

T. M. PILARSKI.

DOOR LATCH.

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952,277.

Patented Mar. 15, 1910.

Fig. 1.

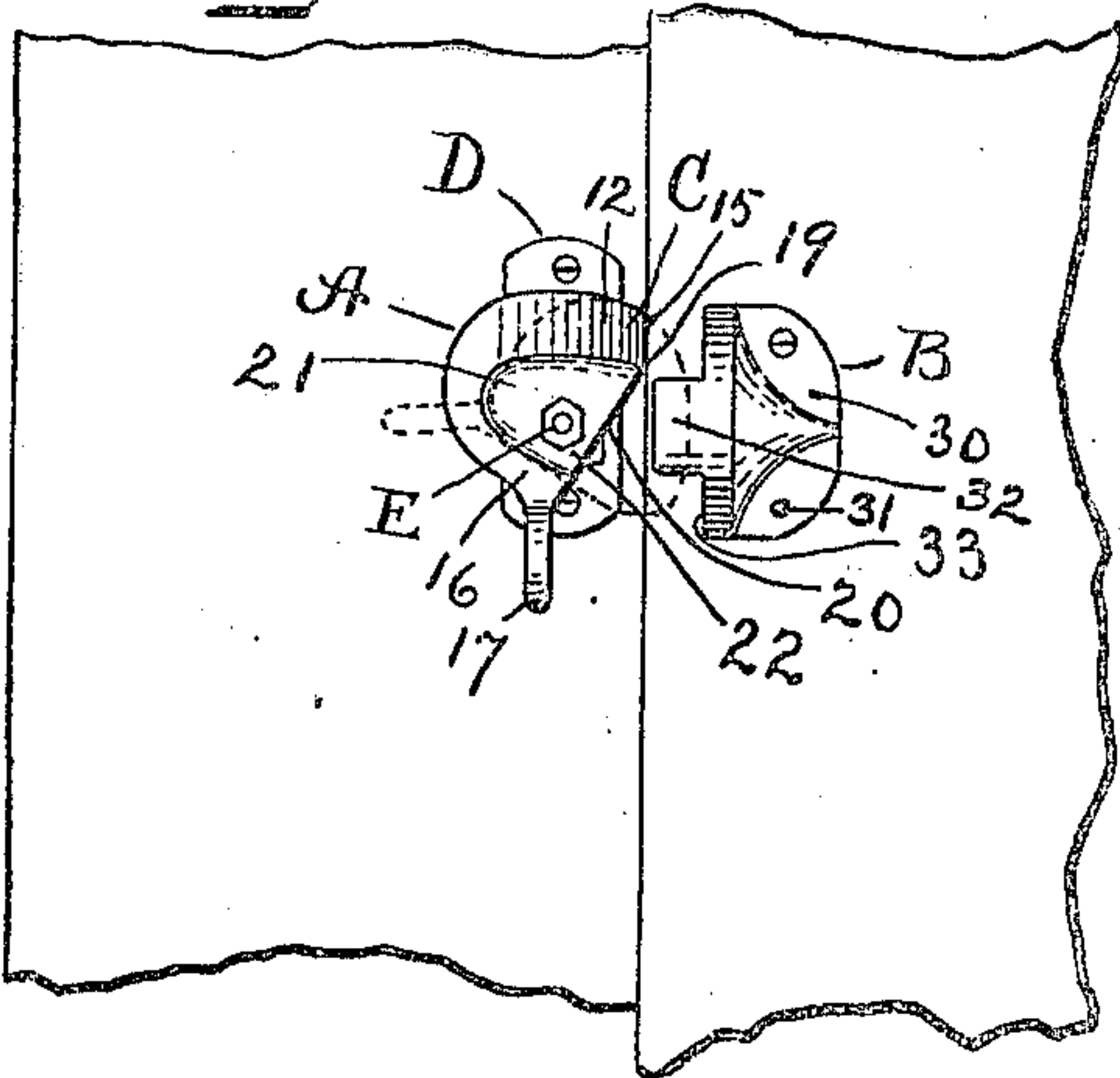


Fig. 2.

