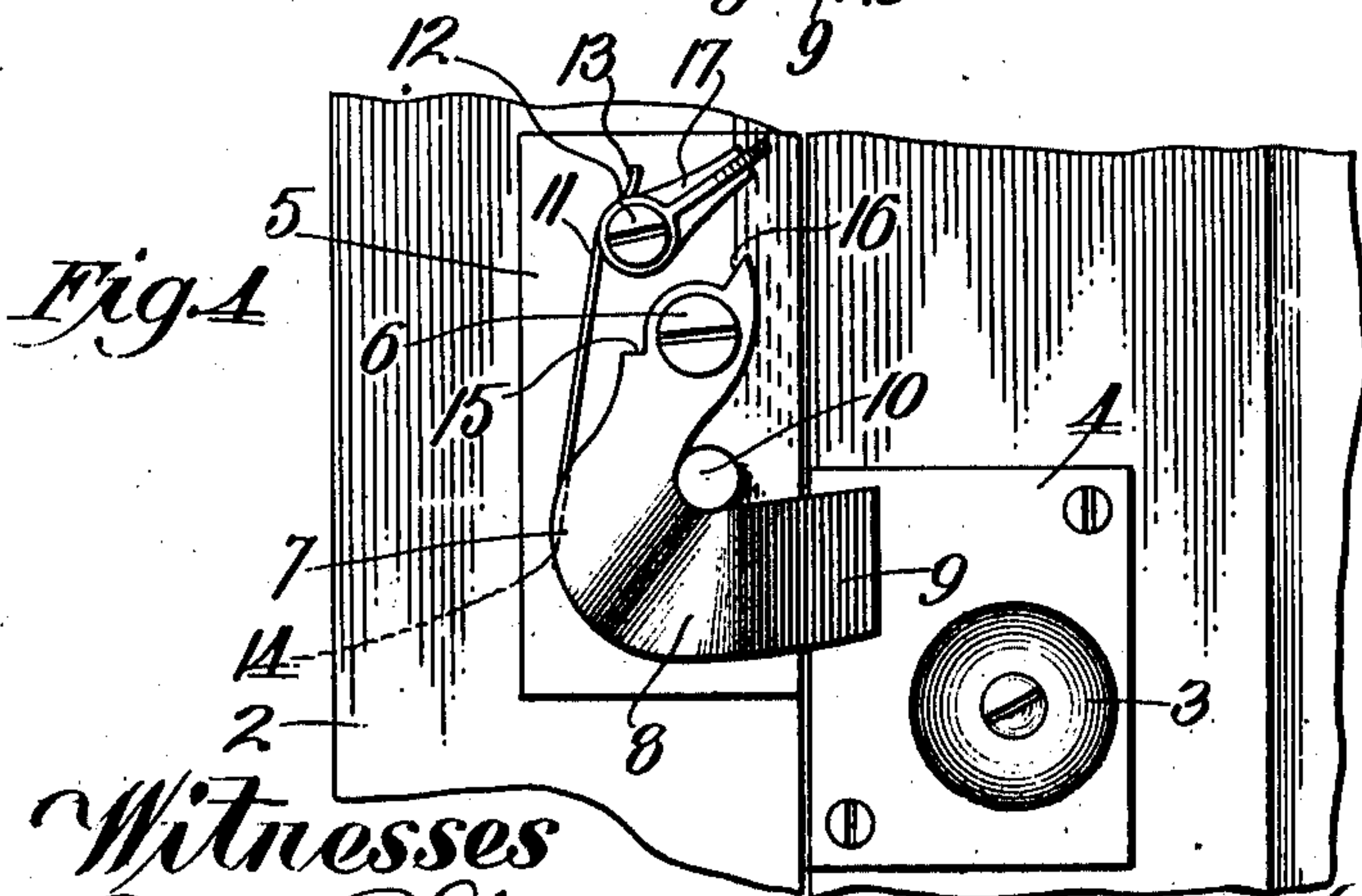
