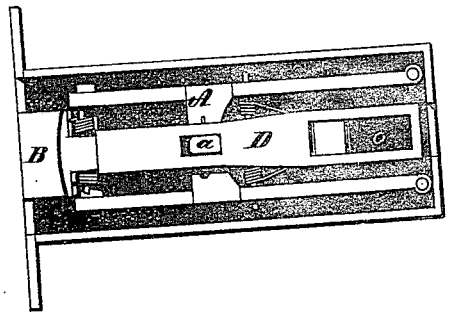
J. A. COLBY.

Door-Latch.

Patented April 20, 1875.

No. 162,272.

Fig I.



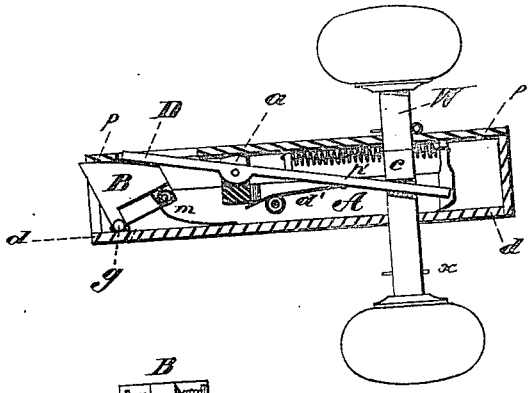


Fig II.

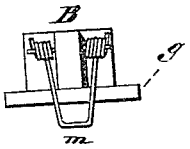


Fig III.

Witnesses.

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JOHN A. COLBY, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN DOOR-LATCHES.

Specification forming part of Letters Patent No. **162,272**, dated April 20, 1875; application filed July 7, 1874.

To all whom it may concern:

Be it known that I, JOHN A. COLBY, of Springfield, Hampden county, State of Massachusetts, have invented an Improved Automatic Door-Latch, of which the following is a specification:

My invention consists generally of mechanism that becomes in effect a rigid bolt sliding within the lock-case in the act of closing the door against a spring which shoots the bolt when the door is closed to latch it, but which resolves itself, when the door-knob is pushed or pulled, into a spring-catch freed by a pawl and left to be swung within the case to release the door by the door itself as it moves.

In the drawings, Figure I is a plan view with the top of the case and the operating-stem removed. Fig. II is a partial longitudinal section, and Fig. III a view of the catch proper.

The sliding frame A rests and is held upon the bottom *d* of the case, where it is free to slide, and has hinged to the lug or post *a* from it the pawl-lever D, which, bearing against the spring *d'* from the frame A, is held against the catch-piece B, until by the pressure of the knob-stem W it is temporarily removed. The catch-piece B, formed substantially as shown in Fig. III, is hinged at its inferior posterior portion within the case to the frame A at *g*, so as to bear against the bottom *d* and have its catching-surface coincident therewith. The piece B, having one side bearing against the bottom *d*, has the free radial side brought against the pawl-lever D, and it will be seen that in this position it is rigid, and can have no motion independent of the frame A, but must move with it into the position as shown in Fig. I in closing the door, to be returned with the frame A by the spring *p'* to secure the door when closed; but when the pawl-lever D is removed from the catch-piece B it can be swung within the case on its axis in the frame, the spring *m*, from its inner side and bearing against the bottom *d*, returning it to its place when all pressure is removed. The lever D has at one end an elongated slot, O, and the knob-stem W, passing through this slot and through the bottom and cover-plate of the case, is provided with a collar or shoulder, *c*, which comes against the lever D to swing it to free the catch-piece B, when the door-knobs are pushed or pulled in one direction, a stop, *x*, on the stem W upon the outside of the door, holding the shoulder *c* to the lever and limiting the slide of the stem. The spring *d'* returns the stem with the lever D to its proper position when either door-knob is released. The frame A, when the catch B is rigid, slides with the catch in shutting the door within the case, the coil-spring *p'* from the frame to a point of attachment in the case returning the frame to bear against the opposite end of the case upon each side of the opening therein, through which passes the catch to limit the distance outside of the case, to which catch-piece B can be extended. The top *p* of the case I form to slide in dovetail-grooves into place, and the end of coil-spring *p'* from frame A holds it in place, as shown in Fig. II, so that the cover, while held securely, can be readily detached to inspect or repair the interior mechanism. The frame A may be held by cleats to slide in its proper position, or may be held down by pins from the cover *p*, or in any other convenient way. The latch is let into or fastened to the door so that the stem W slides in the direction the door moves in opening.

Now, having described my invention, what I claim is—

1. The swinging catch B, rigidly held to the frame A by the pawl-lever D to allow it to be retracted by sliding with the frame upon contact with the jamb-casing of the door, while freed by the sliding of stem W to permit it to be swung within the case by the movement of the door in opening, substantially as shown and described.

2. The cover *p*, sliding in place and held by the coil-spring *p'* from frame A, for the purpose shown and described.

3. The sliding frame A, having the swinging catch B pivoted thereto, in combination with the springs *m* and *p'*, all being arranged within the case and operating substantially as described.

JOHN A. COLBY.

Witnesses:
D. F. HYDE,
AMOS BOND.