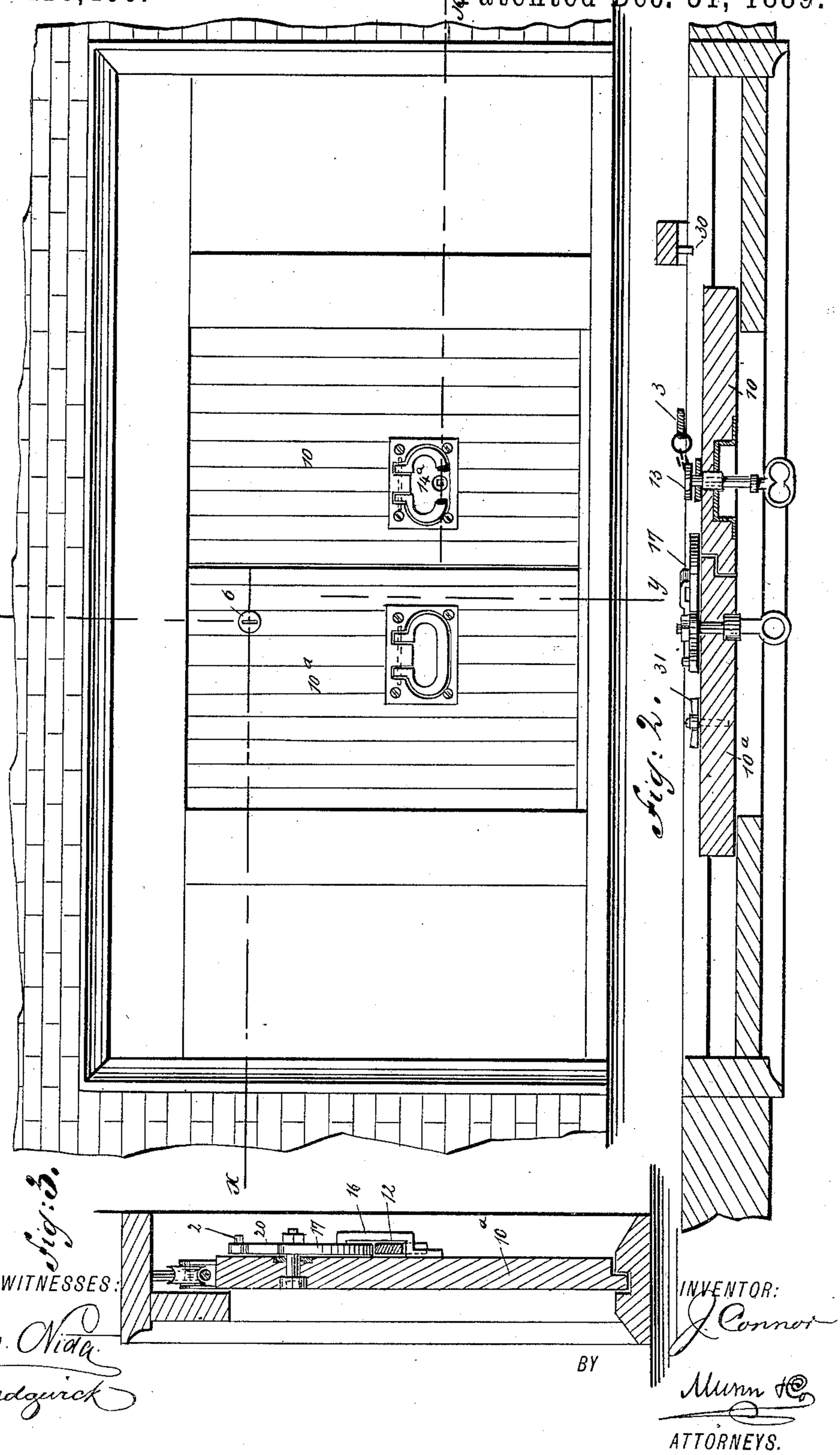
(No Model.) 2 Sheets—Sheet 1.

J. CONNOR.

DOOR LOCK.

No. 418,400. Patented Dec. 31, 1889.



(No Model.) 2 Sheets—Sheet 2.

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Fig: 4.

