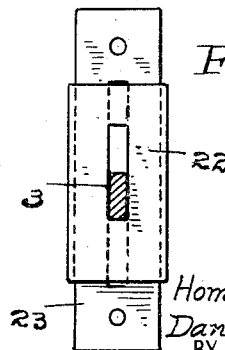
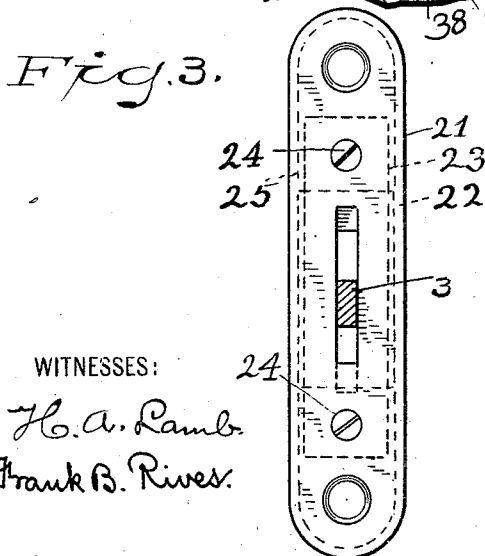
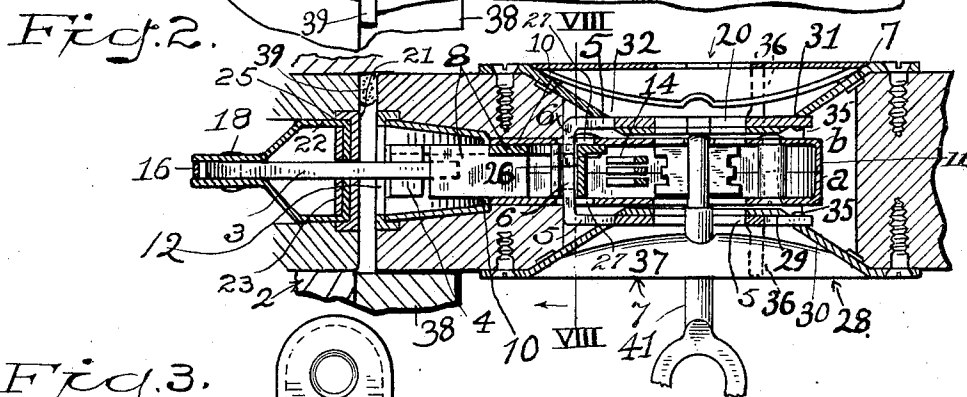
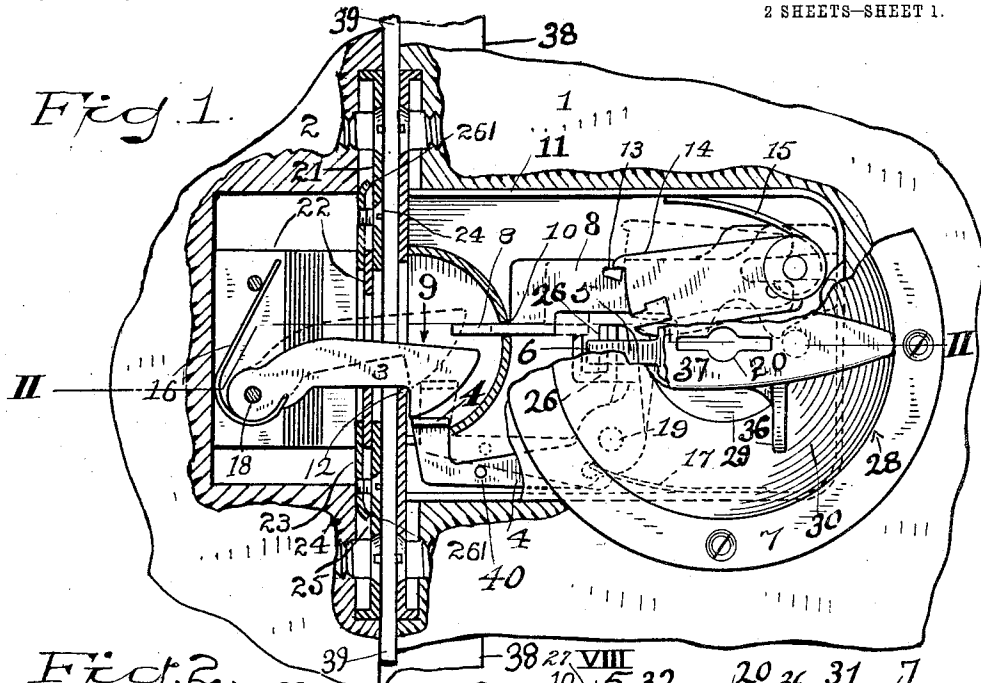