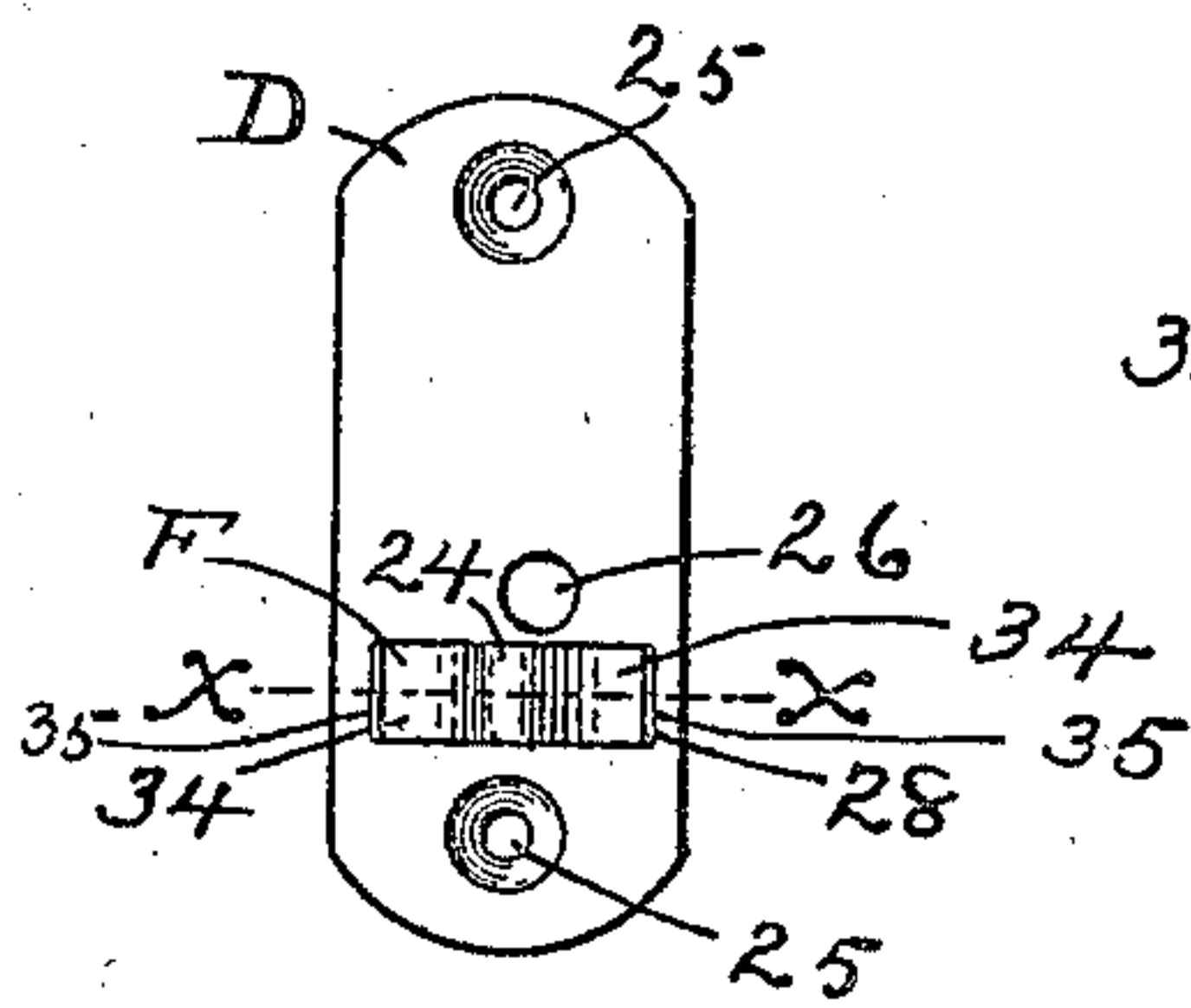
