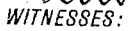


APPLICATION FILED MAR. 28, 1912.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.



INVENTOR

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David Giegler

BH

ATTORNEY

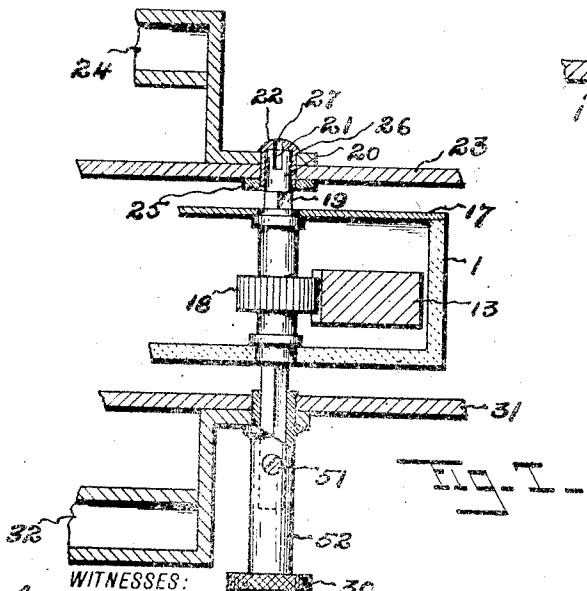
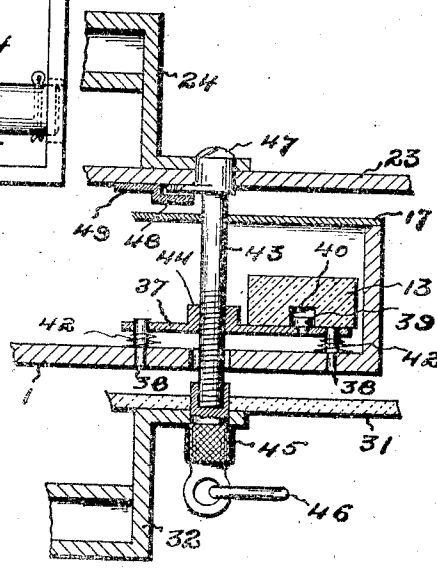
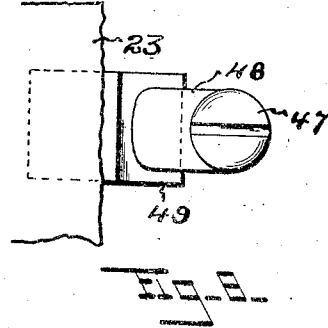
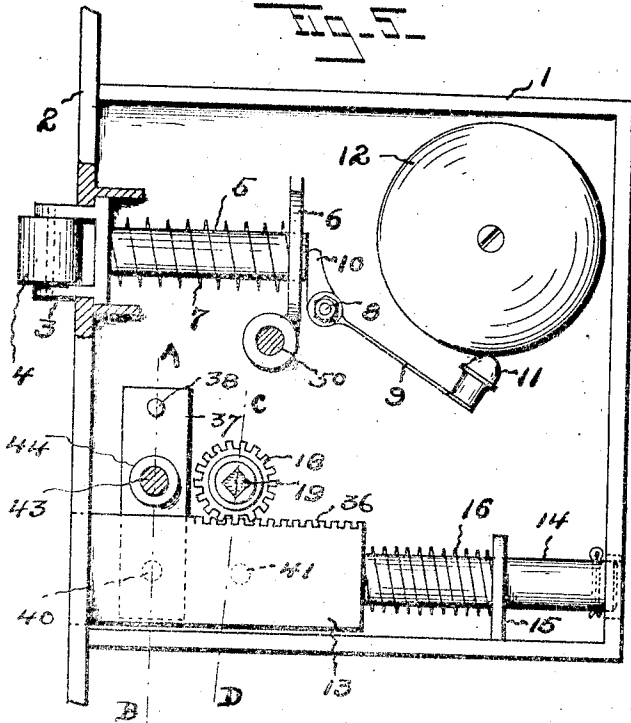
D. ZIEGLER.
LOCK.

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1,045,356.

Patented Nov. 26, 1912.

2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

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LOCK.

