(No Model.)

C. R. CASE.

SLIDING DOOR LATCH.

No. 602,728. Patented Apr. 19, 1898.

Fig. 1.

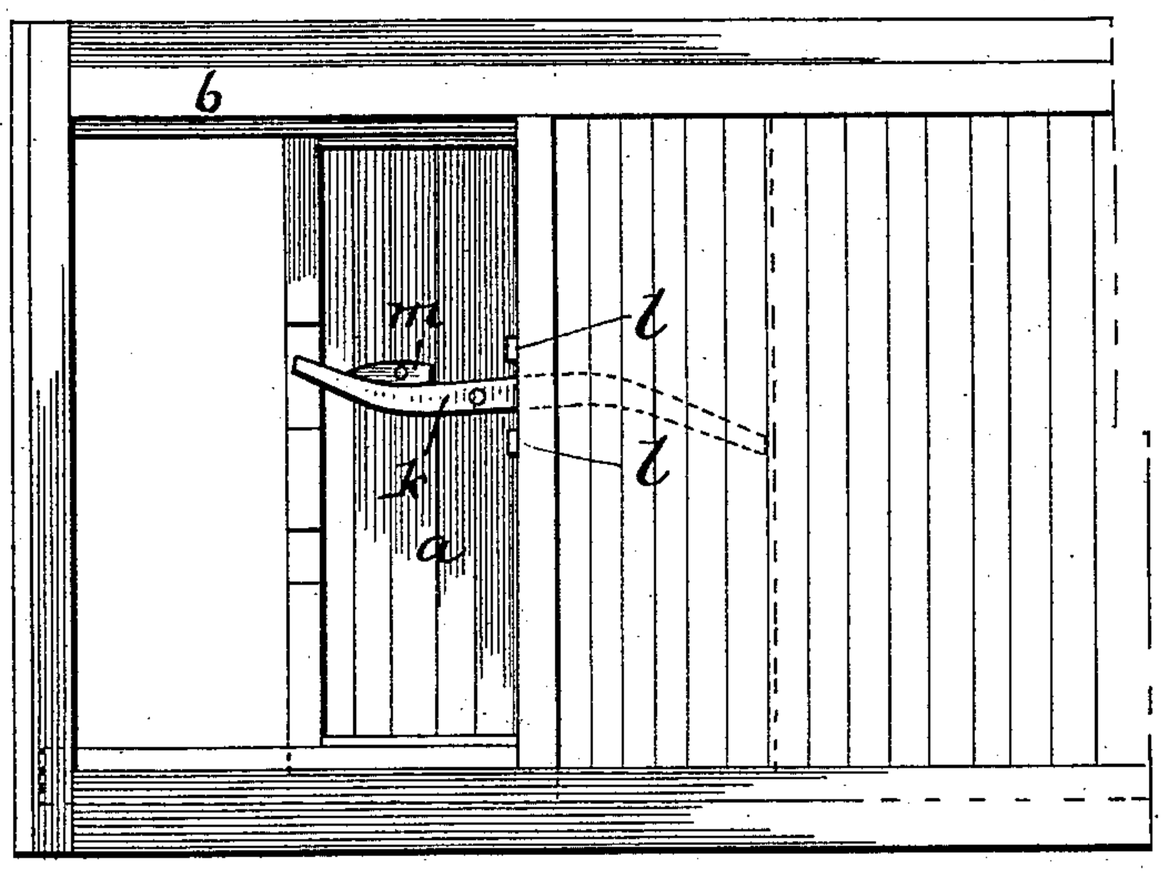


Fig. 2.