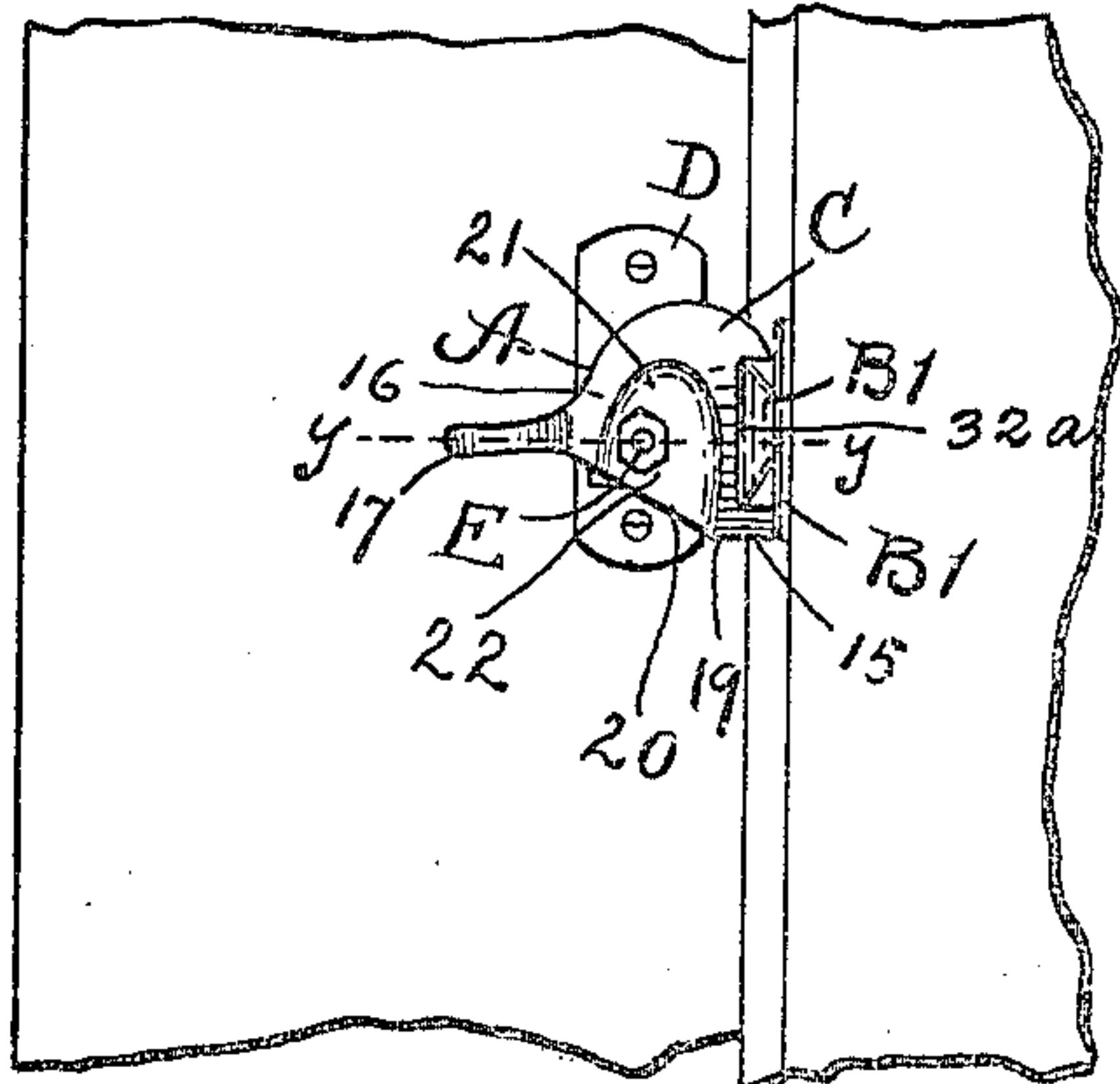


