G. M. BLAIR.

SLIDING DOOR LOCK.

APPLICATION FILED MAR. 31, 1908.

910,897.

Patented Jan. 26, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

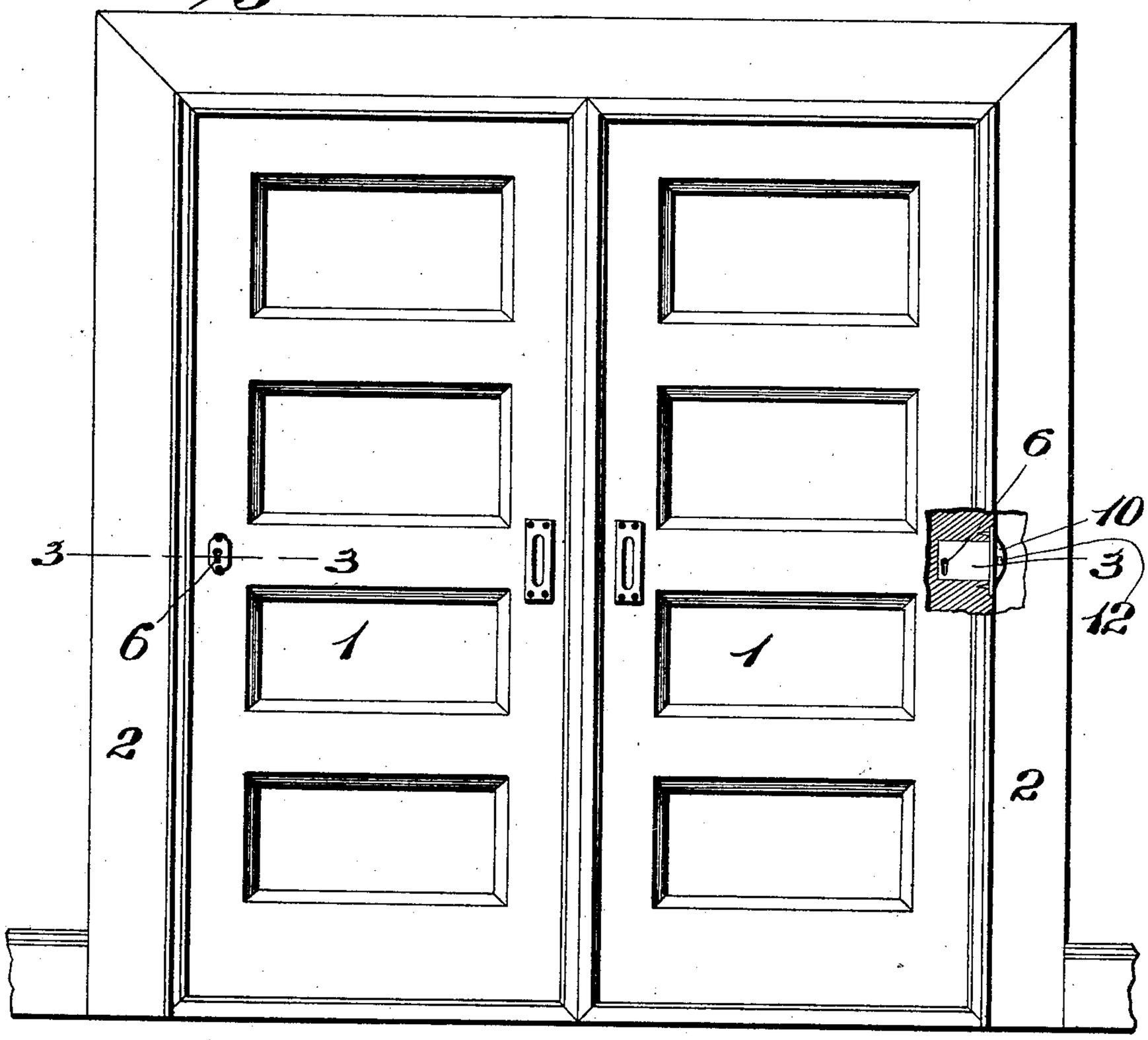
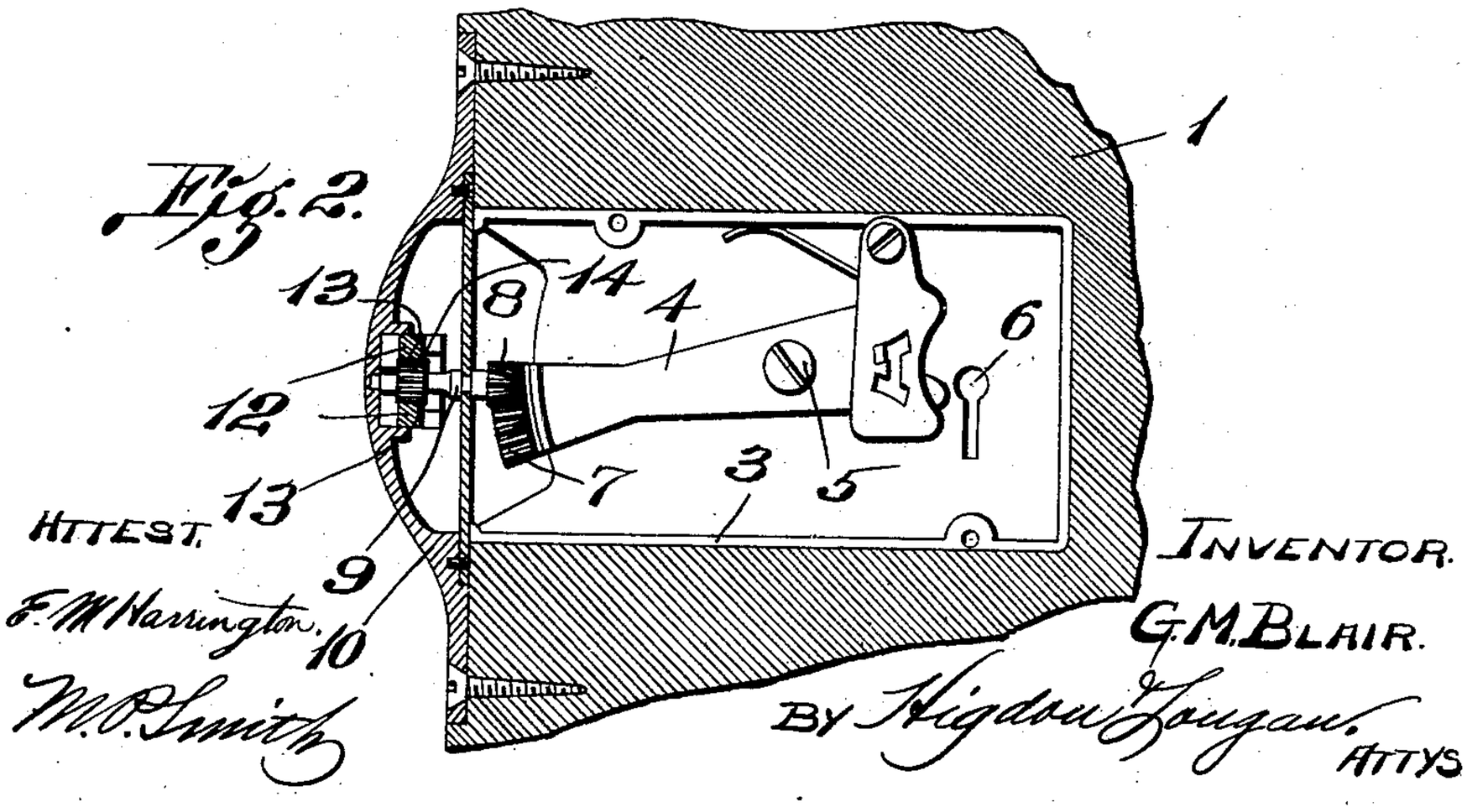


