Richmond & Cloude,

Door Latch,

No. 50,273, Patented Oct. 3, 1865.

Fig. 4 Fig. 5

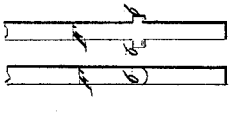


Fig. 2

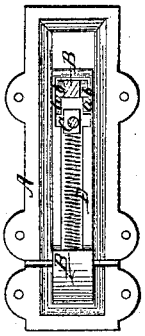


Fig. 3

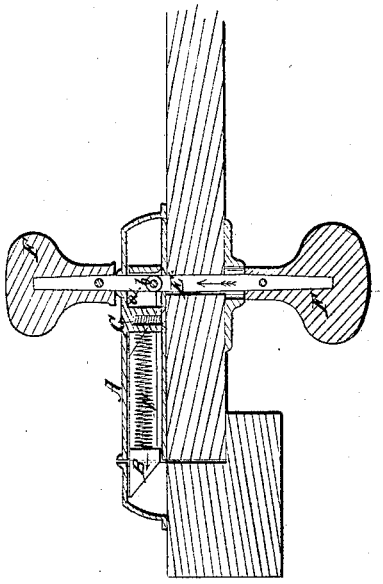
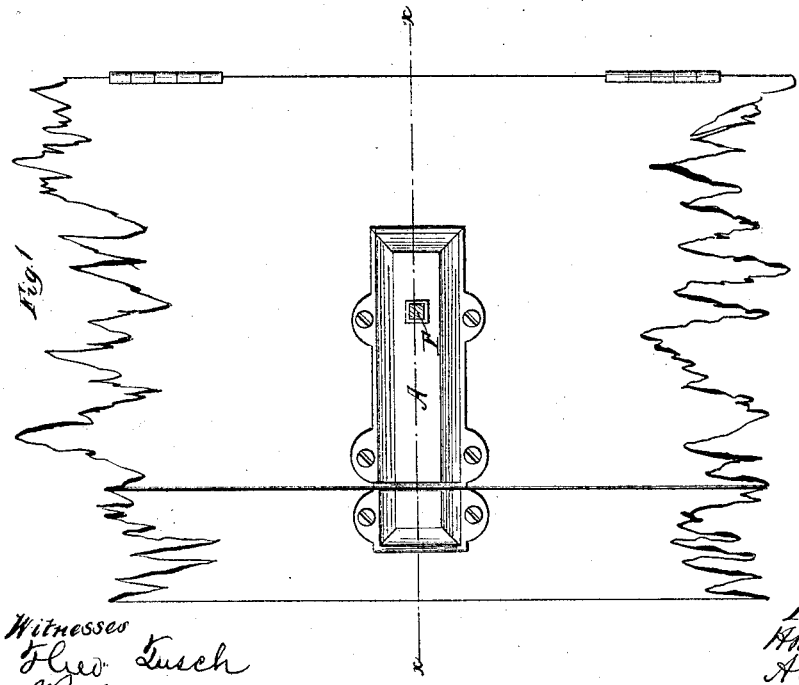


Fig. 1



Witnesses
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UNITED STATES PATENT OFFICE.

HIRAM RICHMOND AND ALFRED CLOUDE, OF WEST MERIDEN, CONN.

IMPROVEMENT IN KNOB-LATCHES.

Specification forming part of Letters Patent No. **50,273**, dated October 3, 1865.

To all whom it may concern:

Be it known that we, HIRAM RICHMOND and ALFRED CLOUDE, both of West Meriden, in the county of New Haven and State of Connecticut, have invented a new and Improved Door-Latch; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a door with our latch attached. Fig. 2 is an inside view of the latch. Fig. 3 is a longitudinal section of the latch, the line *x x*, Fig. 1, indicating the plane of section. Figs. 4 and 5 are detached views of a modification of the rod which connects the handles.

Similar letters of reference indicate like parts.

This invention relates to a latch which opens by pulling or pushing the handle, instead of turning the same, as usual, the bolt being pressed forward by a spring and provided with an inclined plane, so that rollers or pins projecting from the sides of the connecting-rod of the handles, when being pressed against said inclined plane, will force the bolt back against the action of the spring.

A represents the case, in which the bolt B is fitted. The shank of the bolt is slotted, and it straddles a stud, C, in the case, and a spiral spring, D, which is placed between this stud and the head of the bolt, has a tendency to force the same out in the direction of the arrow marked on it in Figs. 2 and 3. The inner surfaces of the slotted shank, near its rear ends, form inclined planes *a*, and the rod E, which connects the handles F, passes through between these inclined planes, as shown particularly in Fig. 2. From each side of said connection-rod projects a pin, *b*, to which a friction-roller may be attached, as shown in Fig. 2, or which may be left solid, as shown in Figs. 4 and 5; and if the rod is pushed or pulled in the direction of the arrow marked on it in Fig. 3 the friction rollers or pins *b* come in contact with the inclined planes *a*, and the bolt is forced back against the action of the springs.

We are aware that latches have been made heretofore in which the bolt works in a similar manner; but there is this difference, in those latches heretofore made an incline is secured to one side of the connecting-rod, and made to act on another incline on the side of the shank of the bolt. By having two inclines acting one on the other much friction is produced, and the bolt is liable to stick after a short time, so that the spring is unable to push the same out. Furthermore, by having the inclines on the sides of the rod and of the shank, the bolt is forced on one side and the friction is still more increased.

These disadvantages are avoided by our invention. We have two inclined planes, one on either side of the rod, and two rollers or pins acting thereon. In either case, but particularly when rollers are used, the friction is reduced, and by having two inclines and two pins or rollers no lateral strain is exerted on the bolt, and it is pressed back against the force of the spring with the greatest ease, and as soon as the pressure on the handle relaxes the spring is fully able to throw the bolt forward and return the handles to their original position.

We do not wish to claim as new a bolt which is operated by pulling or pressing the handles in the direction of the rod which connects the same; but

We claim as new and desire to secure by Letters Patent—

The pin or rollers attached to either side of the rod which connects the handles, in combination with two inclines in the slotted shank of the bolt, one on either side of said connecting-rod, substantially as and for the purpose set forth.

HIRAM RICHMOND.
ALFRED CLOUDE.

Witnesses:
ORVILLE H. PLATT,
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