Fig. 3.

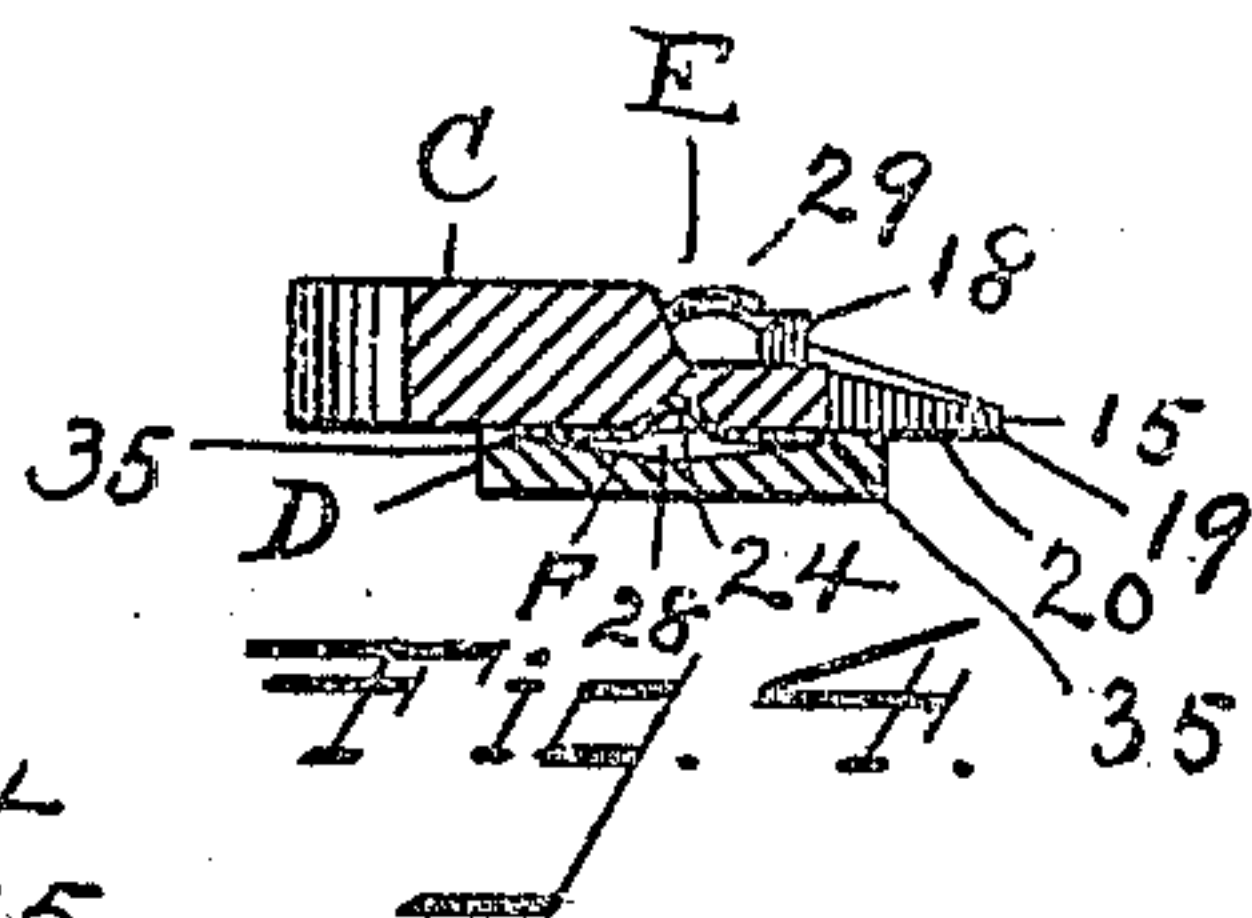


Fig. 4.

Fig. 5.

