April 2, 1957 L. M. WESBERRY 2,787,154

DOOR BOLT AND LOCK

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Fig. 1

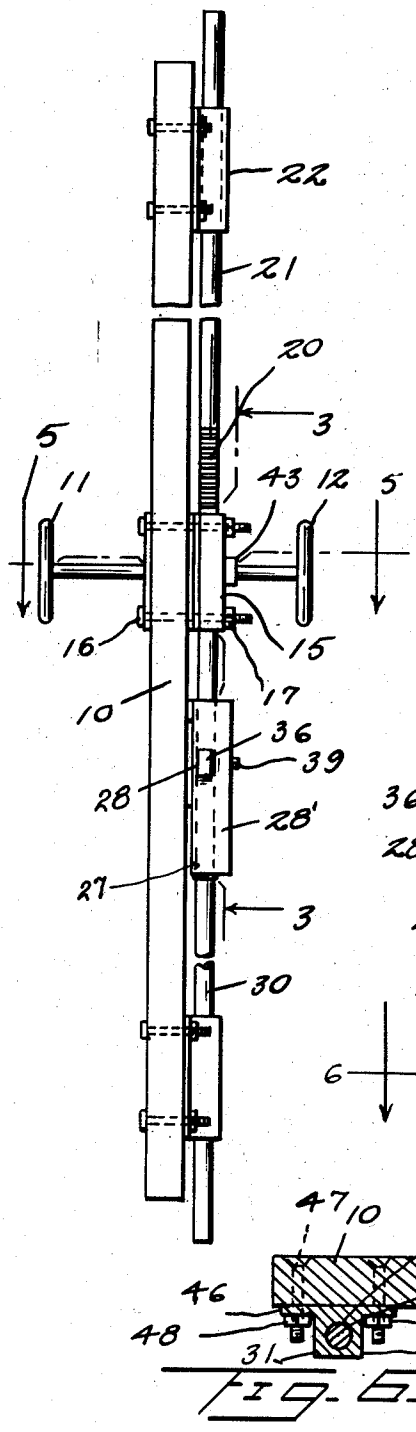
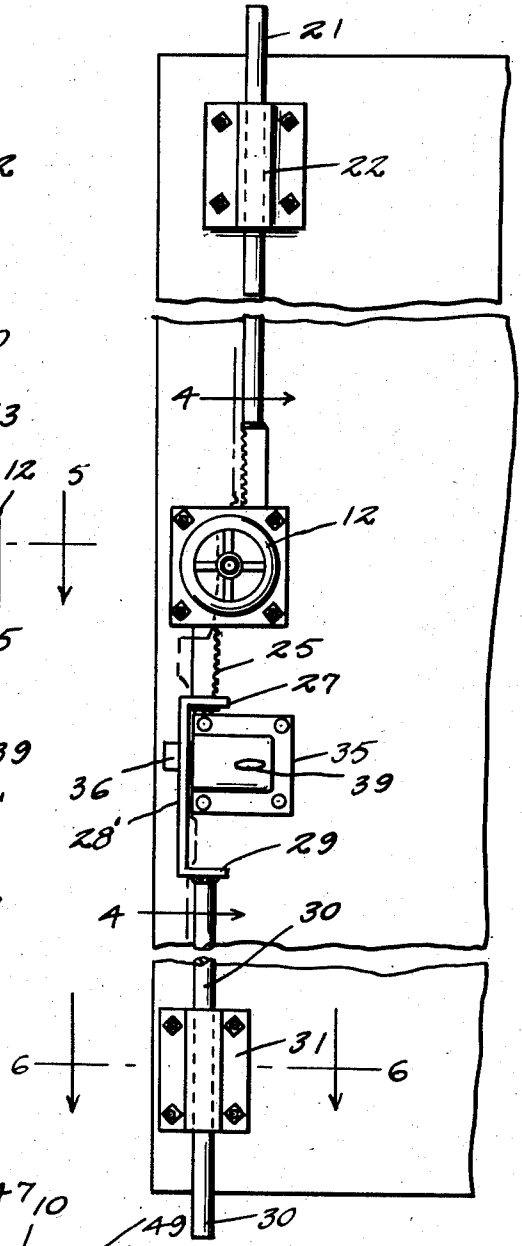


Fig. 6

Fig. 2



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FIG. 3.