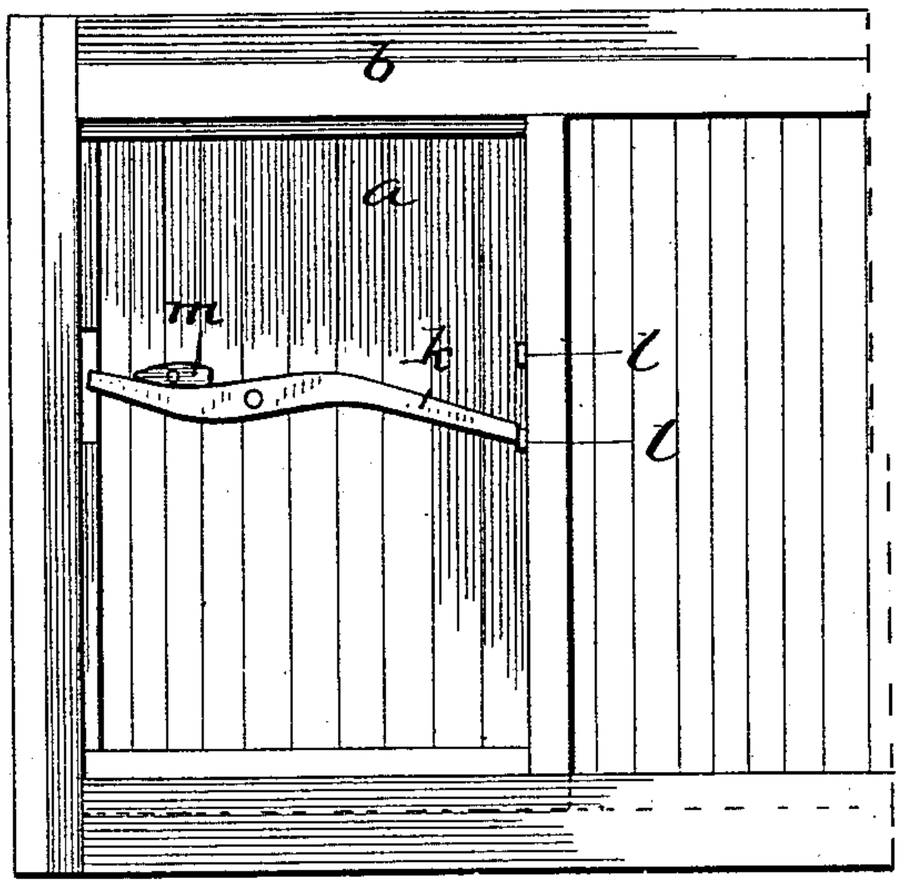


Fig. 3.

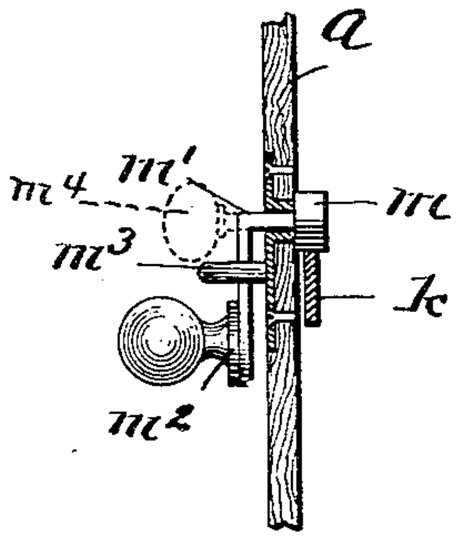


Fig. 4.

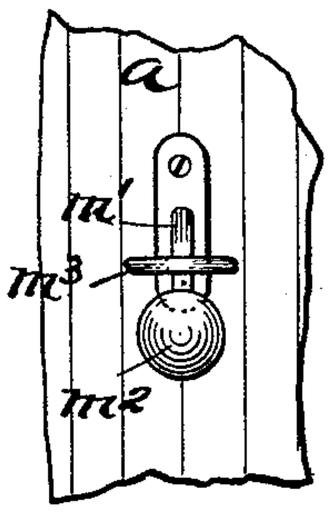


Fig. 5.

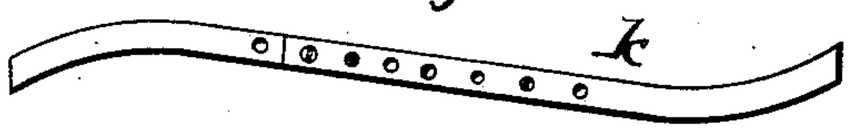
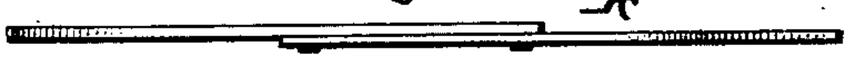


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES R. CASE, OF ALLEN'S HILL, NEW YORK.

SLIDING-DOOR LATCH.

SPECIFICATION forming part of Letters Patent No. 602,728, dated April 19, 1898.