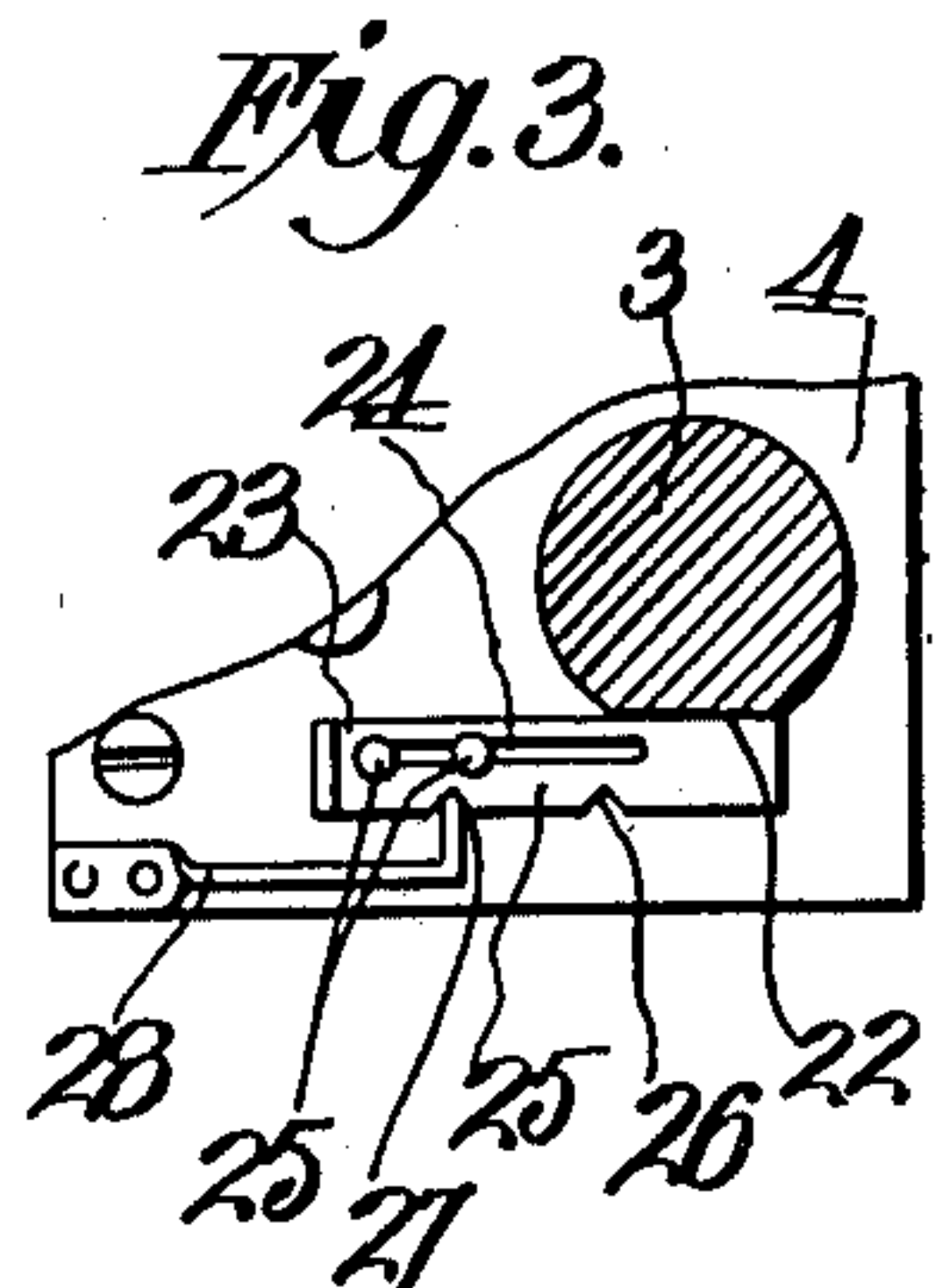
