

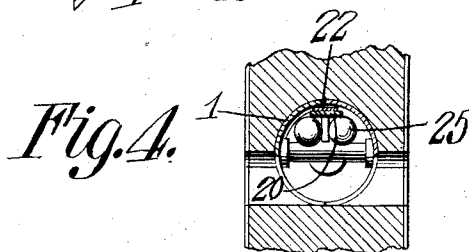
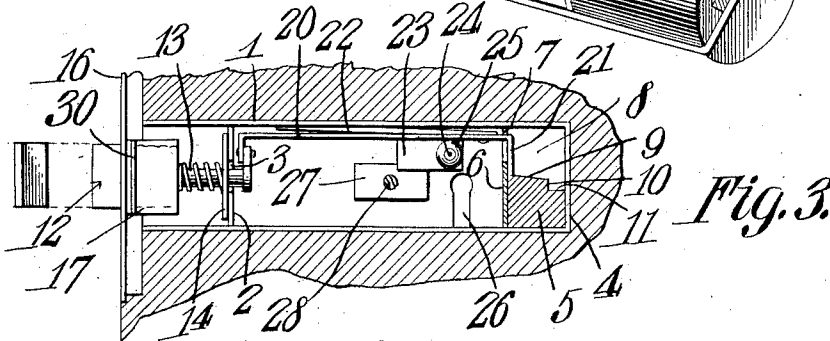
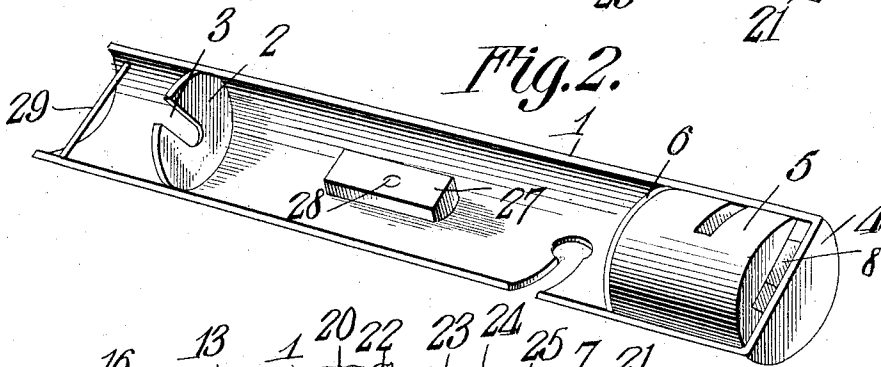
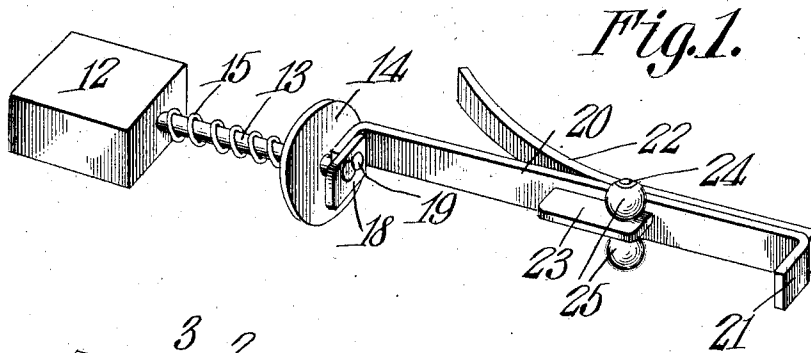
No. 883,158.

PATENTED MAR. 24, 1908.

D. H. BURTCH.

DOOR LOCK.

APPLICATION FILED DEC. 10, 1907.



Donaldson H. Burtch, Inventor

Witnesses

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# UNITED STATES PATENT OFFICE.

DONALDSON H. BURTCHE, OF MORGAN CITY, LOUISIANA, ASSIGNOR OF ONE-THIRD TO MARVILLE T. GAUTREAUX, OF MORGAN CITY, LOUISIANA.

## DOOR-LOCK.

No. 883,158.

