Sept. 14, 1948. R. E. WHITMORE 2,449,353

DOOR LATCH

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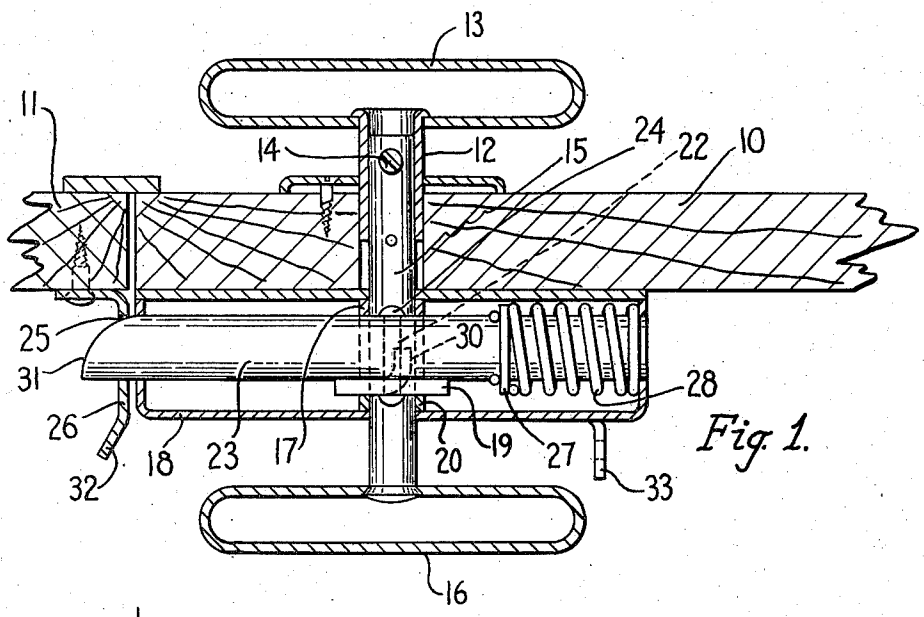


Fig. 1.

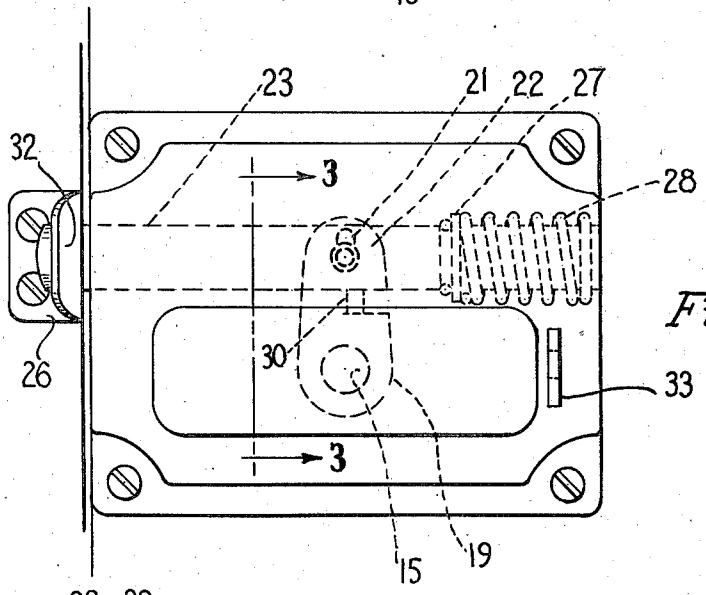


Fig. 2.

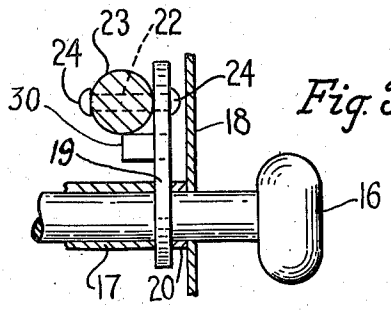


Fig. 3.

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DOOR LATCH

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2 Claims. (Cl. 292—173)

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This invention relates to a door latch, and more particularly to such a latch adapted to be utilized as an outside latch for buildings such as garages, barns, and the like.

