No. 656,958. Patented Aug. 28, 1900.

W. E. EMERY.

LOCK.

(Application filed Jan. 15, 1900.)

(No Model.)

Fig. 1.

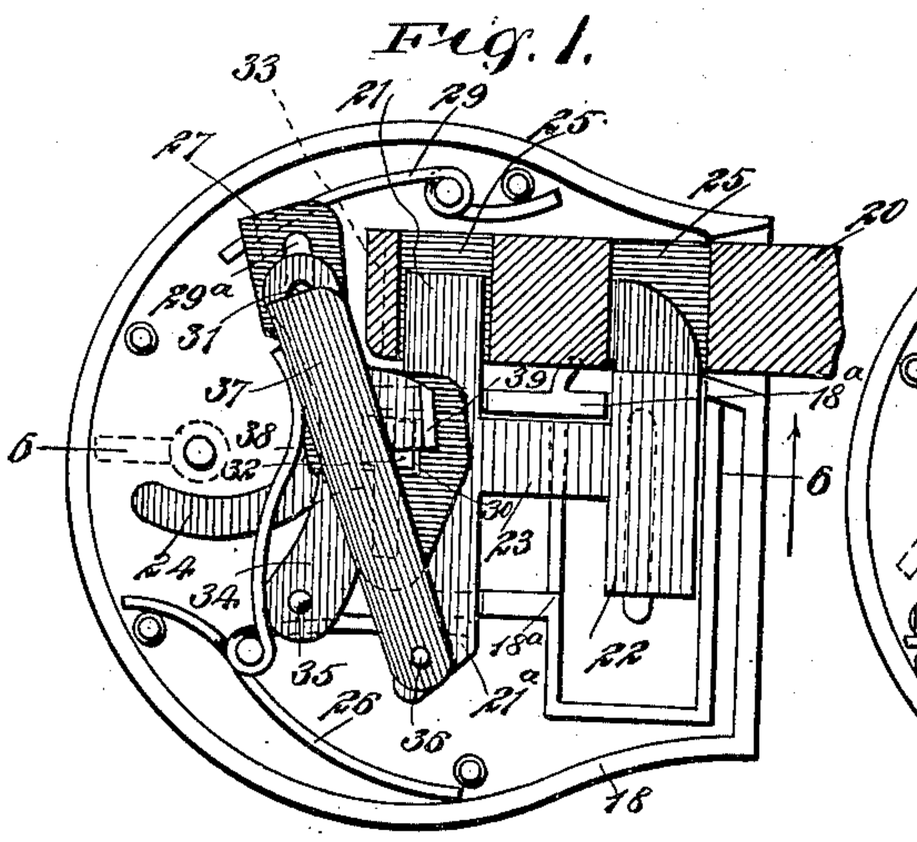


Fig. 2.

