

J. H. SHAW.
LOCK.

APPLICATION FILED APR. 10, 1911.

1,062,043.

Patented May 20, 1913.

2 SHEETS-SHEET 1.

Fig 1.

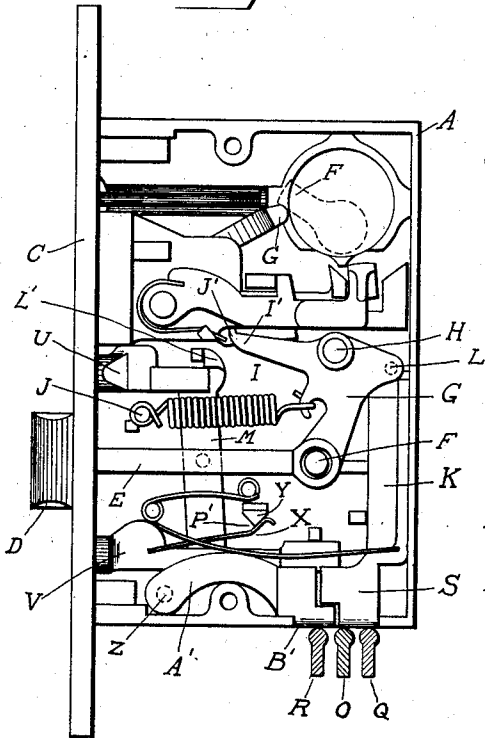


Fig 2.

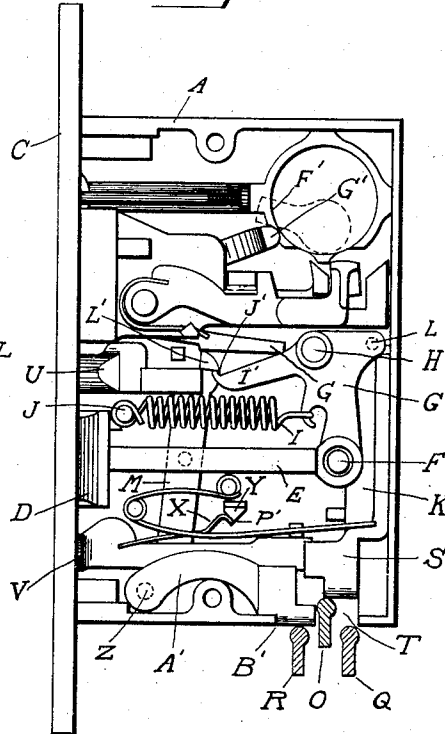


Fig 3.

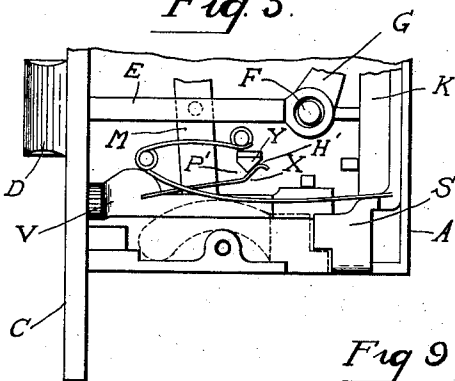


Fig 5.

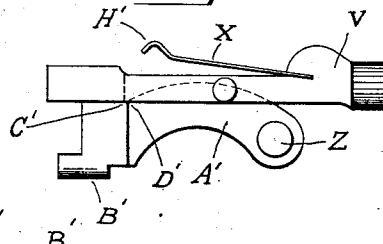
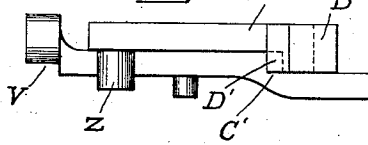


Fig 9.



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2 SHEETS—SHEET 2.

Fig. 6.