Fig. 2.



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F. M. Harrington.

W. P. Smith

INVENTOR.

G. M. BLAIR.

BY Higdon & Longan.

ATTYS

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2 SHEETS—SHEET 2.

Fig. 3.

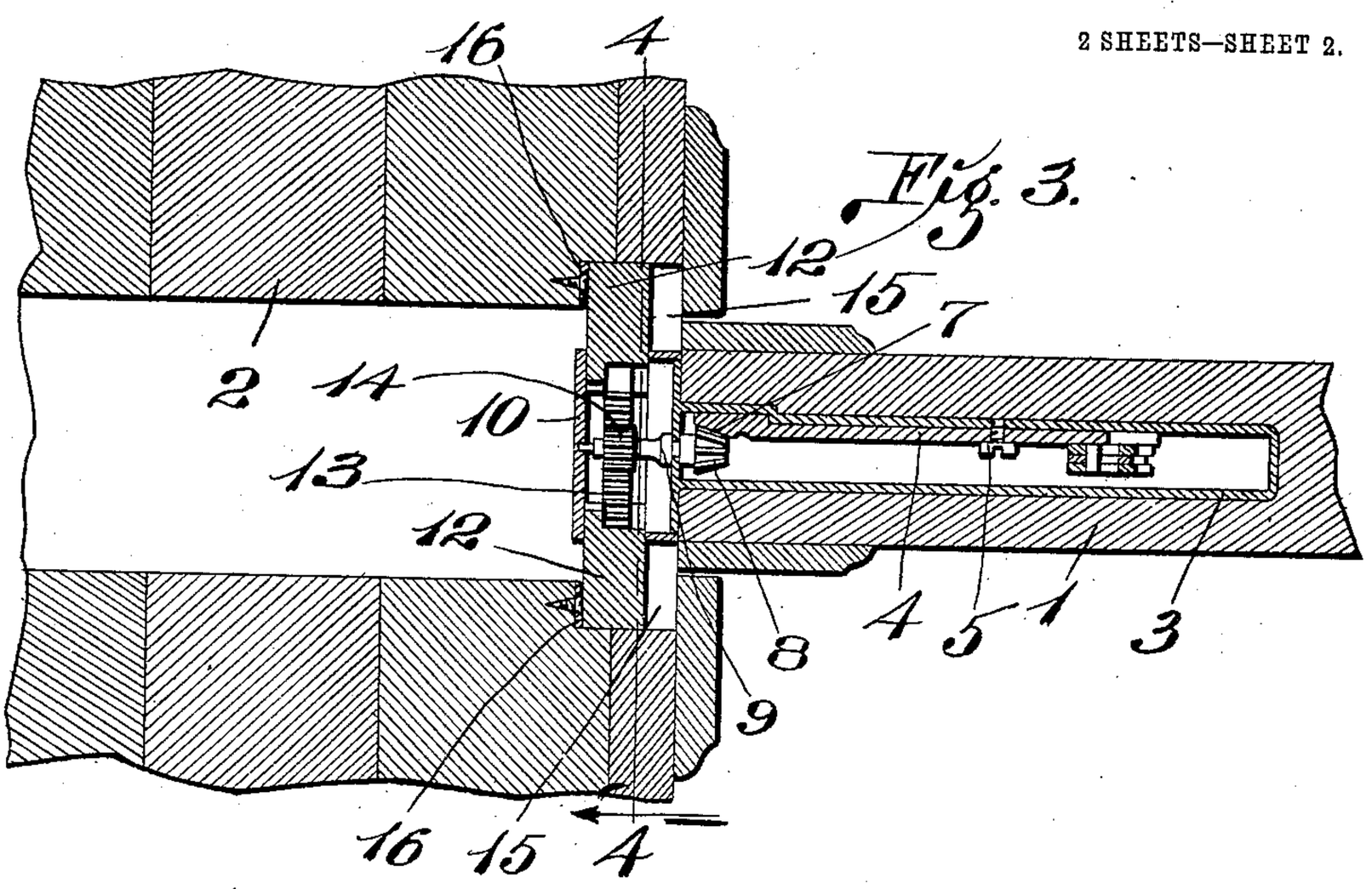


Fig. 4.