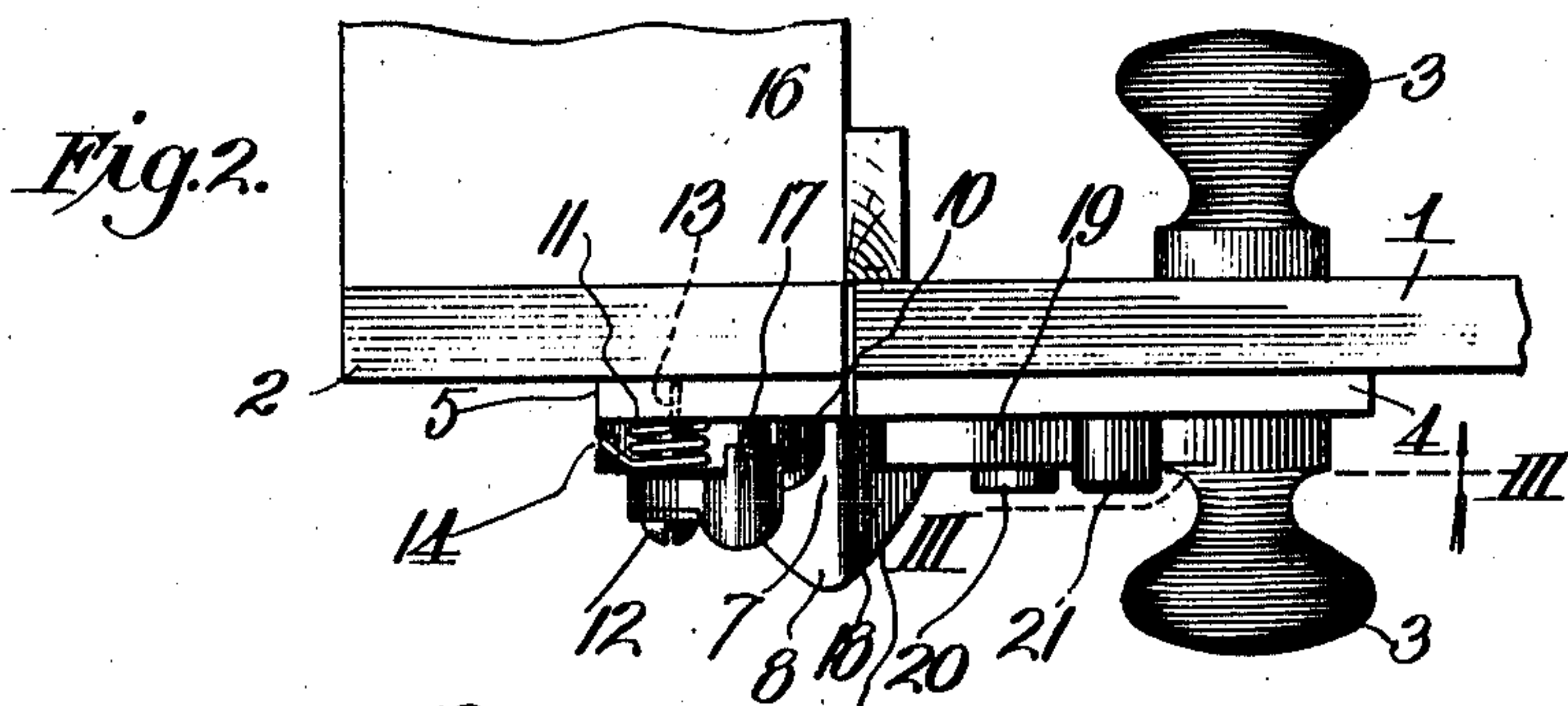
