No. 630,610. Patented Aug. 8, 1899.

M. E. KANALY.

SLIDING DOOR FASTENING.

(Application filed Feb. 11, 1899.)

(No Model.)

Fig. 1.

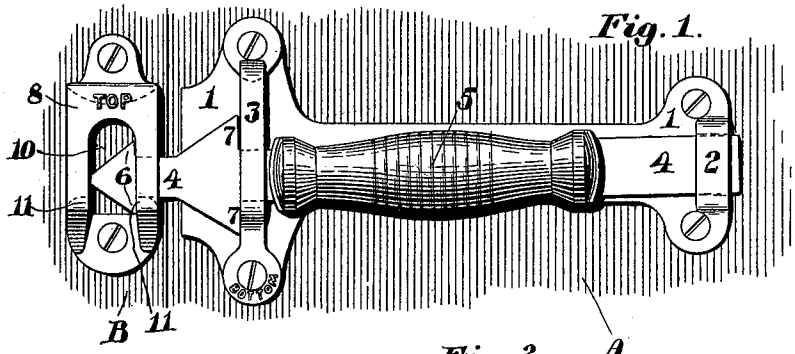
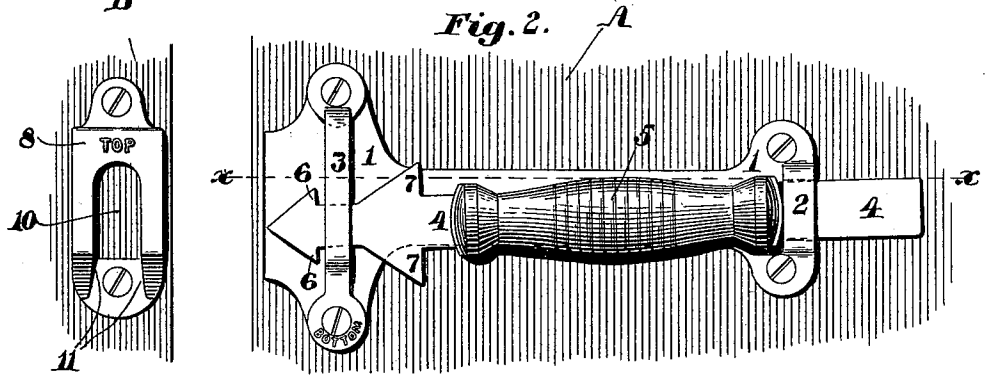


Fig. 2.



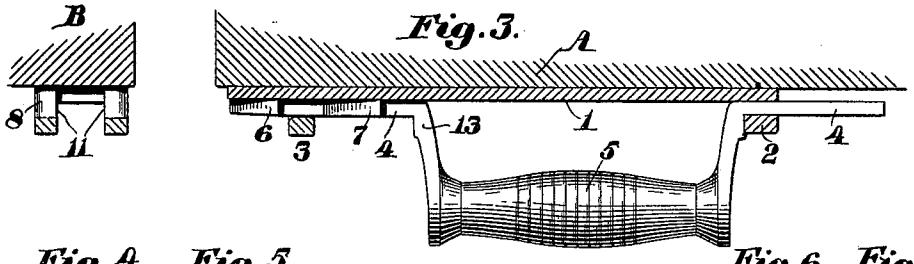


Fig. 4.

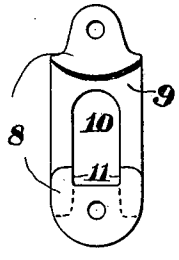


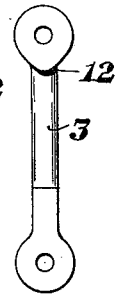
Fig. 5.



Fig. 6.



Fig. 7.



Witnesses:
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UNITED STATES PATENT OFFICE.

MORRIS E. KANALY, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO THE M. E. KANALY COMPANY, OF CAMBRIDGE, MASSACHUSETTS.

SLIDING-DOOR FASTENING.

SPECIFICATION forming part of Letters Patent No. 630,610, dated August 8, 1899.

Application filed February 11, 1899. Serial No. 705,273. (No model.)

To all whom it may concern:

Be it known that I, MORRIS E. KANALY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Door-Fastenings, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to door-fastenings, and is designed especially for use on sliding doors—such, for instance, as baggage-car doors; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings is an elevation of my improved fastening applied to a sliding car-door, showing only a small section of the door and the jamb to which the door is fastened, said door being closed. Fig. 2 is an elevation of the same parts, the door being partially opened. Fig. 3 is a sectional plan of the same, the cutting-plane being on line *x x* on Fig. 2. Figs. 4 and 5 are respectively a rear elevation and a side elevation of a catch to be secured to the door-jamb, and Figs. 6 and 7 are respectively a rear elevation and a side elevation of the latch-guard.

In the drawings, A represents a portion of a sliding car-door, and B the jamb of the door-frame, which may be of any usual construction.