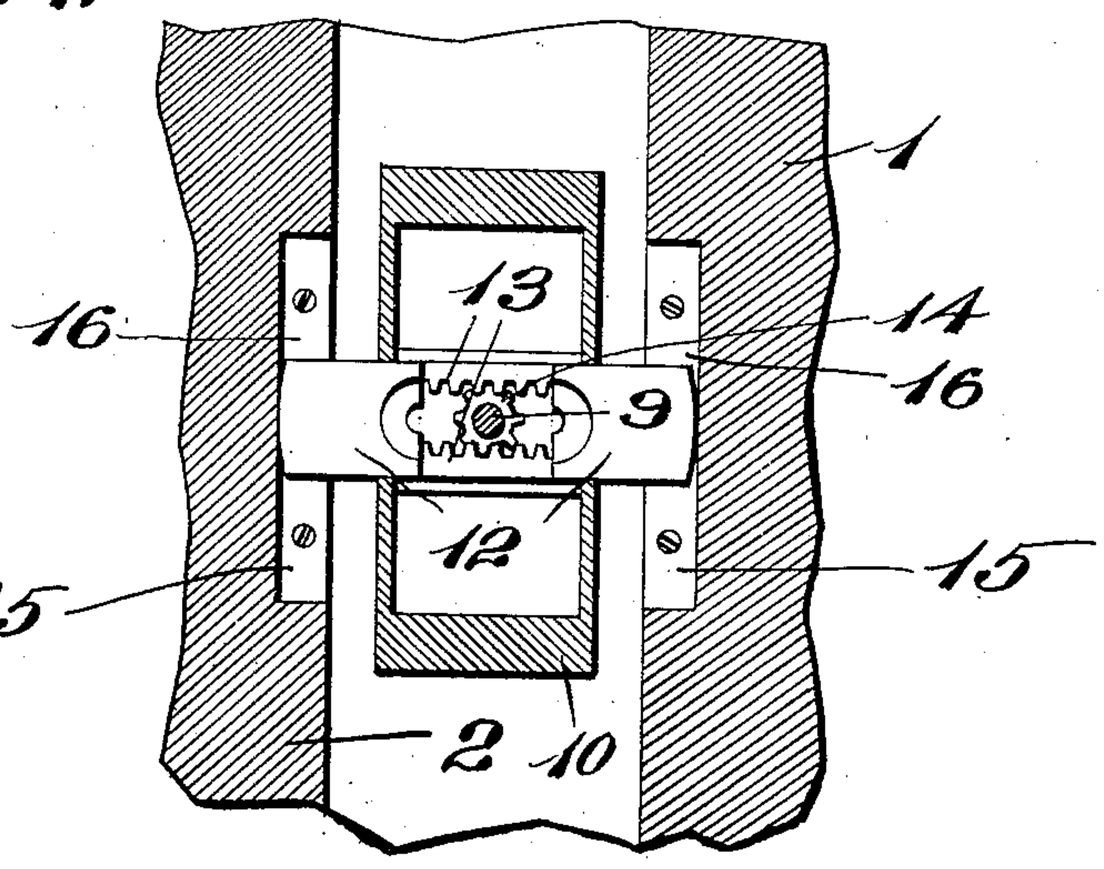
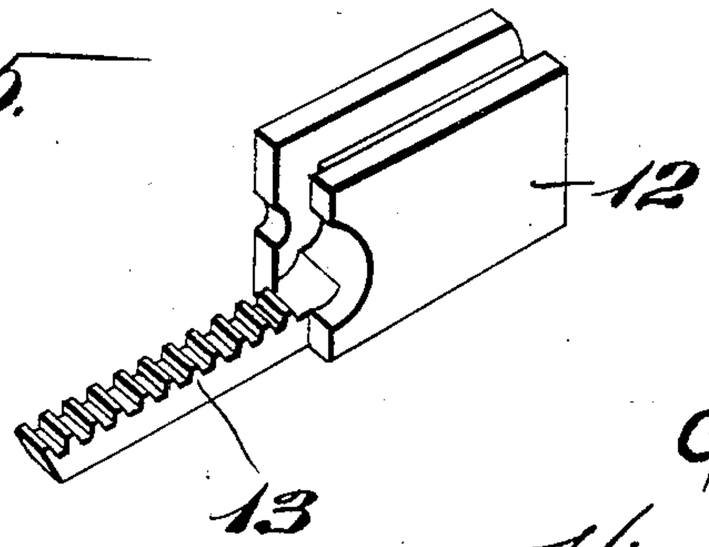


Fig. 5.



ATTEST.

E. W. Harrington.

W. P. Smith

INVENTOR.

GEO. M. BLAIR.

BY Wigdon & Longan ATTYS.

UNITED STATES PATENT OFFICE.

GEORGE M. BLAIR, OF ST. LOUIS, MISSOURI.

SLIDING-DOOR LOCK.

No. 910,897. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed March 31, 1908. Serial No. 424,449.

To all whom it may concern:

Be it known that I, GEORGE M. BLAIR, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Sliding-Door Locks, of which the following is a specification, containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a sliding door lock, my object being to construct a simple, inexpensive lock which is particularly applicable for sliding doors, and which is so located as that the locking bolts carried thereby will at all times enter their respective seats or recesses, regardless of the warping or settling of the doors on which the locks are carried, or the door casings in which the lock and bolt engage.

