Dec. 14, 1926. 1,611,052

R. H. MALICKI

LOCK

Filed April 18, 1925

Fig. 1.

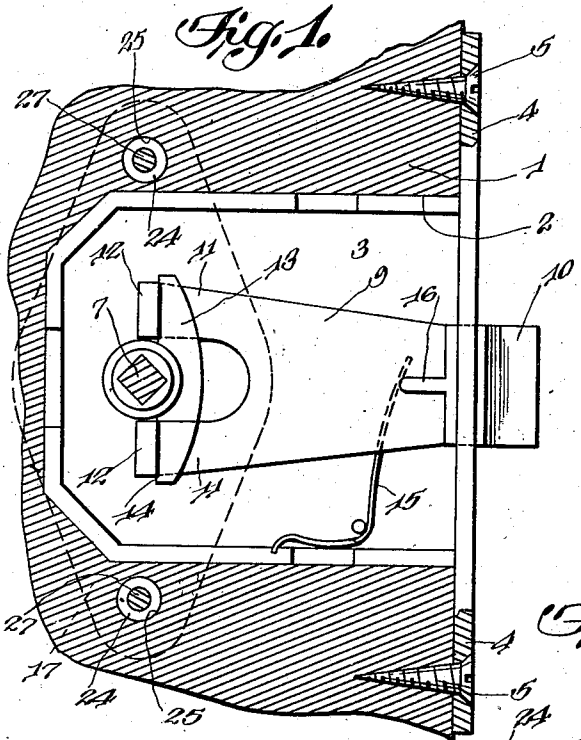


Fig. 3.

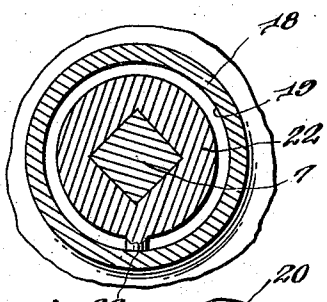


Fig. 4.

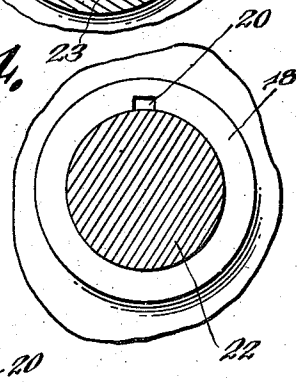
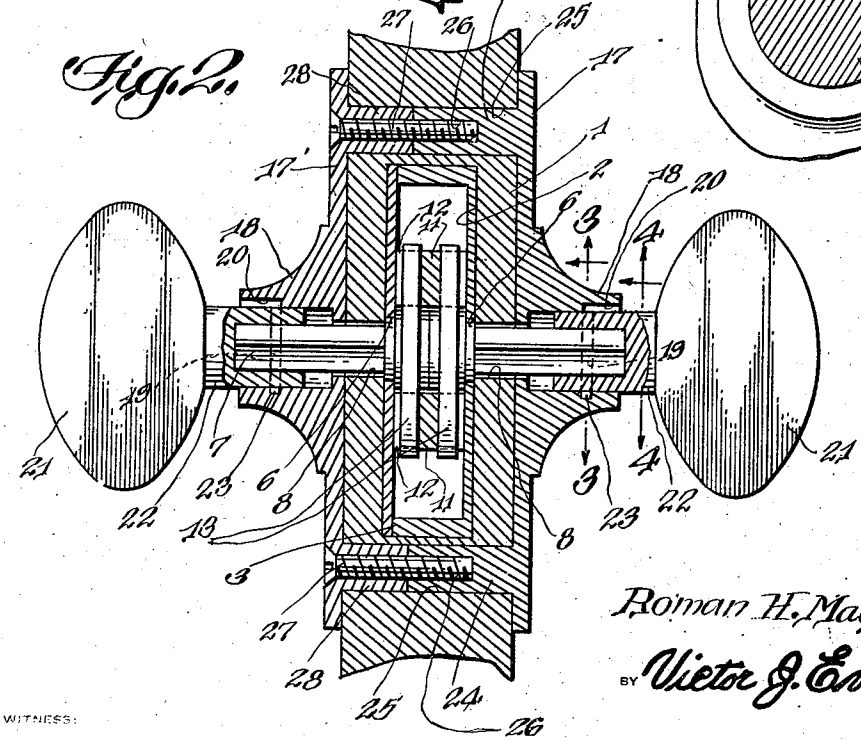


Fig. 2.



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WITNESS:

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UNITED STATES PATENT OFFICE.

ROMAN H. MALICKI, OF CHICAGO, ILLINOIS.

LOCK.

Application filed April 18, 1925. Serial No. 24,284.