Application filed September 4, 1897. Serial No. 650,639. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. CASE, a citizen of the United States, residing at Allen's Hill, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Sliding-Door Latches, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a side elevation of the inner side of a sliding door and supporting structure provided with my improved latch, the door being partly open; Fig. 2, a similar view with the door closed and latched; Fig. 3, a detail section showing the latch-operating devices; Fig. 4, a side elevation of a portion of the front of the door, showing the depending operating-lever; and Figs. 5 and 6, detail views of a modified form of the latch-bar.

The object of this invention is to provide simple means for automatically latching the door against endwise movement both when open and closed, whereby animals will be prevented from opening and closing the door.

The construction I prefer will be best understood by reference to the drawings, in which—

The letter *k* designates a latch-lever pivoted about midway its length to the inner side of the door and extending across the same. This lever is curved upward nearest the front edge of the door and is curved downward at its other end, and it is constructed of a flat plate or bar, so that there will be ample room for it in the space between the door and the structure when the door is slid back away from the door-opening. The pivotal point of the lever is a little to one side of its middle, so that its inner or rear end will normally drop.

The door is designated by the letter *a* and is swung by suitable hangers from an overhead track, as usual, the track being supported by the structure *b*, which may of course be a freight-car, warehouse, barn, or other structure.

Two stops *l* are fastened on the door-post at the side of the door-opening, one above the lever and the other below it, the upper one being in line with the upward-curved part of the lever and the lower one being in line with the downward-curved part, whereby when the door is open the upward-curved part of the lever will automatically engage behind said stop, and when the door is closed the downward-curved part will abut against the lower stop, as in Fig. 2, thereby locking the door in its closed and open positions. As will be seen, the curved edges of the lever impinge against the stops to swing the lever on its pivot far enough to pass the stops, the respective ends automatically abutting against the respective stops as the ends of the lever pass the same. To rock the lever on its pivot and disengage either end from its stop, I employ a double-pointed cam *m*, fastened to the inner end of a short rock-shaft *m'* and lying just above the upper edge of the lever in front of its pivotal point, the outer end of the rock-shaft being provided with a depending lever or handle m^2, which is restricted in its movements by a staple or loop m^3. By rocking the cam in either direction the front end of the lever will be depressed and the end of the lever that is in engagement will be disengaged.

To open or close the door, the operator simply takes hold of the operating-lever and by a continuous pull or push he both disengages the latch and simultaneously slides the door in either direction desired.

Instead of making the latch-bar of one piece, as shown in Figs. 1 and 2, I may construct it of two or more pieces and adjustably connect the pieces, as shown in Figs. 5 and 6, whereby the bar may be shortened or lengthened to suit doors of various widths. The parts of the bar may be adjustably secured in any suitable manner; but perhaps the simplest manner is that shown, which consists in overlapping the sections and providing the overlapped portion with registering holes and securing-bolts.

This latch-lever is especially useful in connection with car-doors and barn-doors and other doors used to inclose or shut out animals, as it is well known that certain animals, especially horses and cattle, soon learn to slide unlatched doors open.

It is evident that this invention is not confined or limited to any particular variety of sliding doors, as it is applicable to all varieties whether swung from above or mounted from rollers or otherwise supported.

Instead of operating the cam by means of a

swinging lever, it may be operated by means of a knob secured on the rock-shaft m', as shown at m^4 in dotted lines in Fig. 3, or the cam may be operated by any other suitable means.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a support and a sliding door, a latch-lever pivoted on said door and extending across the same, said lever being curved upward at one end and downward at its other end, the downward-turned end normally tending downward, and a pair of stops carried by the support and adapted to abut against the respective ends of said lever.

2. The combination of a support and a sliding door, a pivoted gravitating lever on said door, said lever curved upward at one end and downward at its other end, impinging stops between which said lever moves endwise, and a cam for disengaging said lever from said stops, substantially as described.

3. The combination of a support and a sliding door, a pivoted lever on said door, curved upward at one end and downward at its other end, stops between which said lever moves endwise, a rock-shaft journaled in the door and extending therethrough, a double cam on the inner end of the rock-shaft, for the purpose set forth, a swinging arm on the outer end of the rock-shaft, and means carried by the door for restricting the swing of the arm, substantially as set forth.

4. The combination of a support, a sliding door, a pivoted lever extending across said door, said lever being curved upward at one end and downward at its other end, stops between which the lever moves, said lever being constructed of endwise-adjustable sections, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES R. CASE.

Witnesses:
AMOS L. SYMONDS,
CHARLES W. SIMMONS.