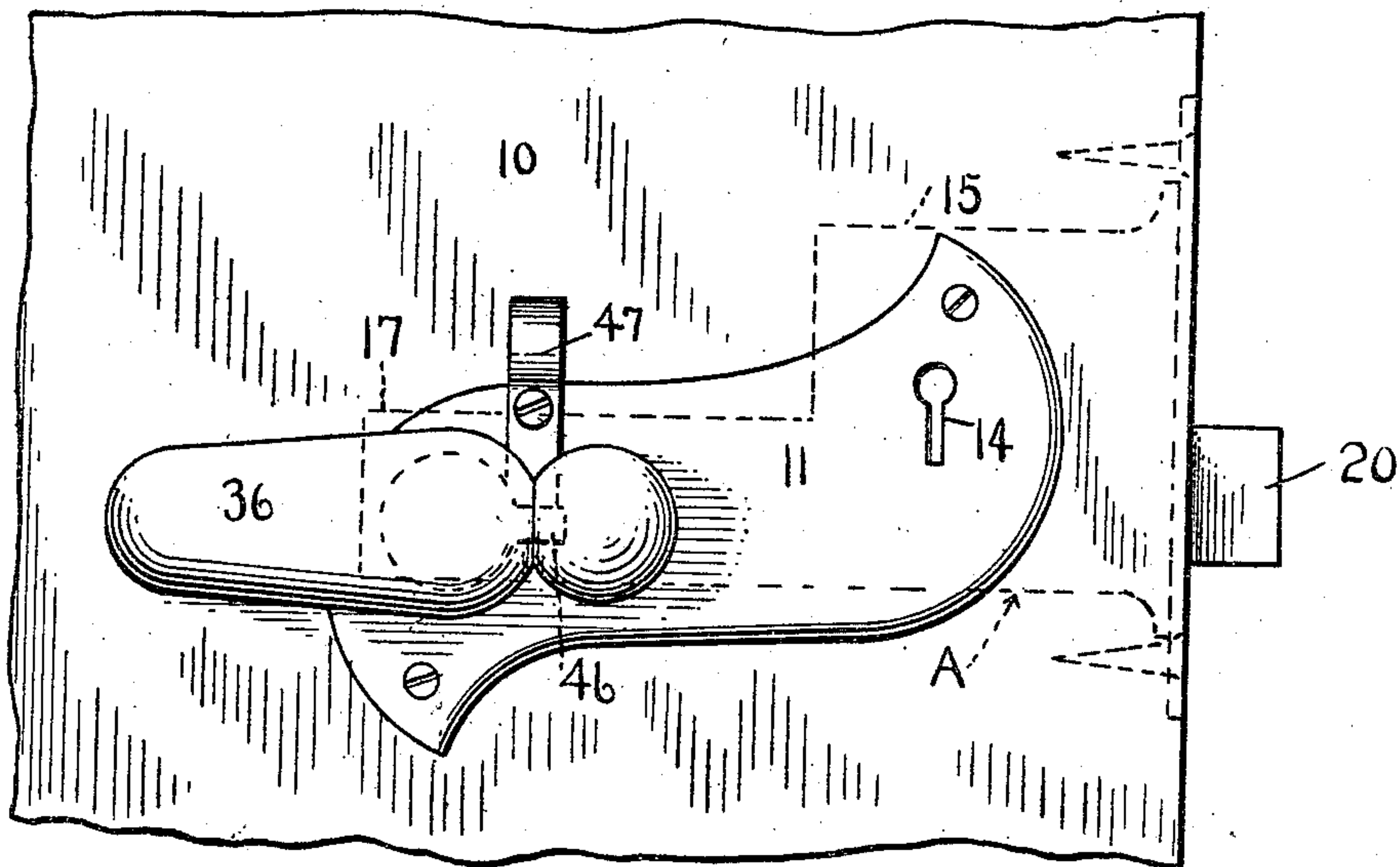


FIG. 4.