D. SCHUYLER & H. LAUGHLIN, JR.
 COMBINED LATCH AND LOCK FOR SLIDING DOORS, &c.
 APPLICATION FILED JULY 25, 1904.

1,047,454.

Patented Dec. 17, 1912.

2 SHEETS-SHEET 1.



WITNESSES:
H. A. Lamb.
Frank B. Rives.

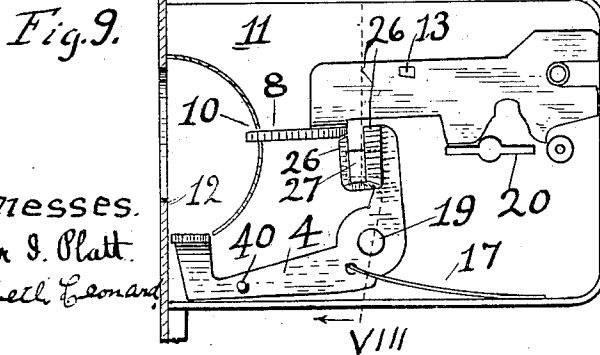
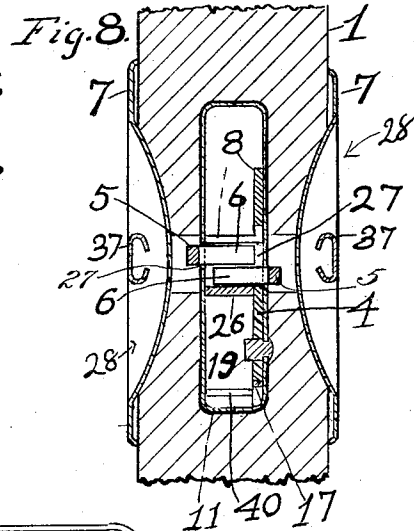
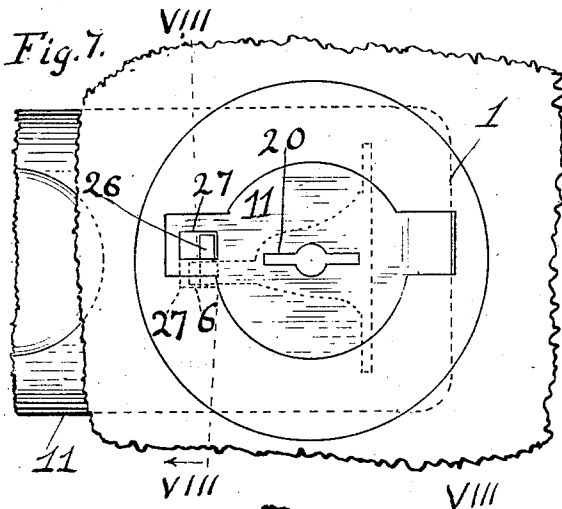
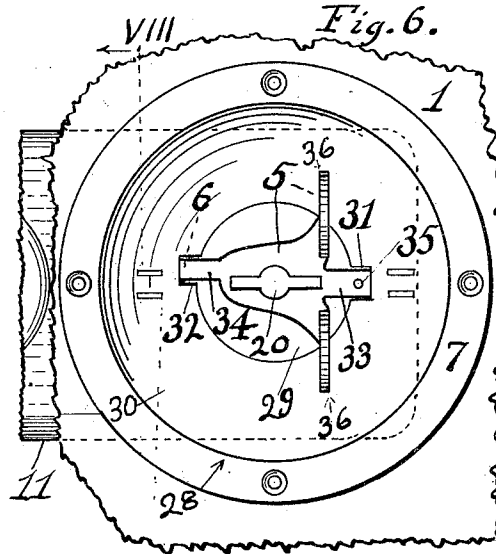
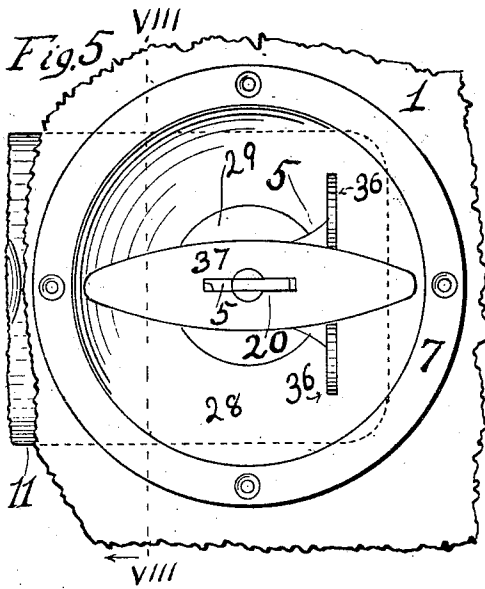
INVENTORS
Homer Laughlin, Jr.
Daniel Schuyler.
 BY

