No. 641,824. Patented Jan. 23, 1900.

W. J. BOON.

LOCK.

(Application filed Oct. 20, 1899.)

(No Model.)

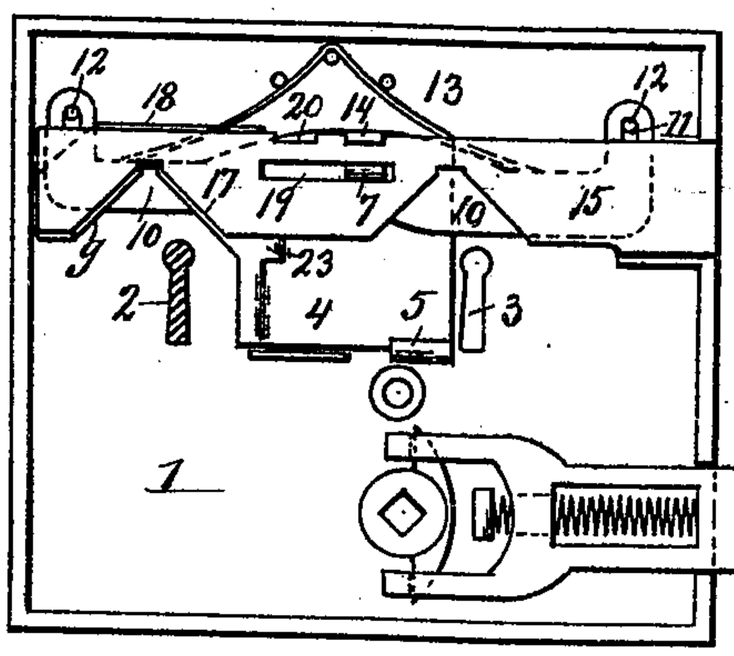

Fig. 1.

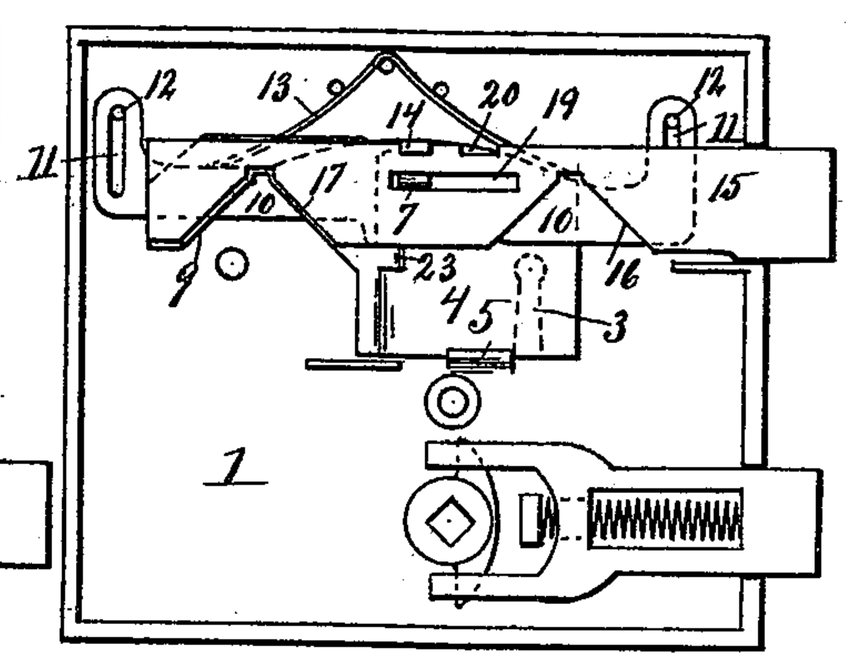

Fig. 2.

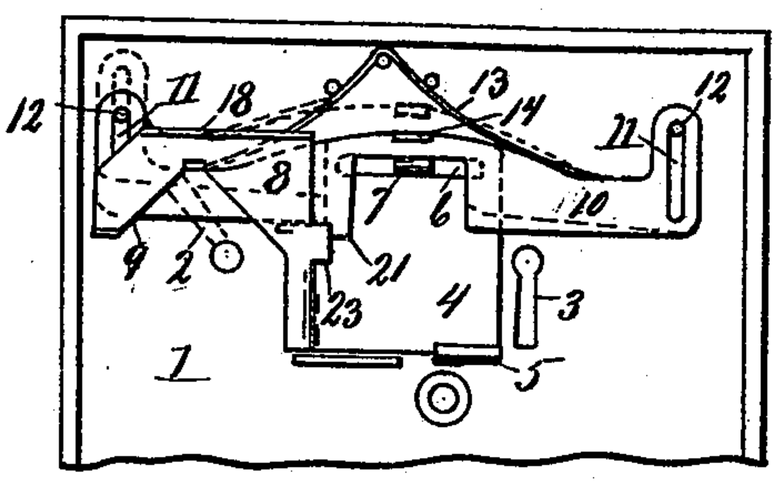

Fig. 3.