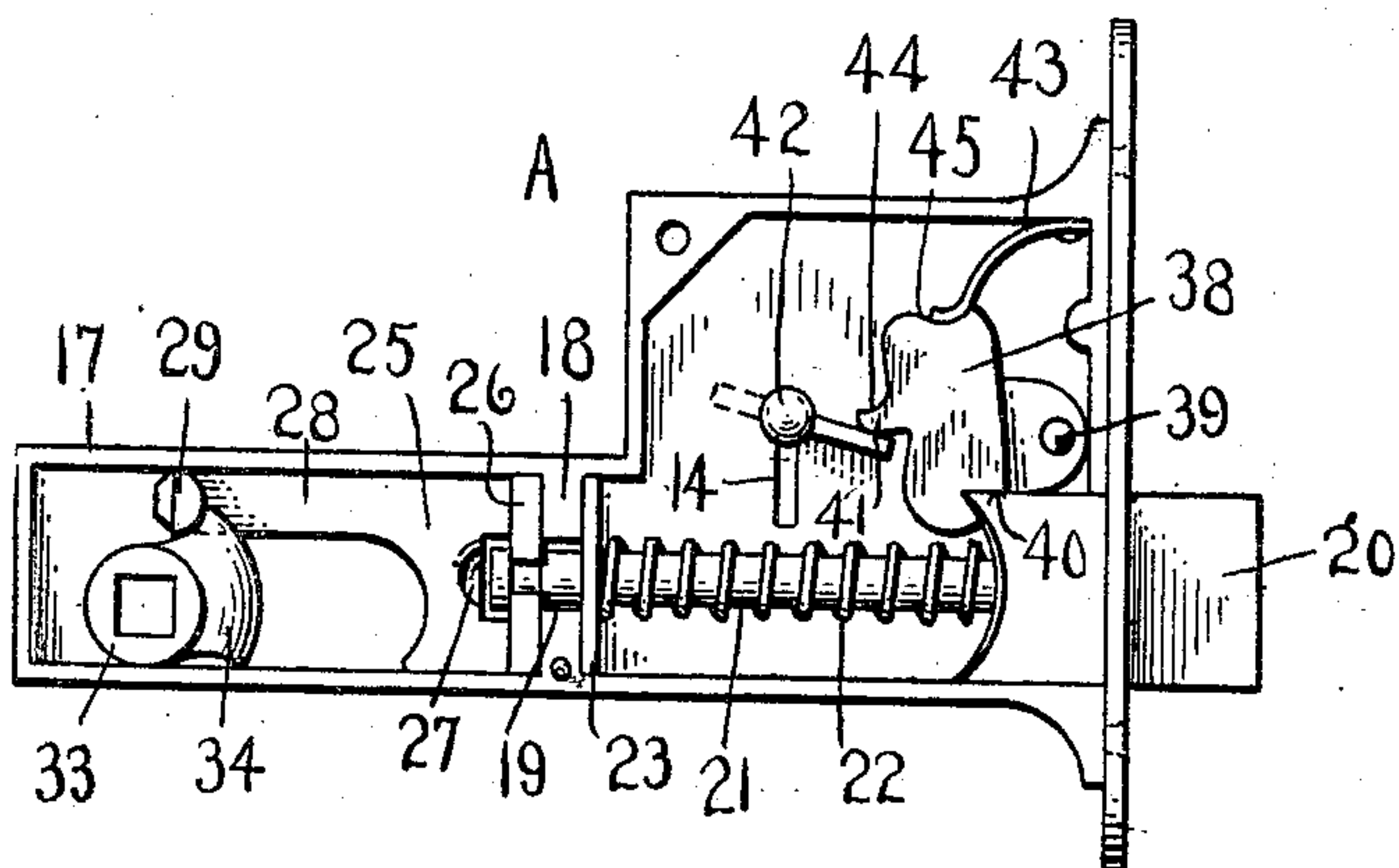