Townsend Bros
 Their ATTORNEYS

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 2 SHEETS—SHEET 2.



Witnesses.
 Arthur S. Platt.
 Elizabeth Leonard.

Inventors.
 Homer Laughlin,
 Daniel Schuyler
 by Townsend & Co.,
 their Attys.

UNITED STATES PATENT OFFICE.

DANIEL SCHUYLER, OF BRIDGEPORT, CONNECTICUT, AND HOMER LAUGHLIN, JR., OF LOS ANGELES, CALIFORNIA, ASSIGNORS TO THE PERFECT SLIDING DOOR COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

COMBINED LATCH AND LOCK FOR SLIDING DOORS, &c.

1,047,454.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed July 25, 1904. Serial No. 218,059.

To all whom it may concern:

Be it known that we, DANIEL SCHUYLER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, and HOMER LAUGHLIN, Jr., a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Combined Latches and Locks for Sliding Doors, &c., of which the following is a specification.

This invention relates to improvements in that character of sliding door locks shown in certain patents issued to Augustus Newell, as follows, viz.: No. 633,291, dated Sept. 19, 1899; No. 646,233, dated Mar. 27, 1900, and No. 700,227, dated May 20, 1902, in which different forms of pivoted latch with locking means therefor are shown, and provision is made whereby while the key is in the keyhole the latch is prevented from being lifted. In our present invention the pivoted latching means of said patents is formed in several parts for the purpose of a simpler construction and more convenient arrangement and operation; the keyhole being in a portion of the lock which hereinafter more fully appear. In this lock, as in the lock claimed in said Patent No. 646,233, the latch bolt is adapted to be pivoted to one of a pair of sliding doors and a frame is provided for the edge of the other of the doors; a catch being formed of a part of said frame to hold said latch bolt, and the latch-releasing member and the means for throwing the same up to release the latch bolt from the catch being formed as parts of the lock. Furthermore, in our present lock the locking-bolt slides in a way above the level of the upper edge of the pivoted latch; the bolt for locking said latch being carried in said way by a guide fastened on a frame.

Objects of this invention are to provide for sliding-doors and other closures moving in a right line, a superior fastening.

Other objects of the invention are cheapness, simplicity, strength, and durability.

Another object of the invention is to provide a simple latching means which will afford great security and will be most slightly, and which can be easily adjusted

when mounted so as to avoid danger of marring the lock by engagement of the latch with visible parts.

