No. 695,888. Patented Mar. 18, 1902.

R. C. SECKER.

DOOR CATCH AND LOCK.

(Application filed Aug. 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

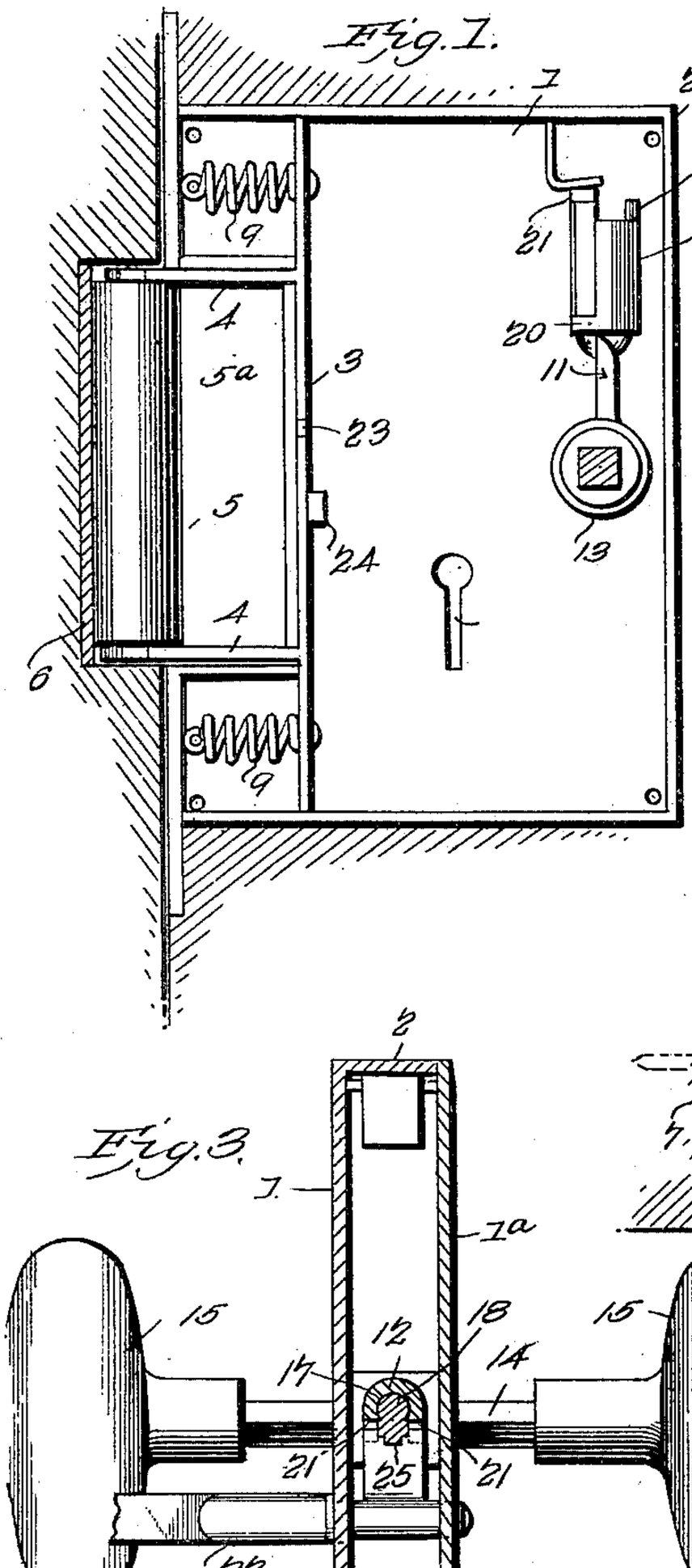


Fig. 2.

