Feb. 10, 1931. M. LEVENTHAL 1,791,900

LOCK

Filed Feb. 21, 1928

Fig. 1.

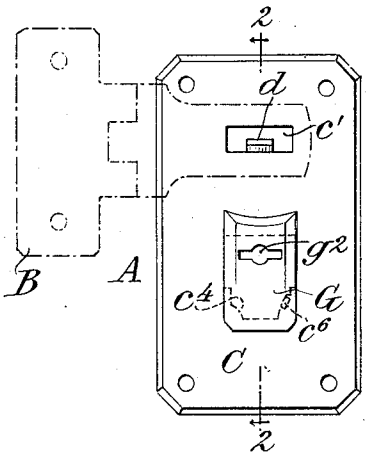


Fig. 3.

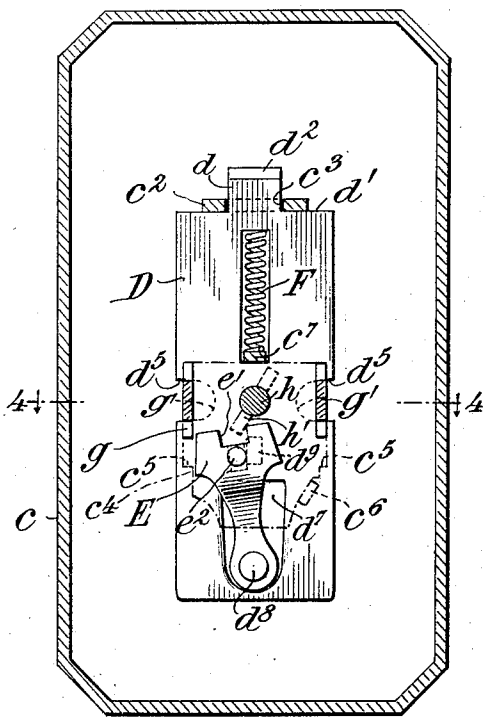


Fig. 2.

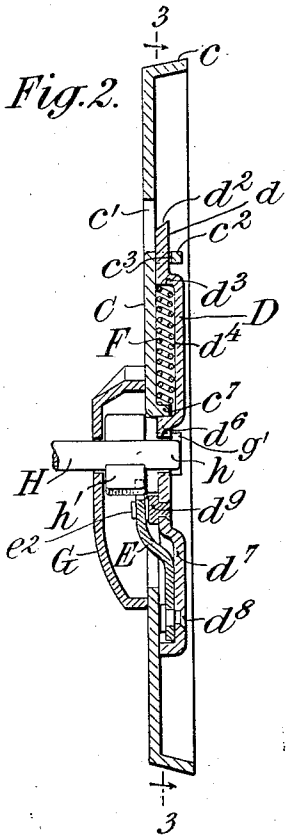
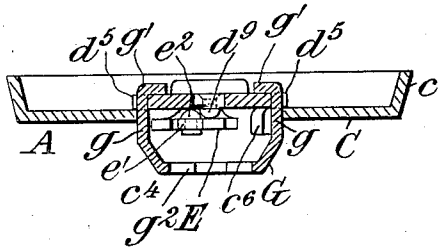


Fig. 4.



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UNITED STATES PATENT OFFICE

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LOCK

Application filed February 21, 1928. Serial No. 255,899.

The present invention relates to locks, and more particularly to locks of the spring pressed draw bolt type, and aims to provide certain improvements therein.

An object of the present invention is to provide a lock of the type described which is exceedingly simple and sturdy in construction and which admirably lends itself to mass production.

Another object of the invention is to provide a lock of the type described wherein the entire lock mechanism is carried by the draw bolt.

A further object of the invention is to provide a lock of the type described which does not require a separate housing for the lock mechanism or any reinforcing means for preventing inward displacement of the bolt.

A still further object is to provide a lock of the type described wherein the draw bolt is guided and held against inward displacement by an integral perforated lip struck up from the cover plate. Other objects and features of novelty of the invention will be made apparent from the following detailed description.

A preferred embodiment of my invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a front elevation of a lock embodying my invention.

Fig. 2 is a longitudinal section taken along the plane of the line 2—2 of Fig. 1.