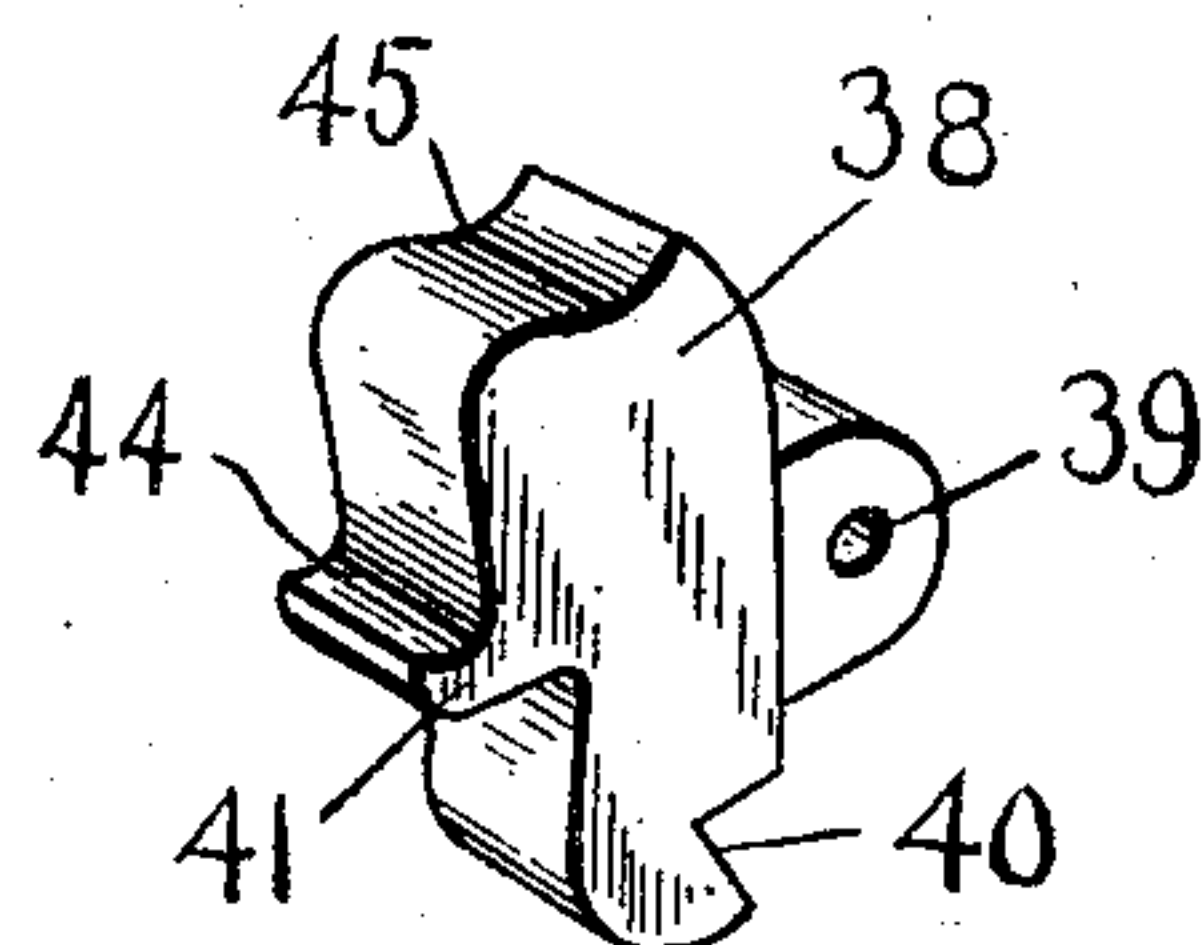


