

P. C. MANGOLD.
 LOCK.
 APPLICATION FILED OCT. 10, 1911.

1,039,158.

Patented Sept. 24, 1912.

Fig. 1.

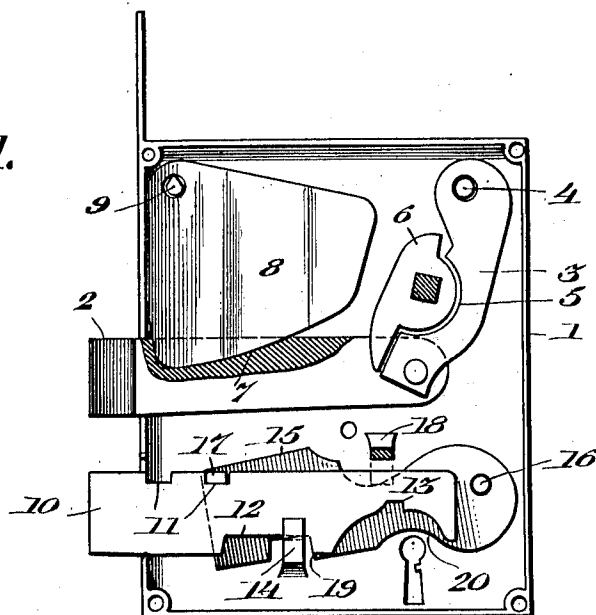


Fig. 2.

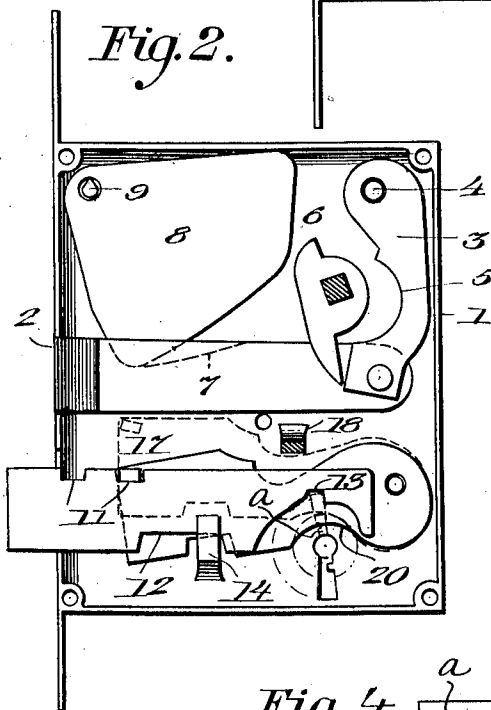


Fig. 3.

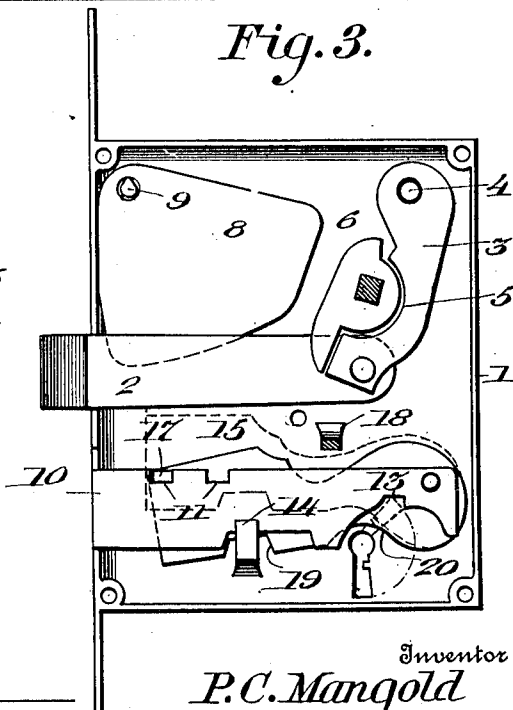
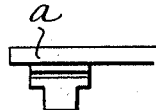


Fig. 4



Witnesses
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LOCK.