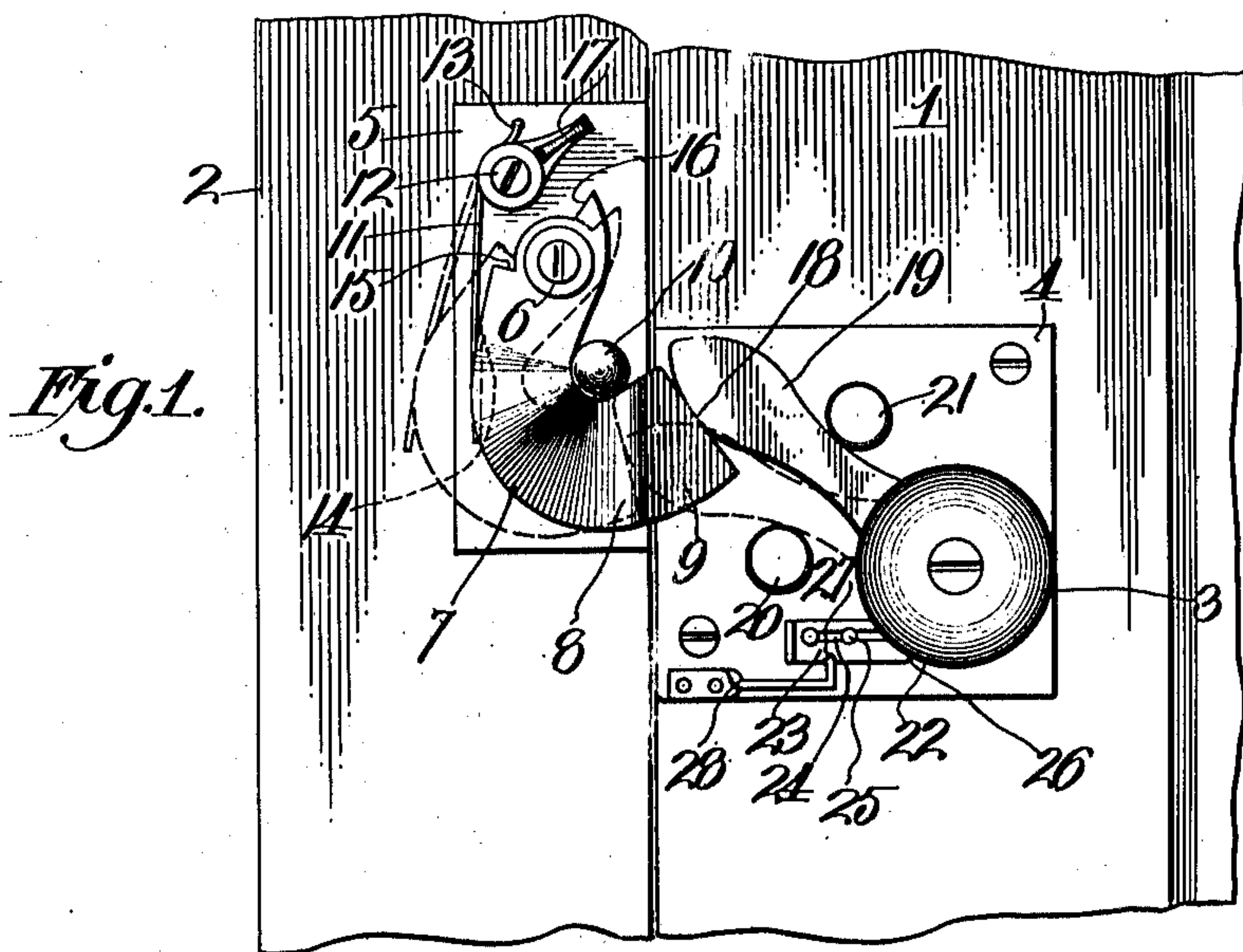