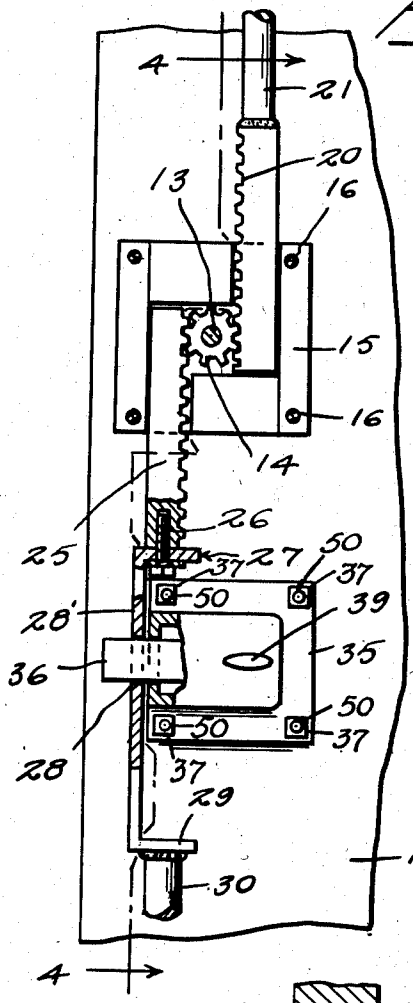


FIG. 4.

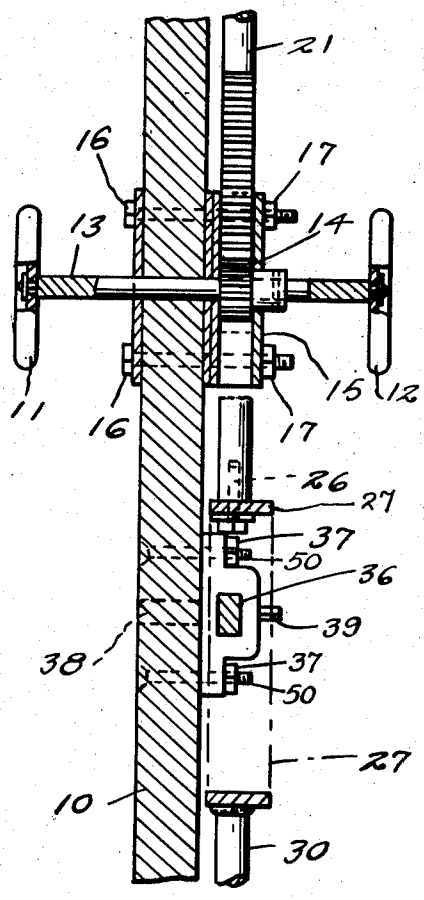


FIG. 5.

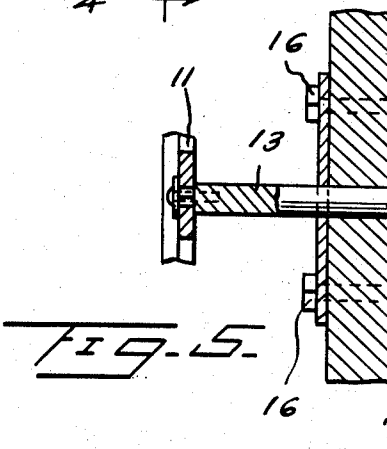
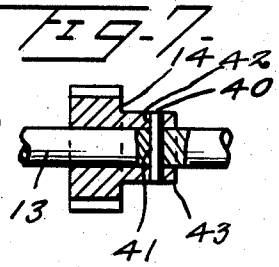


FIG. 7.



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2,787,154

Patented Apr. 2, 1957

2,787,154

DOOR BOLT AND LOCK

Leon M. Wesberry, Dallas, Tex.

Application November 30, 1953, Serial No. 394,925

1 Claim. (Cl. 70—118)

This invention relates to a bolt and locking means therefor, and more particularly to such a device as applied to doors.

A primary object of this invention is the provision in a door of a pair of oppositely extending bolts separately secured on one side of the door which are preferably engageable in oppositely disposed keepers at the top and bottom of the door frame which may be operated by means of a single operator.

A further object of this invention is the provision of oppositely disposed knobs carrying a single gear on a gear shaft operable to release both upper and lower bolts simultaneously but which has frangible means associated with the connection between the gear shaft and the gear, whereby forcible release of the bolts is precluded.

A further and more specific object of this invention is the provision of a shear pin employed as such a connection.

