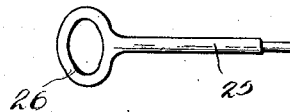
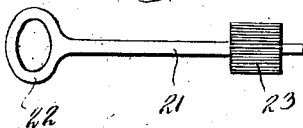
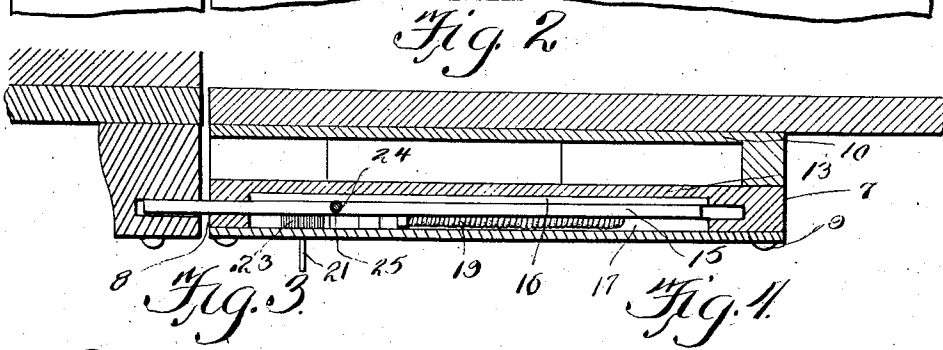
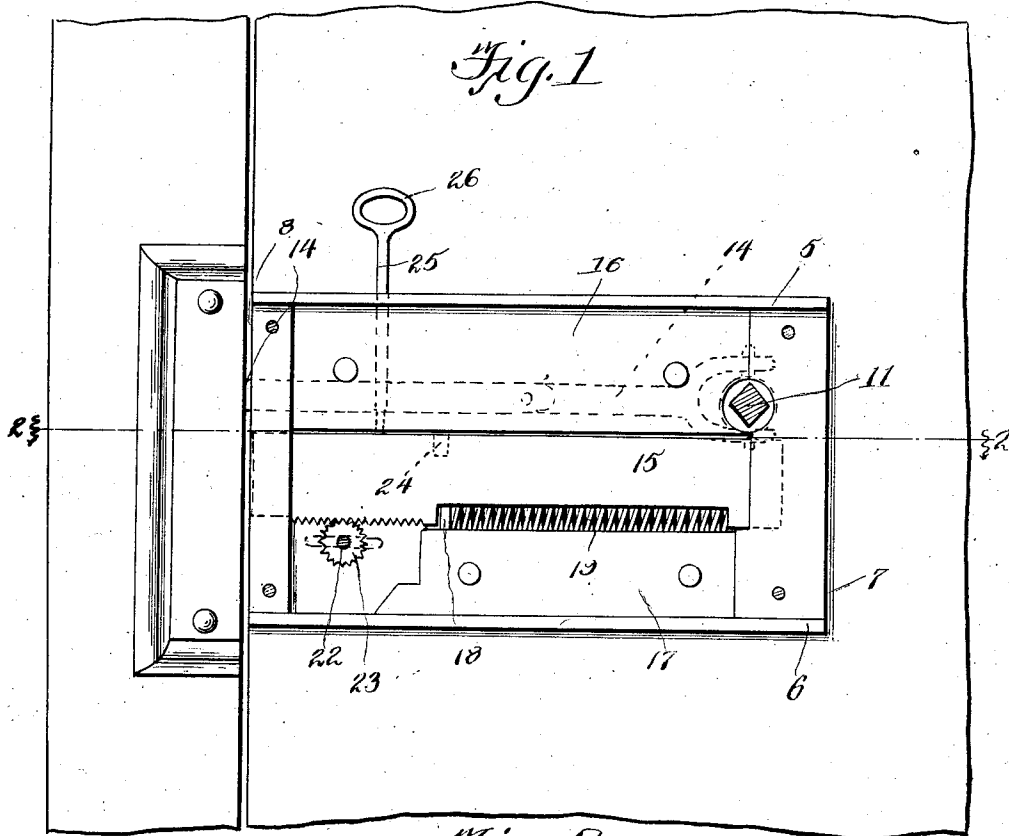


D. N. WEATHERS.  
LOCK.

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1,010,992.

Patented Dec. 5, 1911.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## LOCK.

1,010,992.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed December 3, 1910. Serial No. 595,389.

*To all whom it may concern:*

Be it known that I, DAVID N. WEATHERS, a citizen of the United States, residing at Marengo, in the county of Crawford and State of Indiana, have invented new and useful Improvements in Locks, of which the following is a specification.

This invention relates to improvements in locks and has particular reference to that type of locks usually placed upon doors.

The primary object of the invention is the provision of a lock provided with a locking bolt normally held in retracted position and operable by a key to move into projected position to engage the usual keeper on the door-frame and when in this last-named position to be positively held against movement in either direction so that when the key is removed therefrom it will be impossible to manipulate the bolt either with the proper key or any other instrument, applied from the exterior of the door.

With the above and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size, and minor details of the device may be made, within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming part of the specification;—Figure 1 is a side elevation of the device with the outer plate of the lock casing removed and showing the lock in projected position and held against longitudinal movement. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1 with the means for holding the bolt against movement removed. Fig. 3 is a side elevation of the key for actuating the bolt. Fig. 4 is a similar view of the key or keeper for holding the bolt against movement when in projected position.