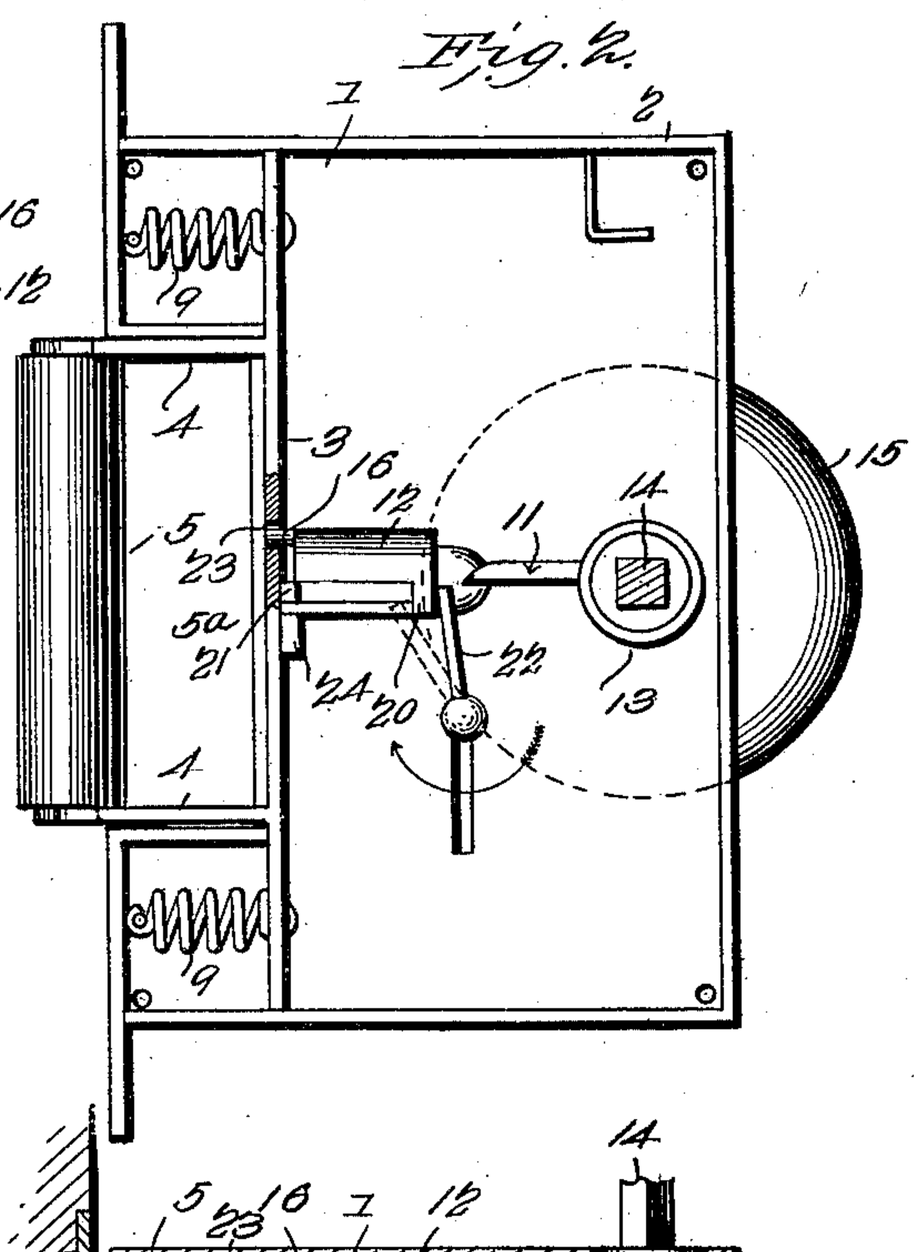


Fig. 3.

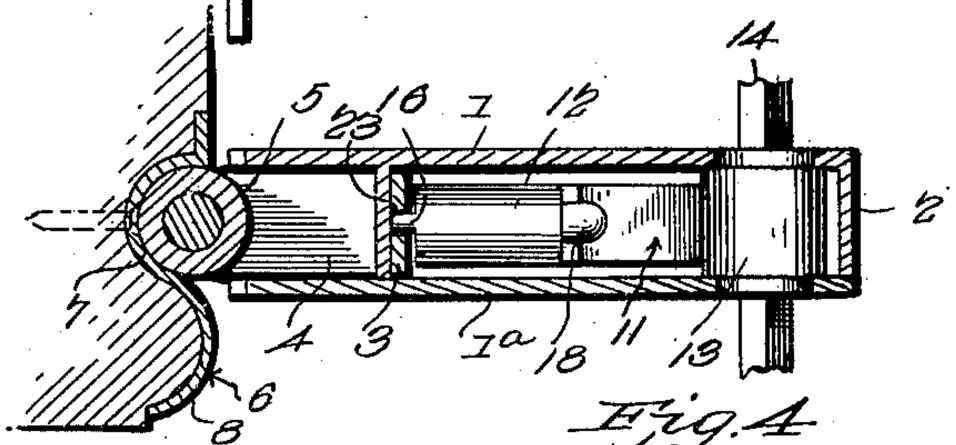


Fig. 4.