Still other objects reside in the combination of elements, the arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there are disclosed preferred embodiments of this inventive concept.

In the drawing:

Figure 1 is an end elevational view of a door showing the device of the instant invention applied thereto, parts thereof being broken away.

Figure 2 is a rear or inside elevational view of the device shown in Figure 1 as viewed from the rear or inside of the door.

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Figure 1 as viewed in the direction indicated by the arrows.

Figure 4 is an enlarged sectional view taken substantially along the line 4—4 of Figure 2, or along the line 4—4 of Figure 3, as viewed in the direction indicated by the arrows.

Figure 5 is an enlarged detailed sectional view taken substantially along the line 5—5 of Figure 1.

Figure 6 is an enlarged sectional view taken substantially along the line 6—6 of Figure 2.

Figure 7 is an enlarged fragmentary sectional view taken substantially along the line 7—7 of Figure 5.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing in detail, there is generally indicated at 10 a door or the like provided with outer and inner door knobs 11 and 12 respectively. The knobs 11 and 12 are mounted on a common shaft 13 which extends entirely through the door 10, and carries a pinion gear 14 positioned in a housing 15 secured as by bolts 16 and nuts 17 to the inner side of the door 10. One side of pinion 14 engages a rack 20 carried by a sliding bolt 21 which extends upwardly to the top of the door 10 and therebeyond, and is adapted to be engaged in any desired type of keeper (not shown) carried by the top of the door frame. The bolt 21 extends through a

bolt guide generally indicated at 22, to be more fully described hereinafter.

The opposite side of pinion 14 engages, as best shown in Figures 3 and 4, a rack 25 which is secured as by means of a bolt 26 to one end of a U-shaped bracket member 27 which is provided with a keeper aperture 28 in the vertical side 28' thereof, and a leg 29 which in turn is secured to a lower bolt member 30. The bolt member 30 extends through a bolt guide 31 substantially identical to bolt guide 22 and its projecting extremity is adapted to extend into a suitable keeper (not shown) on the lower side of the door frame.

A conventional lock member 35 is secured as by means of bolts 50 and nuts 37 within the space formed above the leg 29, of the previously described U-shaped member 27. Lock member 35 has a bolt 36 which is extendible through keeper aperture 28 and is operable in the conventional manner as by means of a key (not shown) extending through an outer key hole 38 and an inner handle 39.

Referring now back to shaft 13 and its associated pinion gear 14, it will be pointed out that the gear 14 is freely rotatable on the shaft 13 and is secured thereto by means of a shear pin 40 of brass or the like, which extends through aperture 41 in shaft 13 and corresponding apertures 42 in the hub 43 of gear 14.

From the foregoing the operation of the device should now be readily understandable. After the device has once been locked by rotating the knobs 11 or 12 and projecting the bolts 21 and 30 into their associated keepers the bolt 36 is engaged in keeper aperture 28. Upon withdrawal of the bolt 36 from the keeper aperture 28 by turning the handle 39 the bolts 21 and 30 are freed for movement by the knobs 11 and 12 the door 10 may be opened. However, while the bolt 36 of lock 35 is still engaged in keeper aperture 28 it will be readily apparent that the forcible turning of either knob 11 or 12 will result in the prompt shearing of pin 40, whereupon direct rotation of either knob 11 or 12, or both, will serve no useful purpose for withdrawing bolts 21 and 30 from their associated keepers, and the door 10 will thus remain securely locked against intrusion.

Figure 6 discloses the bolt guide 31, which is substantially identical to bolt guide 22, and includes a rectangular block member 45 having flanges 46 which are secured as by bolts 47 and nuts 48 to the inner side of the door 10.

The rectangular portion 45 is provided with an aperture 49 in which is slidably mounted bolt 30.

From the foregoing it will now be seen that there is herein provided an improved bolt and lock for doors which accomplishes all the objects of this invention and many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

What is claimed is:

In combination with a door, a shaft extending through said door, knobs mounted on opposite ends of said shaft, a gear mounted on said shaft between said knobs, a shear pin drive member connecting said gear and said shaft, a pair of opposed racks engaged by said gear, a bolt operatively connected to one of said racks, a U-shaped keeper member depending from the other of said racks, said keeper member being provided with a keeper aperture, a bolt operatively connected to said keeper member, and a lock having a bolt adapted to engage in said keeper aperture locking said racks against movement.

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