1,045,356.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed March 28, 1912. Serial No. 686,756.

To all whom it may concern:

Be it known that I, DAVID ZIEGLER, a subject of Nicholas II, Emperor of Russia, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to new and useful improvements in locks, having for its object, among other things, to so arrange and design the parts that the bolt may be actuated with a key that is inserted in an opening that would not be suspected as being a key hole except to those who are familiar with its operation.

To these, and other ends, my invention consists in the lock, having certain details of construction and combinations of parts as will be hereinafter described and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals of reference designate like parts in the several figures; Figure 1 is a side elevation of my improved lock from the outside of the door, with the door plate in its proper relative position; Fig. 2 is a similar view looking from the inside of the door; Fig. 3 is a view of the edge of the door, showing the front plate of the lock and a side elevation of the door plate; Fig. 4 is a view of the key; Fig. 5 is an enlarged plan view of the lock partly in section with the cap removed. Fig. 6 is a sectional view of some of the parts upon line A—B of Fig. 5; Fig. 7 is a similar view taken upon line C—D of Fig. 5; and Fig. 8 is an enlarged plan view of a portion of the outside door plate, the retaining clip connected therewith, and the stud.

The general form and style of lock used in my invention is common to the art, and except for minor details, this also applies to the door plate and handles. The principal feature of the invention is to so arrange and design the parts where the key is inserted as to practically prevent the opening of the lock, either by key or other means, except to those persons who are familiar with its construction and operation and know where the key should be inserted.

In the practice of my invention I provide a body 1, having a front plate 2 upon the face thereof, and within which is slidably mounted a latch 3, having a shank 5, that is

supported at its inner end by a block 6, and surrounded by a coil spring 7, the tension of which is exerted so as to hold the latch in its outward position. A friction roll 4 is rotatably mounted in the head of the latch.

The bolt, designated by the numeral 13, is slidable through an opening in the front plate 2, and provided with a shank 14 at its rear end, which is supported in the integral lug 15. Surrounding said shank between said lug 15 and the rectangular portion of said bolt, is a coil spring 16, which normally exerts its tension so as to shoot the bolt outwardly.

Rotarily mounted in the body 1 and cap 17, secured to the body by the screw 50, is the pinion 18, having a rectangular hole therein, through which passes the spindle 19, having a cylindrical head 20, in which is the slot 21. The head 20 is journaled in a sleeve 22 that is rounded at its outer exposed end so as to appear like a screw head, and is rotarily mounted in the door plate 23, and the handle 24 affixed thereto, being prevented from endwise movement by the collar 25 and the overhanging lips 26. Through the head of the sleeve 22 is a slot 27 of substantially the same width as the slot 21, which slots are brought into register with each other by means of the key 28, the end 29 of which passes through the slot 27 and into the slot 21, at which time the spindle 19 may be rotated and the bolt actuated. The end of the spindle 19 opposite the sleeve 22 is secured, by a screw 51, within a sleeve 52, having a knurled head 30, and journaled in the plate 31 and the handle 32 connected therewith.

The plate 23 is secured to the outside of the door by screws 33, or other suitable means, and the plate 31 is secured to the inside of the door by screws 34, or other suitable means, and the handles 24 and 32, which may be of any preferred form or shape, are secured to the door plates by solder, riveting, or by the screws 35, as herein shown.

The teeth of the pinion 18 mesh into the teeth 36 upon one side of the bolt 13, and it is apparent that as the pinion 18 is rotated through the key at one end, or the sleeve 52 at the other end, movement is imparted to the bolt in the direction of its length. In either of its extreme positions the bolt 13 is

held against movement by a retaining plate 37 movable upon the companion pins 38 in the body 1, and is provided with a stud 39, which registers with the recesses 40 and 41 in the bolt, that is, when the bolt is withdrawn the stud 39 registers with the recess 40, and when in its outer position registers with the recess 41. The springs 42 surrounding the pins 38, and lying between the plate 37 and body 1, exert their tension so as to normally hold the retaining plate at all times against the bolt. Before the bolt can be moved, it is necessary to disengage the stud 39 from either one of the recesses, and this is accomplished through a stud 43, which is threaded through the boss 44 upon the plate 37 and into a turn button 45, having a ring 46 therein for ease of manipulation.

