

Sept. 25, 1956

H. M. MARKO

2,764,440

DOOR LATCH

Filed Nov. 10, 1954

3 Sheets-Sheet 1

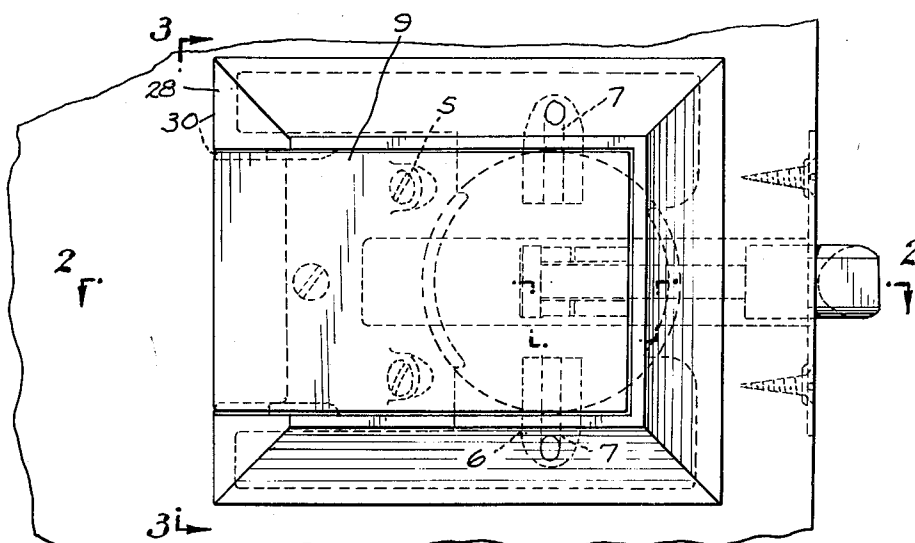


FIG. 1

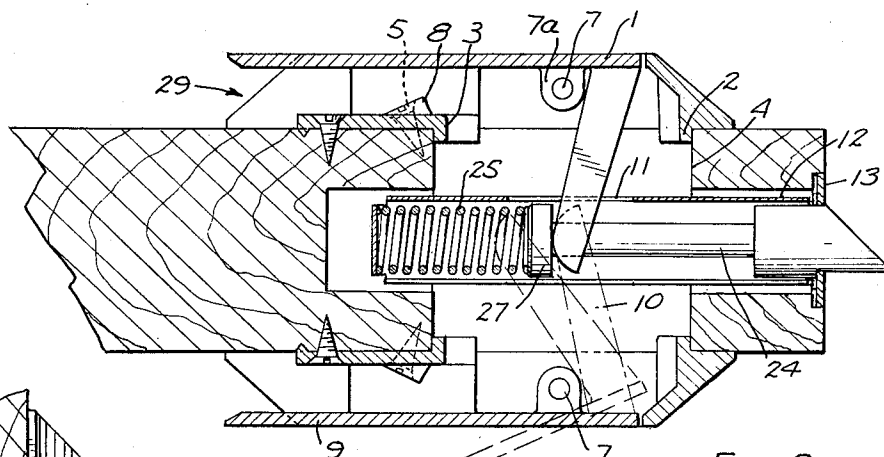


FIG. 2

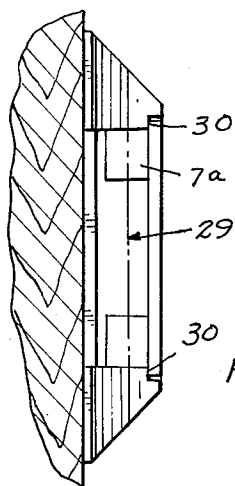


FIG. 3

