R. W. SEMPLE.

LOCKS FOR SLIDING DOORS.

No. 187,735. Patented Feb. 27, 1877.

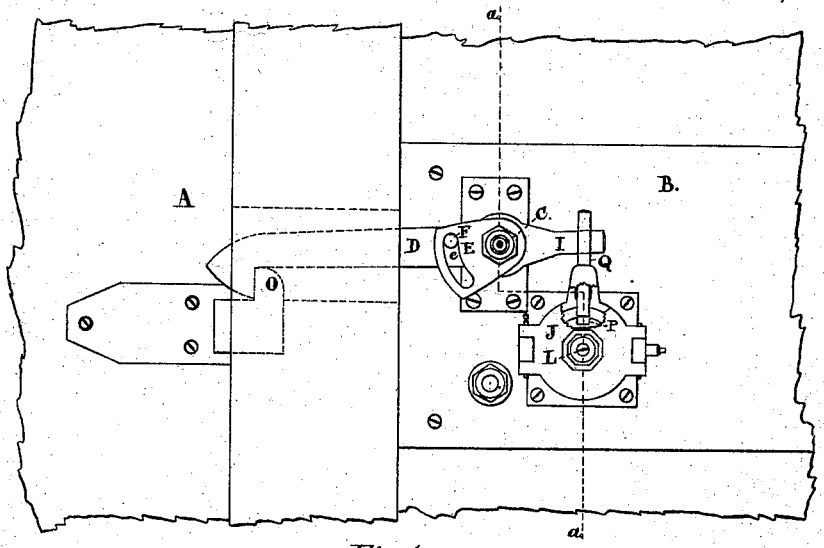

Fig. 1.

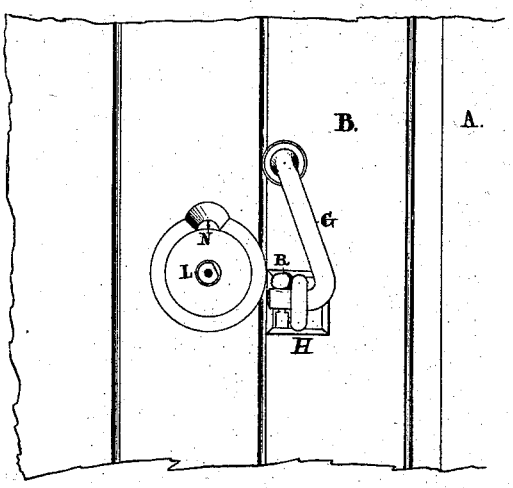

Fig. 2.

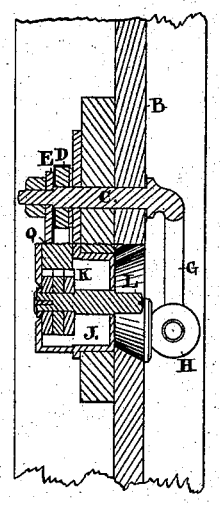

Fig. 5.

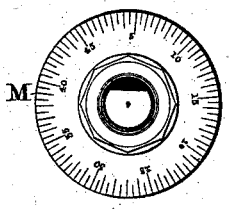

Fig. 3.

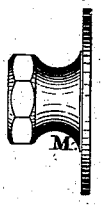

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT W. SEMPLE, OF TORONTO, ONTARIO, CANADA, ASSIGNOR TO GEORGE ALEXANDER SHAW, OF SAME PLACE.

IMPROVEMENT IN LOCKS FOR SLIDING DOORS.

Specification forming part of Letters Patent No. **187,735**, dated February 27, 1877; application filed August 24, 1876.

To all whom it may concern:

Be it known that I, ROBERT WILLIAM SEMPLE, of the city of Toronto, in the Province of Ontario, Canada, machinist, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and forming a part of this specification.

The object of my invention is to provide a lock which cannot be unlocked and relocked without the operation being detected; and consists more particularly in the peculiar application of a combination lock acting upon a latch, as hereafter specified.

Figure 1 is a back view of lock. Fig. 2 is a front view of lock. Fig. 3 is a plan of the index-knob, and Fig. 4 a side view of the same. Fig. 5 is a sectional view on the line *a a*.

In the drawing, A represents the door, which can be sliding or otherwise; and B the side of the car, to the inside of which I pivot, upon the stud C, the latch D. The quadrant-plate E is keyed or otherwise fastened to the stud C, and has a slot, *e*, cut through it, as shown, within which slot *e* the latch-pin F works. The stud C passes through the sheathing of the car B, and has a handle, G, on its outside end, as shown. By raising this handle G a corresponding motion is imparted to the quadrant-plate E, but the latch D is not acted upon till the pin F comes against the end of the slot *e*, owing to which the handle G must be moved a considerable distance before the latch D is raised, necessitating the complete destruction of any seal which may have been placed at the end of the handle G, in order to hold it to the eye H. The latch D has a projection or tail, I, extending behind the stud C. This tail passes through a slot in the bolt Q, which enters a casing, J, containing two or more notched disks or tumblers, K, pivoted upon and operated by the spindle L, in a like manner to any ordinary combination-lock.

I do not claim anything special in the construction of this combination-lock, the only thing absolutely necessary being that there should be such an obstruction within the casing J that shall prevent the bolt Q from entering the said casing, and that the said obstruction shall only be removed by turning the spindle L to a given combination in the ordinary way.

In order to operate the combination, I have an index-knob, M, shaped as shown in drawing, and marked as therein represented. This knob has a hole through its center, to corresponding with the shape of the spindle L, which is made with a flat side, so that the knob M can only be put on in one way. N is the zero-mark.

Having described the general construction of the lock, I shall proceed to explain its operation. When the door A is closed, the catch O engages with the latch D, and, if the disks K are then turned so that the bolt Q cannot enter into the notches in said disks, the door A is locked. We will suppose that the combination is set to 5, 10, and 30. In order then to open the door A, take the knob M and slip it onto the spindle L, which you then turn two or three times from left to right, finally stopping when the figure 5, stamped on the knob M, comes opposite to the zero-point N. Then make one complete turn from right to left, passing 5, till 10 is reached, again reversing the operation till 30 comes opposite to the zero-point N, which operation brings the notches P in the three disks K opposite to the bolt Q, permitting it to enter the casing J as the tail I descends, and the latch D is raised.

In order to make the protection still more secure a stamped lead seal, R, is attached to the point of the handle G after it is passed through the eyebolt H, making it necessary to destroy the seal before the handle G can be thrown back. This arrangement has the further advantage of indicating when the lock has been tampered with, although it may not have been opened.

This seal may be of any of the usual types made of stamped lead, and affixed directly to the spindle L, or fastened to it by a wire on which the lead is closed or melted.

From the foregoing description and accompanying drawings it will be noticed that the iron-work constituting the latch is all on the inside of the car, and not accessible except by

breaking away the sheathing or opening the door, and also that not only is the combination-lock attached to the car, but also the handle G and eye H, which form an independent fastening.

What I claim as my invention is—

1. The quadrant-plate E, keyed or otherwise fastened to the latch-stud C, and having a slot, *e*, in combination with the latch-pin F and latch D, as and for the purpose specified.

2. The pivoted latch-handle G, in combination with and secured to the eye H by means of the seal R, or its equivalent.

3. The combination of the latch D, latch-pin F, quadrant-plate E, tail-piece I, locking-bolt Q, with a permutation-lock, substantially as and for the purpose specified.

Witnesses: R. W. SEMPLE.

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