Specification of Letters Patent.

Patented March 24, 1908.

Original application filed July 10, 1907, Serial No. 383,053. Divided and this application filed December 10, 1907. Serial No. 405,910.

*To all whom it may concern:*

Be it known that I, DONALDSON H. BURTCHE, a citizen of the United States, residing at Morgan City, in the parish of St. Mary and State of Louisiana, have invented a new and useful Door-Lock, of which the following is a specification.

This invention has reference to improvements in door locks, and it is desired to provide a simple and easily applied lock structure requiring no skilled labor for its adjustment to a door and is especially adapted for use in cottages and other places where locks of a more expensive and complicated character are not desirable. At the same time the efficiency of the device as a lock is in no wise impaired by the simple and cheap construction.

The present invention is the division of my application #383,053, filed July 10, 1907, for improvements in locks and latches, which application shows another structure as a lock and latch combined but the present invention is limited to the lock structure only.

The present invention comprises a lock member which may be made largely of sheet metal stampings but at the same time is of ample strength for its purpose and is as efficient as more complicated lock structures.

The invention will be best understood by a reference to the following detailed description taken in connection with the accompanying drawings forming a part of the accompanying specification, in which drawings,

Figure 1 is a perspective view of the movable part of the lock removed from the casing. Fig. 2 is a perspective view of one-half of the divisible casing. Fig. 3 is a longitudinal section through the lock in place in a door, and Fig. 4 is a cross section on a line with the key-hole.

Referring to the drawings, there is shown a casing 1 which is of cylindrical contour and is formed of two longitudinal parts which, when together, form a cylinder. Near one end and fast in one-half of the cylinder is a circular plate 2 having a radial slot 3 formed therein. The other end of the cylinder is closed by an end wall 4 formed on each half thereof and fast in one-half of the cylinder is a block 5 confined in that end of the cylinder between the end wall 4 and another circular plate 6, which plate is provided with a radial slot 7 extending, however, only a portion of

the distance from the circumference of the plate to the center thereof. The block 5 is formed with a longitudinal slot 8, the bottom of which slot at about the axis of the block is formed with an inclined surface 9 terminating in a shoulder 10 formed by deepening the slot, as shown at 11.

The lock-bolt comprises a rectangular head or block 12 from the rear face of which extends a stem 13 passing through a washer 14. The stem 13 is passed through the slot 3 in the plate 2, with the washer 14 on the front side of the plate 2, and surrounding the stem is a helical spring 15 tending at all times to force the bolt through a face-plate 16 applied to the front of the door. On the rear of the face plate is a guiding member 17 through which the head 12 passes. The end of the stem 13 remote from the block 12 has fixed to it a plate 18 to which is secured, as by a rivet 19, one end of a strap 20, which end is bent at an angle so as to lie against the plate 18 while the main body of the strap extends longitudinally of the casing. The rear end 21 of the strap is bent at an angle and rests upon the slanting bottom 9 of the slot 8 behind the plate 6, the latter acting as a stop to prevent the forward movement of the latch-bolt under the action of the spring 15 whenever desired. Fast on the strap 20 is a spring 22 which, when the parts are assembled rests against the inner face of the casing and tends to force the strap toward the other side of the casing. When the latch-bolt is moved into the casing against the action of the spring 15 then the spring 22 maintains the end 21 of the strap always in engagement with the slanting bottom wall 9 of the slot 8. When the shoulder 10 is reached the spring causes the end 21 of the strap to snap behind the shoulder and thereby holding the bolt from being again projected under the action of the spring 15.

At an appropriate point on the strap 20 there is fast thereto a tongue 23 through which there is passed laterally a pin 24 carrying two balls 25 one on each side of the tongue. This tongue is located in operative relation to a key-hole 26.

Fast on each member of the casing is a lug 27 through which is extended a pin 28 which may be riveted or otherwise formed at the ends to hold the two members of the casing together when the parts are once assembled. The front end of each member of the

casing is formed with lips 29 arranged to engage behind flanges 30 on the guiding member 17 back of the face plate, so that the pin 28 not only serves to secure the two members of the casing together but likewise secures the casing to the face-plate. This permits the inclosing parts of the entire lock to be made of stamped up sheet metal which forms a cheaper and better construction than though the casing were made of metal castings, as is commonly the case.