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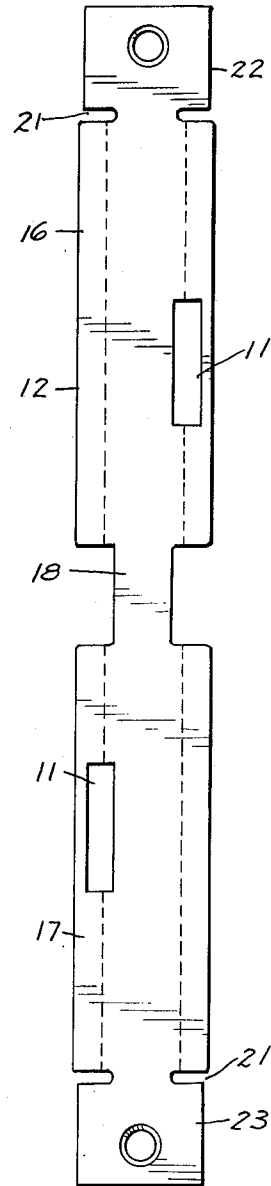
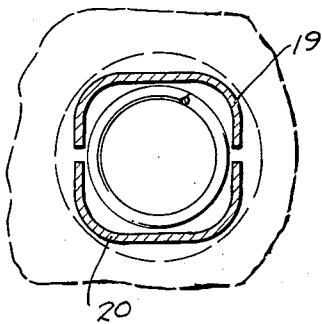
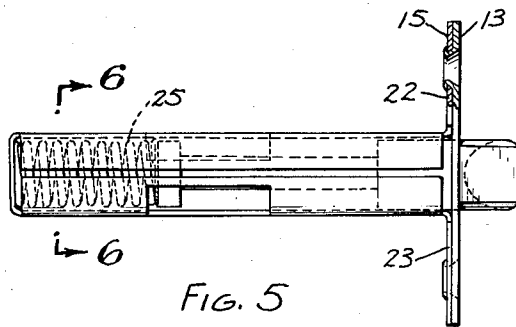
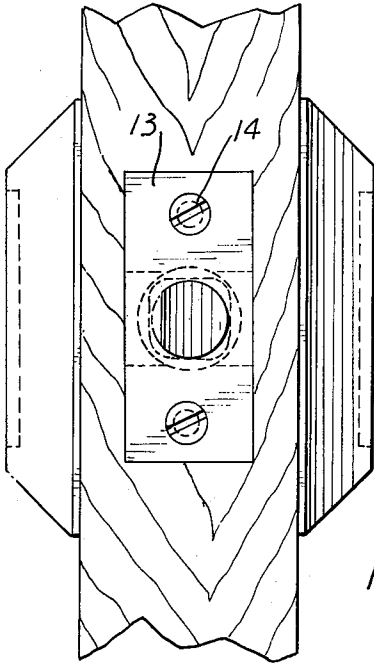
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DOOR LATCH