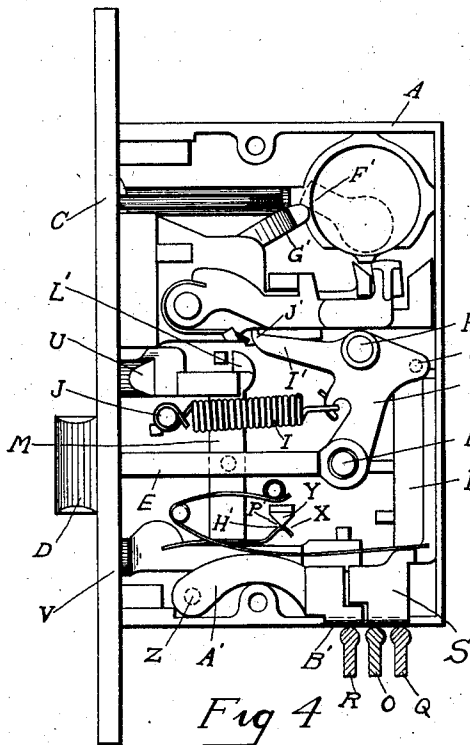


Fig. 7.

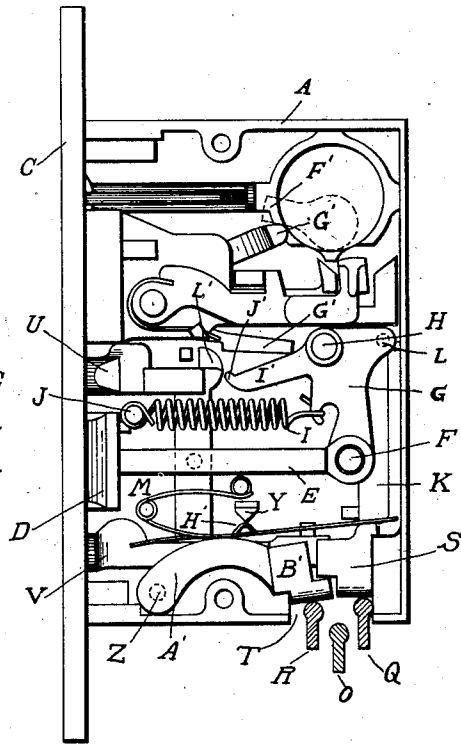


Fig. 4

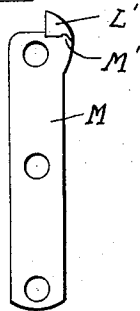
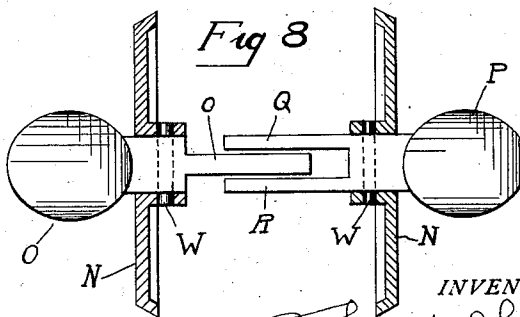


Fig. 8



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LOCK.

1,062,043.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed April 10, 1911. Serial No. 620,138.

To all whom it may concern:

Be it known that I, JOHN H. SHAW, of the city and county of New Haven, State of Connecticut, have invented new and useful
5 Improvements in Locks, of which the following is a full, clear, and exact description, when taken in connection with the accompanying drawings, which form a part thereof, and in which—

10 Figure 1 is a side elevation of the lock with the cap plate removed, and showing the latch bolt protracted; Fig. 2, a similar view showing the latch held in retracted position, and the latch bolt operating means
15 raised by the inside thumb piece; Fig. 3, a detail of the lower part of the mechanism showing the pivoted stop member for the outside lever in dotted lines; Fig. 4, a detail of the walking beam connecting the two
20 push stops; Fig. 5, a reverse view of the blocking or checking lever; Fig. 6, a view similar to Fig. 1 showing the thumb stops in midway position and the latch bolt protracted; Fig. 7, a view similar to Fig. 6,
25 showing the latch bolt retracted by the depression of the outside thumb piece; and Fig. 8, a horizontal section through the thumb pieces employed to operate the latch.

In all figures, similar letters of reference
30 represent like parts.

