S. DULCZEWSKI AND H. STEMPKOWSKI.

BURGLAR LOCK.

APPLICATION FILED FEB. 18, 1920.

1,361,317. **Patented Dec. 7, 1920.**

Fig. 1.

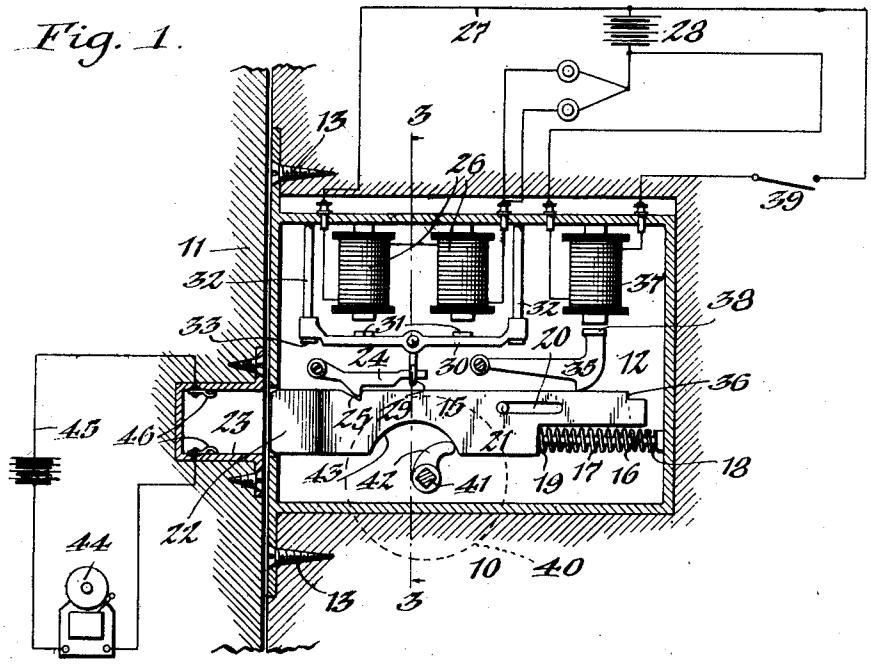


Fig. 3.

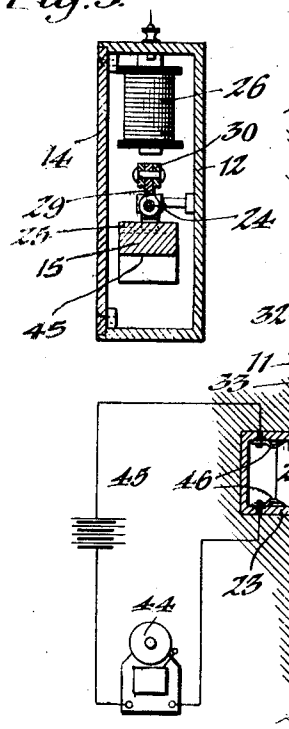


Fig. 2.

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BURGLAR-LOCK.

1,361,317. Specification of Letters Patent. Patented Dec. 7, 1920.

Application filed February 18, 1920. Serial No. 359,664.

To all whom it may concern:

Be it known that we, SIGMUND DULCZEWSKI and HENRY STEMPKOWSKI, citizens of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Burglar-Locks, of which the following is a specification.

This invention relates to door locks and more particularly to an electrically-controlled lock adapted to be operated from a distance.

The object of this invention is to provide a reliable lock of this character which is simple and durable in construction and which is capable of being controlled from various points or stations in business establishments, such as banks, jewelry stores and the like, so that thieves or burglars may be locked in and prevented from escaping.

In the accompanying drawings: Figure 1 is a sectional elevation of a lock embodying my improvements and showing the bolt in its retracted position. Fig. 2 is a similar view, showing the bolt in its locked position. Fig. 3 is a vertical section on line 3—3, Fig. 1.

Similar characters of reference indicate corresponding parts throughout the several views.

10 indicates the door wherein the lock is located and 11 the door jamb.

The operative parts of the lock are inclosed in a suitable casing 12 which is mortised in the door in the usual way and held therein by screws 13. A cover plate 14 is removably mounted on one side of the casing to permit access to the interior thereof. Arranged within this casing is a horizontally movable locking bolt 15 which is acted upon at its rear end by a coil spring 16 surrounding a pin 17 carried by said bolt and bearing at one end against a boss or shoulder 18 of the lock casing, and at its other end against a shoulder 19 on the bolt, said spring normally tending to throw the latter forward or to its locked position. To guide the bolt in its movements, it is preferably provided with a longitudinal slot 20 which receives a pin or projection 21 fastened to the casing. The forward end of the bolt may be provided with the usual beveled surface 22 adapted to engage the keeper 23 fastened to the door jamb 11 in the usual way.