FIG. 7.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 2—

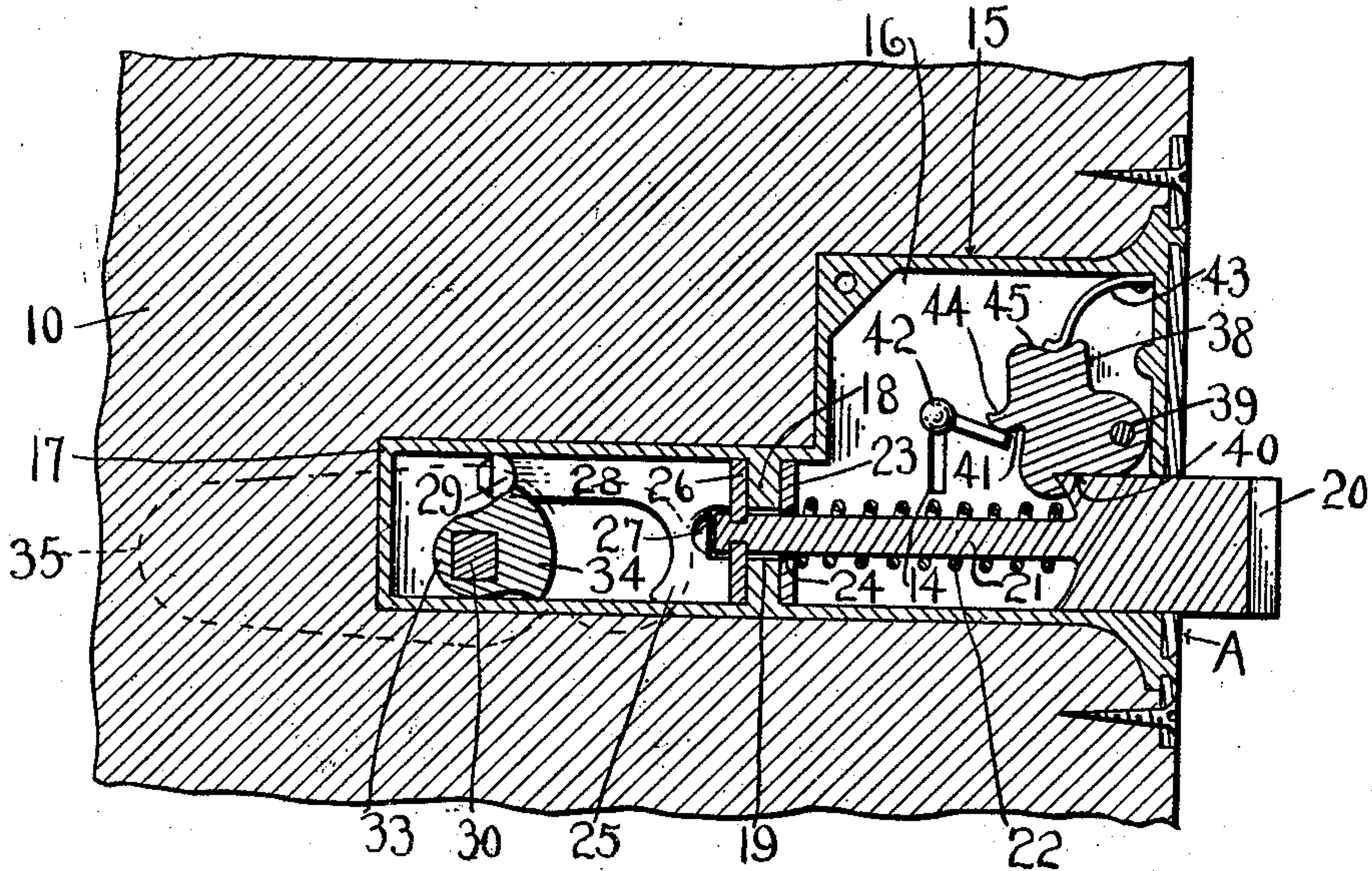


FIG. 3—

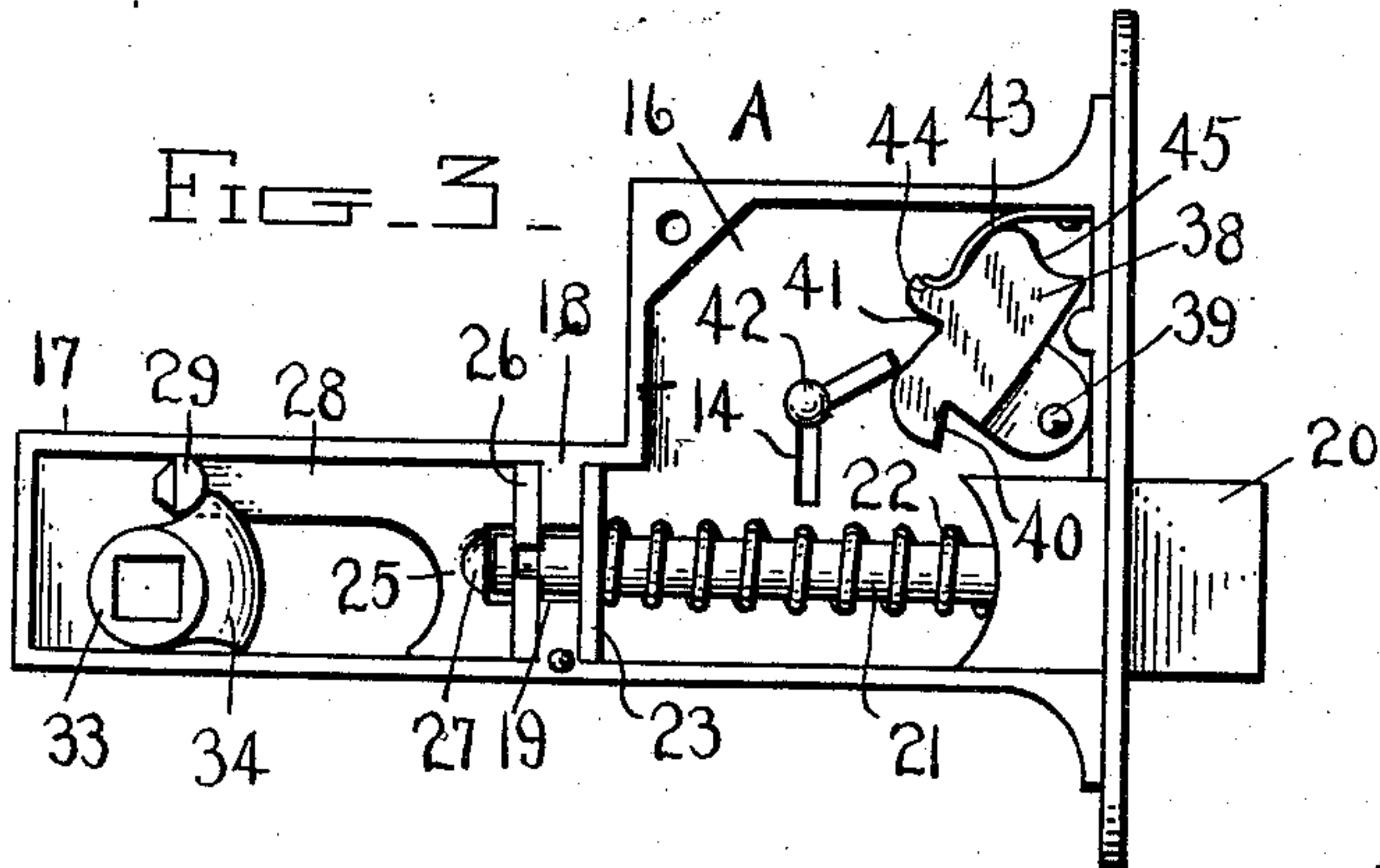


FIG. 4—