The door A has firmly secured thereto the plate 1, having formed on its rear end the slotted lug or ear 2 and having removably secured to its other end the latch-guard 3, between which and the plate 1 is inclosed one end of the latch 4, the rear end of which has a bearing in the slotted ear 2, said forward and rear portions of said latch being connected by the handle 5, which is offset from the plane of the end portions of said latch, as shown in Fig. 3. The forward end of the latch 4 is pointed and provided with the shoulders 6 6 on the top and bottom edges thereof and also with the broader shoulders 7 7, as shown. The rear portion of the latch 4 is so fitted to the slot in the ear 2 that it is freely movable endwise therein and that the front end thereof may be raised and lowered, moving about its contact with said ear 2.

The jamb B has secured thereto the catch 8, having the slot 9 extending transversely of its rear face and the slot 10 extending from front to rear about central thereof and provided with the latch-engaging shoulders 11 11, as shown. The upper end of the slot 9 is made an arc of a circle, so that there shall be no possible chance for the upper shoulder 6 to catch when the latch 4 is lifted to disengage the lower shoulder 6 from the shoulder 11 of the catch 8.

The latch-guard 3 has a transverse slot in its back side to receive the latch 4, the upper shoulder 12 of said slot being made oval or egg-shaped, as shown in Fig. 7, to prevent the shoulder 7 catching thereon when the latch is lifted and moved in the direction to open the door.

The latches heretofore in use on baggage-car doors have been so constructed that when the door was open or partially open the latch projected into the opening and was liable to catch upon and injure the clothing of the parties at work in said car and also the baggage being handled.

The object of my invention is to obviate this objection and at the same time to produce an effective fastening for such car or other sliding doors that is equally well adapted to use upon doors that slide in either direction to open them that is simple in construction and inexpensive.

The drawings show my invention applied to a sliding door that moves toward the right to open it; but if it is desired to be applied to a door that opens toward the left the catch 8 is applied to the jamb at the right side of the opening, with the end marked "Top" upward, the plate 1, with the latch thereon, is reversed, and the latch-guard is removed and turned end for end and again secured thereto, with the end marked "Bottom" downward.

The operation of my invention is as follows: The door A being closed and fastened by the lower shoulder 6 on the latch engaging the right-hand shoulder 11 of the catch, as shown in Fig. 1, if it is desired to open the door the operator seizes the handle 5, lifts the front end of the latch 4 to disengage the shoulders 6

and 11, and then moves the handle toward the right, the effect of which is to move the latch to the right upon the plate 1 until the rear offset of said latch comes in contact with the ear 2, when if force is still exerted in the same direction the door will be moved in the same direction till opened to the desired extent, when the front end of the latch 4 will be in the position relative to the edge of the door shown in Fig. 2. If the door is open and it is desired to close it, the operator seizes the handle and exerts force in the direction to close the door, the first effect of which is to move the handle 5 and latch 4 toward the left till the shoulder 13 of the latch comes in contact with the latch-guard. The inclined under side of said latch in front of the shoulder 7 engaging with the shoulder formed by the lower end of the slot in the back side of the latch-guard causes the latch to be raised, and passing over said shoulder the latch drops, so that the shoulder 7 is engaged with the front side of said latch-guard, when a continuation of force in the same direction will close the door, and the inclined under side of the extreme end of the latch engaging with the shoulder formed by the lower end of the slot 9 raises the end of the latch sufficiently far for the point of the shoulder 6 to pass over the right-hand shoulder 11, with which it engages, without disengaging the shoulder 7 from its contact with the front or left-hand side of the latch-guard, which effectually prevents any backward movement of the latch while passing over and engaging with the shoulder 11.

It will be seen that whenever the door is opened even to a very limited extent the latch 4 is retracted, so that no portion of it extends beyond the edge of the door, as shown in Fig. 2.

My invention, though intended more especially for sliding doors, may be effectively employed on hinged or swinging doors without modification. Whether used on a swinging or a sliding door, the shoulders 6 and 7 may be omitted on one edge of the latch 4 by constructing said fastenings in pairs of rights and lefts to accommodate doors opening in opposite directions, said latch being provided with said shoulders on both edges to obviate the necessity of making said fastenings rights and lefts.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a door-fastener the combination of a plate secured to the face of the door and provided with a slotted ear at its rear end, and with a latch-guard near its front end; a latch fitted to and movable endwise in said ear and latch-guard and pivotally movable about its bearing in said ear and having two ratchet-like shoulders of different lengths on its lower edge; and a catch to be secured to the jamb of the doorway having a transverse slot across its back and provided with a shoulder to be engaged by the shorter shoulder on said latch when the door is entirely closed and the longer shoulder on said latch is in engagement with the front edge of the latch-guard.

2. In a door-fastener the combination of the plate 1 provided with the slotted ear 2, and firmly secured to the face of the door; the latch-guard 3 removably attached to the front end of said plate; the latch 4 fitted to bearings in said ear and latch-guard and freely movable endwise therein and laterally about its bearing in said ear and provided on its front end portion, at different distances from said end, with two pairs of ratchet-like shoulders the front pair of which have a less depth than the rear pair; and the catch 8 provided with the two shoulders 11, 11, all so constructed and arranged that the same fastening may be interchangeably used upon a right or left hand door.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of February, A. D. 1899.

MORRIS E. KANALY.

Witnesses:
N. C. LOMBARD,
WALTER E. LOMBARD.