

No. 713,942.

Patented Nov. 18, 1902.

S. F. BECKWITH.
LATCH.

(Application filed Apr. 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

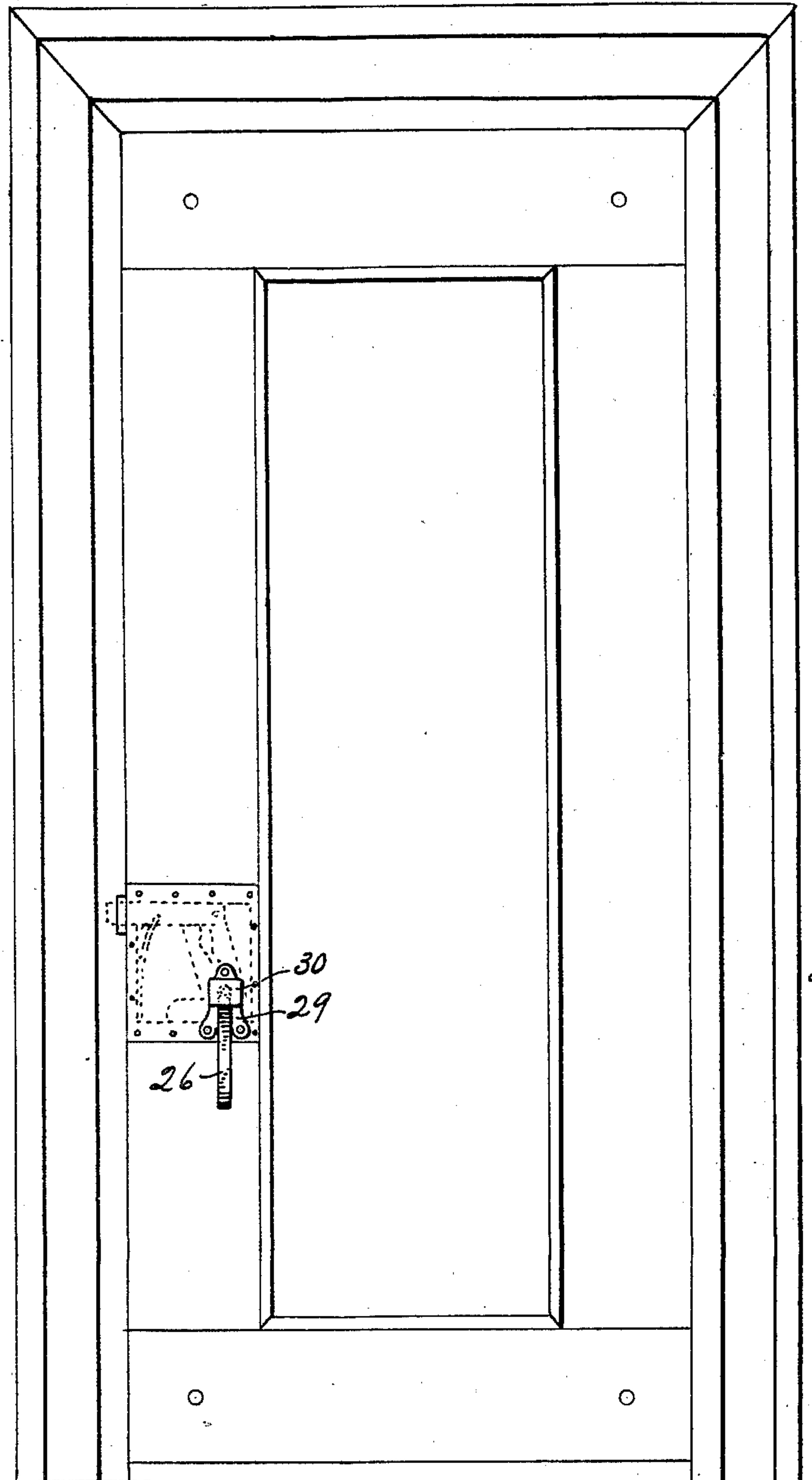
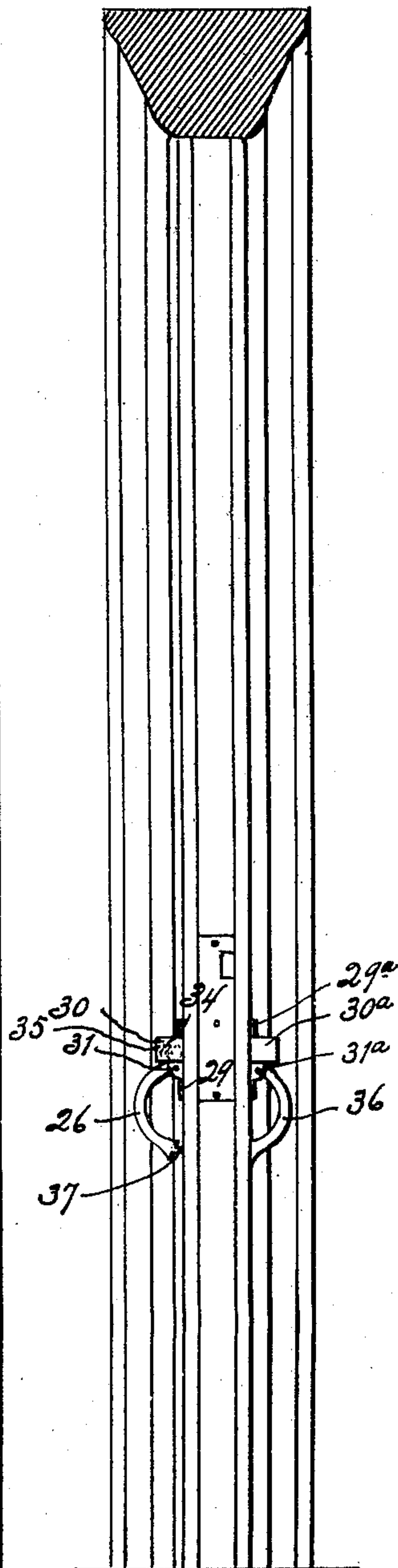