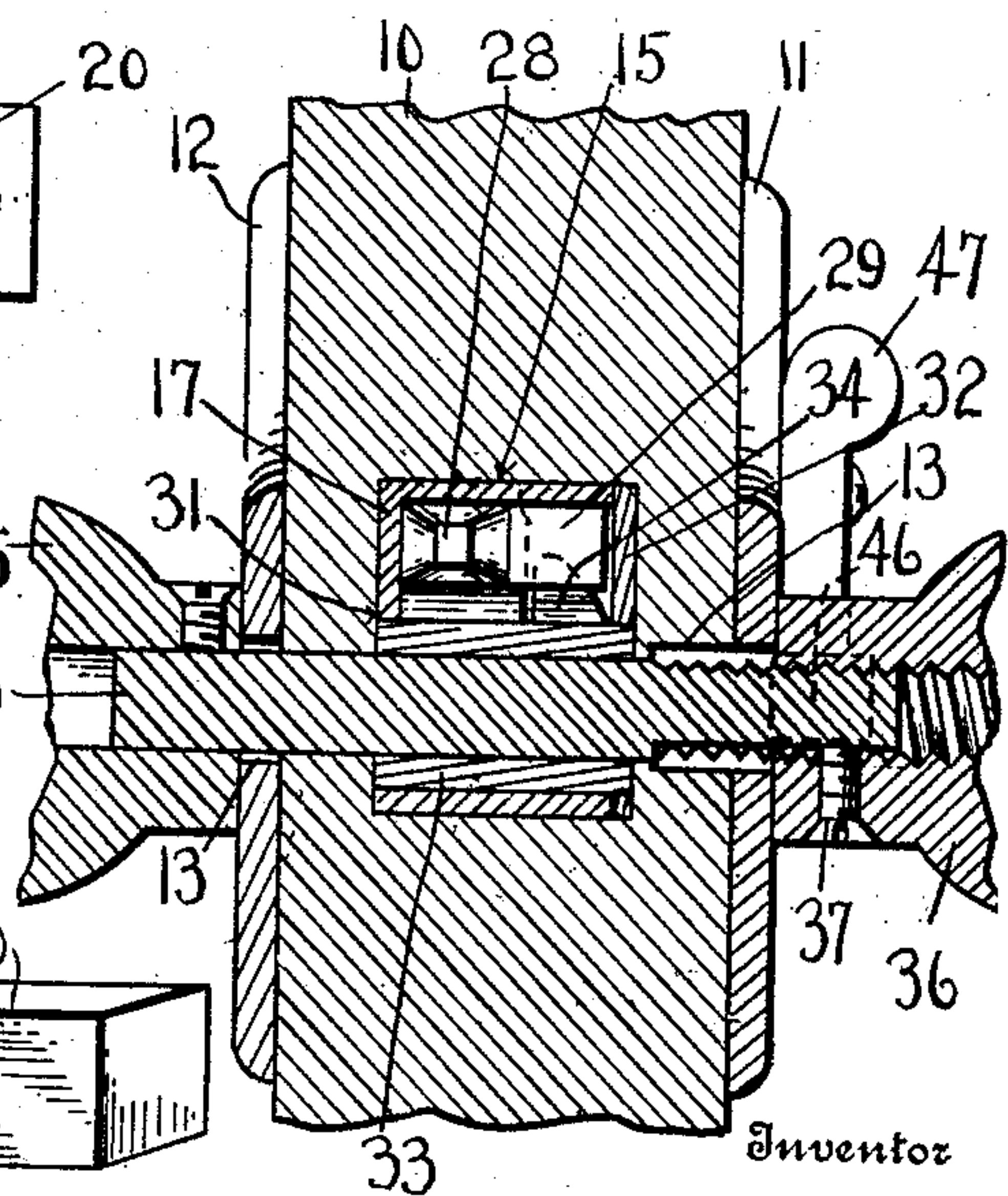
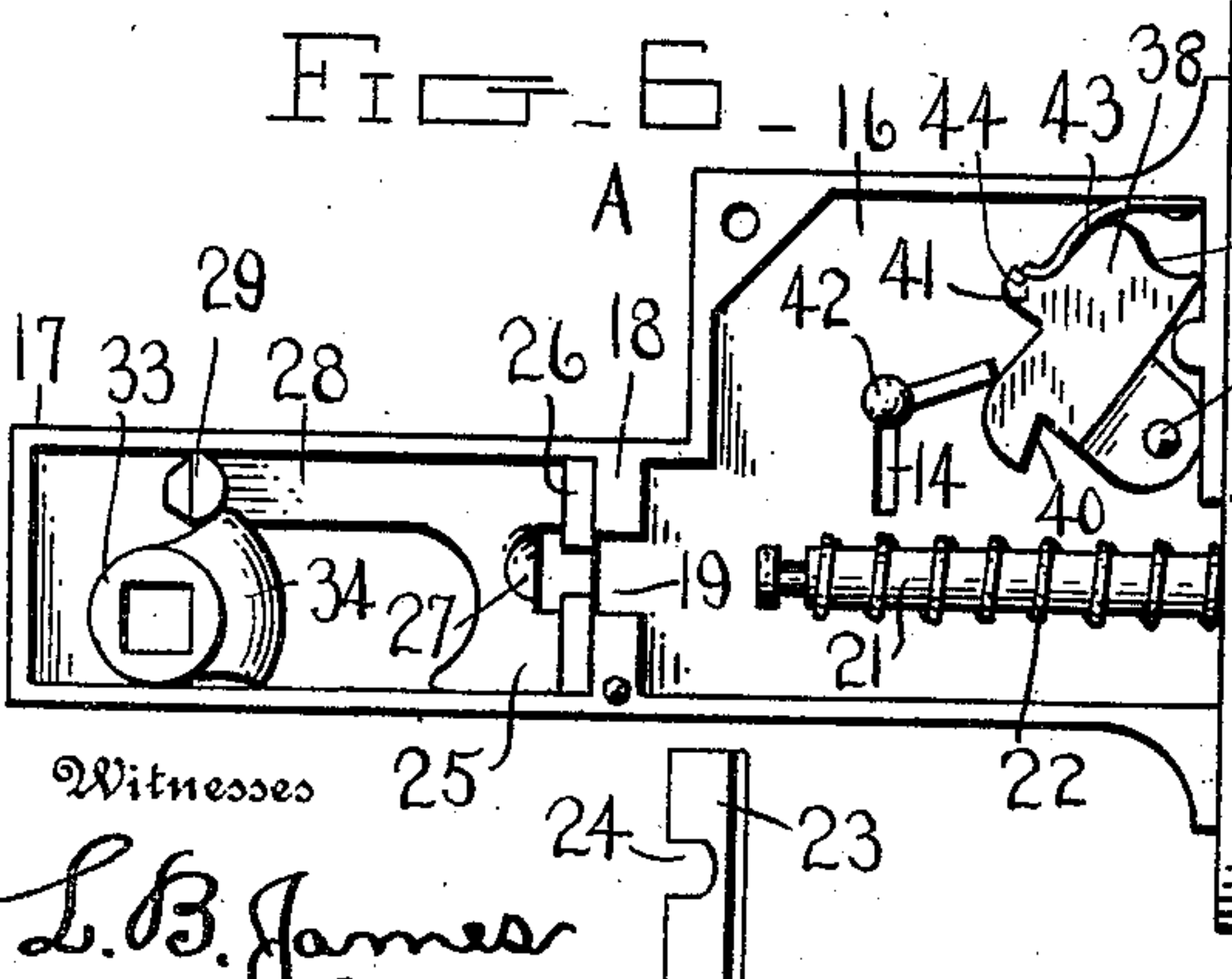