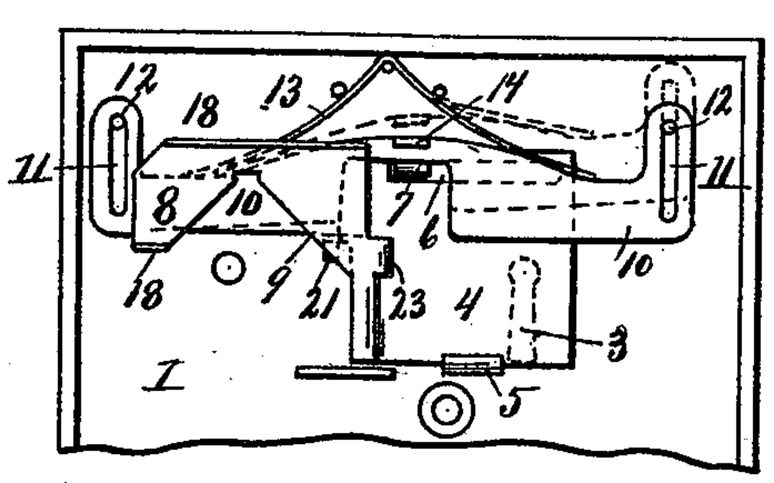

Fig. 4.

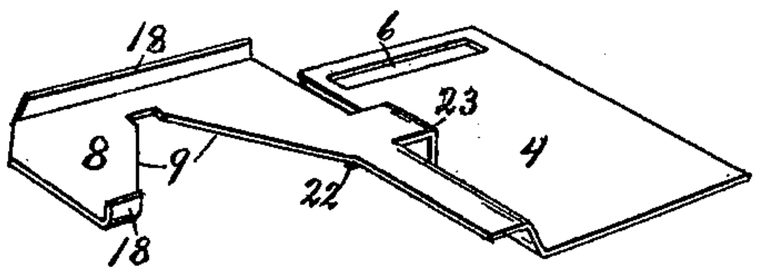

Fig. 5.

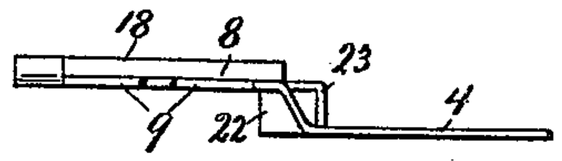

Fig. 6.

WITNESSES.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 641,824, dated January 23, 1900.

Application filed October 20, 1899. Serial No. 734,173. (No model.)

To all whom it may concern:

Be it known that I, WILLIS J. BOON, a citizen of the United States, residing at Perry, in the county of Houston, State of Georgia, have invented certain new and useful Improvements in Door-Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to door-locks; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means in combination with a door-lock whereby the outside keyhole is closed by a covering-plate where the door is locked from the inside, preventing the insertion of a key from the outside, peeping through the keyhole, and the introduction of anesthetics through the keyhole of a lock into the room. A further arrangement provides against the unlocking of the door from the inside after being locked from the outside and obviates the movement of the guard-plate in either direction when the door is locked.

The above object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a lock embodying my improved features with one side of the lock-case removed. Fig. 2 is a like view showing the door locked and the guard-plate covering the outside keyhole-opening. Fig. 3 is a plan view showing the locking-bolt removed. Fig. 4 is a like view showing the position of the parts when the door is locked from the inside. Fig. 5 is a perspective of the guard-plate. Fig. 6 is an edge elevation of said plate.

Referring to the figures of reference, 1 designates the mortise-lock case, which may be of any suitable construction. All the views which show the lock show it with the inside plate thereof removed, through which plate is formed the inner keyhole, so positioned as to register with the section of key 2 shown in Fig. 1. The outer keyhole is at the right of the inner keyhole and spaced therefrom, as shown at 3, so that the keyholes in the opposite sides of the lock-case are not in alinement.

The guard-plate 4 is adapted to close the outer keyhole-opening and its lower edge is supported in a suitable guide 5. The upper edge of the guard-plate is provided with a slot 6, adapted to receive the stud 7, projecting from the lock-case, by means of which the upper edge of said plate is guided in its movement. The wing 8 of the sliding guard-plate does not occupy the same plane as the body of said plate, but stands above it and is provided in its lower edge with an opening having beveled sides 9.

10 designates a spring-actuated bar having a vertical slot 11 in each end thereof, in which the pins 12 engage. This bar is normally held in place by the spring 13, whose ends bear upon the opposite ends of said bar, but permit either end of said bar to be raised against the action thereof, as shown by dotted lines in Figs. 3 and 4. A portion of one end of said spring-bar lies upon the body of the guard-plate, while the wing of said plate extends over and lies upon the opposite end portion of said bar. The center of the spring-bar 10 is cut out and rests upon the stud 7, the opening being sufficiently large to admit of the tilting of said bar without bringing its sides into contact with said stud. Projecting inwardly from the upper edge of the spring-bar 10 is a lug 14, the purpose of which will be hereinafter explained.