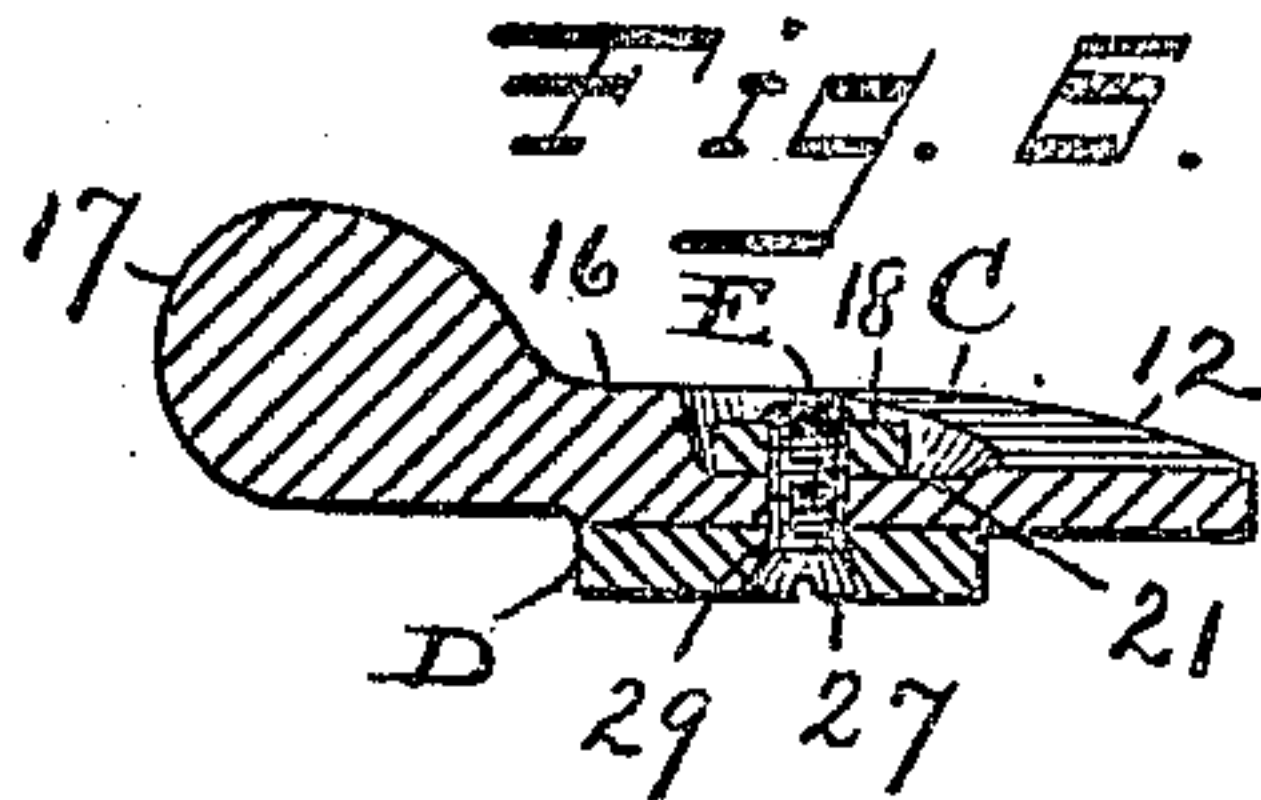
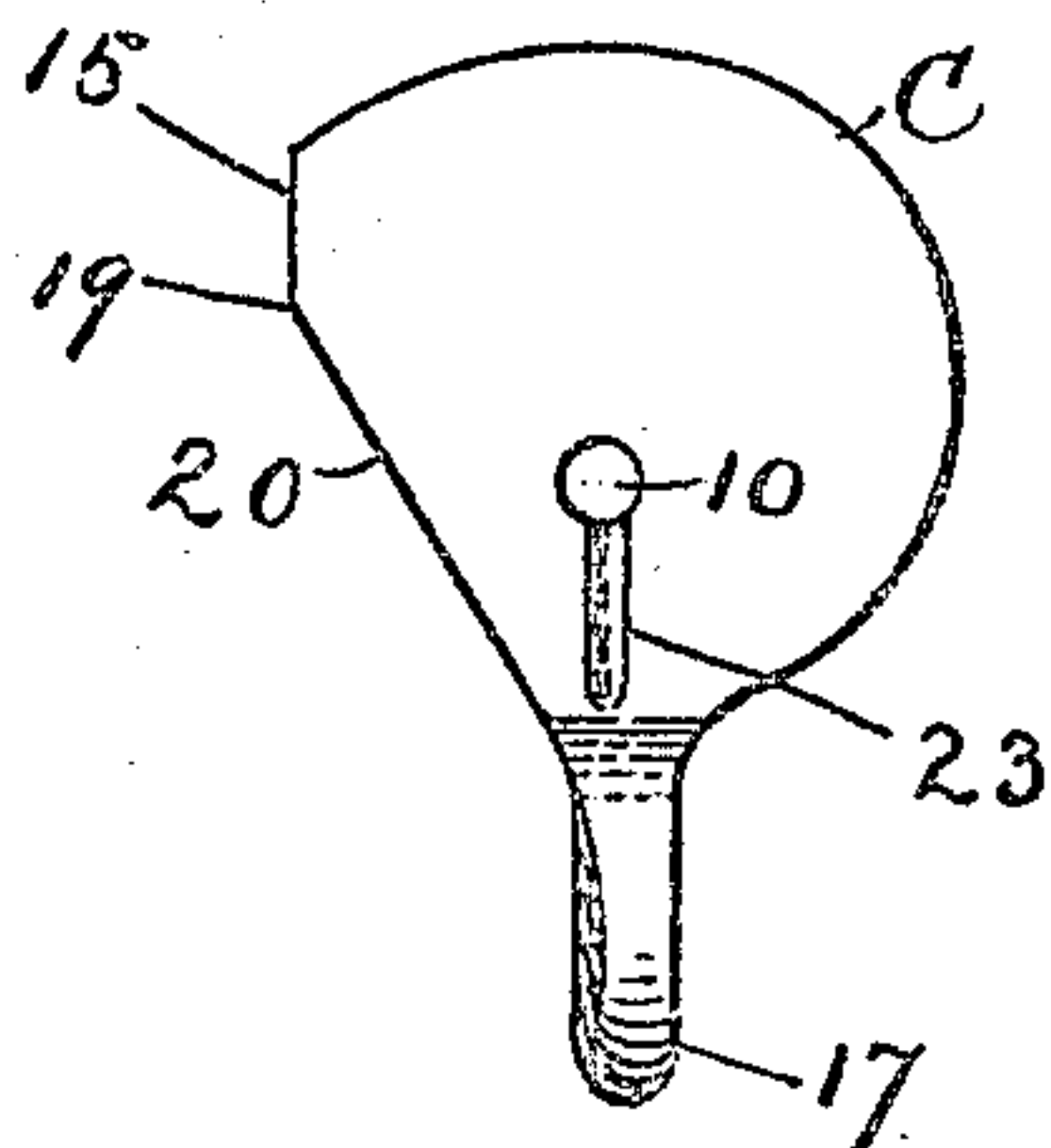


Fig. 6.