FIG. 5—



Witnesses

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UNITED STATES PATENT OFFICE.

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LOCK.

No. 928,761.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed January 31, 1908. Serial No. 413,692.

To all whom it may concern:

Be it known that I, WILLIAM A. HURST, a citizen of the United States, residing at Battle Ground, in the county of Tippecanoe, State of Indiana, have invented certain new and useful Improvements in Locks; and I do hereby 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 locks and has for its object to provide a lock of such character that while it may be manipulated by means of a key from either side of the door, manipulation of the lock from without the door may be prevented and one novel feature of the invention resides in the provision of a means for accomplishing this result.

In addition to the above features, the latch and lock bolt is so constructed and mounted as to permit of its being readily reversed so as to render the lock applicable to doors opening either from the left or right hand side.

The above and other objects of the invention will be readily apparent from a perusal of the drawings, the specific description which is to follow, and the claims.

In the accompanying drawings, Figure 1 is a view in elevation of the inside of the lock supporting portion of an ordinary door showing the lock embodied in my invention applied thereto, Fig. 2 is a vertical longitudinal sectional view through a portion of the door and through the lock casing and mechanism therein, Fig. 3 is a detail view of the casing and the lock and latch mechanism, the cover plate for the casing being removed and the said mechanism being shown in elevation and in normal position, Fig. 4 is a similar view showing the locking tumbler dropped into position to lock the latch bolt and prevent its retraction, Fig. 5 is a vertical transverse sectional view through the lock, the door etc., taken in a line with the extent of the lock spindle, Fig. 6 is a view similar to Fig. 3 and showing the manner in which the bolt may be reversed, and, Fig. 7 is a detail perspective view of the lock tumbler.

In the drawings, there is shown a door 10 attached to each face of which is an escutcheon 11 indicating the one upon the inner face of the door and 12 the one upon the outer face thereof, they both being provided with a spindle opening 13 and a key hole 14. The

door is mortised in its free edge as indicated at 15 for the reception of the lock casing, indicated in general by the reference character A. This casing comprises a body portion 16 which is substantially square and an oblong extension 17 there being a partition 18 dividing the two portions of the casing and this partition is formed with a notch 19 the function of which will presently be described.