Fig. 2.



Witnesses:

J. P. Appleman,
Albert Mitchell

Inventor

S. F. Beckwith.

By

A. C. Dunlap,
Att'y.

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2 Sheets—Sheet 2.

Fig. 3.

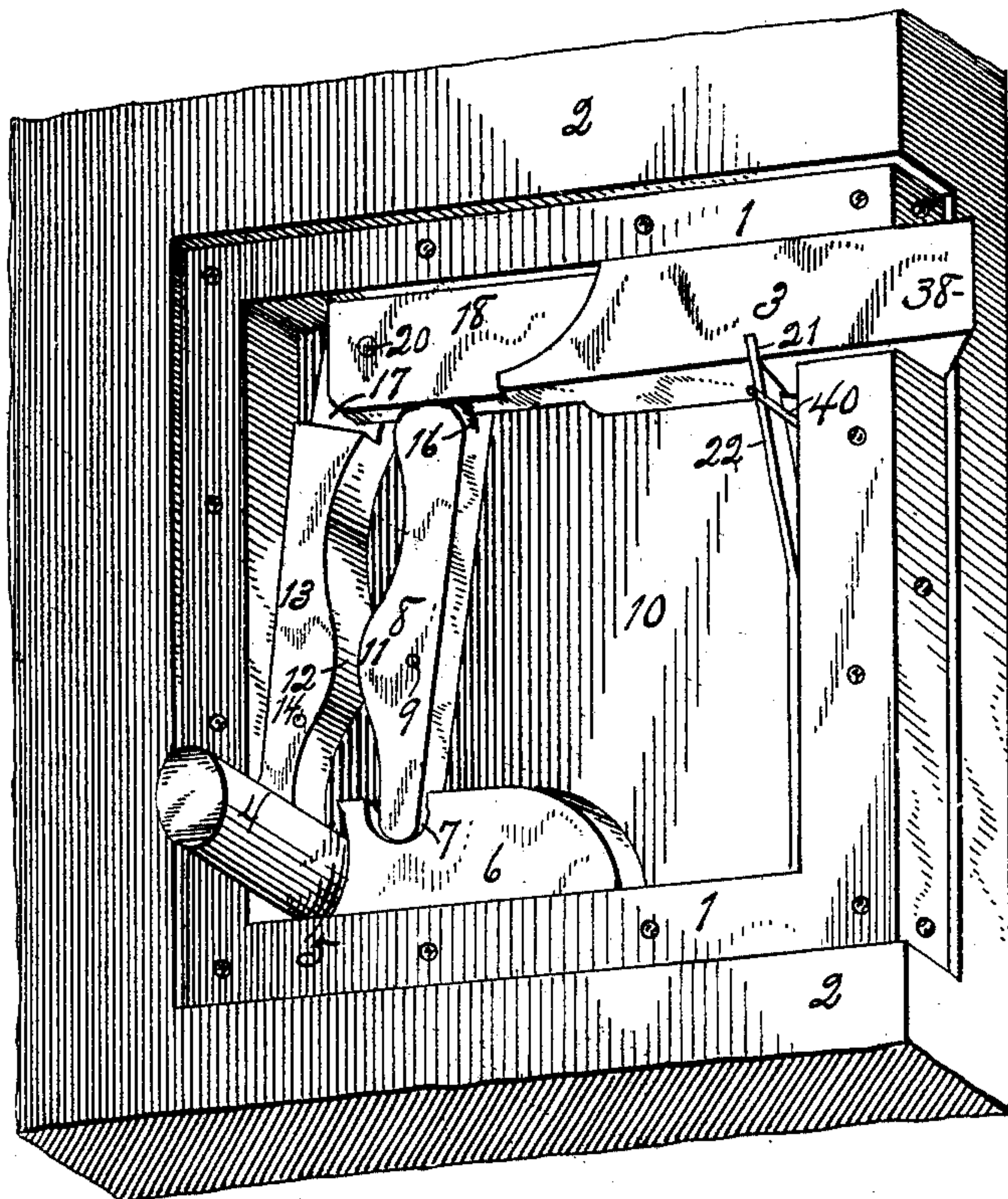


Fig. 6.

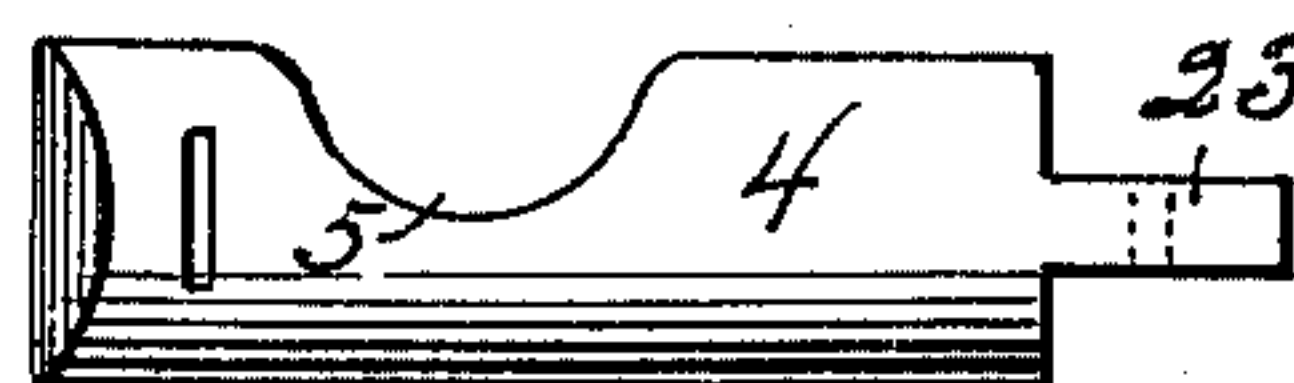


Fig. 7.