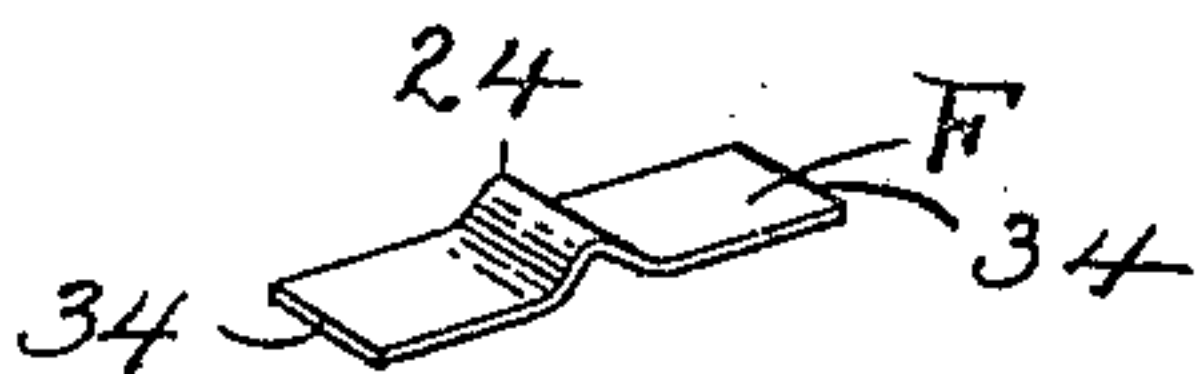
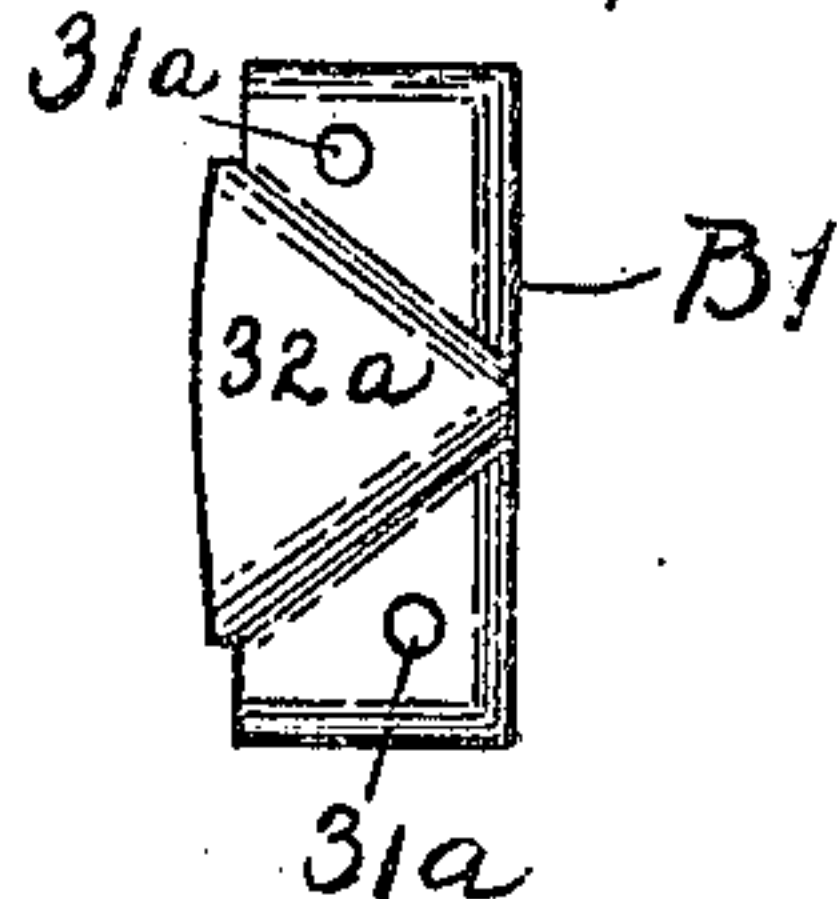


Fig. 7.

Fig. 7.