The lock and latch bolt comprises a beveled head 20 integral with which is a stem 21 which stem has engaged upon it a spring 22 which bears at one of its ends against the head and at its other end against a plate 23 which is held by the spring against the partition 18 and is formed with a notch 24 which permits of its engagement with the said stem 21. Slidably received in the extension 17 is a retracting plate 25 formed at that end adjacent the partition 18 with a notched flange 26 and behind the flange with a recess 27 the inner end of the stem 21 being engaged in the notch and formed with a head which seats behind the flange and in the recess 27. This plate 25 is cut away to form an arm or extension 28 and this extension is formed at its extreme end with a lug 29. From the foregoing it will be understood that through the action of the spring 22, the bolt 20 is held normally extended and that the flanged end of the retracting plate 25 is normally held against the partition 18. In order that this plate 25 may be shifted so as to retract the bolt, a spindle 30 is provided, is engaged or passed through the openings 13 in the escutcheons, an opening 31 in one wall of the extension of the casing and through that portion of a cap plate 32 which corresponds to the said wall of the casing, the cap plate being disposed against the open side of the casing including its body and extension, and a hub 33 is engaged upon the spindle, the bore of the hub and the spindle being squared so as to insure turning of the hub with the spindle, and a lug 34 is formed upon the hub and co-operates with the lug 29 upon the retracting plate 25. The outside knob 35 is secured upon the corresponding end of the spindle 30 by riveting or otherwise and the inside knob 36 has a threaded engagement upon the spindle so that it may be adjusted to suit the thickness of the door, the spindle at this end being flattened at one side and a set screw 37 is engaged through the sleeve or shank of this knob and is turned to bear against the said flattened side of the spindle. It will be un-

derstood, of course, that by turning the spindle by means of the knobs, the plate 25 will be retracted through the coaction of the lugs 29 and 34 and will result in a retraction of the bolt.

In order to prevent retraction of the bolt when desired, the inner end face of the head 20 of the bolt is cut in at an angle in both directions toward its stem 21 and a tumbler 38 is pivoted as at 39 directly above the said head and within the casing and is formed in its under side with a notch 40 which, when the tumbler is swung downwardly or dropped, engages with the upper inner corner of the bolt head, and as the notch in the tumbler forms, in effect, a hook, the bolt head is securely held against retraction. In order that the tumbler may be swung into and out of engagement with the bolt head, it is formed in its inner face with a notch 41 and a key 42, when turned, engages in this notch to produce the result stated. A spring 43 is fixed to the upper side of the casing and engages, when the tumbler is raised, in a concavity 44 and when the tumbler is lowered in a concavity 45 both being formed in the tumbler and this spring serves to hold the tumbler in either of these two positions.

It is frequently desirable to lock the bolt without the use of a key and in order that this may be accomplished a lug 46 is formed upon the shank of the knob 36, which knob is located inwardly of the door and a turn button 47 is pivoted upon the escutcheon 11 and when turned vertically, prevents rotation of the spindle in a direction to unlatch the door by reason of the engagement of the lug 46 with the lower end of the button.

It is desirable that the bolt be reversible so as to admit of the lock being applied to a door opening either from the right or the

left and this may be accomplished, in the construction shown by me, by slipping the plate 23 from engagement with the stem of the bolt and then disengaging the bolt from the notches in the partition and the retracting plate, reversing it, and finally reengaging it within the said notches and replacing the plate 23.

What is claimed, is:—

1. A lock comprising a casing, a partition held in said casing provided with a notch, a notched retracting plate movable in said casing, a bolt including a stem engaged in said notches, a notched plate engaging with the stem and feeding against the said partition, and a spring engaged upon the stem and bearing at one end against the head of the bolt and at its other end against the plate, the plate being disposed with its notch presented in a direction opposite to the direction of presentation of the first-mentioned notches.

2. A lock comprising a casing formed with an extension and with a partition dividing its main portion and the extension, the said partition being notched, a notched retracting plate movable in said extension, a bolt including a stem engaged in the said notches, a notched plate engaged with the stem and seating against the said partition, and a spring engaged upon the stem and bearing at one end against the head of the bolt and at its other end against the plate, the plate being disposed with its notch presented in a direction opposite to the direction of presentation of the first mentioned notches.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM A. HURST.

Witnesses:

G. H. GROW,

JESSE M. CHENOWETH.