The locking bolt 15 is normally held in its open or unlocked position, preferably by a vertically-swinging dog or catch 24 pivoted at the forward end of the lock-casing and adapted to engage a forwardly-facing notch or shoulder 25 in the upper side of said bolt. Arranged above this catch and secured to the lock casing are a pair of electro-magnets 26 included in a circuit 27 having a battery 28 or other suitable source of energy connected therewith. Operatively connected with the free end of the catch 24 by a link 29 is an armature yoke 30 provided with pole pieces 31 of soft iron or other magnetic material which are in alinement with the cores of the respective magnets and in close proximity thereto. This yoke is preferably guided at its opposite ends on rods 32 depending from the top of the lock casing and provided at their lower ends with stops or heads 33 which limit the downward movement of said yoke. The circuit 27 is normally open and adapted to be closed by one or more switches or push-buttons 34 located in the floor or other convenient place at different points throughout a bank, store or other establishment, adapted to be operated by clerks or others in an emergency, such as a theft or burglary. When one of these switches 34 is closed, the magnets 26 are energized, whereupon the yoke 30 is attracted and the catch 24 released from engagement with the locking bolt 15, allowing the latter to be projected by the spring 16 and lock the door.

Means are provided whereby the bolt, after being moved to its projected position, is locked and prevented from being unlocked, except by an authorized person. As shown in the drawings, these devices are preferably constructed as follows:

35 indicates a vertically-swinging locking dog or catch pivoted to the casing 12 in rear of the catch 24 and adapted to lock the bolt in its projected position. For this purpose, said catch engages by gravity with a rearwardly-facing notch or shoulder 36 in the upper rear portion of the bolt. Arranged above this catch and secured to the lock casing is an electromagnet 37 included in the circuit 27. The catch 35 is provided with a pole piece or armature 38 of soft iron or other magnetic material, so that when the magnet 37 is energized the armature will be attracted and said catch released from engagement with the bolt. A suitable switch 39 included in the circuit 27 serves to con-

trol the magnet 37, said switch being preferably located in a concealed place.

Upon disengaging the locking catch 35 from the bolt 15 by closing the switch 39, the bolt may be withdrawn in the usual manner by turning the door knob 40 whose spindle 41 is provided with the customary finger 42 that engages a recess 43 in the underside of the bolt.

If desired, a suitable alarm device 44 may be employed, which is controlled by the locking bolt and preferably located on the outside of the establishment. This alarm device, by way of example, is shown in the form of a bell, and is included in an electric circuit 45 having terminal contacts 46 arranged in the keeper 23 and adapted to be engaged by the locking bolt when the same is projected, so as to close the circuit and sound the alarm.

In the operation of the improved lock, when it is desired to lock the door in an emergency, one of the switch buttons 34 is pressed, whereupon the armature yoke 30 is attracted by the magnets 26 and the catch 24 disengaged from the locking bolt 15, allowing the spring 16 to project the latter into the keeper 23 and locking the door. Being done at a distance from the door, this act is unnoticed by a robber or burglar who has entered the establishment and who is therefore locked in the place until taken into custody by the police. When the bolt reaches its extreme projected position, the alarm is sounded, and at the same time the locking catch 35 drops by gravity into engagement with the rear shoulder 36 of said bolt and positively locks it in that position.

To withdraw the bolt for unlocking the door, it is necessary to close the switch 39, whereupon the locking catch 35 is released from engagement with the bolt which may then be withdrawn by turning the door-knob 40 as usual. When the bolt is fully withdrawn, the catch 24 drops by gravity into engagement with the corresponding shoulder 25 of the bolt, holding the latter in its retracted unlocked position and leaving the parts in the position shown in Fig. 1.

As shown, the tooth of the front catch 24 is beveled on its front side to permit the locking bolt to move past it rearwardly without restraint, while the tooth of the rear catch 35 is beveled on its rear side to allow the bolt to be moved freely from its projected to its retracted position.

By this construction and arrangement, a reliable lock is produced which enables employees of an establishment equipped therewith to promptly lock the door and trap a thief or burglar. Furthermore, the alarm device associated with the lock gives warning outside the building and attracts the attention of the police.

It will be understood that this invention is applicable to a plurality of locks of this character, so connected that all can be operated simultaneously and that either one or a plurality of switch buttons located at different places may be used for operating the same.

We claim as our invention:

1. A lock comprising a casing, a bolt movable therein, a spring tending to project said bolt, an electromagnet arranged in said casing, an armature associated with said electromagnet, a latch operatively connected to said armature for normally holding said bolt in its retracted position, and magnetically controlled means for locking said bolt in its projected position.

2. A lock comprising a casing, a bolt movable in said casing and provided with front and rear locking shoulders, a spring tending to project said bolt, latches cooperating with said shoulders, respectively, for holding the bolt in its retracted and projected positions, and independent magnetically-controlled means, one for each of said latches, for disengaging the same from said bolt.

3. A lock comprising a casing, a spring-pressed bolt movable in said casing and provided with front and rear locking shoulders, a latch pivoted to said casing and adapted to engage the front shoulder of said bolt when in its retracted position, an electromagnet arranged in said casing, an armature therefor operatively connected to said latch, and a magnetically-controlled latch arranged to engage the rear shoulder of said bolt when in its projected position.

4. A lock comprising a casing, a spring-pressed bolt movable in said casing and provided in its front portion with a forwardly-facing shoulder and in its rear portion with a rearwardly-facing shoulder, latches adapted to engage with said front and rear shoulders to hold said bolt in its retracted and projected positions, respectively, an electric circuit, independent magnetically-controlled means in said circuit for releasing said latches from the corresponding shoulders and separate switch devices in said circuit for said magnetically-controlled means.

5. A lock comprising a casing, a spring-pressed bolt movable therein, a locking latch arranged to engage said bolt, an electromagnet arranged in said casing, guide rods carried by the latter, an armature-yoke guided on said rods, and a connection between said yoke and said latch.

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