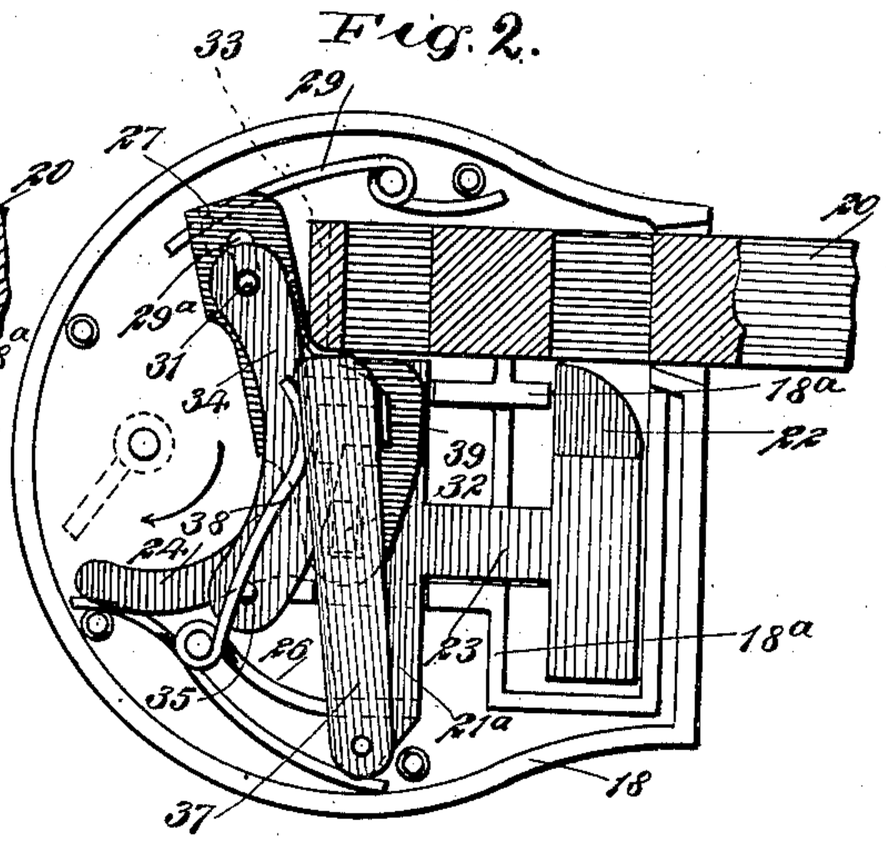


Fig. 3

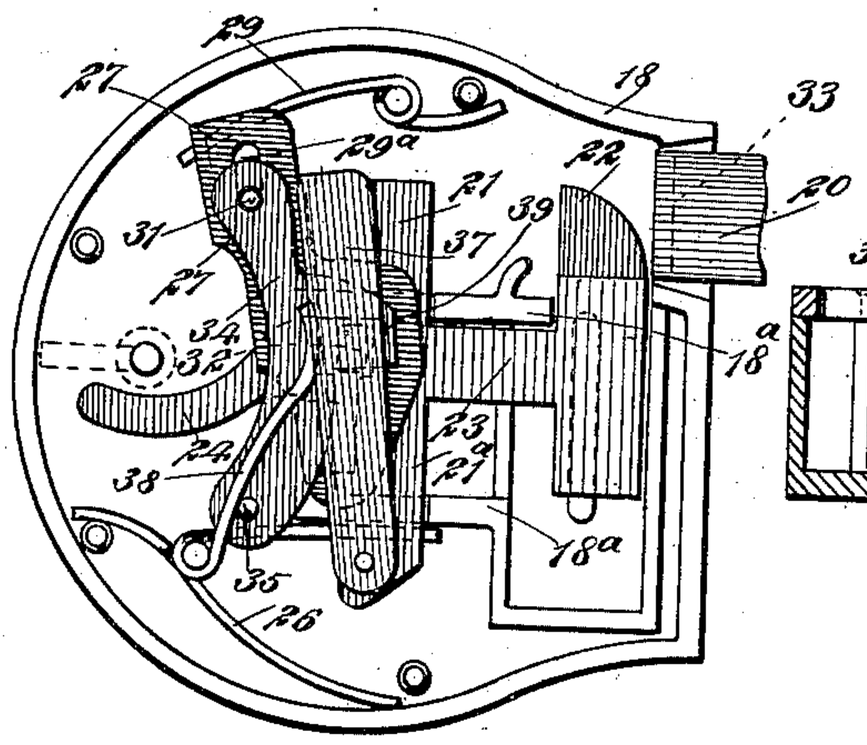


Fig. 5

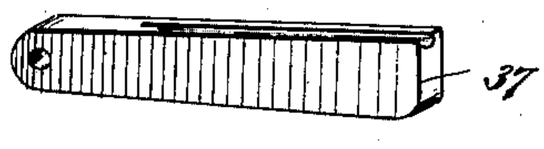


Fig. 4

Fig. 7.