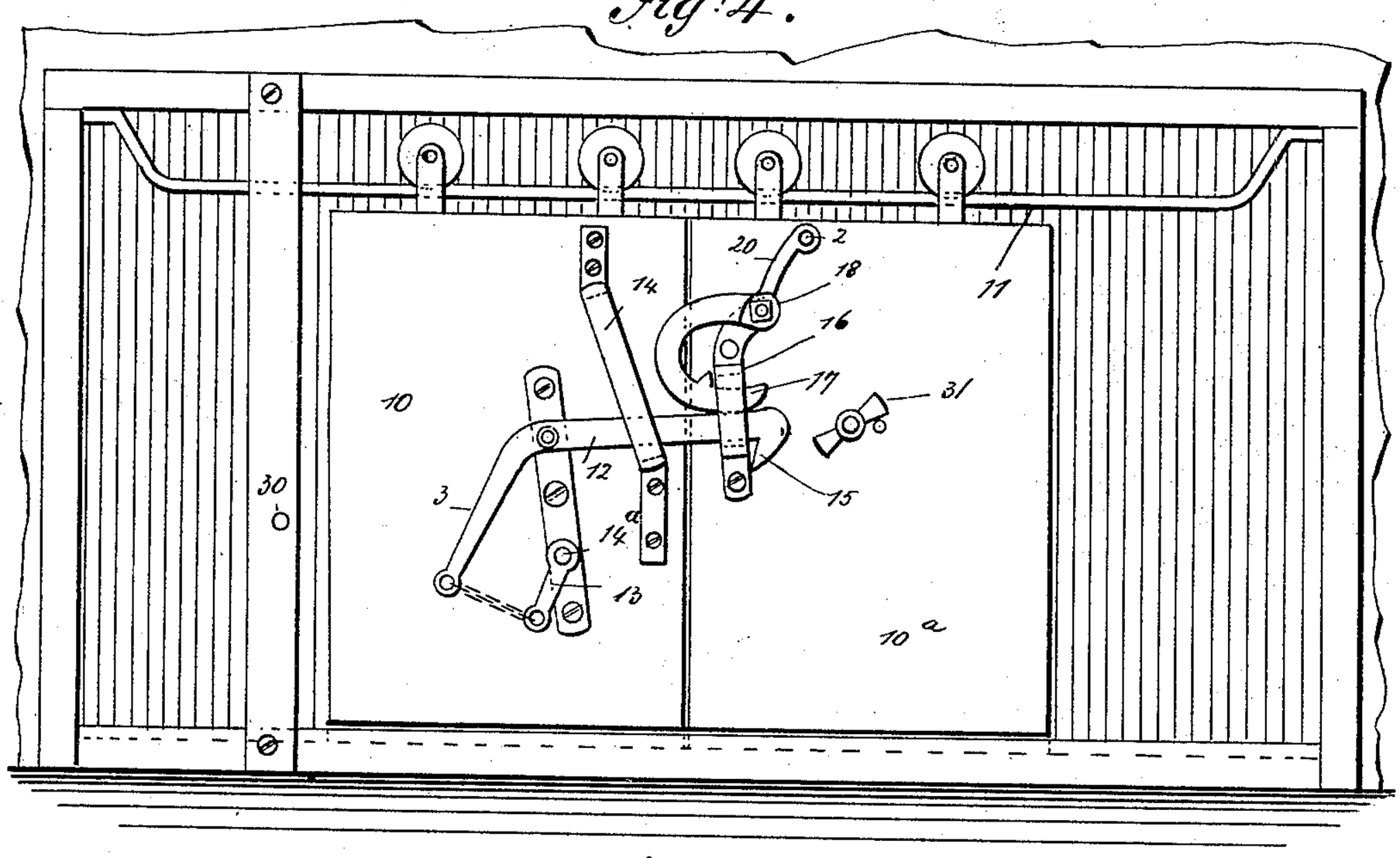