Fig. 5.

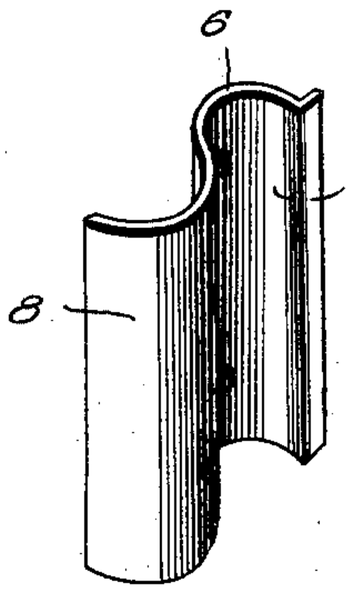
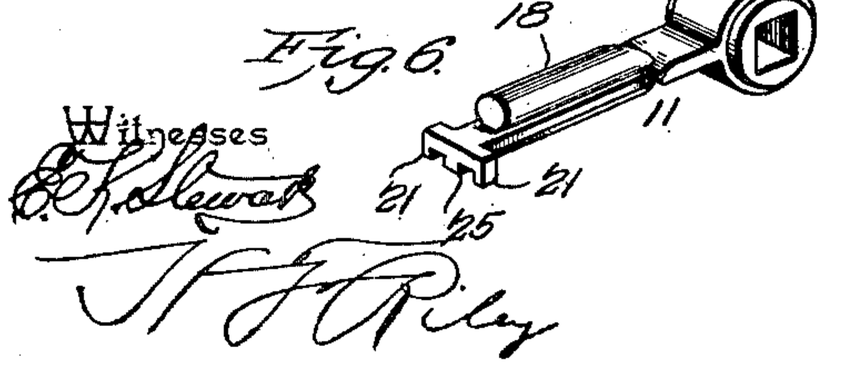


Fig. 6.



Witnesses

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No. 695,888. Patented Mar. 18, 1902.

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DOOR CATCH AND LOCK.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 7.

