

(No Model.)

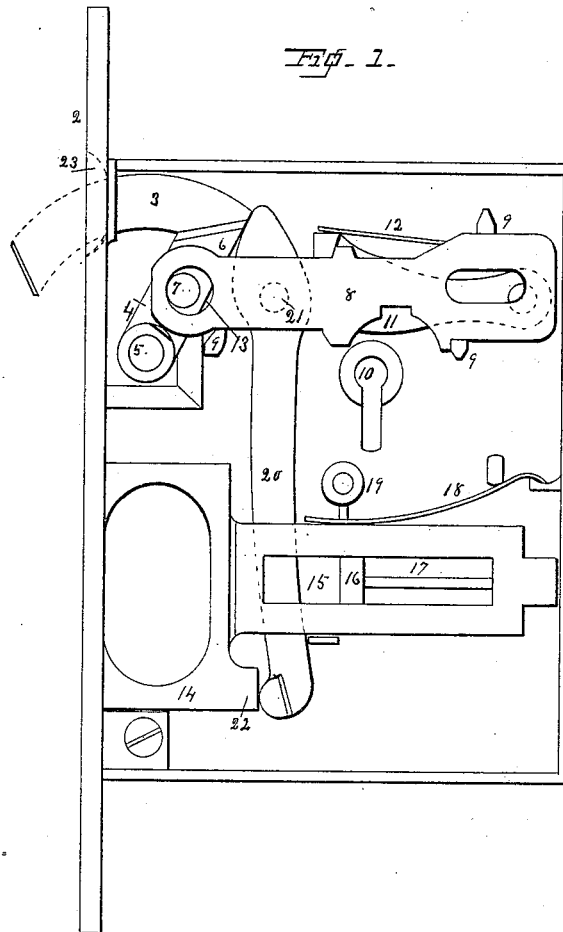
2 Sheets—Sheet 1.

H. S. LOCKWOOD.

SLIDING DOOR LOCK.

No. 346,928.

Patented Aug. 10, 1886.



Witnesses—

H. J. Ferguson.
C. E. Ruggles.

Inventor—

Henry S. Lockwood
By A. M. Wooster
att'y.

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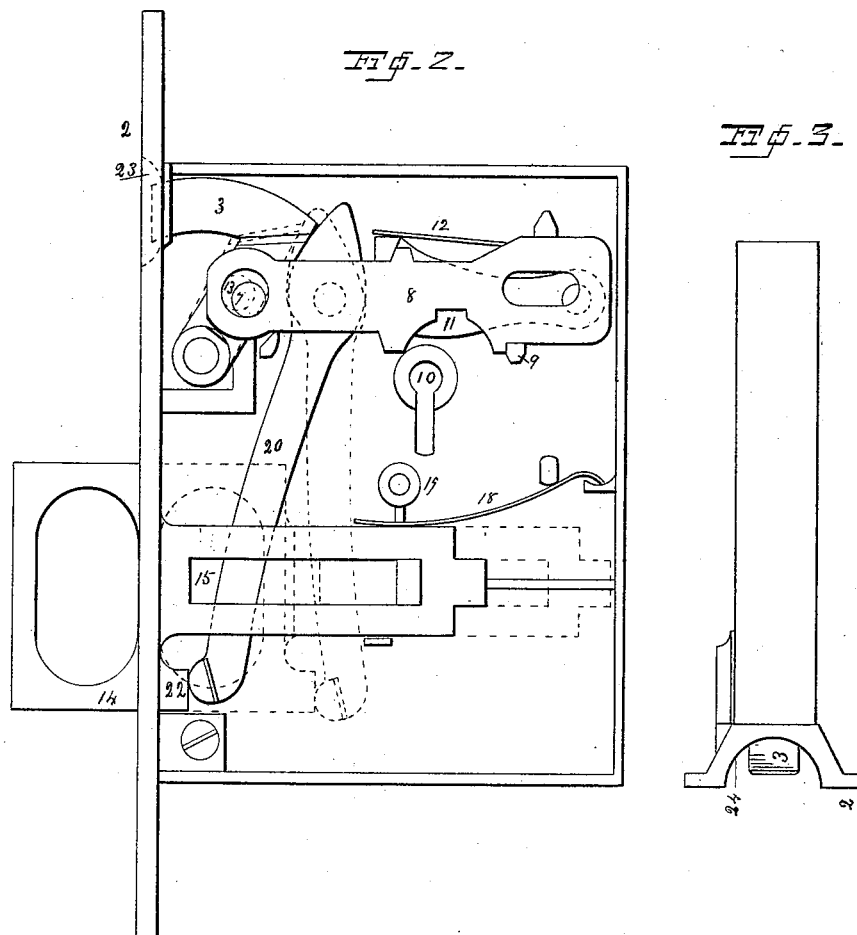
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UNITED STATES PATENT OFFICE.

HENRY S. LOCKWOOD, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR TO
THE LOCKWOOD MANUFACTURING COMPANY, OF SAME PLACE.

SLIDING-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 346,928, dated August 10, 1886.

Application filed June 17, 1886. Serial No. 205,400. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. LOCKWOOD, a citizen of the United States, residing at South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sliding-Door Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has special relation to the class of locks used upon sliding doors, and has for its object to produce a wholly novel construction, in which the usual push-pin for throwing out the pull shall be dispensed with, the throwing out of the pull being accomplished by slight pressure upon the face of the locking-bolt, thus reducing the number of parts in the lock and greatly simplifying and improving its construction. With these ends in view I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to indicate the several parts of the device.

Figure 1 is an elevation of the working parts of a lock, the side plate being removed and the pull being in the retracted position; Fig. 2, a similar view showing the pull in the thrown position, and Fig. 3 an edge view illustrating a slight modification in the construction of the case.