E. A. & C. C. CREWSON.
DOOR LATCH AND LOCK MECHANISM.
APPLICATION FILED JAN. 18, 1910.

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UNITED STATES PATENT OFFICE.

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DOOR LATCH AND LOCK MECHANISM.

978,275.

Specification of Letters Patent. Patented Dec. 13, 1910.

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To all whom it may concern:

Be it known that we, EVANDER A. CREWSON and CHARLES C. CREWSON, citizens of the United States, residing, respectively, at Versailles, in the county of Morgan, State of Missouri, and Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Door Latch and Lock Mechanisms, of which the following is a specification.

Our invention relates to latch and lock mechanism, and our object is to produce a simple, cheap and effective mechanism of the character named, which can be secured to the jamb of a door without necessitating mortising the same or interfering in any respect with the stile of the door, our special object being to produce an efficient and reliable mechanism of this character for use upon house doors, car doors, refrigerator doors, furniture doors and gates.

With this general object in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which;

Figure 1, is a face view of a part of a door jamb and the adjacent or free edge of a door, equipped respectively with a latch and a latch-tripping device. Fig. 2, is a plan view of the same. Fig. 3, is a vertical section taken on the dotted line III—III of Fig. 2. Fig. 4, is a face view of the jamb and door with the former equipped with a latch of modified form.

In the said drawing, 1 indicates a door and 2 the jamb adjacent to the free edge of the door, the latter being shown as provided with a handle preferably in the form of a knob 3 and an escutcheon plate 4.

5 is a plate secured to the face of the jamb, preferably without mortising the same, said plate corresponding in thickness by preference, to the escutcheon plate 4. Pivoted at 6 to the plate 5 at a point above the horizontal plane of the door handle is a hook-shaped latch 7, one side of the same being flat by preference, so as to fit squarely against plate 5, and the other side swelled or bowed as at 8 to provide a cam-face 9 which slopes downwardly and inwardly

toward the door. The latch is preferably so proportioned and disposed that, through gravity, its free end or terminal will overlap plate 4, of the door when closed and hold the latter in such position, and to limit the operative movement of the latch, plate 5 is provided with a stop-pin 10 to be engaged by the hollow or inside face of the latch. If preferred, the pressure of a spring may be utilized to impart operative movement to the latch and resist inoperative or opposite movement thereof, the preferred type of construction being a coil spring 11 mounted upon a headed pin 12, and secured at one end in a hole 13 in plate 5, the other end engaging a groove 14 in the outer edge of the latch.

The latch is recessed in the edge of its pivoted end to provide oppositely-disposed shoulders 15 and 16 for engagement at different times by a detent 17 pivotally mounted on pin 12, by preference, the detent being adapted by engagement with shoulder 15 to hold the latch in its operative position and thus guard against the door being opened accidentally or by a person at the outer side of the door. The detent when engaged with the shoulder 16 holds the latch in its inoperative or unlatched position so as to leave the door free to be opened or closed from either side. In the construction shown, and especially that shown by Fig. 3, the operator at the inner side of the door is adapted as he grasps the handle or knob, to press with his thumb upon the beveled or cam-face 9 and thus force the latch from the path of the door to permit the same to be opened, the latch swinging back to operative position so that as the door is closed, its free edge will strike said cam-end and cause the latch to yield and withdraw from the path of the door and then automatically resume its original position and hold the door closed.

This type of latch is designed more especially for use on doors for cars, refrigerators, articles of furniture, cupboards for cubbyholes and gates. For ordinary doors and particularly for those provided with a knob at each side adapted to turn together, the latch is preferably beveled downward at its extreme free end so as to constitute a cam-face 18 adapted for engagement by an arm 19 projecting from the inner knob and limited in its range of movement by a pair

of stop pins 20 and 21 projecting from the escutcheon plate at the inner side of the door. With this type of construction it is apparent that one may grasp either knob 5 and turn it in the proper direction and thus, through the instrumentality of arm 19, press the latch out of the path of the door and permit the same to be opened, the latch swinging back to its original position when 10 unopposed. When the door closes the arm will strike the cam-face 9 of the latch and force the latter aside, the cam-face of the latch as the same is returned to operative position under the pressure of the spring 11, 15 will push arm 19 from the position shown in dotted lines to the position shown in full lines, Fig. 1, the knob turning with it, as will be readily understood.

As a simple and inexpensive means of converting the latch of the type shown by Figs. 1 and 2, into a night latch, the shank of the inner knob may be provided with a flattened side 22, and adjacent to said knob the escutcheon plate may be equipped with a slide-bar 23, so arranged that when the door is 25 closed, the bar may be slid longitudinally either by hand or through the instrumentality of a key, not shown, and thus cause it to fit against the flattened side of the knob shank to prevent the knob being turned and hence the door being unfastened, it being 30 noticed by reference to Figs. 1 and 3, that the bar is provided with a longitudinal slot 24 engaging a pair of guide pins 25 projecting from the escutcheon plate and forming a guide and support for the bar and the said bar is also provided with a pair of notches 26 and 27 for alternate engagement by a 35 spring 28 whereby the bar is held against accidental movement after being disposed in its operative or inoperative position, the spring engaging the notch 26 when the bar is in inoperative position and the notch 27 when the bar is engaging the flat side of the 40 knob shank.