The object of this invention is to provide thumb stop controlled means whereby in one position of the thumb stop a latch bolt may be held retracted to permit a door to be
35 opened and shut without latching, and whereby in another position of the thumb stop, the latch is free, but the thumb piece lever forming the outside operating device for the latch is blocked against operation,
40 thus preventing the opening of the door from the outside, by the thumb piece lever, but permitting its operation by a suitable key, and whereby in a third position of the thumb stop the latch is free and may be
45 operated from either side by the thumb pieces. To attain these ends and others, my invention consists of the improvements and combinations of parts hereinafter set forth.

My invention is illustrated and described
50 as preferably applied to a store door lock of the construction set forth in the application of Michael J. Mara, No. 619,083, filed April 5, 1911, although it may be used in connection with locks of other form as well.

55 The part designated by the letter A represents

sents the casing of a mortised lock, and C its face plate. Through the face plate projects a bolt D having a rearwardly projecting bar E pivoted at F to a lever G which is pivoted
60 at H to the casing, and a coiled spring I secured at one end to the lever G, and at the other to a stump J in the casing normally tends to hold the lever G in the position shown in Fig. 1 in which the latch bolt D is
65 protracted.

A push bar K is located within the casing, and at its upper end bears against a pin L projecting from lever G, so that the
70 upward movement of the push bar K will swing the lever G on its pivot H against the tension of the spring I and retract the latch bolt D.

Pivoted at W in the escutcheons N on either side of the door are store door levers or thumb pieces O and P, the thumb piece O
75 being located on the inside of the door, and the thumb piece P on the outside. The inner end of the thumb piece O is of the usual construction, but the inner end of the thumb piece P is forked, as shown more particularly in Fig. 8, its tines Q and R being
80 adapted to fit on either side of the inner end of the thumb piece O.

The lower end S of the push bar K is adapted to project into a slot or opening T,
85 on the under side of the casing A and is engaged therein by the inner end of the thumb piece O on the inside of the door, and also the tine Q of the thumb piece P on the outside of the door, so that upon depressing
90 the thumb pieces O or P the push bar K will be raised, and as already pointed out, the latch bolt D retracted.

Projecting through the face plate C of the lock are stops U and V connected by the
95 usual walking beam M, so that when the stop V is pushed in (Figs. 1 and 3) the stop U will be forced outward and vice versa. The stop V is provided with a spring X adapted to engage a lug Y in the casing to
100 normally hold the stop in either its protracted or retracted positions.

Pivoted at Z in the casing A is a checking lever A', the outer end B' of which is adapted to project into the opening T in the
105 under side of the casing A and therein be engaged by the tine R of the thumb piece P on the outside of the door (Figs. 1, 2, 6 and 7). When the stop V is retracted, a shoulder C' (Fig. 9) is adapted to come into
110

contact with a shoulder D' on the upper side of the checking lever A' (Fig. 7) and prevent the rotation of the checking lever A' on its pivot. Whenever the checking lever A' is thus held by the retraction of the stop V, the tine R of the thumb piece P is also held against upward movement, and consequently the tine Q cannot raise the push bar K.

The construction above described is the same as that set forth on the Mara application heretofore referred to.

The new features of my invention will now be described.

The lever G is provided with an elongated arm I' having a hook J' at its end with which is adapted to engage a complementary hook formed on the inner edge of a stud L' projecting outwardly from the end of the walking beam M. The stud has a curved inner face M'. The spring X which is attached to the stop V has a shoulder H' adapted to ride against the stud Y, which has two beveled edges meeting in an edge P'. The shoulder is adapted to bear against one face or the other of said stud member in order to hold the thumb push stop in protracted or retracted position.

When it is desired to have the lock in such position that neither the latch bolt shall be retracted nor the outside thumb piece locked against movement, the stud V is moved to a half way position with the shoulder H' bearing against the edge of the beveled stud Y. In this position of the parts, the latch bolt will engage its keeper and the latch bolt may be operated by the thumb piece on either the outside or inside of the casing. In this position of the push stops, the stud L' on the upper end of the walking beam will be held out of the path of the arm I' of the rocking lever G.