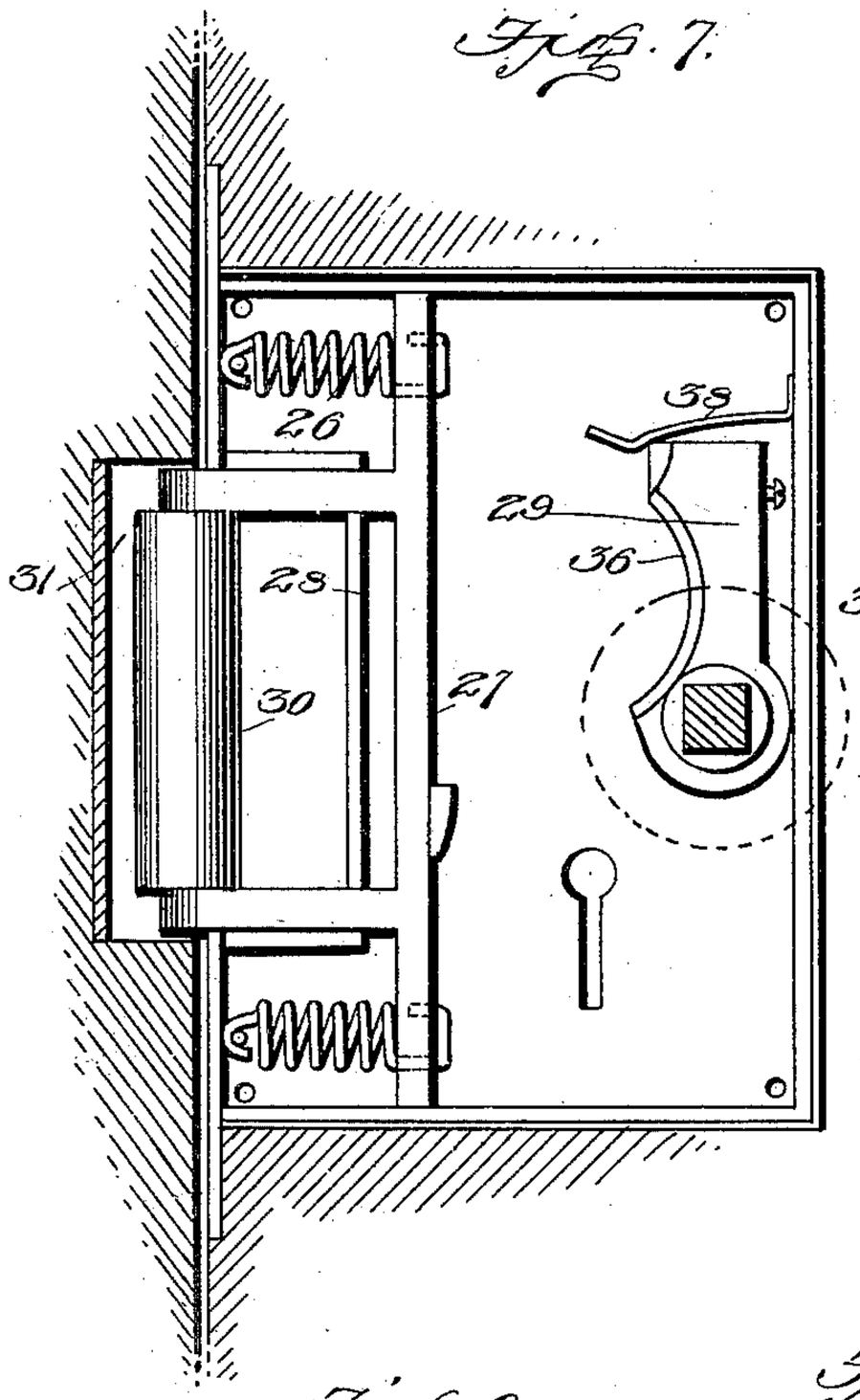


Fig. 8.