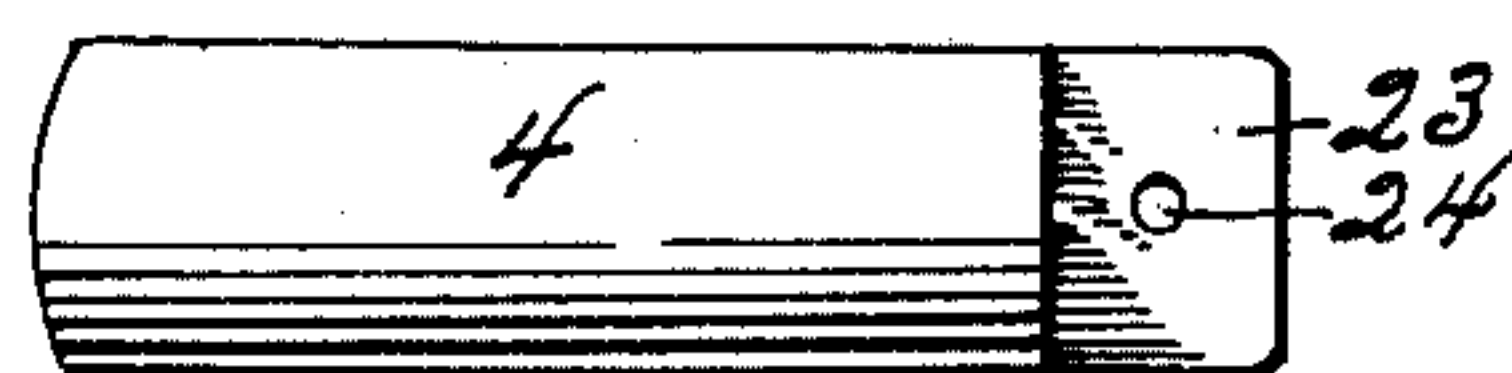


Fig. 8.