Fig. 3 is a longitudinal section taken substantially along the plane of the line 3—3 of Fig. 2.

Fig. 4 is a transverse section taken substantially along the plane of the line 4—4 of Fig. 3.

Referring to the drawings, let A indicate the lock as a whole and B any form of hasp adapted to be used with this type of lock. The lock A consists of the following elements; a cover plate C, a draw bolt D, a tumbler E, a spring F and an escutcheon G.

The cover plate C may have any desired outline, and is preferably of substantially flat form and provided about its perimeter with an inturned flange c. In its face it is provided with a hasp opening c' which is preferably formed by inwardly striking up a lip c^2 at right angles to the face plate, as best shown in Fig. 2. The lip c^2 is formed with an opening c^3 adapted to serve the dual purposes of providing a guide for the draw bolt D and for restraining said draw bolt against inward displacement. A second opening c^4 is provided approximately centrally of the cover plate C, through which opening from the rear side of the plate the tumbler E extends and is movable. The side walls of the opening c^4 are formed with shoulders c^5, which together with the top wall of said recess are adapted to cooperate with inwardly projecting portions g, g of the escutcheon for a purpose which will be hereinafter made apparent. The plate C is also provided with a bent up lip or abutment c^6 for cooperation with the tumbler E as will be apparent from the description which follows.

The draw bolt D is preferably in the form of a flat piece of metal adapted to slide against the back of the cover plate and provide a closing for the rear of the opening c^4 therein, and is formed with a reduced outwardly extending tongue d at one end which normally is held projected through the opening c^3. Said tongue forms with the body of the bolt a shoulder d' which by engagement with the lip c^2 limits the outward throw of the bolt. Preferably, the extreme outer edge of the tongue is bevelled as shown at d^2 to facilitate the entrance of the hasp ring. The bolt is normally held in its outwardly projected or latched position by the spring F acting between an abutment c^7 on the rear of the plate C and a shoulder d^3 on the bolt. Preferably, the spring is held against displacement by being housed within a recessed or depressed portion of the bolt, as best shown at d^4. The opposite lateral edges of the bolt approximately midway of their length are recessed or nicked as shown at d^5 to accommodate inward projections g' of the escutcheon, which projections are bent over the back of the bolt as best shown in Fig. 4 to provide an attachment between the escutcheon G and the bolt D. An opening d^6 is formed approximately centrally of the

bolt and is designed to accommodate the pin h of a key H. Near its end opposite to that which carries the tongue d the bolt is provided with a recessed or depressed portion d^7 within which is housed a portion of the tumbler E by having one end thereof riveted to the bolt, as best shown at d^8. For cooperation with the tumbler so as to hold it in either latched or unlatched position the bolt carries a projection d^9 herein shown in the form of a headed rivet.

The tumbled E is of ogee form in longitudinal section as best shown in Fig. 2, the lower portion of said tumbler being pivotally mounted on said bolt by means of rivet d^8 and housed within the recessed portion d^7 of the bolt. The opposite end of the tumbler extends through the opening c^4 in the cover plate into the back of the escutcheon within which it is housed. Said end is preferably enlarged and formed with a recess or kerf e' in its top edge to accommodate the bit h' of the key, by means of which the tumbler may be turned on its axis to either the right or left. In Figs. 3 and 4 the tumbler is shown as turned to the left, in which position it is completely out of engagement with the plate C and hence may be moved a limited distance downwardly relative thereto. In this position the draw bolt is in unlocked position and may be moved downwardly against the action of spring F to withdraw the tongue d out of engagement with the lock hasp. When the tumbler is turned by the key to its extreme right position it will engage against the abutment c^6 and will be incapable of any downward movement. In said position the bolt is locked in latching position. As will best be seen from Figs. 3 and 4, the tumbler is provided with an abutment e^2 adapted to cooperate with the head of the projection d^9 to provide latching means for holding the tumbler in set position. To accommodate the movement of the head e^2 over the projection d^9, it will be apparent that the tumbler must have a limited amount of play in the direction of the axis of its pivotal mounting.