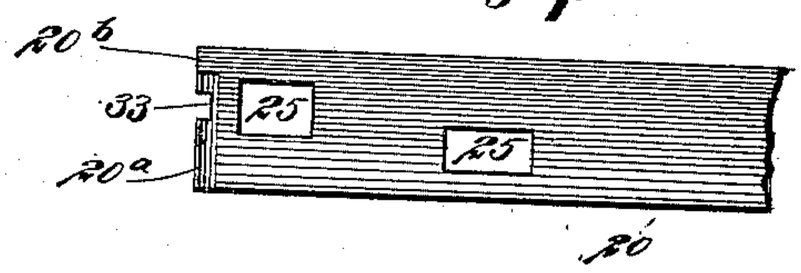


Fig. 6

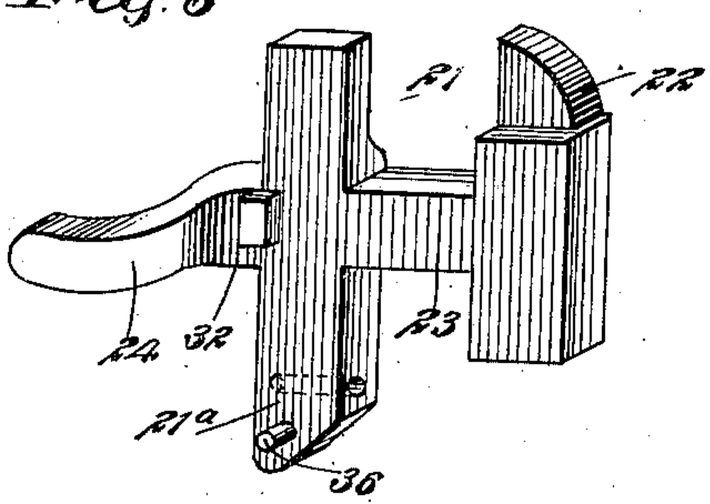


Fig. 8

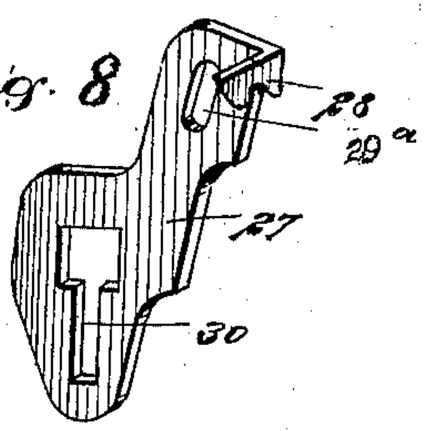
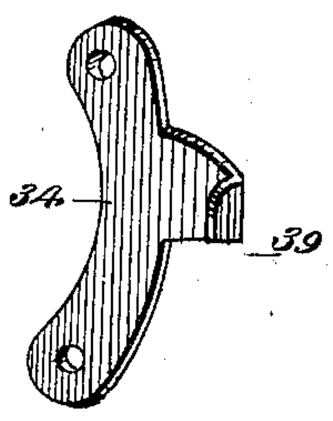


Fig. 9



WITNESSES:

John A. Bergstrom

J. B. Owens

INVENTOR

Walter E. Emery

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE

WALTER EDWARD EMERY, OF WEST CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 656,958, dated August 28, 1900.

Application filed January 15, 1900. Serial No. 1,469. (No model.)

To all whom it may concern:

Be it known that I, WALTER EDWARD EMERY, a citizen of the United States, and a resident of West Chicago, in the county of Du Page and State of Illinois, have invented a new and Improved Lock, of which the following is a full, clear, and exact description.

This invention relates to a lock which is especially adapted for use in connection with switches to hold the switch-point secured, but which may also be used in various other connections, as will be obvious from the following description.

This specification is the disclosure of one form of my invention, while the claims define the actual scope thereof.