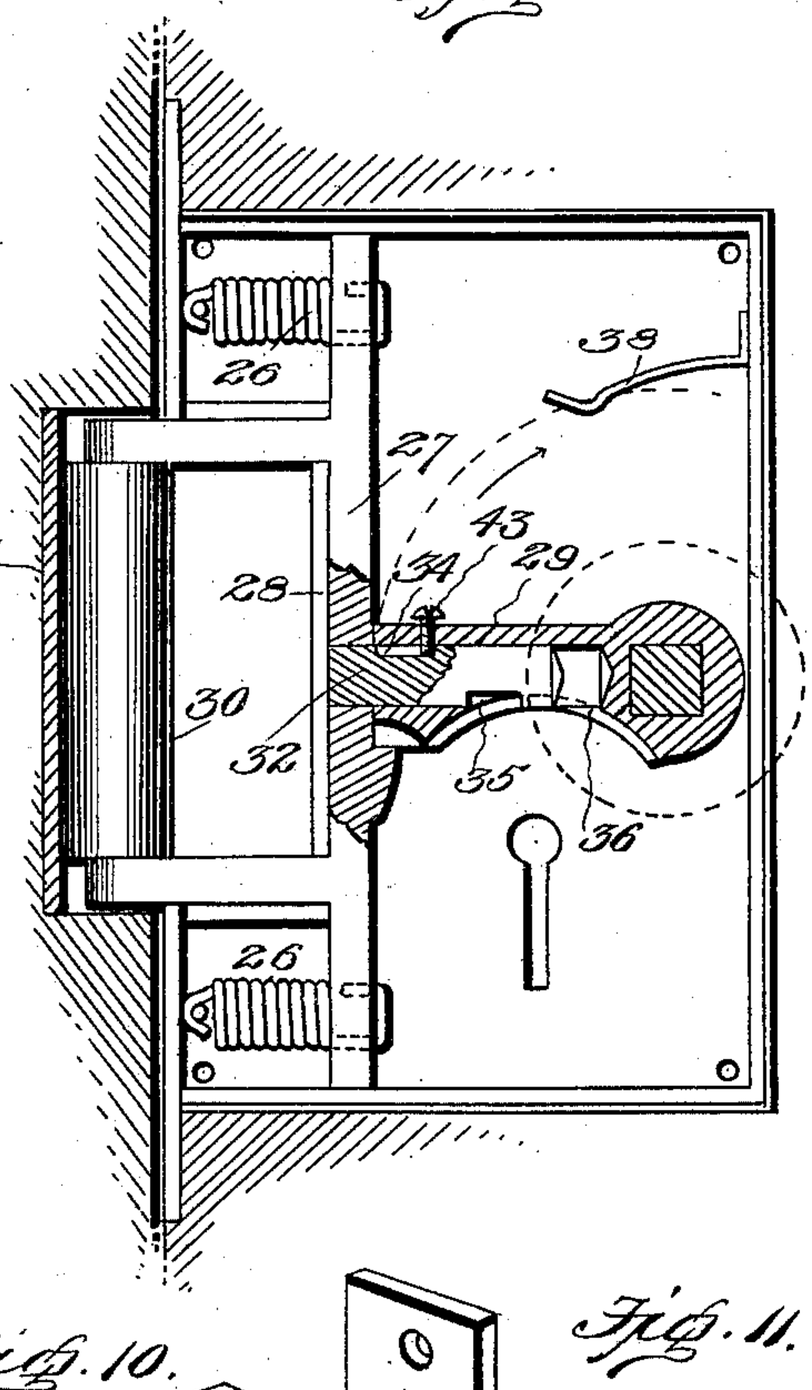


Fig. 9.

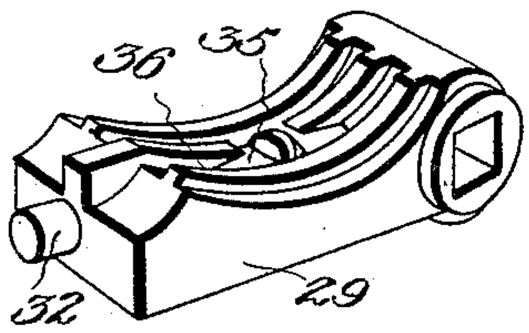


Fig. 10.

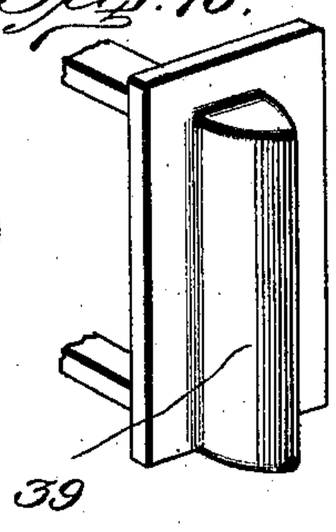
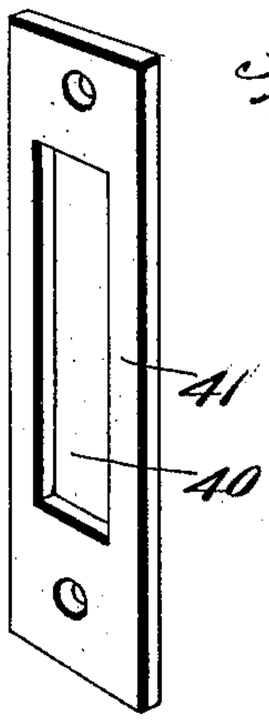


Fig. 11.



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UNITED STATES PATENT OFFICE.

ROBERT COURTNEY SECKER, OF SOUTHAMPTON, NEW YORK.

DOOR CATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 695,888, dated March 18, 1902.

Application filed August 23, 1901. Serial No. 73,045. (No model.)

To all whom it may concern:

Be it known that I, ROBERT COURTNEY SECKER, a subject of the King of Great Britain, residing at Southampton, in the county of Suffolk and State of New York, have invented a new and useful Door Catch and Lock, of which the following is a specification.

The invention relates to improvements in door catches and locks.

The object of the present invention is to improve the construction of devices for holding doors and to provide a simple, inexpensive, and efficient one adapted to be readily mounted on a door and designed to be substituted for an ordinary lock and capable of holding a door in a closed position and of being readily locked to prevent the door from being opened without a key.