Witnesses:-

S. H. Clarke  
N. L. Lockwood.

Inventor

Thomas M. Pilarski.

By Louis M. Schmidt.  
Atty.



# UNITED STATES PATENT OFFICE.

THOMAS M. PILARSKI, OF NEW BRITAIN, CONNECTICUT.

## DOOR-LATCH.

952,277.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed December 3, 1909. Serial No. 531,177.

*To all whom it may concern:*

Be it known that I, THOMAS M. PILARSKI, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

My invention relates to improvements in door latches and the objects of my improvements are simplicity and economy in construction and convenience and efficiency in use.

In the accompanying drawings:—Figure 1 is a front view of my improved door latch in normal unlocked position and applied to a door flush with the door casing, the door and casing being shown in part. Fig. 2 is a similar view of my latch in engaged or locked position and applied to a door set back from the front line of the casing. Fig. 3 is a front elevation of the back plate on an enlarged scale. Fig. 4 is a sectional view of my door latch on the line *x x* of Fig. 3. Fig. 5 is a back view of the bolt. Fig. 6 is a sectional view of the bolt member of my door latch on the line *y y* of Fig. 2. Fig. 7 is a front elevation of the keeper shown in Fig. 2. Fig. 8 is a perspective view of the spring on an enlarged scale.

My door latch comprises a bolt member A which is attached to the door and a keeper B attached to the casing adjacent the edge of the door and which bolt member and keeper are adapted to engage with one another so as to lock the door and at the same time to press the door backward against the door frame or casing. The said bolt member A comprises a bolt C which is pivotally mounted on a back plate D by means of a pivot E. The said bolt C comprises a generally flat plate-like piece having a pivot hole 10 generally in the center, and a contour for somewhat more than 180 degrees essentially concentric with the said pivot hole 10, and as shown in Fig. 1 an inclined engaging surface 12 at the top of appreciable width and concentric with the said pivot hole 10 and a flat back surface adapted to serve as a back bearing surface and forming with the said engaging surface 12 an arc shaped wedge or inclined plane. As shown in said Fig. 1 the said bolt C is in normal disengaged position, and the said inclined engaging surface 12 extends across the top for about 90 degrees. At the right

the said engaging surface 12 is cut off vertically at 15 and when located on the door the said vertical edge 15 is in alinement with the edge of the door. The said vertical edge 15 constitutes an engaging nose and corresponds to the thinnest point or apex of the said wedge and may be an essentially sharp edge, and back from the same, or in counter clockwise relation to the same the wedge shape formation continues for about 90 degrees, at which point the thickness may be about a quarter of an inch, and beyond the 90 degree point the thickness is uniform and corresponds to the greatest thickness of the said wedge shape formation, and constituting a strengthening rib 16, which extends to a point essentially below the said pivot hole 10 at which point is located a thumb piece or handle 17. As shown the said strengthening rib 16 is gradually formed inward radially from the line concentric with the said pivotal hole 10 so that at the junction with the said handle 17 the distance from the said pivotal hole 10 is such as to provide simply for reasonable clearance for the front head 18 of the pivot E. From the junction 19 of the said vertical edge or nose 15 and the said engaging surface 12 the said bolt C is cut away on a straight line 20 down to the said handle 17. The body 21 of the said bolt C inclosed by the said engaging surface 12 and the strengthening rib 16 comprises a flat web parallel with the back surface and adjacent the said pivot hole 10 which is adapted to serve as a front bearing surface 22. The back surface of the said bolt C is provided with a groove or slot 23, preferably vertical as shown and adapted to engage with the apex 24 of a flat spring F so as to be positively retained by said spring in the normal disengaged position when set to such position. The said back plate D comprises an essentially flat plate, generally rectangular, having two holes 25 for retaining screws near the top and bottom respectively, and a pivot receiving hole 26, shown as a little below the center and which is preferably countersunk, to receive the flat head comprising the back head 27 of the pivot E. Between the said pivot hole 26 and the lower retaining screw hole 25 is a rectangular recess constituting a bed 28 adapted to receive the said flat spring F. The pivot E comprises preferably a flat headed screw 29 having the flat head 27 at the back and a nut constituting



the front head 22, the outer end of the screw being headed or riveted over after the nut has been screwed on the same, in an ordinary manner or an ordinary rivet may be used for the same.

The keeper B as shown in Fig. 1 is adapted to be mounted on the front face of a casing arranged flush with the door and comprises a body 30 having a plate like formation having holes 31 for retaining screws at the outer side and a vertical inner edge 33, provided with an overhanging nose 32, the amount of overhang corresponding generally with the width of the said engaging surface 12 on the bolt C, and adapted to engage with the said engaging surface 12 when the said bolt C is operated in a clock-wise direction by means of the said handle 17.