This invention relates to new and useful improvements in locks and more particularly to novel means for attaching the actuating knobs on to the shaft of the locking bolt. The main object of the present invention is the provision of new and improved means whereby the actuating knob may be quickly and readily mounted upon the end of the locking bolt shaft so as to eliminate the use of screws or other similar fastening means for retaining the knob in position upon the end of the shaft.

Another object of my invention is the provision of improved means for engaging the knob with an attaching plate carried by the door and whereby the knob may be readily engaged with the shaft upon which the locking bolt is mounted so as to eliminate superfluous fastening members, such as screws or the like which are used at the present time.

With the above and other objects in view, my invention consists in the novel features of construction and the combination and arrangement of parts to be hereinafter more fully described, pointed out in the claim and shown in the accompanying drawings, in which:

Fig. 1 is a longitudinal section view through a lock, illustrating the position of the locking bolt therein,

Fig. 2 is a vertical sectional view taken at right-angles to the showing in Figure 1.

Fig. 3 is a detail transverse section on the line 3—3 of Figure 2,

Fig. 4 is a detail transverse section on the line 4—4 of Figure 2.

Referring more particularly to the drawings, the numeral 1 indicates a portion of a door having its edge provided with a recess 2 in which the lock casing 3 is mounted, said casing having perforated ears 4 at each end thereof which are attached to the door by means of the screws 5.

The side walls of the casing are provided with aligned openings 6 through which the shaft 7 extends, said shaft also extended through the openings 8 in the door 1 upon opposite sides of the casing.

A locking bolt 9 is arranged longitudinally in the casing 3, having a tapered end 10 at its outer end while the inner end is bifurcated to form the spaced arms 11, each arm having oppositely disposed tongues 12 and as noted in Figure 1, the arms 11 are disposed upon opposite sides of the shaft 7.

Mounted upon the shaft 7 and arranged upon opposite sides of the bolt 9 are the tumblers 13 having a straight-face portion 14 normally positioned against the inner faces of the tongues 12 whereby rotation of the shaft 7 in either direction will reciprocate the bolt 9 inwardly against the tension of a retaining spring 15 which engages a shoulder portion 16 on the bolt.

Arranged upon opposite sides of the door 1 are the plates 17 and 17′, having sleeves 18 projecting from the outer face thereof, said sleeves being provided with an annular groove 19 upon the interior thereof which is provided with a transverse recess 20 leading thereto from the outer end of the sleeve. The knobs 21 are provided with the usual shaft-receiving sleeves 22, carrying pins 23 which are adapted to be inserted through the recess 20 and engaged within the annular groove 19 for retaining the sleeves 22 in position upon the end of the shaft 7 and disposed within the sleeve 18.

The plate 17 is provided with studs 24 at the ends thereof which extend into suitable transverse openings 25 in the door, said studs having an internally threaded bore 26 to receive the connecting screw bolts 27 which are passed through the sleeves 28 on the plate 17′ and threaded into the bore 26. This securely connects the plates 17 and 17′ and also clamps them tightly against the outer faces of the door.

In placing the knobs 21 in position upon the ends of the shaft 7, it will be apparent that the plates 17 and 17′ will be in a loose condition and not attached to the door so that the outer end of the sleeve 22 may be inserted into the end of the sleeve 18 with the pin 23 passing into the recess 20, after which the knob 21 is given a predetermined turning movement to throw the pin out of alignment with the recess 20. This will position the rectangular opening in the sleeve 22 in alignment with the end of the shaft 7 which is received into the sleeve 22, as shown in Figure 2. The pin 23 is then in such a position relative to the recess 20 as to permit turning movement of the knob 21 in either direction for actuating the bolt 9, but will prevent the pin from being aligned with the recess 20. The rotation of the shaft 7, when actuating the bolt 9, is limited due to the engagement of the inner end of the bolt with the back wall of the casing 3.

Further regarding the mounting of the knobs on the shaft, it will be noted that after each knob has been placed in position upon the shaft, the plates 17 and 17′ are connected to the door upon opposite sides thereof, in order to retain the parts of the lock in operative position. It will be apparent that in constructing a lock of this character, it eliminates the use of screws and similar fastening members for attaching the knobs to the shaft and also provides for positive operation of the bolt.

While I have shown and described the preferred form of my invention, it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features or departing from the scope of the appended claim.

Having thus described my invention, what I claim is:

In combination, opposite escutcheon plates defining lateral sleeves provided with aligned openings and having longitudinally extending recesses formed therein terminating at their inner end portions into annular grooves, a latch structure including an operating shaft having end portions extending through the aligned openings, and knobs carried by said end portions and defining lateral projections adapted to be passed through the recesses to be positioned in the annular grooves, said projections cooperating with the annular grooves to limit movement of the knobs in either direction longitudinally of the operating shaft.

In testimony whereof I affix my signature.

ROMAN H. MALICKI.