The head 47 on the stud 43 projects through the plate 23 and handle 24, and is also so shaped at its outer end to give the appearance of an ordinary screw head, and integral therewith, and beneath the plate 23, is a wing 48, which in one of its positions, lies between the plate 23, and the clip 49, in which position it is impossible to impart movement to the stud 43 in the direction of its length.

To actuate the retaining plate 37, the stud 43 is rotated about its axis through the engagement of the end 29 of the key with the slot 21 in the head 20, if operated from the outside of the door, and when the wing 48 is disengaged from the clip 49, pressure is exerted upon the head 47, at which time the plate 37 is moved and the stud 39 disengaged from the bolt. From the inside, the stud 43 is rotated by grasping the ring 46 and moving the turn button 45 about its axis and then pulling the stud outwardly after the wing 48 is disengaged from the clip 49.

In operation, assuming the door to be closed and the bolt in its outward position, it is opened by first actuating the stud 43 so as to permit movement of the bolt through the key 28 or turn button 45. The bolt is then withdrawn by inserting the end 29 of the key through the slot 27 in the sleeve 22 and into the slot 21 of the spindle 19, and thereby rotating the pinion 18. When the bolt has been withdrawn its full distance, the stud 39 will register with the recess 40, at which time the springs 42 will move the plate 37 and throw said stud into said recess and lock the bolt against further movement, after which the stud 43 is again rotated so as to bring the wing 48 into engagement with the clip 49. In the operation of locking the door, the bolt 13 is moved outwardly by the action of the spring 16 without the use of a key so long as the stud 39 is disengaged from the recess 40. So as to be able to determine whether the wing

48 is in engagement with the clip 49, the slot in the head 47 is arranged so as to lie parallel with the handle 24, substantially as shown in Fig. 1.

It is apparent that there are minor changes and alterations that can be made within my invention, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of my invention.

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

1. In a lock, the combination with a bolt; of a plate, having a part thereon which engages with said bolt to hold the same in its extreme position; a winged stud for manually operating said plate; and a retaining clip in the path of the wing upon said stud.

2. In a lock, the combination with a bolt; of a door plate; a retaining clip upon said door plate; and means for holding said bolt in either of its extreme positions, said means comprising a plate, having parts thereon that engage recesses in said bolt, and a stud connected with said plate, having a wing thereon which engages said clip when in one of its positions.

3. In a lock, the combination with a bolt; of means for holding the same in either of its extreme positions, said means comprising a plate, having parts thereon that engage said bolt, a stud, having a slotted head, and a wing projecting laterally therefrom, and a clip connected with a fixed part in the path of said wing.

4. In a lock, the connection with a bolt; of means for imparting endwise movement thereto, said means comprising a pinion; a member connected with said pinion, having a slotted head for the reception of a key; and a sleeve, the exposed portion of which resembles a screw head, in register with said member and concealing one end thereof.

5. In a lock, the combination with a bolt; of a pinion rotarily mounted within said lock, the teeth of which engage the teeth upon said bolt; a spindle projecting through said pinion and having a slot in one end for the reception of a key, whereby said spindle and pinion are rotated; and a sleeve, the exposed portion of which resembles a screw head, in register with said member and concealing one end thereof.

6. In a lock, the combination with a bolt; of a pinion rotarily mounted so that the teeth thereon engage with the teeth in said bolt; a spindle within said pinion, having a slot in one end thereof; and a sleeve, the exposed portion of which resembles a screw head, forming a journal for and concealing one end of said spindle, with a slot therein of substantially the same width as the said spindle slot.

7. The combination with a door plate; of
a sleeve, the exposed portion of which resem-
bles a screw head, having a slot in one end
thereof, rotarily mounted therein; a lock,
5 having a bolt therein; a pinion rotarily
mounted in said lock, the teeth of which en-
gage the teeth upon said bolt; and a spindle
within said pinion, having a slot in one end
thereof, said slotted end being journaled
within said sleeve and concealed thereby. 10
In testimony whereof I affix my signature
in presence of two witnesses.

DAVID ZIEGLER.

Witnesses:

GEORGE E. HALL,
BARNETT BERMAN.