Another object of the invention is to provide a latch-lock for edgewise moving doors and the like, parts of which are relatively adjustable to make the latch applicable to doors of different thicknesses, without exchange of parts. In this lock a sliding member that can be struck up out of sheet metal is furnished with a keyhole arranged to register with a keyhole of the lock-casing and escutcheon when the latch-bolt is in latching position; said member is fastened to and carried by the escutcheon and is constructed and arranged to be readily connected with and disconnected from the other members of the latch by simply applying and removing the escutcheon to and from other portions of the lock. Two such members are provided, one for each side of the lock.

It is to be understood that we do not limit ourselves strictly to specific constructions but may vary the form, construction, and arrangement in many particulars without departing from the principle of the invention.

The accompanying drawings illustrate this invention.

Figure 1 is a view partly broken and sectioned, showing our improved lock in place connecting two parts which may be either the two members of a double sliding door, or may be a sliding door or other edgewise moving closure, and a stationary jamb therefor; it being immaterial in this class of locks whether both or only one of the parts to be fastened together may be moved in the operation of opening or closing the door. Fig. 2 is a plan section on line II-II, Fig. 1. A key is shown in place. Fig. 3 is a view showing the front of the finishing plate and a section of the adjustable pivoted latch-bolt. Fig. 4 is a view further illustrating the adjustable mounting of the latch-bolt. Figs. 5 and 6 show the sliding member 5 provided with a handle. In the former figure said sliding member is shown in the position it occupies after the latch-bolt has been moved to unlatched position, and in the latter figure said member is shown in its normal position, that is, in position to operate said latch-bolt, said

member being held in this position by means of the spring 17 acting on the lever 4. Fig. 7 is a side view omitting the escutcheon-plate and the sliding member. Fig. 8 is a section on line indicated by VIII—VIII in several views, looking in the direction of the arrows. Fig. 9 is a detail of the locking-bolt and the lifting member for the latch-bolt.

1 and 2 designate the two normally relatively movable parts to be fastened together. The same may be the members of a double sliding door or may be a sliding door and a jamb having the usual stops forming a seat for the edge of the door.

The latching and unlatching members of the lock in the present form thereof are composed of a connecting member or pivoted latch-bolt 3 pivotally connected with the part 2, an operating-lever 4 for said latch-bolt pivotally connected with the part 1 and two sliding members 5 for moving the operating lever 4 loosely connected by fingers 6 with the lever 4 and carried by escutcheons 7. The latch bolt 3 is adapted to be applied to one of the parts to be locked and the other devices are adapted to be applied to the other part to be locked.

8 designates a locking-bolt mounted to slide in the lock-casing, one end of said bolt projecting through an opening 10 in said casing, said bolt adapted to be moved into the path of the latch-bolt to prevent the upward movement of said latch-bolt. The front of said casing is provided with an opening to receive the latch-bolt 3, the lower wall of said opening constituting the catch 12.

13 is a stop on the bolt 8.

14 designates a tumbler or a number of tumblers, as the case may be, for intercepting the stop 13 of the locking-bolt 8.

15 designates the usual spring or springs for holding the tumbler or tumblers in locking position.

16 and 17 are springs for the latch-bolt 3 and operating-lever 4.

18 is the pivot for the latch-bolt 3, and 19 the pivot of the operating-lever 4.

20 designates the keyhole through the escutcheons 7, the members 5 and frame 11.

21 is a finishing plate on one side of which the pivoted catch or latch-bolt 3 is adjustably mounted by means of a carrier 22 in the form of a loop of sheet metal bent around a plate 23 which is held by screws 24 in a way 25 formed at the back of the finishing plate. The plate 23 is preferably bent to form shoulders 261 at its ends which rest on the back of the finishing plate; and the screws 24 screw into the plate 23 between the bearings formed by the bent ends 261 so that by tightening the screws the middle portion of the plate 23 will be pressed against the loop 22 to clamp it firmly against the

finishing plate. The pivot 18 passes through the pivoted bolt member 3 and the sides of the loop 22. In practical use, whenever it is desired to adjust the bolt 3 relative to the stationary catch 12, this may be done without detaching the finishing plate, by simply loosening the screws 24 and moving the carrier up or down as may be required to bring it into appropriate position, whereupon the screws 24 may again be tightened, thus clamping the carrier-loop 22 firmly in position.