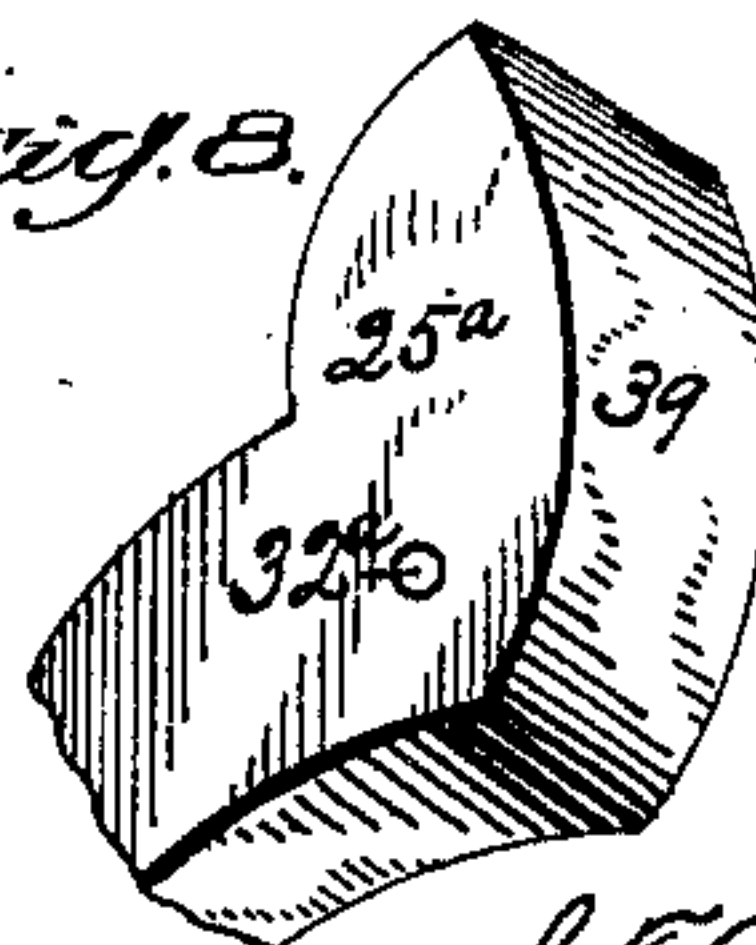
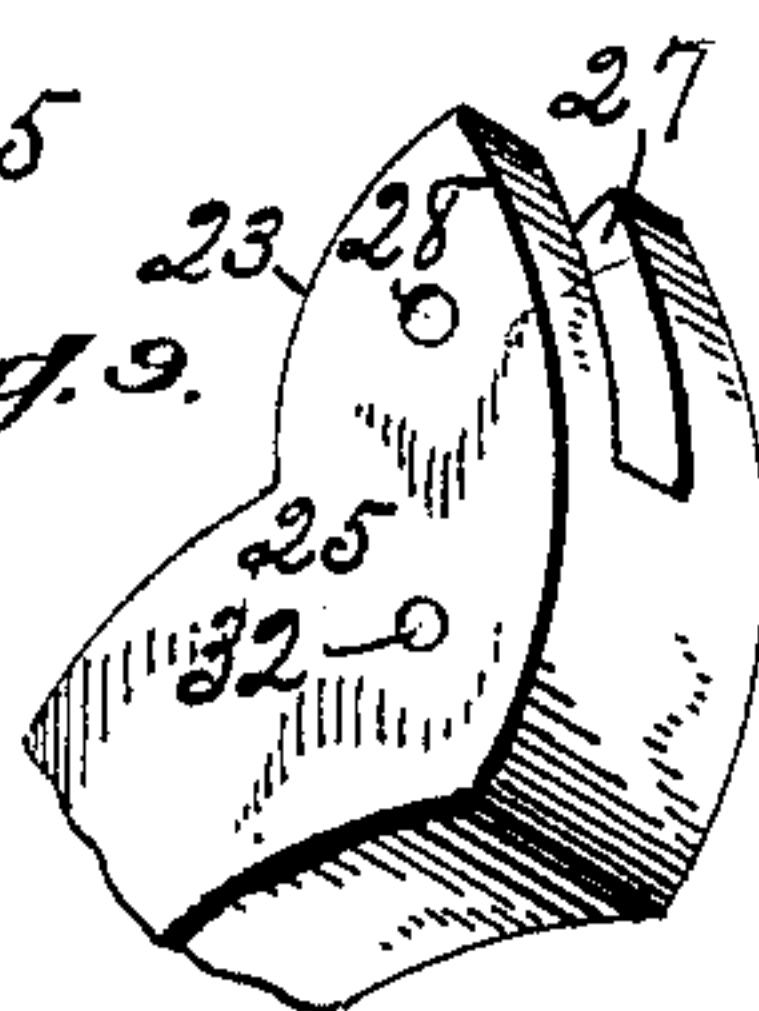