1,039,158.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PETER C. MANGOLD, a citizen of the United States, residing at Carrolltown, in the county of Cambria and State of Pennsylvania, have invented new and useful Improvements in Locks, of which the following is a specification.

The purpose of this invention is to supply a lock embodying latch and lock bolts adapted to be operated by gravity and requiring a minimum number of parts for their operation.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawing, and pointed out in the appended claim.

Referring to the drawing, forming a part of the specification, Figure 1 is a view of the lock having the cap plate removed and showing the interior, the parts being arranged in the position which they occupy when both the latch bolt and the lock bolt are projected. Fig. 2 is a view similar to Fig. 1, showing the position of the parts when the latch bolt is retracted. Fig. 3 is a view showing the position of the parts when the lock bolt is retracted and the latch bolt projected. Fig. 4 is a side view of an end portion of the key for operating the lock.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawing, by same reference characters.

The lock case 1 may be of usual construction and its open side is adapted to be closed by means of a cap plate in the manner well understood. The latch bolt 2 is pivotally connected to a link 3 which is pivotally connected at 4 to the lock case, the link 3 having a semi-circular recess 5 in one edge to receive a portion of the latch bolt operator 6, the part 6 having oppositely extending projections to engage parts of the link 3 at opposite sides of the recess 5. The latch bolt has a depression 7 in its upper edge to receive the lower forward corner of a weight 8 which is fulcrumed at 9 upon a knife edge pivot of the case 1. The front edge of the weight 8 is adapted to engage the inner wall of the face plate of the lock case, thereby limiting the forward movement of the weight and the projection of the latch bolt. When the latch bolt is

retracted the weight 8 is caused to turn upon the knife edge pivot 9, the upper portion of the weight engaging the upper part of the lock case and thereby limiting the inward movement of the latch bolt. The weight 8 is of sufficient mass to insure projection of the latch bolt and positive and effective operation thereof.

The lock bolt 10 has two notches 11 in its upper edge and a notch 12 in its lower edge. The lower rear portion of the lock bolt is cut away to receive the nib of a key *a* so as to project or retract the lock bolt in the operation thereof. A notch 13 receives the nib of the key, thereby enabling the same to positively move the lock bolt in either direction. A stud 14 enters the notch 12 and limits the throw of the lock bolt. The tumbler 15 for securing the lock bolt in either a projected or retracted position is pivoted to the lock case at 16 and has a laterally extending stud 17 at its upper forward corner to enter one or the other of the notches 11 to secure the lock bolt in either one of its extreme positions. A stud 18 projecting laterally from the lock case extends over the tumbler to limit the upward movement thereof. The tumbler has a notch 19 in its lower edge to receive the stud 14 and its lower rear portion is cut away, as indicated at 20, to receive the nib of the key, which bears upon either edge bordering upon the notch 20 to lift the tumbler to disengage the stud 17 from either one of the notches 11 preliminary to movement of the lock bolt either when projecting or retracting the same.

From the foregoing, taken in connection with the accompanying drawing, it will be readily understood that the invention provides a lock of the gravity type in which the parts are positive in action and are few in number, thereby supplying a lock which is both durable and not liable to derangement and which is effective and satisfactory in operation.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the embodiment thereof, I desire to have it understood that the device

shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claim appended hereto.

5 Having thus described the invention what is claimed as new, is:—

10 In a lock, the combination of a latch bolt having a longitudinal depression in its upper side, a weight pivotally supported at its upper forward corner and having its lower forward corner entering the recess of the latch bolt, a link pivotally connected at its lower end to the rear end of the latch bolt and pivotally connected at its upper

end to the lock case, said link having a semi-circular recess in its forward edge and having projecting portions at opposite sides of said recess, and a latch bolt operator having a part entering the semicircular recess of said link and provided with opposite projections to engage with parts of the link adjacent the semicircular recess thereof. 15 20

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

PETER C. MANGOLD.

Witnesses:

JOSEPH B. WISTNER,
FRANK N. DONAHUE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