No claim is broadly made to the combination of a finishing plate having an opening of a definite size for the fastening member of a lock, a plate back of the finishing plate of a size greater than the opening in the finishing plate and provided with an opening for the fastening member of less size than the opening for the fastening member in the finishing plate, and means for adjustably fastening the back plate in position relative to the finishing plate; for the reason that the same is claimed in a certain application for transformable locks which was filed in the United States Patent Office July 10, 1901, Serial No. 87,802. Our present construction embodies in principle a form of the said claimed construction of our other application.

The opposite side plates *a*, *b*, of the lock-case or frame 11 are duplicates and interchangeable, and this is true also of the escutcheon-plate 7 and the parts they carry. Said escutcheon-plates are applied directly to the opposite sides of the door and fastened in place by appropriate screws. The operating-lever 4 has a seat 26 open toward both sides of the frame 11 which is furnished in its opposite sides with holes 27 that are out of line with each other to admit the fingers 6 of the sliding members 5 from the opposite sides and allow them to overlap and slide past each other. For this purpose the fingers 6 of the sliding members 5 are at opposite sides of the mid-line of the lock, and this is also the case with the two holes 27, as may be clearly seen from Figs. 6 and 7, in the former of which views the keyhole is arranged at the mid-width of the lock-case and the finger 6 is at one side thereof, while in the latter view one of the holes 27 is shown in solid lines and the other in dotted lines. By this arrangement it is immaterial how thick a door is, within the limits of the sliding adjustment of these two fingers. It is advisable to provide locks having fingers of one length for all thicknesses of doors from the thinnest up to, say 1½ inches thick and to provide locks having longer fingers to fit thicker doors. Each escutcheon-plate has a concavity 28 and is provided with a flat bottom 29 and sloping wall 30.

In order to easily assemble the sliding

member 5 in the escutcheon plate 7, holes 31 and 32 flush with the bottom of the cavity are formed in the sloping wall at opposite sides of the cavity, and the member 5 has two spurs 33 and 34 inserted through said holes, one of which spurs is bent to form the finger 6, and the other is perforated, and a rivet 35 is riveted in the perforation so that its head will form a projection to engage the escutcheon-plate to prevent withdrawal of the member 5 therefrom.

36 designates a handle formed of lateral extensions of sliding member 5 inside the cavity of the escutcheon-plate on either side of the lock.

37 is the handle-bar for the flush-handle on either side of the lock substantially set forth in said application, Serial No. 67,803. The latch-bolt 3 is pivoted at a considerable distance behind the finishing plate 21 and projects therethrough, terminating preferably inside of the stops 38 by which it is protected so that it will not catch clothing of passers.

39 designates a resilient cushion for holding the catch 12 tight against the hook of the latch-bolt 3.

40 is a stud on the operating-lever 4 to engage the case of the lock to hold the said lever in true position.

41 is a key for moving the tumblers 14 and locking-bolt 8.

The key-holes of the lock-case 11, the escutcheons 7 and the sliding members 5 for moving the operating lever 4 are arranged to register only when the said sliding member is in the latching position in which it is shown in Figs. 1, 2 and 6. When the key is in the lock it intercepts the sliding member 5, and therefore the sliding member cannot be operated by the handles 36 while the key 41 is in the lock.

We do not broadly claim the interposition of a key in the path of a sliding member to prevent unlatching the latch while the key is in the lock.

By using a mechanically-operated lifting member it is made possible to unlatch the door by a single engagement and movement of the finger in one direction against the sliding member 5 moving in the guides formed by the walls 31 and 32. By providing a sliding member 5 for each side of the lock the door may be opened with equal facility from either side of the door.

What we claim and desire to secure by Letters Patent of the United States is:

1. The combination with two normally relatively movable parts to be fastened together, of a pivoted latch-bolt on one of said parts, a catch located on the second part, a pivoted operating lever on said second part for lifting the pivoted latch-bolt, and a sliding member provided with a handle and arranged to operate said pivoted lever.