Fig. 9.



Witnesses:

P. Appleman,
Albert Mitchell

Inventor

S. F. Beckwith

By

A. C. Dunlap

Att'y.

UNITED STATES PATENT OFFICE.

SUMMERS FRANCIS BECKWITH, OF CHARLESTON, WEST VIRGINIA.

LATCH.

SPECIFICATION forming part of Letters Patent No. 713,942, dated November 18, 1902.

Application filed April 18, 1902. Serial No. 103,527. (No model.)

To all whom it may concern:

Be it known that I, SUMMERS FRANCIS BECKWITH, a citizen of the United States of America, and a resident of Charleston, county of Kanawha, and State of West Virginia, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

My invention relates to certain new and useful improvements in door-latches, and has for its object to construct a latch that can be operated conveniently without any turning of the wrist, as is the case with the usual latch where a knob is used.

My invention further aims to provide a latch of the above-referred-to class that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture; furthermore, a latch which is provided with few parts which are liable to become out of order.

The invention further aims to provide a latch to which the power to operate it when in position on a door is applied directly in the way of a push or pull, a push only being necessary when it is desired to open a door from the outside and a pull when from the inside.

Still further objects of my invention will become apparent as further progress is made in this specification.

The invention consists in the novel construction, combination, and arrangement of parts, which will hereinafter be particularly described, and specifically pointed out in the claims hereto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like reference-numerals indicate similar parts throughout the several views, in which—

Figure 1 is a front elevation of a door to which my invention is applied. Fig. 2 is a side view of my invention applied to a door. Fig. 3 is a perspective view of the inside latch mechanism in position in a section of a door. Fig. 4 is a perspective view of one of the levers, hereinafter designated by reference-numeral 8. Fig. 5 is a similar view of the other lever, hereinafter designated by the reference-numeral 13. Fig. 6 is a side view of the spin-

dle or plunger, showing the rounded depression therein. Fig. 7 is a similar view of the same, showing the reduced end thereof. Fig. 8 is a perspective view of the upper end of the inner hasp. Fig. 9 is a similar view of the upper end of the outer hasp.