When an appropriate key is inserted through the key-hole 26, it will engage the balls 25 and force the movable part of the lock rearward against the action of the spring 15 until ultimately the turned-down end or flange 21 engages behind the shoulder 10. This is the unlocked position of the lock member. When it is desired to lock the door the key is turned in the other direction and engaging the balls 25 will lift the same and the strap 20 against the action of the spring, the strap being sufficiently elastic to bend under action of the spring in one direction and under the action of the key in the other. As soon as the strap is sufficiently lifted to free the end 21 from the shoulder 10, then the spring 15 will carry the lock in an appropriate direction to force the head 12 beyond the face-plate and so serve to lock the door in the usual manner.

It will be seen that the head 6 is caused to follow a path confined substantially coincident to the longitudinal axis of the casing by the guiding member 17 in which the head moves and the slotted plate 2 engaging the stem 13. Consequently, the strap 20 is made sufficiently elastic to yield under the action of the spring 22 in the manner and for the purpose described.

Should, by any accident, the lock-bolt be moved to the projected position while the door is open, it may be easily moved to the retracted position by the pressure of the finger, and the lock may be made to work automatically by suitably beveling the head of the lock-bolt the same as latch-bolts are usually beveled. This is indicated in Fig. 3.

It will be seen that the lock is of exceedingly simple construction, readily assembled and held together by a minimum of fastening devices and no skilled labor is required to apply the lock to the door since an ordinary bit is all that is necessary to bore the holes for the reception of the cylindrical casing and for the keyway, and since the parts may be made to fit snugly in such openings it is not even necessary to use any screws to fasten on the face-plate, but screws or brads may be used for this purpose if desired.

What is claimed is:—

1. In a lock, a lock-bolt, an elastic strap extending therefrom, a spring tending to force said strap in one direction, a laterally-projecting member on the strap, a stop in

the path of the said member behind which the latter is movable by the spring, and a key-operated member carried by the elastic strap and arranged in the path of an inserted key or carrying the laterally-projecting member out of the path of the stop against the action of the spring.

2. In a lock, a lock-bolt, an elastic strap extending therefrom, a spring tending to force said strap in one direction, a laterally-projecting member on said strap, a stop in the path of said laterally-projecting member behind which the said member is movable by the spring, and a key-operated member carried by the elastic strap and arranged in the path of an inserted key for carrying the laterally-projecting member from engagement with the stop against the action of the spring, said key-operating member having rollers in the path of the key.

3. In a lock, a lock-bolt, an elastic strap extending therefrom, and having the end remote from the lock-bolt formed with a laterally-projecting member, a spring tending to force the strap in a direction at right angles to the direction of travel of said strap, another spring tending to project the lock-bolt, a slotted plate in the path of the projecting member of the elastic strap, when the lock-bolt is in its forward position, a stop in the path of the projecting member of the elastic strap when in its retracted position, and means carried by the elastic strap in the path of an inserted key for moving the lock-bolt against the action of the spring tending to project the same when the key is turned in one direction, and for permitting the key to lift the elastic strap against the action of the spring tending to move the same laterally when the key is turned in the other direction.

4. In a lock, a lock-bolt, a stem projecting therefrom, a spring on said stem tending at all times to move the lock-bolt to the projected position, an elastic strap fast on said stem and having the end remote from the stem bent at an angle, a spring carried by the elastic strap and tending to move the latter laterally, a block having two spaced stops in the path of the bent end of the elastic strap and serving one to limit the forward movement of the lock-bolt and the other to hold the lock-bolt in the retracted position each by engagement with the bent end of the elastic strap, and means in the path of the inserted key and carried by the elastic strap permitting the manipulation of the lock-bolt through the key.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DONALDSON H. BURTCH.

Witnesses:

P. B. GHIRARDI,  
R. L. ALLISON.