2. The combination with two normally relatively movable parts to be fastened together, of a catch on one of said parts, a pivoted latch-bolt pivoted to the second of said parts and arranged to engage said catch, a pivoted operating lever on the catch-carrying part arranged to lift the pivoted latch-bolt, and a sliding member provided with a handle connected to the pivoted operating lever for operating the same.

3. The combination with two normally relatively movable parts to be fastened together, of a catch on one of said parts, a latch bolt pivoted to the other of said parts and arranged to engage said catch, an operating lever for lifting the latch bolt, a sliding member provided with a handle for operating said lever, another bolt for holding the latch bolt in engagement with the catch and means for operating said other bolt and locking said handle.

4. The combination with two parts to be fastened together, of a frame on one of said parts provided with a keyhole, a latch bolt on the other of said parts, a member provided with a handle and with a keyhole and sliding in one of said parts, an operating lever between the sliding member and the latch bolt to be operated by one for lifting the other, a bolt for locking the latch bolt, and a key constructed for said keyhole and for operating said locking bolt, and for intercepting the sliding member to prevent the operation of the operating lever while the key is in the keyhole.

5. The combination with two parts to be fastened together, of a frame on one of said parts provided with a keyhole, a latch bolt adjustably mounted on the other of said parts, a member provided with a handle and with a keyhole and sliding in one of said parts, and an operating lever between the sliding member and the latch bolt to be operated by one for lifting the other, a bolt for locking the latch bolt, and a key constructed for said keyhole and for operating said bolt, and for intercepting the sliding member to prevent the operating of the operating lever while the key is in the keyhole.

6. In a lock, a finishing plate, a member mounted at the rear of said plate and forming a way between the same and said finishing plate, a carrier running in said way and a pivoted latch bolt on said carrier projecting through said finishing plate, and means for adjusting said member to clamp the carrier.

7. In a lock a finishing plate, a carrier adjustably mounted at the rear of said plate, means for rigidly fixing the carrier, and a pivoted latch bolt on said carrier.

8. In a lock, a finishing plate, a plate mounted at the rear of said finishing plate and bent therefrom between its ends, a member formed in a loop running in the space

between said plates, means for drawing the plates together to clamp the loop, and a pivoted latch bolt.

9. A lock comprising a perforated finishing plate, a carrier adjustably mounted on one side thereof and a catch on the carrier projecting through a perforation in said plate.

10. In a latch lock, the combination with a latch bolt, an operating lever therefor and a sliding member for operating said lever, of a bolt for locking the latch bolt, a frame for such locking bolt and the sliding member, means for locking the locking bolt and a key adapted for operating the locking means and intercepting the sliding member; said latch bolt being adapted to be applied to one of the parts to be locked and the other devices being adapted to be applied to another part to be locked.

11. A lock comprising a pivoted latch bolt, means for actuating said latch bolt, sliding members located on opposite sides of the lock and provided with fingers for independently operating said actuating means, said members having handles for moving the same, whereby said latch bolt may be independently operated from either side of the

lock, and means for locking said latch bolt; said latch bolt being adapted to be applied to one of the parts to be locked and the other devices being adapted to be applied to another part to be locked.

12. A lock comprising a pivoted latch bolt, a pivoted member for releasing the same, sliding members located on opposite sides of the lock, each being provided with a handle and with a finger for actuating the releasing member, said latch bolt being adapted to be applied to one of the parts to be locked and the other devices being adapted to be applied to another part to be locked.

In testimony whereof we have respectively signed this specification in the presence of two subscribing witnesses at the places and dates set opposite our names.

At Bridgeport, Connecticut, July 9, 1904.

DANIEL SCHUYLER.

Witnesses:

JAMES R. TOWNSEND,

ELIZABETH LEONARD.

At Los Angeles, California, July 19, 1904.

HOMER LAUGHLIN, JR.

Witnesses:

E. IRENE CUMMINGS,

O. H. HUBBARD.