In the drawings, 1 indicates a portion of the case in which the inside mechanism of my invention operates, the same being adapted to be inserted in the beveled edge of a door 2. Lying in a horizontal position in the upper part of said case 1 is a bolt 3, adapted to be operated in opening and closing the door. Extending through the case 1 from side to side is a movable spindle or plunger 4, having in one side thereof a rounded depression 5. Loosely situated in the case 1, with its lower edge resting on the lower edge of the case, is a plate 6, of substantially the construction shown in Fig. 3, having its inner end rounded or hollowed out to fit the rounded depression 5 in the said spindle or plunger 4. In the upper edge of said plate 6 is provided a rounded depression or recess 7, adapted to engage the rounded end of a lever 8, which is pivotally mounted on an upright stud 9, provided on the side 10 of the case 1. The rear edge of said lever 8 is provided with a rounded bulge or extension 11, which is adapted to engage a similarly-rounded bulge or extension 12 on the edge of a second lever 13. Said lever 13 is pivotally mounted on an upright stud 14, provided on the side 10 of the case 1, and has an integral pointed tongue 15 on its lower end, which lies between the rear side of the spindle 4 and the rear edge of the case 1.

The upper ends of both levers 8 and 13 are provided with reduced or beveled portions 16 and 17, respectively, on the outer faces thereof, and each face of the bolt 3 at the rear end thereof is provided with a reduced or beveled portion 18.

In the beveled or reduced end 17 of the lever 13 is a longitudinal slot 19, adapted to engage an inwardly-extending stud 20, provided in the rear end of said bolt 3. In both the upper and lower edge of the bolt 3, near its forward end, is provided a recess 21, adapted to engage and hold the upper end of a spring 22, which is fixedly secured at its lower end to the inner face of the outer wall of the

case 1, said spring being adapted to normally hold said bolt 3 in a forward position engaging the keeper. A stud 40, provided on the face 10, serves to hold the point of the spring 22 in a bent position, as shown in Fig. 3.

The spindle 4, which extends at right angles through the case 1 and through the door to which it is applied, has its outer end—that is, the end extending through to the outer side of the door—reduced or beveled, forming a lug 23. Pivoted to the lug 23, through the opening 24 provided therein, is the end 25 of a hasp 26, (clearly shown in Fig. 9,) said end 25 being provided with a groove 27 for the reception of said lug 23 and provided with an opening 28 for the pivot.

29 indicates a plate having secured thereon a small box-like case 30, said plate and case being adapted for securing on the door over the ends of the spindle 4. Pivotally mounted in said box-like case 30 by pivot 31, which extends through the opening 32 in the end 25 thereof, is the upper end of the outer hasp 26.

With its inner end resting against the shoulder 33 of the end 25 of the hasp 26 is a spiral spring 34, the outer end of which rests against the inner side of the face 35 of the box-like case 30. Said spring is adapted to normally hold the lower end of the hasp 26 in a raised position. However, the spring 22, which holds the other parts of my invention in their normal positions, would alone under ordinary circumstances exert sufficient force on the spindle 4 to hold said hasp in this raised position.

On the inner side of the door is provided a similar plate 29^a and case 30^a, and pivotally mounted in the case 30^a by pivot 31^a, which extends through the opening 32^a in the end 25^a thereof, is the inner hasp 36, the lower end of which normally rests against the face of the door.

The inner end of the spindle or plunger 4 is rounded, substantially as shown in Figs. 3, 6, and 7, and extends within the case 30^a against the upper part of the inner face 39 of the end 25^a of the hasp 36, so as to normally hold said end against the inner side of the face 35^a of the case 30^a.

The lower ends of the hasps 26 and 36 need not in actual use be connected; but they are preferably connected by a rod or bolt 37, which passes through the door, the object of this construction being to give additional firmness or rigidity to the said hasps, preventing the accidental bending or breaking thereof from a sidewise blow and also to prevent the said ends from engaging portions of the clothing or wearing-apparel of a person passing through the doorway.