A further object of the invention is to provide a door-holder of this character which will be adapted to automatically engage a keeper-plate when the door is closed and which when not locked may be readily disengaged from the keeper-plate when the necessary force is applied.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a sectional view of a door catch and lock constructed in accordance with this invention and shown applied to a door, the locking-arm being out of engagement with the frame. Fig. 2 is a sectional view, the locking-arm being in engagement with the frame. Fig. 3 is a transverse sectional view. Fig. 4 is a horizontal sectional view. Fig. 5 is a detail view of the keeper-plate. Fig. 6 is a detail perspective view of the outer portion of the locking-arm. Figs. 7 and 8 are sectional views illustrating a modification of the invention. Fig. 9 is a detail perspective view of the locking-arm. Fig. 10 is a detail view illustrating a modification of the frame. Fig. 11 is a detail view of a modification of the keeper-plate.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing constructed of suitable metal and provided with perforated flanges or extensions 2 for the reception of screws or other suitable fastening devices for securing the casing to a door. The said casing, which is provided with a removable face-plate 1^a, is designed to be mounted in a mortise of a door, as indicated in Fig. 1 of the drawings, and it receives a sliding frame consisting of a plate or bar 3, provided with a pair of parallel arms 4, located equidistant of the ends of the plate or bar and supporting a spindle 4^a, upon which a roller 5 is mounted. The roller 5, which may be constructed of rubber or any other suitable material, is adapted to engage a curved keeper-plate 6, which is substantially sigmoidally-shaped and which is adapted to be mounted on a door-frame to provide a seat 7 for the roller 5. The curved keeper-plate presents an inclined portion 8 to form a beveled face for directing the roller into the seat 7 when the door is closed.

The front or outer end wall of the lock-casing is inwardly offset to form a recess 5^a for the reception of the roller 5, and it is provided with slots or openings, through which extend the arms 4. The roller is normally held in an extended position by means of a pair of coiled springs 9, connected with the front or outer wall of the casing and with the ends of the plate or bar 3 and adapted to be distended to permit the roller to be forced inward sufficiently to ride up the angularly-disposed faces of the keeper-plate. The springs hold the roller firmly in the seat of the keeper-plate and maintain the door in a closed position; but they permit the roller to be forced inward automatically when the necessary force is applied to the door to open and close the same.

The spring-actuated frame is held in an extended position to retain the roller in the seat of the keeper-plate and to lock the door when closed by means of an oscillatory locking-arm 10, pivoted at one end and arranged as clearly illustrated in Figs. 1 and 2 of the drawings.

The locking-arm 10, which is adapted to swing downward from the position shown in Fig. 1 to that illustrated in Fig. 2, is held out of engagement by a spring 11 and is locked in engagement by a bolt 12. The spring 11 is secured to the casing at the top thereof, and one end is free and is adapted to be en-

gaged by the locking-arm; but any other form of spring may be employed for this purpose. The arm is provided at its inner or pivoted end with a rectangular opening for the reception of a knob-spindle, and it has rounded or annular end portions 13, which are arranged in bearing-openings of the sides of the lock-casing. The knob-spindle 14, which is of the ordinary construction, is squared and receives a pair of knobs 15, which are adapted to be partially rotated to oscillate the locking-arm.

The sliding bolt 12 is provided at its outer end with a reduced portion or projection 16, and it is approximately U-shaped in cross-section, and it is provided with a longitudinal groove 17, receiving a rounded rib 18 of the locking-arm. The sliding bolt has converging inner walls and conforms to the configuration of the rounded rib, whereby it is interlocked with the same, as clearly shown in Fig. 3 of the drawings. The locking-arm is provided at its outer end with laterally-extending lugs 19, and the sliding bolt is provided at its inner end with depending lugs 20. The rib terminates short of the laterally-extending lugs to enable the sliding bolt to be moved outward clear of the said rib to permit the parts to be separated. The depending lugs of the sliding bolt assist in supporting and strengthening the same, and the arm is provided between the laterally-extending lugs and inner shoulders 21 with straight side edges, on which the depending lugs of the bolt slide. The depending lugs of the bolt are also arranged to be engaged by a key 22, and the lock-casing is provided with a keyhole for the introduction and removal of the key. When the key is turned in the lock, it is carried into engagement with the lugs of the sliding bolt, and the latter is thereby reciprocated to carry its projection 16 into and out of a perforation 23 of the plate or bar of the sliding frame.

The plate or bar of the frame is provided with a stop 24 to limit the movement of the locking-arm, and the latter is provided at the side opposite that on which the rib is rotated with opposite grooves or recesses 25, forming a projecting portion to fit a recess of the key. The locking-arm may be constructed with different ribs, projections, or recesses to conform to the construction of the key.