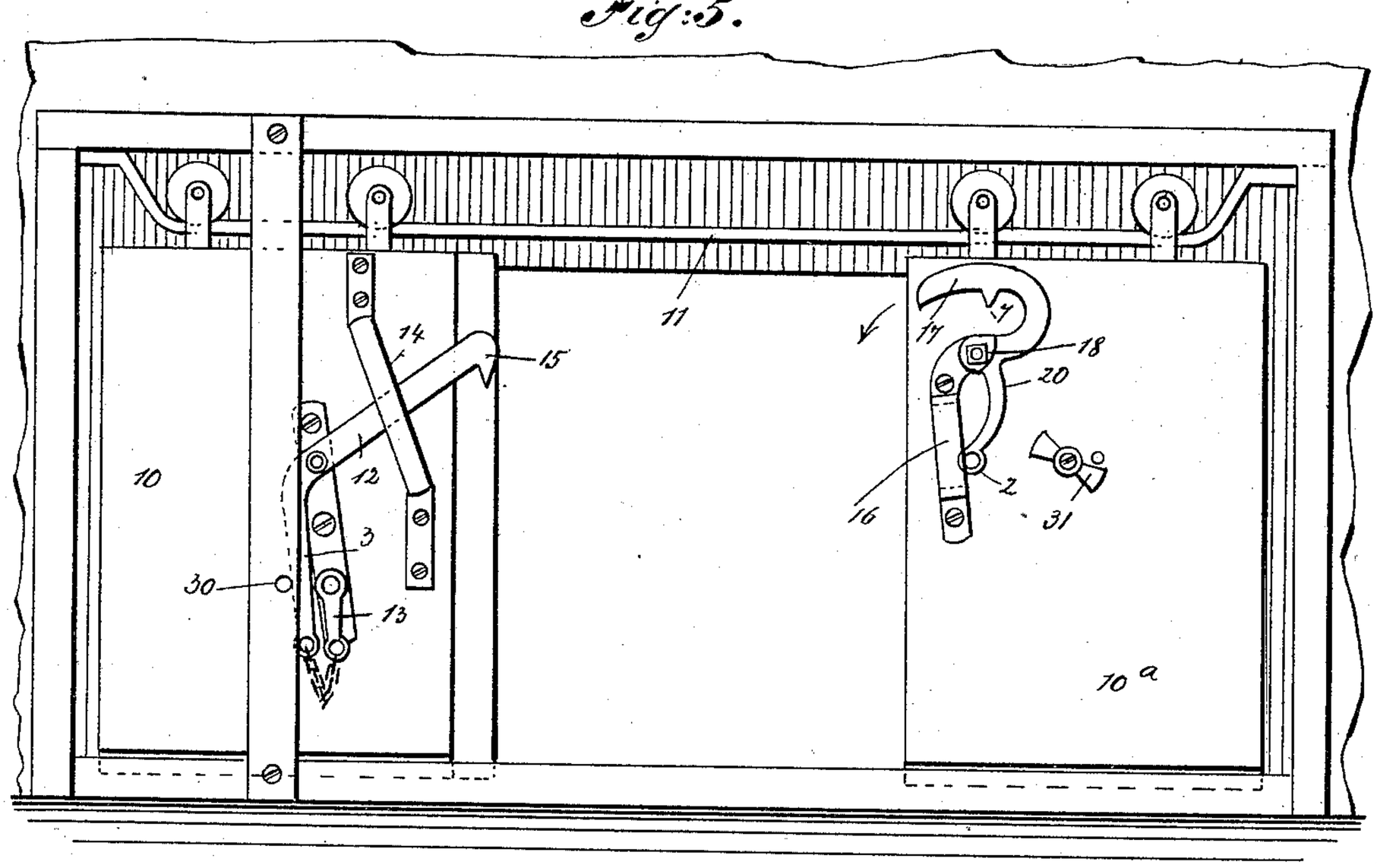