Now when it is desired to open a door to which my invention is applied from the outside the hasp 26 is grasped with the hand, and by pressing inward on said hasp the spindle or plunger 4 is drawn forward into the box-like case 30. As said spindle is drawn forward the plate 6, which has its inner round-

ed end resting against said spindle in the rounded depression 5, is forced forward out of said depression along the face of the spindle, thus throwing the lever 8 about on its pivot 9 and forcing the upper end of the pivoted lever 13 backward, the said lever 13 at the same time drawing the bolt 3 inward, so as to disengage its point 38 from the keeper on the door-jamb. When the said hasp is released, the spring 22 will force said bolt 3 outward, and the different parts of the invention will assume their normal positions.

Now when it is desired to open the door from the inside the hasp 36 is grasped with the hand and pulled outward from the door, when the spindle 4, which has its rounded end resting against the upper part of the inner face 39 of the end 25^a thereof, will be forced outward, operating the bolt 3 in substantially the same manner as hereinbefore described with reference to the opening of the door from the outside.

It will be observed that both sides or faces of the bolt 3 are reduced or beveled at the rear end thereof. This construction makes the said bolt reversible or, in other words, renders it possible to apply the latch on either side of the door by simply reversing the said bolt 3.

It will be noted that the arrangement of the hasps so as to require only a push to open the door from the outside and a pull to open from the inside affords a convenient and easy operation, since the impulse in making one's entrance through a door which is closed is to push on the same and that on making one's exit is to pull thereon.

As is apparent various changes may be made in the minor details of construction and in the arrangement of parts without departing from the general spirit or scope of my invention. Hence I do not desire to limit myself to the precise construction and arrangement shown.

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

1. The combination with a door and latch-casing, of a spindle extending at right angles through the casing and having a rounded depression in one side thereof, a plate 6 in said casing one end of which engages the depression in said spindle, said plate provided with a recess in the edge thereof, a lever pivotally mounted in the casing and having one end engaging the recess in said plate, a second lever pivotally mounted in the casing and provided with a perforation 19 in its upper end, a bolt 3, a stud on said bolt in engagement with said perforation, a spring in engagement with a recess provided in said bolt for normally holding said bolt in a forward position, a hasp 26 pivoted to one end of said spindle, a spring for normally holding said spindle depressed, and a hasp 36 suitably mounted and having a rounded inner end in bearing contact with the other end of

said spindle, substantially as and for the purposes set forth and described.

2. The combination with a door and a latch-casing, of a spindle extending through said casing, a rounded depression in said spindle, a plate movably seated in said casing, one end of which is rounded and adapted to yieldingly engage the depression in the spindle, a lever pivotally mounted in said casing, the lower end of said lever in engagement with a recess provided in the upper edge of said plate, a second lever pivotally mounted in said casing and having its lower end extending downward in the rear of said spindle and having a slot in its upper end, the upper ends of both levers beveled on one face, a bolt or latch in said case, the rear end of said bolt beveled, a stud in the beveled end of the bolt in engagement with the said slot in the lever, a spring for normally holding said bolt in a forward position, a box-like case on the outer side of the door over the end of the spindle, a lug on the spindle within said case, a hasp pivoted at its upper end to said lug, a spring mounted in said case for normally holding the spindle in a depressed position, a box-like case on the inner side of the door over the inner end of the spindle, a hasp pivoted at its upper end in said case and having its inner face in bearing contact with the said

spindle end, all substantially as and for the purposes set forth and described.

3. In a door-latch, the combination with a door and latch-casing, of a spindle extended at right angles through said door and latch-casing, a box-like case secured on each face of the door over the respective ends of said spindle, said spindle provided with one rounded end and one beveled end, the latter forming a lug, a hasp pivotally secured to said lug within the outer of the said box-like cases, a spring suitably mounted in said case for normally holding said spindle in a depressed position with relation to said case, a hasp pivotally secured in the opposite box-like case and having its inner face in bearing contact with the rounded end of the spindle, a bolt within the casing, means for normally holding said bolt in a forward position, and means carried by and intermediate the spindle and bolt whereby said bolt is operated when said spindle is actuated to move in either direction, substantially as described.

Signed by me at Charleston, West Virginia, this 22d day of March, 1902.

SUMMERS FRANCIS BECKWITH.

Witnesses:

GEORGE ORT,
F. G. KLOSTERMEYER.