E. J. Kehoe,

Latches.

No. 109,220. Patented Nov. 15, 1870.

Fig. 1

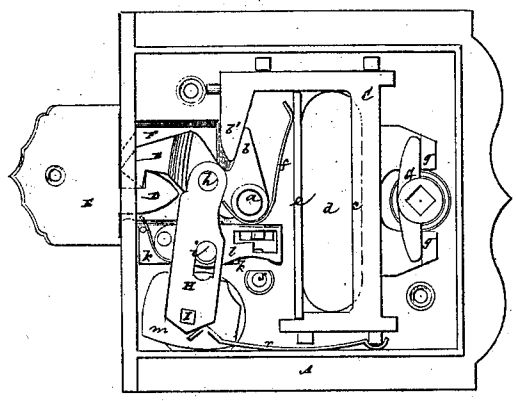


Fig. 2

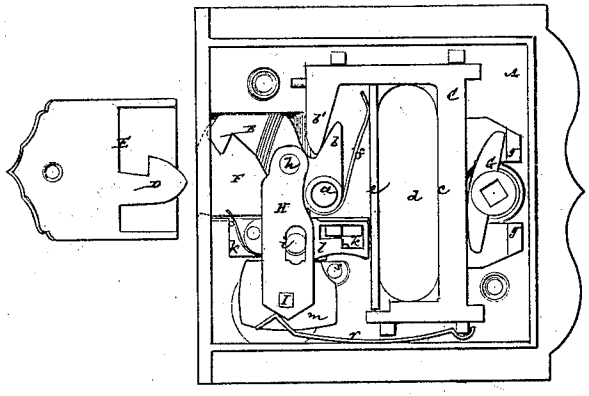


Fig. 3

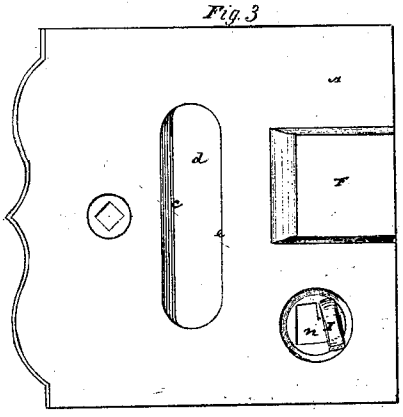


Fig. 4

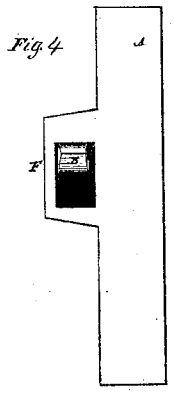
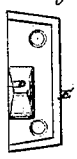


Fig. 5



Witnesses

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Fred. Haynes

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EDWARD J. KEHOE, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM A. HOPKINS AND FREDERICK Z. DICKINSON, OF SAME PLACE.

Letters Patent No. 109,220, dated November 15, 1870.

IMPROVEMENT IN COMBINED LOCKS AND LATCHES FOR SLIDING DOORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWARD J. KEHOE, of the city, county, and State of New York, have invented a new and useful Improvement in Locks for Sliding Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a face view of the interior of the lock, with its latch or locking-hook in gear with the keeper; and

Figure 2, a similar view, with the latch out of gear with the keeper, showing the lock as slid or drawn back;

Figure 3 is an outside face view of the lock as seen from the interior of the door;

Figure 4, a front edge view thereof; and

Figure 5, a front edge view of the keeper.

Similar letters of reference indicate corresponding parts.

My improved lock, while applicable to other sliding doors, is mainly designed for the sliding doors of sleeping-cars on railroads, and is so constructed and arranged that, while capable of being made secure by the occupant of the apartment against intrusion from the outside, said lock can at all times be opened from the outside by a key in the possession of the conductor, which affords a protection against an improper use of the apartment.

The invention consists in a certain combination of devices with the locking-hook, to prevent the hook from being raised from the outside, or from being operated by the knob from the outside, or in any way otherwise than by the key, the same being operated from the inside of the door by a thumb-piece working in or through a peculiarly-shaped slot, so as to admit of the hook being locked or released at the option of the occupant of the apartment.

The invention likewise includes a certain combination with a sliding operating frame and with the locking-hook of a follower, for operation of the hook by a knob from the outside when the catch is released.