A primary object of this invention is the provision of an improved latch characterized by a comparative minimum of moving parts.

An additional object of the invention is the provision of such a latch which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to assemble, install, and manufacture.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawing, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a horizontal sectional view taken through the latch of the instant invention, showing a portion of the door and the door frame to which the latch is adapted to be associated,

Figure 2 is a rear elevational view of the latch shown in Figure 1, certain concealed parts thereof being indicated by dotted lines, and the knob being omitted for the sake of illustration, and

Figure 3 is a sectional view taken substantially along the line of 3—3 of Figure 2 as viewed in the direction indicated by the arrows.

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

Having reference now to the drawing, there is generally indicated at 10 a door, and an associated door frame 11. The door 10 is provided with an aperture therethrough within which is positioned a sleeve 12, to which is affixed a knob 13. The sleeve 12 is secured in any desired manner, as by means of a set-screw 14, to a shaft 15, which extends completely through the door, and latch housing 18 and terminates in a knob 16. A second sleeve 17 surrounds that portion of the shaft 15 within the latch housing 18, and abuts one side of a lever 19, a collar 20 being positioned between the lever and the outside wall of the latch housing 18. As best shown in Figure 2, the lever 19 extends upwardly above the shaft 15 on which it is fixed, and has an elongated slot 21 in its upper portion, adapted to be engaged by a pin 22 which extends through a bolt 23, the pin 22 being headed at both ends, as at 24 (see Figure 3).

The extremity 31 of the bolt 23 is adapted to extend outwardly through a suitable aperture of the end wall of the casing 18 and engage in a corresponding aperture 25 in a keeper 26 secured to the frame 11.

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A washer 27 is secured at a suitable point on the bolt 23 and serves to compress a coil spring 28 when the bolt is retracted. The lever 19 has a lug 30 set out from an intermediate portion, and inwardly turned, adapted to underlie the bolt 23 to preclude movement of the lever 19 beyond a substantially vertical position, and hence limit the forward travel of the bolt 23.

From the foregoing, the operation of the device should now be readily understandable. It will be readily seen that when the knob 16 or the knob 13 is rotated in a clockwise direction the lever 19 which, as above pointed out, is securely fixed to the shaft 15, will be rotated through an arc, serving, through the pin 22, to withdraw the bolt 23 from its associated keeper 26 against the compression of the spring 28. However, as soon as the pressure on either of the knobs is released, the spring will bias the bolt 23 outwardly until further motion is precluded by the engagement of the lug 30 with the underside of the bolt. As is conventional practice, the keeper engaging end of the bolt is arcuate, as indicated at 31, and the keeper 26 has an inclined portion 32, whereby, when the door is slammed, the bolt will engage in the keeper, being guided thereinto by the coaction of the surfaces 31 and 32. A projecting lug 33 is struck from the housing 18, and serves as a support for a lock, or the like, if desired.

From the foregoing, it will now be seen that there is herein provided an improved latch accomplishing all of the objects of this invention, and others, including 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.

I claim:

1. A door latch including a bolt, a bolt operating shaft disposed transversely to said bolt, a lever secured to said shaft, a longitudinally extending slot in the outer terminal of said lever, a pin secured to said bolt and slidably secured into said slot, a stop lug secured to said lever for engagement with said bolt to limit oscillation of said lever and resilient means biasing said bolt into the latching position.

2. A door latch including a casing having a bolt aperture, a bolt slidable in said casing and extending through said aperture, a coil spring surrounding said bolt and abutting a wall of the casing for yieldingly urging said bolt into latching position, a bolt operating shaft journaled in

said casing transverse said bolt, a lever secured to said shaft and having its outer end adjacent said bolt, a slot in said outer end, a pin secured to and extending transversely through said bolt and slidable in said slot, means for actuating said shaft to oscillate said lever and reciprocate said bolt and a stop lug extending transversely from said lever and parallel to said pin and engageable with said bolt to limit the oscillatory movement of said lever and the latching stroke of said bolt.

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