In Figs. 7 and 8 of the accompanying drawings is illustrated a modification of the invention in which the springs 26 are arranged to hold the bar or plate of the frame 27 a short distance from the adjacent portion 28 of the front wall of the casing when the locking-arm 29 is raised and out of engagement with the frame. When the parts are in this position, the roller 30 engages the keeper-plate 31, but does not extend to the back of the recess or seat, and the said roller is adapted to hold a door in its closed position and at the same time will permit the door to be opened by a slight pull. When the locking-arm 29 is swung downward into engagement with the frame, as illustrated in Fig. 8 of the drawings, the roller is extended outward to the back of the recess, the springs being compressed by such outward movement of the frame. When in this position, the frame and the roller firmly engage the keeper-plate and there is also sufficient friction on the outer end of the locking-arm to hold it in position. The locking-arm is provided with a bore or opening in which is mounted a sliding-bolt 32, the locking-arm forming a casing or housing for the bolt. The outward movement of the bolt is limited by a screw 43 or other suitable fastening device mounted on the upper portion of the locking-arm and extending into a recess 34 of the bolt. The bolt is also provided with a bottom recess 35, forming opposite shoulders adapted to be engaged by a key. The lower face of the locking-arm is concave, as shown in Fig. 9, and is provided with a series of longitudinal grooves forming ribs 36 to fit corresponding notches of the key. (Not shown.) The ribs may be arranged in any suitable manner to provide a key of the desired shape and to produce the necessary variation in the combined door catch and lock, so that the key of one lock will not open another lock. The locking-arm is held in an elevated position by a spring 38, mounted on the rear wall of the casing, as shown.

Instead of providing a roller for engaging the keeper-plate the frame may be provided with an oppositely-beveled head 39, approximately triangular in horizontal section and adapted to engage an opening 40 of a plate 41. The keeper-plate 41 is provided with an oblong opening and the frame is preferably provided at the head with a flange arranged to abut against the outer face of the keeper-plate. The oppositely-beveled head is adapted to engage the keeper-plate automatically when a door is closed, and it will permit the door to be readily opened by a slight pull.

It will be seen that the combined door catch and lock is exceedingly simple and inexpensive in construction, that it is adapted to be readily applied to a door, and that it is capable of operating the latch for holding the door closed and of locking it in such position.

What I claim is—

1. A device of the class described comprising a casing, a reciprocating frame extending through the casing and provided with means for engaging a keeper, an oscillatory arm pivoted at one end in rear of the frame and adapted to be swung into and out of a position in alinement with the frame, and a reciprocating key-actuated bolt also arranged to engage the frame, substantially as described.

2. A device of the class described comprising a reciprocating frame provided with means for engaging a keeper, an oscillatory arm mounted in rear of the frame and adapted to engage the same, and a key-operated

bolt carried by the arm and adapted to engage the frame, whereby the arm is locked in engagement with the same, substantially as described.

3. A device of the class described comprising a casing, a spring-actuated frame mounted in the casing and provided with a recess or opening, a pivoted locking-arm mounted in the casing and adapted to engage the frame, and a bolt mounted on the locking-arm and adapted to be operated by a key to engage it with and disengage it from the said recess or opening, substantially as described.

4. A device of the class described comprising a casing, a sliding frame mounted in the casing and having arms extending through the same, a roller carried by the arms, springs connected with the frame and adapted to throw the same outward, a locking-arm mounted in the casing and arranged to engage the frame, an exterior knob connected with the locking-arm, and a key-operated bolt carried by the locking-arm and arranged to engage the frame, substantially as described.

5. A device of the class described comprising a casing, a frame slidingly mounted in the casing, a locking-arm pivotally mounted in the casing and provided with a rib, a sliding bolt mounted on and interlocked with the rib and arranged to be engaged by a key, and means for operating the arm, substantially as described.

6. A device of the class described comprising a casing, a movable frame, a locking-arm provided at its ends with lugs and having a rib terminating short of the lugs, and a sliding bolt interlocked with the rib and provided with a projecting portion adapted to be engaged by a key, substantially as described.

7. A device of the class described comprising a casing, a movable frame, a locking-arm grooved at one side and provided at the opposite side with a rib, and a sliding bolt mounted on and interlocked with the rib and having a projecting portion or lug adapted to be engaged by a key, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT COURTNEY SECKER.

Witnesses:

CHARLES GALE,

ALBERT ALLEN.