When the lower thumb stop V is in its inwardly retracted position, its shoulder C' will be in engagement with the shoulder D' of the pivoted blocking or checking member A', thus preventing the movement of the latter. In this position of the parts the depression of the thumb piece O on the inside of the door may raise the push bar K and retract the latch bolt D, but the thumb piece P on the outside of the door cannot be depressed because its tine R is dogged by the locked blocking or checking lever A'. Consequently, the thumb piece P cannot be operated to raise the push bar K and retract the bolt.

Whenever the upper thumb stop is in fully protracted position and the lower thumb stop fully retracted, the checking lever A' is fixed against movement, and consequently the outside thumb piece cannot be operated to retract the latch bolt. But the rotation of the key operated cylinder lock bit F' from the outside of the casing

may be means of the lever G' rotate the lever G, and thus retract the latch bolt.

In order to fix the latch bolt in retracted position, so as to permit the door to swing open and shut without latching, the inner thumb piece lever O is depressed, thus raising the push bar K and rocking the lever G so as to carry the hook J' at the end of the arm I' below the level of the hooked stud of the walking beam M. While holding the rocking lever G in this position, through pressure on the inside thumb piece, the upper push stop U is pressed inwardly which carries its hooked stud L' above and into engagement with the hook J' of the arm I' of the lever G, holding said lever arm in its lower position, and thereby holding the latch bolt which is connected to another arm of said lever, in retracted position.

When the thumb stop V is again pressed in, the stop U is of course thereby pushed outward, releasing the latch bolt, while at the same time the stop V locks the checking lever A' again.

Of course, it is understood that in the broader aspects of the invention the latch bolt manipulating devices at the respective sides of the door may be knobs instead of thumb-pieces.

Having thus described my invention, what I claim is:—

1. In a latch, a case, a latch bolt therein, means to retract said latch bolt, and means to dog and release said retracting means directly, including a thumb-stop having provision for holding the latch bolt in retracted position; substantially as described.

2. In a latch, in combination with a latch bolt, a lever pivoted to the inner end thereof, said lever having an arm provided with a hook, a thumb push member, and a hook adapted to be carried into engagement with the lever hook by said push member to hold the latch bolt retracted, substantially as described.

3. In a latch, a case, a latch bolt therein, manual retracting means for said latch bolt, and manually adjustable means accessible at the exterior of the case, having one position in which it dogs said retracting means and another position in which it holds said latch bolt retracted; substantially as described.

4. In a latch, a case having a face plate, a latch bolt projecting through the face plate, manual retracting means for said latch bolt, and manually adjustable slide mechanism projecting through the face plate and having one position in which it dogs said retracting means and another position in which it holds said latch bolt retracted; substantially as described.

5. In a latch, a case, a latch bolt therein, separate manual retracting devices for said latch bolt at opposite sides of the door, and

night latch mechanism for dogging one of said devices directly, comprising a thumb-stop projecting through the face of the case and having means to hold the latch bolt in retracted position; substantially as described.

6. In a latch, in combination with a casing, a latch bolt, a thumb piece lever operable from the inside of the door only, a rocking lever connected to the latch bolt and operated by said thumb piece lever, a pair of thumb push stops, a walking beam connecting the same, and having a hook member at its upper end, said rocking lever having an arm adapted to project below said hook member, one of said push stops being operable to carry the hook member into locking engagement with said arm, substantially as described.

7. In a latch, in combination with a latch bolt, operating means therefor, a thumb piece engaging said latch bolt operating means, means for stopping said thumb piece, and means for holding said latch bolt in retracted position, substantially as described.

8. In a latch, in combination with a latch bolt, operating means therefor, a thumb piece lever engaging said operating means, a thumb stop for holding said bolt in retracted position, and a thumb stop for stopping said thumb piece lever, substantially as described.

9. In a latch, in combination with a casing, a latch bolt, pivoted inner and outer thumb pieces to retract said latch bolt, means to lock said latch bolt in retracted position, and means operable from the outside of the casing by a key only for retracting said latch bolt when said locking means is out of operation, substantially as described.