The escutcheon G may be of any desired configuration, and is preferably in the form of a stamped boxing adapted to provide a suitable finger engagement for moving the bolt rearwardly, and of a size to provide a closing for the front face of the opening c^4. The inner edges of the escutcheon seat against the outer face of the plate C and are slidable thereon through a range limited by the play between the shoulders c^5 and the top edge of the opening c^4 and the inwardly extending portions g as hereinbefore set forth. The escutcheon as is conventional is provided with a key opening g^2 to accommodate the key H.

While I have shown and described a preferred embodiment of my invention it will be understood that I do not wish to be limited to the structure disclosed, as various modifications thereof may be resorted to without departing from the spirit of the invention.

What I claim is:

1. A lock comprising a cover plate, a flat draw bolt slidable against the back of the cover plate, a manually operable tumbler and a spring acting upon the draw bolt to hold it in latching position, said draw bolt having two recesses facing the back of the cover plate, one of said recesses housing the spring and the other housing the tumbler.

2. A lock comprising a cover plate having a substantially flat wall having an opening therein, a movable escutcheon closing the face of said opening and having parts passing through said opening, a flat draw bolt slidable against the back of said wall closing the rear of said opening in the cover plate and having the parts of the escutcheon which pass through the opening in the plate attached thereto, a key-operable tumbler carried by the draw bolt, a spring engaging between the cover plate and the draw bolt urging the latter to latching position, and an abutment on the cover plate for cooperation with the tumbler to hold the draw bolt in latching position.

3. A lock comprising a cover plate having an opening in its face, a movable escutcheon closing said opening and having parts engaging in said opening and cooperating with the walls of the opening to limit the movement of said escutcheon, a draw bolt, a spring acting upon the draw bolt to hold it in latching position, a key-operable tumbler, and an abutment on the cover plate for cooperation with the tumbler to hold the draw bolt in latching position against withdrawal.

4. A lock comprising a cover plate having an opening in its face, a movable escutcheon closing the face of said opening and having parts engaging in said opening and cooperating with the walls of the opening to limit the movement of said escutcheon, a substantially flat draw bolt closing the rear of said opening in the cover plate, a spring acting upon the draw bolt to hold it in latching position, a key-operable tumbler carried by and movable with the draw bolt, and an abutment on the cover plate for cooperation with the tumbler to hold the draw bolt in latching position against withdrawal.

5. A lock comprising a cover plate having an inwardly extending perforated lip and an opening in its face, a movable escutcheon closing the face of said opening, a spring pressed draw bolt slidable against the rear of said cover plate, said escutcheon having parts thereof engaging in said opening and cooperating with the walls thereof to limit the movement of said escutcheon, and parts engaging over the rear of the draw bolt whereby the escutcheon and draw bolt are

movable as a unit, said draw bolt having a tongue extending through the perforation in the lip, the engagements of the tongue in the lip and the parts of the escutcheon with the draw bolt acting to guide the draw bolt in its movement and to hold it against inward displacement.

6. A lock comprising a cover plate having an opening in its face, a draw bolt, a tumbler having a portion extending through the opening in the cover plate, and an escutcheon having a recessed back in which the portion of the tumbler which extends through the cover plate is housed.

7. A lock comprising a cover plate having an opening in its face, a draw bolt, a tumbler having an offset portion extending through the opening from the rear of the cover plate, and an escutcheon having a recessed back in which the offset portion of the tumbler is housed, the draw bolt, tumbler and escutcheon being movable as a unit relatively to the cover plate.

8. A lock comprising a cover plate having a rearwardly extending flange around its perimeter, a draw-bolt slidable against the back of the cover plate, and a spring acting upon the draw-bolt to hold it in latching position, said draw-bolt having a depressed portion providing a recess in its face adjacent the cover plate, which recess in cooperation with the back of the cover plate provides a closed housing for the spring, the depth of said housing being no greater than the depth of the cover flange.

9. A lock comprising a cover plate having a rearwardly extending flange around its perimeter, a spring pressed draw-bolt slidable against the back of the cover plate and a manually operable tumbler carried by and movable with the draw-bolt, said draw-bolt having recesses which in cooperation with the back of the cover plate provides a closed housing for the spring and the tumbler, the depth of said housing being no greater than the depth of the cover flange.

In witness whereof, I have hereunto signed my name.

MITCHELL LEVENTHAL.