Similar numerals of reference are employed to designate corresponding parts throughout.

The lock casing comprises a frame, the opposite sides of which are designated by the numerals 5 and 6, and the opposite ends

of which are designated by the numerals 7 and 8. The outer and inner face plates of the lock are designated, respectively, by the numerals 9 and 10, the outer face plate 9 being provided adjacent to one end with an opening for the reception of the shank 11 of the door knob and further provided adjacent to its opposite end and to the lower side 6 with a key-hole 12. The casing is interiorly divided into two compartments by means of a partition 13. Arranged in the compartment between the partition and inner face plate 9 is the usual latch 14, connected in any suitable manner with the shank 11 of the knob so that when the latter is partially turned the latch will be retracted. Arranged in the opposite compartment or that between the outer face plate and partition 13 is the device forming the subject matter of the present invention and including a bolt 15. This bolt is held between a pair of guide plates 16 and 17, which are suitably secured to the adjacent face of the partition, the adjacent sides of the guide plates being in spaced relation and nicely receiving the bolt therebetween. The medial portion of the lower side of the bolt or that adjacent to the guide plate 17 is provided with a longitudinal recess, and extending laterally from the partition and through the recess of the bolt is a pin 18. The pin 18, when the bolt is in retracted position, lies adjacent to the forward end of the recess, and insertible into the recess with its opposite ends bearing on the pin 18 and the inner end of the said recess is a helical thrust spring 19. The thrust spring 19 is supported by the lower guide plate 17 and corresponds in length, approximately to the distance between the pin 18 and remote end of the recess and by virtue of its position holds the bolt in retracted position. The portion of the lower side of the bolt beyond the outer end of the recess is in alinement with the key-hole 12, and formed in the side portion of the bolt are a plurality of rack teeth 20.

The key for actuating the bolt to move to projected position comprises a shank 21, one end of which is provided with a finger-hold 22, and the opposite end portion of which is provided with a pinion 23. The pinion is of a size to pass through the key-hole 12, and the extremital portion of the shank lying beyond the pinion is received by an opening in the partition, this opening forming a

journal for the key when the latter is being turned. With this construction it will be manifest when the key is inserted into the key-hole and its inner extremity portion engages with the opening in the partition, the teeth of the pinion 23 will engage with the teeth of the lock bolt so that by turning the key to the left the lock bolt will be moved to projected position. It will be manifest when the lock bolt is moved to projected position and the key removed from the casing that by virtue of the action of the spring, it being understood that the latter is compressed while the lock bolt is moving to projected position, the said spring will immediately restore the lock bolt to its normal retracted position. It will be understood of course that the end 8 of the frame of the lock casing is provided with an opening through which the engaging end of the bolt passes when the said bolt is being moved to projected position.

In order that the lock bolt may be positively held in projected position and incapable of being actuated by the key therefore the following construction is employed:—By reference now to the drawings it will be seen that the upper side 5 of the lock frame is provided adjacent to its outer end with a vertical opening, which communicates with the compartment between the partition and outer plate 9 of the casing. Formed in the upper side of the lock bolt 15, and at a point adjacent to the outer end thereof is a socket 24, which aligns with the vertical opening in the upper side 5, when the bolt 15 is fully projected. What will subsequently be termed a locking key is shown to include a cylindrical shank portion 25, one end of which terminates in a finger-hold 26. The shank portion 25 is of a size to nicely pass through the opening in the upper side 5, its lower end portion being somewhat reduced and loosely received by the socket 24. Inasmuch as the length of the shank is somewhat greater than the distance between the inner end of the socket and outer face of the upper side 5, it will be manifest when the shank of the keeper is inserted through the opening in the upper side 5 and into the socket that the finger-hold 26 will be above the upper side 5 of

the frame, so that the keeper may be readily withdrawn whenever desired. With this construction it will be manifest when the keeper is in engagement with the socket of the lock bolt and the latter fully projected the bolt will be positively held against movement even when the proper key is applied to the lock and actuated in the manner before described, the said lock bolt will remain in projected position until the keeper is removed, whereupon the spring will restore the bolt to its normal retracted position.

From the foregoing, it is evident that I have provided a device which is comparatively simple in structure and inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

I claim:—

A lock comprising a casing having a key-hole opening in one side thereof, a pair of spaced guide plates arranged within the casing, the upper guide plate being provided near its forward end with a vertical opening extending therethrough, a bolt slidably fitted between said guide plates and provided in its upper forward edge with a socket adapted to align with the opening of the guide plate when the bolt is projected, the lower forward edge of said bolt being provided with rack teeth to engage a pinion key insertible through the key-hole, the rear portion of the lower edge of the locking bolt being recessed, an upstanding lug on the lower guide plate projecting into the recess at the forward end thereof, a thrust spring arranged within the said recess and bearing upon the upstanding lug and the rear portion of the locking bolt, said spring serving to hold the bolt normally retracted, and a locking key insertible through the casing and the upper guide plate to rest upon the upper edge of the bolt whereby the lower portion of the key will gravitate into the said socket upon the projecting of the bolt.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID N. WEATHERS.

Witnesses:

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