10. In a latch, in combination with a casing, an outside thumb piece lever, a latch bolt, latch bolt operating means in contact with said lever, a stop for said lever, means to lock said latch bolt in retracted position, and means to simultaneously set said stop means in operative position and release said lock means, substantially as described.

11. In a latch, in combination with a casing, a latch bolt, operating means for said latch bolt, an outside thumb piece in engagement with said operating means, a stop for said thumb piece, means to hold said latch bolt in retracted position, and connected thumb push stops having means to simultaneously release said bolt-holding means and move said stop into operative position, substantially as described.

12. In a latch, in combination with a casing, a latch bolt, latch bolt operating means, a movable member adjacent to said operating means, a thumb piece lever operable from the outside of the casing and having common engagement with said operating means and movable member, a stop to en-

gage said movable member, means to lock the latch bolt in retracted position, and a thumb stop means operable to actuate said stop whenever said locking means is released, substantially as described.

13. In a latch, in combination with a latch bolt, means for locking the latch bolt in retracted position, means for operating the latch bolt, a thumb piece for operating said operating means, a stop for said thumb piece, means for simultaneously operating said stop and releasing said lock, and means for simultaneously holding both of said stops and lock out of operation, substantially as described.

14. In a latch, in combination with a door, a latch bolt, means for locking the latch bolt in retracted position, means for operating the latch bolt, a thumb piece operable from the outside only of the door, stop means for preventing the operation of said thumb piece, and means for operating the latch bolt from both sides of the door independently of the locking and stop means, substantially as described.

15. In a latch, in combination with a latch bolt, means for locking the latch bolt in retracted position, operating means for the latch bolt, manual actuating means for the operating means, stop means for said actuating means, thumb stop means for operating said locking means and said stop means, and means to hold said thumb stop means in inoperative position, substantially as described.

16. In a latch, in combination with a latch bolt, a plurality of manual operating members therefor, and a thumb stop operable in one position to permit the free movement of the latch bolt and the plurality of operating members, and in another position to hold said latch bolt retracted, and in still another position to free the latch bolt and prevent the operation of one of the operating members, substantially as described.

17. In a latch, in combination with a latch bolt, an operating device therefor at one face of the door, means to hold said latch bolt in retracted position, and means to release said bolt and simultaneously dog said operating device; substantially as described.

18. In a latch, the combination of a latch bolt, a manual retracting device therefor, a detent member to hold said latch bolt retracted, and a dogging member for said retracting device which releases said bolt from said detent member; substantially as described.

19. In a latch, the combination of a latch bolt, a manual retracting device therefor, and night latch mechanism to dog said retracting device, including a dogging member, and a releasing member for said dogging member having means to hold the latch bolt retracted; substantially as described.

20. In a latch, the combination of a latch bolt, a manual retracting device therefor, a dogging member for said retracting device, and means operable upon a simultaneous actuation of said dogging member and said retracting device to hold the latch bolt retracted; substantially as described.

21. In a latch, the combination of a latch bolt, a manual retracting device therefor, a member to dog said retracting device, and means operable upon retraction of the latch bolt and a simultaneous releasing movement of said dogging member, to hold the bolt retracted; substantially as described.

22. In a latch, in combination with a latch bolt, an operating device therefor at one face of the door, and mechanism to dog and release said operating device, operable when the latter is released to lock said latch in retracted position; substantially as described.

23. In a latch, in combination with a latch bolt, inner and outer thumb pieces for op-

erating the same, stop-work mechanism for the outer thumb-piece, and means operable upon a simultaneous actuation of the inner thumb piece and said stop-work mechanism to lock the bolt in retracted position; substantially as described.

24. In a latch, in combination with a latch bolt, inner and outer thumb-pieces for operating the same, stop-work mechanism for the outer thumb-piece, and means to lock said bolt in retracted position, operable upon a depression of the inner thumb-piece and a simultaneous movement of said stop-work mechanism to a position in which it frees the outer thumb-piece; substantially as described.

In witness whereof, I have hereunto set my hand on the 1st day of April, 1911.

JOHN H. SHAW.

Witnesses:

FREDK. N. CLARK,

BERTHA RAY.

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