1 denotes a lock-case of ordinary construction, and 2 the face-plate.

3 denotes the locking bolt or hook, which is curved in the usual manner, its shank 4 being formed at an acute angle to the bolt proper, and pivoted upon a stud, 5, which projects from the lock-case near the face-plate, so that when the bolt is thrown it will curve downward, thus engaging the keeper (not shown) in such a manner that sliding doors will be firmly locked together, the thrown position of the pull being indicated by dotted lines in Fig. 1.

6 denotes a recess in the shank of the bolt, and 7 a stud projecting upward from the base of the recess, the top of said stud being preferably flush with the bolt proper.

8 denotes the carrier, which rests upon studs 9, which project from the lock-case, being cast integral therewith in the usual manner.

10 indicates the key-hole, and 11 a tumbler which engages the carrier, and is operated by the key in the usual manner, being held in operative position by a spring, 12. At the forward end of the carrier is an opening, 13, which engages stud 7 upon the shank of the bolt, it being an important feature of my invention that opening 13 shall be somewhat greater in diameter than the stud, so that the locking-bolt shall have slight movement inward when in the retracted position independent of the carrier, the purpose of which will presently be explained.

14 is the pull, which I have shown as of ordinary construction, the shank being preferably provided with a slot, 15, which engages a stud, 16, projecting from the lock-case.

17 is a rib cast upon the case, on which the pull-shank slides. The inward movement of the pull is limited by the engagement of its shank with the back of the case, as shown in Fig. 1, and its outward movement is limited by the engagement of the end of slot 15 with stud 16, as shown in Fig. 2.

18 is a friction-spring bearing upon the pull-shank, the purpose of which is simply to hold the pull in any position in which it may be placed.

19 is the usual stud, which is engaged by a screw to hold the side plate in position.

20 is the pull-operating lever, which is pivoted on a stud, 21, under the carrier, as indicated in dotted lines in Figs. 1 and 2. The long arm of this lever passes under the shank of the pull, and bears in any suitable manner upon the pull to force it to its thrown position. In the present instance I have shown the pull as provided with a stump, 22, with which the long arm of the lever engages. The short arm of the lever 20 is so formed as to lie in contact with the rear of the locking bolt or hook when it is in its retracted position, as is clearly shown in Figs. 1 and 2. When the locking-bolt is thrown, it passes away from the short arm of lever 20 without affecting it in any manner.

The operation is so simple as hardly to require explanation. In Fig. 1 I have shown the normal position of the parts with the locking-bolt retracted. Suppose, now, that it is desired to throw the pull. It is simply necessary to press slightly upon the face of the locking-bolt, which lies flush with the surface of the face-plate, a circular recess, 23, being provided in the face-plate for convenience in operating, as indicated by dotted lines in Figs. 1 and 2. It will be seen in Fig. 1 that when the pull is in its retracted position stud 7 bears against the forward part of opening 13 in the carrier. Pressure upon the face of the locking-bolt will force it back to the position indicated in dotted lines in Fig. 2, and will carry stud 7 to the back of recess 13, but without any action whatever on the carrier. The action, however, upon the short arm of the lever will be sufficient to cause the lower end of the long lever to swing in an arc quite sufficient to force the pull to its thrown position, as indicated in Fig. 2.

As already stated, I have provided a friction-spring, 18, which bears upon the shank of the pull, the action of which is to hold it in any position in which it may be placed. If preferred, however, a spring may be inserted to return the pull to its retracted position as soon as pressure upon the end of the locking-bolt is relieved. This, being a mere detail of construction, is not thought to require illustration.

The action of throwing and retracting the locking-bolt with the key, being the same as usual in this class of locks, is not thought to require explanation.

In the modified form illustrated in Fig. 3 the face-plate of the lock stands out from the case, and is provided with a vertical groove, 24, recess 23 being of course dispensed with. In this form the locking-bolt, when retracted, falls back within the groove, but not flush with the bottom, the retracted position being indicated in Fig. 3.

It will of course be understood that the details of construction may be widely varied without departing from the spirit of my invention.

I claim—

1. The combination, with the bolt and pull of a sliding-door lock, of a lever whose short arm engages the bolt, and whose long arm engages the pull, so that when the bolt is in its retracted position pressure upon the face thereof acts on the short arm of the lever to cause its long arm to throw the pull, substantially as shown and described.

2. In a sliding-door lock, pull 14, having a stump, 22, and a locking-bolt pivoted on stud 5, in combination with a lever pivoted back of said bolt, whose long arm engages said stump, and whose short arm is adapted to be engaged by the back of the bolt to throw the pull.

3. The sliding pull having a slotted shank engaged by a stud, 16, a friction-spring bearing on said pull, and a locking-bolt, 3, in combination with lever 20, whose long arm engages said pull, and whose short arm is adapted to be acted on by said locking-bolt to throw the pull.

4. The pivoted locking-bolt having a stud, 7, and the carrier having a recess of greater diameter than said stud, adapted to be engaged thereby, in combination with a pull and a lever engaging both bolt and pull, whereby when said bolt is pressed inward from its retracted position the lever is actuated to throw the pull without in any way affecting the carrier.

5. The pull and a pivoted bolt having a stud, 7, in combination with a lever pivoted back of said bolt and engaging both bolt and pull, and a carrier having a recess of greater diameter than stud 7, to be engaged thereby, whereby said carrier is caused to throw and retract the bolt in the usual manner, but will permit independent movement of the bolt to throw the pull, substantially as described.

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

HENRY S. LOCKWOOD.

Witnesses:

HENRY W. LESTER,
WASHINGTON YOUNGS.