Fig: 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN CONNOR, OF WHITESTONE, NEW YORK.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 418,400, dated December 31, 1889.

Application filed August 13, 1889. Serial No. 320,570. (No model.)

To all whom it may concern:

Be it known that I, JOHN CONNOR, of Whitestone, in the county of Queens and State of New York, have invented a new and Improved Door-Lock, of which the following is a full, clear, and exact description.

This invention relates to door-locks, the object of the invention being to provide a lock for stable-doors, wherein the parts shall be so arranged that upon the closing of the doors such doors will not only be latched, but the latch will be locked and held against displacement.

To the ends above named the invention consists of certain novel constructions, arrangements, and combinations of elements to be hereinafter fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a face view of a door embodying my invention. Fig. 2 is a sectional plan view on line *x x* of Fig. 1. Fig. 3 is a cross-sectional elevation on line *y y* of Fig. 1. Fig. 4 is a view of the inner side of the door, the parts being represented as they appear when in the locked position; and Fig. 5 is a view of the parts as they appear when the door is open.

In the drawings above referred to I have illustrated my lock proper upon an enlarged scale that is altogether out of proportion with the doors in connection with which the lock is shown, this method of illustration being employed to clearly disclose the construction of the lock.

In the drawings, 10 and 10^a represent two stable-doors that are mounted in the ordinary manner upon an overhead track or way 11. Upon one of the doors (preferably the door 10) I pivotally mount a catch-arm 12. This catch-arm 12 is guided in any proper manner—for instance, as by a strap 14—and when in the position in which it is shown in the drawings extends some distance beyond the edge of the door, a catch-hook 15 being formed upon the extreme end of the catch-arm 12. The inner end of the catch-arm 12 is carried downward, as shown at 3, and this end is connected to a short arm 13, that is rigidly mounted upon a key-shaft 14^a, which extends outward through an escutcheon secured to the outer face of the door, or through an aperture that is formed in the door-handle plate, as shown in Fig. 1.

Upon the door 10^a is mounted a keeper 16, with which the catch-hook 15 engages, and above the keeper I mount a gravity-hook 17, such hook being rigidly connected to a key-shaft 18. The gravity-hook 17 is formed with an arm 20, and this arm has a lateral projection 2, the arrangement being such that if the gravity-hook be adjusted to the position in which it is shown in Fig. 5 the hook 15 in entering the keeper 16 will strike such projection or arm and carry the gravity-hook forward, in the direction of the arrow shown in Fig. 5, until the hook assumes the position in which it is shown in Fig. 4.

In order that the catch-hook 15 (which otherwise would extend beyond the edge of the door 10 when the door is open) may be carried so as to be within or practically within the edge, I provide a stop 30, against which the downwardly-extending projection 3 of the catch-arm 12 bears as the door is moved to open the doorway, and as this projection 3 bears against the stop 30 the catch-arm will be moved to the position in which it is shown in Fig. 4. This is a material advantage, inasmuch as with the ordinary form of catch animals passing in and out of the door are liable to serious injury, and the catch is is also frequently in the way of vehicles, the wheels catching upon it; but these inconveniences I avoid by moving the catch upward, as shown.

In operation the parts would be adjusted as represented in Fig. 5, except that a turn-button 31 should at this time be in the position in which it is shown in Fig. 4.

The parts having been adjusted as just above described, it follows that if the doors be closed the catch-hook 15 will engage the keeper 16 and the gravity-hook 17 will assume the position in which it is represented in Fig. 4, and all rising of the catch-arm will be prevented. If, however, as would sometimes happen, it is desired simply to close the door and not to lock it, the turn-button 31 would be moved to the position in which it is shown in Fig. 5, and then the gravity-hook would be held from turning down, so that its point passed inward above the catch-arm 12.

To prevent any undue inward movement of

the gravity locking-hook, I form such hook with a shoulder 7, which bears against the keeper, as represented in Fig. 4, when the hook is in the locking position.

The parts being in the position in which they are shown in Fig. 4, may be unlocked by bringing a proper key into engagement first with the key-post 18, which extends outward through an escutcheon 6, this key being turned to carry the gravity locking-hook to the position in which it is shown in Fig. 5, and then after the hook has been so moved a second key is brought into engagement with the key-shaft 14ª, and such shaft is turned to raise the catch-arm.

From the above description it will be seen that the door may be latched, or latched and locked automatically, as may be desired by the operator.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, in a fastening for sliding doors or gates, of a catch-arm pivoted between its ends, hooked at its forward end to engage a keeper, and having a downwardly-inclined rear end, of a stationary stop in the path of said rear end to swing the forward end of the catch-arm vertically, substantially as set forth.

2. The combination, with the keeper and the catch-arm pivoted between its ends and hooked at its forward end to engage said keeper, of a key-shaft having an arm 13, and a flexible connection between the said arm and rear end of the catch-arm, substantially as set forth.

3. The combination, with the catch-arm and its keeper, of a pivoted gravity locking-hook 17, normally elevated above the keeper and provided with a downwardly-extending arm 20 in the path of the catch-arm, whereby when said arm is struck the hook will be thrown downwardly into the keeper over the catch-arm, substantially as set forth.

4. The combination, with the catch-arm and its keeper, of a gravity locking-hook 17, having a downwardly-extending arm 20 in the path of the catch-arm, and a turn-button 31, adapted to be turned to engage said arm 20, substantially as and for the purpose set forth.

5. The combination, with the catch-arm and its keeper, of the key-shaft 18 at the upper end of the keeper, the gravity locking-hook 17, secured rigidly to the key-shaft and provided with a downwardly-extending arm 20 in the path of the catch-arm, and a stop 2 on said arm, substantially as set forth.

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Witnesses:
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