Said lock is equally applicable to right and left-hand doors, and is designed to be secured on the inner side of the door.

Referring to the accompanying drawing—

A represents the lock-case, made with a fast front plate and removable back plate.

B is the latch or locking-hook, pivoted, as at *a*, to the front lock-plate, and constructed with an arm or lip, *b*, on which catches a lip or arm, *b'*, of a sliding frame, C.

This sliding frame has its back *c* made to form or correspond with the one side of an oblong recess, *d*, having rounded ends formed in the lock-plate for insertion of the fingers, and whereby provision is made, without any objectionable outside protrusions of parts, for drawing back the sliding frame to detach the locking-hook B from the counter-hook D of the keeper E, and for sliding or drawing back the door.

On the opposite side of the recess *d* is a fixed plate, *e*, which serves as a guard and as a bearing-surface for the fingers in drawing or sliding to the door, as also a rest for the spring *f* of the locking-hook.

The sliding frame C is superior in many respects to the lever used in other locks for a like purpose, inasmuch as in the lever arrangement the pressure in drawing back the door comes on the uppermost or little finger alone, and the action is so stiff as to make it difficult for a lady or weak person to open the door.

With my sliding frame the motion is much easier, and the several fingers of the hand are used to draw back the door; also, the motion of the sliding frame to detach the locking-hook from the keeper is much less than that of the lever.

The locking-hook B is arranged to work within or under cover of a hood, F, cast on the lock-plate, and said hook never protrudes beyond the lock, whereby it is not only concealed, but is prevented from coming into contact with and tearing the dress of a person entering or leaving the apartment. Such hood, accordingly, has a double function, namely of protecting the working parts of the lock from injury, and of preventing accident to the wearing apparel of a person going in and out of the apartment. This, where the room is cramped, as it is in sleeping apartments of railway-cars, is of great importance.

The striking-surface or counter-hook D is cast solid on the plate portion of the keeper E, and is arranged under cover of a bonnet portion, said plate being secured to the door-post by two or more screws running parallel with the hook, and one or more screws lying at right angles to such course.

The locking-hook B may, if desired, not only be operated by a direct application of the hand on the inside of the door to the sliding frame C, as described, but in an indirect manner through a knot-spindle from the outside of the door by means of a follower, G, arranged to work on or against lugs *g g*, attached to the sliding frame C. Such follower action, however, cannot be used when the locking-bolt B is secured from the inside of the door by a locking-stop or catch, the mechanism of which is arranged within the lock, and which can only be operated from the outside of the door by a key which is carried by the conductor; hence the occupant of the apartment may protect himself from intrusion by applying the catch to the locking-hook, as then the knob-spindle cannot be turned, but he cannot exclude the conductor, whose key releases the catch, and is capable, when necessary, of locking it again from the outside of the door.

To these ends the locking-hook B has pivoted to it,

as at *h*, an arm, H, which is in slotted connection, as at *i*, with an under sliding bar or bolt, *k*, carrying a tumbler or tumblers, *l*.

This arm H is connected below, through a plate, *m*, with a thumb-piece or catch, I, accessible from the inner side of the door and working in a right-angled or bent slot, *n*, made in the lock-plate.

r is a spring, applied to the reversely-beveled extremity of the arm H, to hold the working parts in position when operated, and

s is the stem which directs the key to act upon the tumbler *l*, and bolt *k* carrying the latter.

To lock the hook B from the inside of the door the thumb-piece I is pushed forward to the position shown in fig. 3, which restricts the arm H from being lifted as necessary to raise the hook.

To unlock the hook said thumb-piece is pushed back in the slot *n*, so that it is free to lift in common with the arm H when raising or detaching the locking-hook B from the keeper.

The key applied to the stem *r* has a like effect, inasmuch as by the action of the key on the sliding bolt *k*, the arm H and thumb-piece I are swung backward, when the locking-hook B may be operated by the knob-spindle.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The thumb-piece or catch I and slot *n*, in combination with the arm H, the sliding bolt *k*, and the locking-hook B, substantially as and for the purposes herein specified.

2. The combination of the follower G, operated by a knob-spindle, with the sliding frame C, the finger-hole or slot *d*, and the locking-hook B, essentially as described.

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Witnesses:

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FRED. HAYNES.