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

Figure 1 is a view of the lock with parts in section, showing the lock in closed position. Fig. 2 is a similar view showing the lock released, but with the hasp in place. Fig. 3 is a similar view with the hasp withdrawn. Fig. 4 is a section on the line 6 6 of Fig. 1. Fig. 5 is a detail perspective view of the chock-bar for the bolt. Fig. 6 is a perspective view of the bolt. Fig. 7 is a side elevation of the hasp-bar. Fig. 8 is a detail perspective view of the tumbler, and Fig. 9 is a similar view of the keeper.

The lock has a casing 18, suitably formed and arranged to carry the bolt, (see Fig. 6,) which comprises two locking-fingers 21 and 22, the latter being beveled to be engaged by the inner end of the hasp-bar 20, so as to force the bolt backward as the hasp enters. The bolt also comprises a shank or body portion 23, from the inner end of which extends a finger 24 to be engaged by a key for throwing the bolt. The finger 21 has a rearward extension 21^a projecting from the opposite side of the shank or body 23 for a purpose which will hereinafter appear. The bolt is mounted in the casing 18 to move toward and from the hasp-bar 20, as illustrated. Guide-flanges 18^a are formed in the casing 18, between which flanges the bolt moves, and if desired a guide-plate 18^b (see Fig. 4) may be fastened down on these flanges so as to lie over the bolt. This guide-plate 18^b has an upward extension 18^c, which engages the top of the casing to render the whole construction secure. When the bolt is in the position shown in Fig. 1, the fingers 21 and 22 are engaged in openings 25 in the hasp-bar, whereby the hasp-bar is held, and when the bolt is in the position shown in Fig. 2 the hasp-bar may be withdrawn. When the bolt is in the position shown in Fig. 3, the hasp-bar on entering the casing strikes the beveled finger 22 first and pushes the bolt back, so that the hasp-bar may move entirely into the casing and the bolt subsequently return to engage the fingers 21 and 22 with the walls of the openings 25. A spring 26 is mounted in the casing and is engaged with the extension 21^a of the finger 21, such spring tending to throw the bolt toward the hasp-bar, as shown.

A tumbler (see Fig. 8) works with the bolt and is in the form of a plate 27, formed at one end with a lug 28 to be engaged by a spring 29, the spring serving to draw the tumbler to the right or toward the hasp-bar 20. The tumbler also has an elongated opening 29^a adjacent to the lug 28 and an essentially keyhole-shaped slot 30 in the opposite end portion. The elongated opening or slot 29^a of the tumbler receives a pin 31, mounted rigidly in the casing, by which means the tumbler is mounted, the tumbler bearing on the bolt at the inner portion of the shank 23 and receiving in the slot 30 a stud 32, rigid on the bolt. The stud 32 is adapted when the bolt is in the position shown in Fig. 1 to lock in the enlarged portion or head of the slot 30, thus preventing the movement of the bolt. When, however, the tumbler is thrown to the right, as shown in Fig. 1, by the action of the key, (indicated by the dotted lines in Figs. 1, 2, and 3,) the stud 32 will be thrown into line with the main or narrow portion of the slot 30, thus permitting the bolt to be moved out of engagement with the hasp. When the tumbler is thrown by the key, the bolt may be withdrawn, and when the bolt returns to the position shown in Fig. 3 the tumbler will not be moved, and consequently the stud 32 does not engage with the walls of the slot 30, but is left in line with the narrow part of the slot, so as to permit the bolt to be thrown back upon the entry of the hasp-bar into the casing. When the hasp-bar is moved into the

position shown in Figs. 1 and 2, the bar will engage with the tumbler and throw the tumbler slightly to the left, thus causing the walls of the enlarged portion or head of the slot 30 in the tumbler to lock with the stud 32, the result of which will be that the bolt will be secured and held so until the tumbler is again thrown by the key. For the purpose of permitting the necessary movement of the tumbler I form in the end of the hasp-bar 20 a transverse groove 33.