The locking-bolt 15 is provided in its under edge with two inclined openings 16 and 17, respectively, in which the key is adapted to engage in operating said bolt from the opposite keyholes in the lock in locking and unlocking the door. The opening 17 at the rear of said lock-bolts registers perfectly with the opening 9 in the wing of the guard-plate, as clearly shown in Figs. 1 and 2, while said wing is provided with upwardly-turned margins 18, which embrace the edges of said lock-bolt and serve to maintain said wing and bolt in perfect alinement.

Formed in the center of the lock-bolt is a slotted opening 19, into which the stud 7 projects, whereby said bolt and the body of the guard-plate are held in proper working relation. In the upper edge of the lock-bolt 15

are formed two notches 20, adapted to successively receive the lug 14, projecting from the upper edge of the spring-bar 10. This lug, when lying in either of said notches, holds the lock-bolt from longitudinal movement either in its locked or unlocked position, and in order to move the lock-bolt with the key in locking and unlocking the door it is necessary to raise the spring-bar 10, so as to disengage said lug from either of said notches to enable the key to move said lock-bolt.

In the operation of the lock with the parts being in their normal position, as shown in Fig. 1, the key is inserted through the inner keyhole, as shown at 2, and turned to the right. The wing of the key in this operation encounters the lower edge of the spring-bar 10, raising that end of said bar so as to carry the lug 14 thereon out of the notch 20 in the lock-bolt in which it lies. A further movement of the key brings the wing thereof into contact with the inclined edges of the openings in said bolt and the wing of the lock-plate, thereby moving said bolt and plate by a continued movement of the key, so as to carry the bolt to a locked position and the plate over the outer keyhole-opening 3, as clearly shown in Fig. 2, when the spring-bar 10 falls to its normal position, causing the lug 14 thereon to engage in the other notch 20 of the lock-bolt and secure said bolt against longitudinal movement, at the same time the depending stop 21 (see Fig. 3) upon the lower edge of the spring-bar 10 engages behind the shoulder 22, (see Figs. 4 and 6,) thereby preventing the movement of the guard-plate 4 and maintaining it securely in place over the outer keyhole-opening, whereby said outer keyhole is effectually closed, obviating the introduction of anything therethrough while the door is locked from the inside. To unlock the door from the inside, the key is turned in the reverse direction, whereby the spring-bar 10 is again raised to release the lock-bolt, and said bolt and the guard-plate 4 are thrown back by the operation of the key to the position shown in Fig. 1, as will be readily understood.

When locking the door from the outside, the key is inserted through the keyhole 3 and turned so as to engage the lower edge of the spring-bar 10, raising said bar so as to free the lock-bolt and throw said bolt outwardly by a rotation of the key through its engagement with the beveled opening 16 in the lower edge of said bolt. This movement, as will be observed, does not affect the guard-plate 4, which remains in its normal position and which is held securely from movement across the keyhole by the engagement of the depending stop 21 thereon with the shoulder 23 on said plate, as shown in Figs. 3 and 6. When the bolt has been thrown by a key inserted in the outer keyhole 3, it cannot be unlocked by a key inserted in the inner keyhole for the reasons that the openings 9 and 17, respectively, in the rear of the lock-bolt and the wing of the guard-plate will then be separated, preventing the key from engaging properly therein, while the position of the guard-plate will be such as to prevent the turning of the key when inserted in the inner keyhole. Therefore after being locked by the insertion of the key in the outer keyhole the bolt must be unlocked from the outside before it can be operated from within.

Having thus fully set forth this invention, what is claimed is—

1. In a lock, the combination of the lock-bolt, a spring-actuated bar having engagement with said bolt, the guard-plate adapted to slide over the outer keyhole and having a raised portion thereof lying between said spring-actuated bar and said lock-bolt, said plate being adapted to be engaged by the key together with said bar and lock-bolt and moved simultaneously therewith.

2. In a lock, the combination of a movable plate adapted to cover the outer keyhole, a spring-actuated bar adapted to have vertical movement at both ends, the lock-bolt lying adjacent to said spring-actuated bar having notches in the edge thereof, a lug on said bar adapted to lie in said notches, said movable plate having a raised projecting wing which extends parallel with and lies adjacent to the key-engaged end of the lock-bolt and between said bolt and said spring-actuated bar whereby said plate is caused to slide when said bolt is actuated by the operation of the key.

3. In a lock, the combination of the spring-actuated bar each end of which is adapted to move vertically against the action of said spring, a movable plate the body of which lies under said bar and is adapted to close the keyhole-opening, said plate having a raised projecting wing which extends onto the upper surface of said bar and is notched to receive the key, and a bolt lying upon the upper surface of said wing and notched to register therewith, said bolt being adapted to be engaged by a lug projecting from said spring-actuated bar.

4. In a lock, the combination of a spring-actuated bar, a movable plate adapted to close the keyhole-opening having opposed shoulders adapted to be engaged by a projection on the lower edge of said bar, a lock-bolt lying adjacent to and registering with the wing of said plate, said wing and lock-bolt standing in the plane of said spring-actuated bar whereby all of said parts may be engaged and operated by the key, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIS J. BOON.

Witnesses:
M. A. EDWARDS,
E. S. WELLONS.