From the above description it will be apparent that we have produced a door latch and lock mechanism embodying the features of advantage enumerated as desirable and 50 obviously susceptible of modification in minor particulars without departing from the spirit and scope or sacrificing any of the advantages of the appended claims.

Having thus described the invention what 55 we claim as new and desire to secure by Letters-Patent, is:

1. The combination with a door jamb and a hinged door, of a plate secured to the door jamb remote from the hinge edge of the 60 door and provided with a stop, a latch of substantially hook-shape and flat at one side and pivotally suspended on said plate with its flat side against the latter and so hung that it presses against said stop, with its 65 free end or terminal projecting beyond the

inner edges of said plate and jamb and overlapping the free edge of the door when closed, the overlapping end or terminal of the hook being formed at its side remote from the said plate with a cam face which 70 slopes toward the doorway so that in the closing movement of the door the free edge thereof shall strike said cam face and repress the latch until its free end is cleared by the door; the latch also having a shoulder, and a movable detent carried by said 75 plate and adapted for engagement with said shoulder when the latch is repressed, to hold the latch in withdrawn or inoperative position. 80

2. A pivotally suspended door latch of hook-shape, having one side substantially flat and the other bowed or swelled adjacent to the hook terminal to provide a cam-face; the pivoted end of the latch having a recess 85 in its edge to provide a pair of oppositely-disposed shoulders, and a pivoted detent for engagement with either of said shoulders to lock the latch against swinging movement in one direction. 90

3. The combination with a door jamb and a hinged door, of a plate secured to the door jamb remote from the hinged edge of the door and provided with a stop, a latch of 95 substantially hook-shape and flat at one side and pivotally suspended on said plate with its flat side against the latter and so hung that it presses against said stop, with its free end or terminal projecting beyond the inner edges of said plate and jamb and overlapping 100 the free edge of the door when closed, the overlapping end or terminal of the hook being formed at its side remote from the said plate with a cam face which slopes toward the doorway so that in closing, the 105 free edge of the door shall strike said cam face and repress the latch until its free end is cleared by the door; said latch having a shoulder, and a movable detent carried by the plate and adapted for engagement with 110 said shoulder to hold the latch in advanced or operative position to lock the door closed.

4. The combination of a door and a door jamb, a knob carried by the door and capable of turning and provided with an arm, 115 and a hook-shaped latch pivoted to the door jamb and adapted when the door is closed to overlap the same at its inner side and provided at its side more remote from the jamb with a swelled or bowed portion forming a cam-face and having the edge of its free end extending downwardly and inwardly with respect to the door opening and adapted to be engaged by the arm of the knob when the latter is turned, and to engage 120 said arm after the door is closed to return the said arm to its original position, and means to lock the knob against rotation. 125

5. The combination of a door and a door jamb, a knob carried by the door and ca- 130

5 pable of turning and provided with an arm,
and a hook-shaped latch pivoted to the door
jamb and adapted when the door is closed to
overlap the same at its inner side and pro-
vided at its side most remote from the jamb
with a swelled or bowed portion forming a
cam-face and having the edge of its free end
extending downwardly and inwardly with
respect to the door opening and adapted to
10 be engaged by the arm of the knob when the
latter is turned, and to engage said arm
after the door is closed to return the said
arm to its original position, and means en-

gaging the latch, to prevent turning move-
ment of the same and of the door knob. 15

In testimony whereof we affix our signa-
tures, in the presence of two witnesses.

EVANDER A. CREWSON.
CHARLES C. CREWSON.

Witnesses to signature of E. A. Crewson:

A. WETHERILL,
F. D. HARRISON.

Witnesses to signature of C. C. Crewson:

HELEN C. RODGERS,
G. Y. THORPE.