A keeper-plate 34 (see Fig. 9) is mounted on top of the tumbler and is held by the pin 31 and by an additional pin 35, as shown, such pins being riveted down on the keeper-plate to hold it rigid. A pin 36 is attached to the extension 21^a of the finger 21 of the bolt, and on this pin 36 is pivotally mounted the chock-bar 37, which extends toward the hasp-bar approximately in line with the finger 21 and its extension 21^a. A spring 38 is mounted in the casing 18 and bears on the chock-bar, tending to throw it to the right, and the keeper-plate 34 has an upturned extension or lug 39, which is adapted to be engaged by the chock-bar 37 and which serves to limit the rightward movement of the bar. When the lock is in closed position, the chock-bar 37 is engaged by the inner end of the hasp and thrown to the position shown in Fig. 1. When, however, the key is engaged with the tumbler, throwing it to release the bolt, and is subsequently engaged with the finger 24 of the bolt to throw the bolt, the chock-bar is carried with the bolt, and the spring 38 throws the chock-bar against the lug 39, the free end of the chock-bar passing then into engagement with the hasp-bar 20, thus holding the bolt in open position against the tendency of the spring 26. The parts remain in this position (see Fig. 2) until the hasp-bar 20 is disengaged from the casing. Then the chock-bar 37 being deprived of its support, the spring 26 asserts itself and throws the bolt to the position shown in Fig. 3, so that when the hasp-bar is again introduced into the casing it will engage the bolt, as described, and automatically throw the bolt back, so that it may subsequently return to the locked position. (Shown in Fig. 1.) The hasp-bar 20 has a square upper corner 20^b to be engaged by the chock-bar and a rounded corner 20^a beneath the corner 20^b to engage the finger 22 of the bolt. (See Fig. 7.)

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

1. In a lock, the combination with a casing, of a bolt mounted therein, a tumbler working with the bolt, a keeper-plate fastened over the tumbler and having a stud, a chock-bar pivotally mounted on the bolt and limited in its swinging movement by the stud of the keeper-plate, and springs for actuating the mobile parts.

2. A lock having a bolt, a tumbler having connection with the bolt and adapted to be struck by the hasp, and a chock-bar pivoted on the bolt and spring-pressed to engage the hasp, to hold the bolt in open position at certain periods of the operation of the lock.

3. A lock, having a bolt, and a chock-bar pivoted on and moving with the bolt, the chock-bar serving to engage the hasp to hold the bolt open during certain periods of the operation of the lock.

4. A lock, having a bolt adapted to be engaged and thrown by the key, a tumbler serving to hold the bolt in closed position, the tumbler being also actuated by the key, and a chock-bar mounted on and carried by the bolt and serving to engage the hasp, to hold the bolt open during certain periods of the operation of the lock.

5. A lock, having a bolt adapted to be thrown by the key, a tumbler serving to hold the bolt in closed position and also adapted to be thrown by the key to release the bolt, a chock-bar serving to hold the bolt in open position during certain periods of the operation of the lock, and a keeper-plate fastened adjacent to the chock-bar, to limit the movement thereof.

6. A lock, having a bolt adapted to be engaged by the key, to throw the bolt to open position, a tumbler serving to hold the bolt in closed position, the tumbler being arranged in the path of the hasp, to be struck thereby to release the bolt, and a chock-bar carried by the bolt and adapted to engage the hasp to hold the bolt in open position during certain periods of the operation of the lock.

7. A lock, having a bolt, and a chock-bar mounted on and carried by the same, the chock-bar serving to engage the hasp to hold the bolt in open position during certain periods of the operation of the lock.

8. A lock, having a bolt, a chock-bar pivotally mounted on and carried by the bolt and serving to engage the hasp to hold the bolt open during certain periods of the operation of the lock, and means for limiting the movement of the chock-bar to permit the movement of the hasp out of engagement with the chock-bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER EDWARD EMERY.

Witnesses:

A. H. FAIRBANK,

C. E. SMILEY.