Heretofore it has generally been the practice to locate locks on the meeting stiles of sliding doors, and where either one of the doors warp or settle to even a slight degree, said locks are rendered inoperative owing to the fact that the locking bolt is out of alinement with the corresponding opening, and by my improved construction, this difficulty and annoyance is overcome.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation of a pair of sliding doors equipped with locks of my improved construction; Fig. 2 is a vertical section taken through the center of a lock of my improved construction; the same being shown in position in the door stile; Fig. 3 is an enlarged horizontal section taken on the line 3—3 of Fig. 1; Fig. 4 is a transverse section taken on the line 4—4 of Fig. 3; and Fig. 5 is a perspective view of one of the locking bolts made use of in my improved lock.

Referring by numerals to the accompanying drawings: 1 designates the sliding doors, which are of the usual construction, and arranged for operation in the usual manner in the door frame 2. Seated in the outer stile of each door 1 is a lock housing 3, and arranged to swing vertically therein is a plate 4, fulcrumed on a pin 5, and the rear end of said plate is constructed to be engaged by a key which enters the housing 3 through a key hole 6.

Formed on the front face of the forward end of the plate 4 is a series of radially arranged teeth 7, which engage a small pinion 8 carried by the inner end of a horizontally disposed shaft 9, which is journaled in the front wall of the housing 3; and the outer end of said shaft being journaled in the outer wall of a locking bolt housing 10, which is carried by the front end of the housing 3, and which projects slightly beyond the edge of the door stile.

Arranged to move transversely through the bolt housing 10, and at right angles to the sliding door and the lock housing, is a pair of locking bolts 12, with the inner ends of which are formed integral racks 13, which lie immediately above and below the shaft 9; and fixed on said shaft and engaging with said racks is a pinion 14.

Formed in the faces of the posts or studding, or in the faces of the sliding door pocket, immediately adjacent the lock, are vertically disposed grooves or notches 15, and arranged therein, against the rear faces thereof, are metal plates 16, which are for the purpose of preventing the outer ends of the locking bolts from cutting into the woodwork when said bolts are moved outward into locked positions.

When the doors are unlocked, the locking bolts occupy positions within the housing 10, the side faces of which are flush with the faces of the doors; and when said locking bolts are so positioned, the doors are free to be opened and closed as desired. When the doors are closed, and it is desired to lock the same, the key is inserted through the key hole 6, and, as said key is turned, the rear end of the plate 4 is engaged and said plate is swung upon the pin 5; and, as a result, the pinion 8 is partially rotated by reason of its engagement with the teeth 7; and in turn the shaft 9 and pinion 14 are correspondingly rotated. The teeth of the racks 13 meshing with the pinion 14 causes the locking bolts 12 to move outward through the sides of the bolt housing 10, and the outer ends of said bolts are moved into the slots 15 against the plates 16, thus effectually locking the doors.

The slots 15 may be made of considerable length, in order that the doors can be locked regardless of the settling or warping of either the doors or the sliding door pocket.

I claim:

1. The combination with a sliding door and sliding door pocket, of a lock housing arranged on the rear stile of the sliding door, a bolt arranged for operation in the lock housing, and means whereby the locking bolt is caused to slide bodily outward at right angles to the plane occupied by the door and lock housing to engage the wall of the sliding door pocket when the door is locked.

2. The combination with a sliding door and sliding door pocket, of a lock housing arranged in the rear stile of the door, a pair of locking bolts arranged for operation in the lock housing, means whereby the locking bolts are bodily projected laterally in opposite directions to bring their outer ends against the walls of the sliding door pocket when the door is locked, and there being recesses formed in the inner walls of the sliding door pocket which receive the outer ends of the locking bolts.

3. The combination with a sliding door and sliding door pocket, of a lock housing carried by the rear stile of the door, a pair of locking bolts arranged for operation in the housing, means arranged in the housing for moving the locking bolts bodily at right angles relative to the plane occupied by the door and lock, and keepers on the walls of the sliding door pocket which receive the ends of the locking bolts when moved outward.

4. A lock for sliding doors, comprising a housing, a pair of locking bolts arranged to slide bodily in opposite directions laterally through one end thereof, and means operating within the housing for simultaneously moving both locking bolts.

5. A lock of the class described, comprising a housing, a pair of locking bolts arranged to slide bodily in opposite directions laterally through one end of the housing so that their outer portions are projected beyond the side walls of the lock housing, and key operated means within the housing for simultaneously moving the locking bolts.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

GEORGE M. BLAIR.

Witnesses:
M. P. SMITH,
E. L. WALLACE.