The keeper B<sup>1</sup> is adapted for use where the door sits back from the front line of the casing and is adapted to be secured by means of screw holes 31<sup>a</sup> to the side of the casing and has an engaging nose 32<sup>a</sup> adapted to engage with the said bolt C. The said spring F comprises a relatively short piece of flat spring material having squared ends 34 an appreciable width and is generally flat and straight except for an inverted V shaped formation at the middle, the said apex 24 of which is a fit for the said groove or slot 23 in the said bolt C and adapted to engage therewith when the said bolt is in the said normal disengaged position as mentioned, and which may be sprung downward and disengaged therefrom when pressure is applied to the said handle 17 so as to form the said bolt C for the purpose of engaging with the said keeper B or B<sup>1</sup>. The length of the said spring F is such as to fit the said bed 28 in the back plate D. The said bed 28 has a depth at the ends 35 corresponding to the thickness of the said spring F, and intermediate the ends is concaved so as to permit space for housing the said apex 24 of the spring F when the same is forced and held downward when the said bolt C is at positions other than the said normal disengaged position. When the said bolt C is operated by the handle 17, so as to be turned in clock-wise direction from the disengaged position into engaging position, the said engaging surface 12 adjacent the said nose 15 first engages with the said overhanging nose 32 or 32<sup>a</sup> of the keeper B or B<sup>1</sup>, and as the rotary motion is continued the door is continually pressed toward the casing until brought against the same and is finally firmly pressed and locked against the same in such position by the pressure due to the wedging or cam effect of the wedge formation of the bolt C as described. The said handle 17 extends appreciably downwardly radially and is of appreciable depth, so that the same will come into contact with the keeper B in case the bolt C is turned in the wrong direction.

As described, the spring F tends to produce frictional resistance to rotation of the bolt C at positions other than the normal disengaged position, and at the latter position the apex 24 of the said spring in connection with the groove or slot 23 operates as a resilient stop, and which may be overcome by a superior pressure applied to the handle.

I claim as my invention:—

1. In a door latch a bolt member adapted to be mounted on the front face of a door, and a keeper adapted to be mounted on a door casing, the said bolt member comprising a plate-like body pivotally mounted and provided on the front with an arc shaped and inclined engaging surface and on the back with a plane back bearing surface having a groove, the said keeper provided with an overhanging nose adapted to engage with the said inclined surface, means for engaging and disengaging said nose and surface, and means for positively holding the same in disengagement comprising a flat spring having a V shaped formation and the apex of the V in engagement with said groove in the said back bearing surface.

2. In a door latch a bolt member adapted to be mounted on the front face of a door and comprising a plate like body pivotally mounted on a back plate, having an inclined engaging surface and provided with a handle, and means adapted to positively lock said body and back plate relatively in one position and to produce friction resistance to rotary motion in other positions, the said means comprising a flat spring having a V shaped formation intermediate the ends, embedded in a recess in said back plate, the apex of the V bearing against the back face of said body generally and in engagement with a groove in said back surface when the said body and plate are locked in said one position.

3. In a door latch a bolt member adapted to be mounted on the front face of a door and a keeper adapted to be mounted on the face of a door casing, the said bolt member comprising a bolt having a flat plate like body, pivotally mounted adjacent the center, having a flat back surface adapted to serve as a back bearing surface, a web-like formation adjacent the pivot the front of which is adapted to serve as a front bearing surface, an inclined engaging surface extending for essentially 90 degrees above said pivot, a handle below said pivot, a strengthening rib extending from said inclined surface to said handle and a groove in said back bearing surface adapted to receive a locking spring.

4. In a door latch a bolt member and a keeper, the said bolt member comprising a bolt C having a plane back bearing surface provided with a groove 23 and a web-like body 21, and pivotally mounted by means of said web-like body on a back plate D, and



above the pivot an inclined engaging surface  
12, below said pivot a handle 17, between  
said engaging surface and said handle a rib  
16, the said back plate provided with a bed  
5 28 adapted to house a spring F, the said  
spring comprising a V shaped formation, the  
apex 24 of said V adapted generally to press

against the said back bearing surface and in  
one position adapted to engage with the said  
groove.

THOMAS M. PILARSKI.

Witnesses:

SHEFFIELD H. CLARKE,  
NEWTON L. LOCKWOOD.