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3 Sheets-Sheet 2



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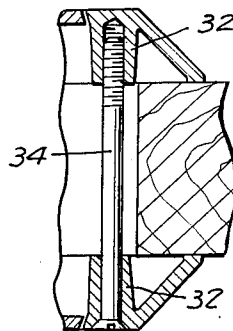
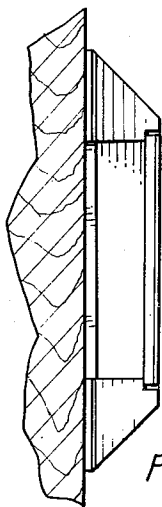
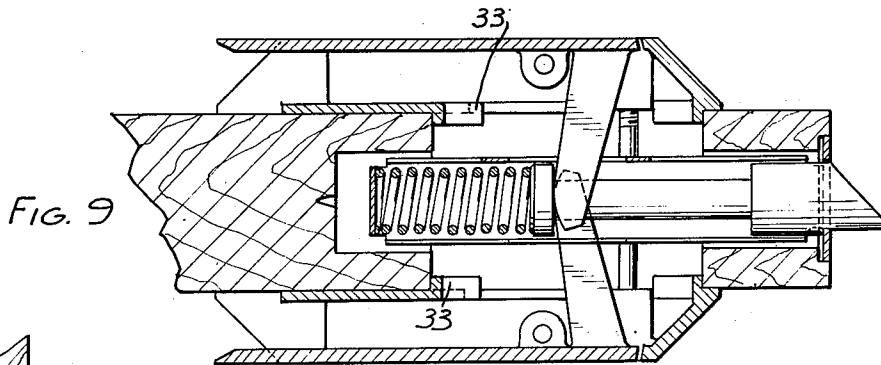
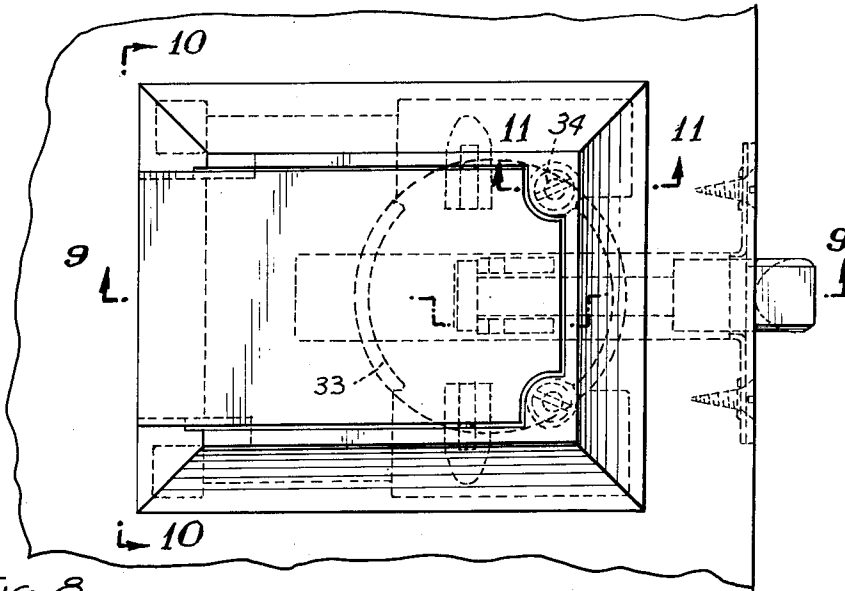
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DOOR LATCH

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3 Sheets-Sheet 3



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DOOR LATCH

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Application November 10, 1954, Serial No. 467,988

8 Claims. (Cl. 292-173)

This invention relates to flush latches, especially latches for cabinets and house doors.

It is the object of the invention to provide a latch which is substantially flush with the face of the door but which can be operated by a push or pull lever which, when it rests, is substantially flush with the face of the latch body.

This piece of hardware is very simple in construction and involves only a few easily manufactured parts. When installed on a door it presents a very good appearance.

Referring to the drawings:

Fig. 1 is a front elevation of the latch.

Fig. 2 is a section taken on the line 2-2 of Fig. 1.

Fig. 3 is a section taken on line 3-3 of Fig. 1 and showing an end elevation of the latch.

Fig. 4 is a fragmentary view of the edge of a door showing the latches and the face plate installed.

Fig. 5 is an elevation of the bolt assembly.

Fig. 6 is a section taken on the line 6-6 of Fig. 5.

Fig. 7 is a plan view of the stamping of which the bolt guide is made.

Fig. 8 is an elevation of an alternative form of latch.

Fig. 9 is a cross section on line 9-9 of Fig. 8.

Fig. 10 is an end elevation of the latch taken on the line 10-10 of Fig. 8.

Fig. 11 is a cross section taken on line 11-11 of Fig. 8.

The latch body 1 is located in door by bosses 2 and 3 in mounting aperture 4 and secured to the door by screws 5. These screws 5 pass through the bosses or spurs 8 which are part of the latch body casting. These angular bosses are provided so that the screws can be driven obliquely into the door. The reason for this is to make it possible to reach the screws with a screw driver when the latch lever is raised.

This casting forms on the outside a bevelled U escutcheon. The ends of the U are chamfered at 28 in the same way that the legs of the U and the bottom of the U are chamfered. This U is here shown as rectangular but it may be other shape. The U affords a large space which the platelike lever 9 covers and in which it functions. The plate-like lever extends beyond the chamfered ends 28 of the U to provide space to grasp the lever. This bevelled and chamfered U escutcheon with the plate-like lever, completely filling the opening in the U, forms a very pleasing piece of hardware to attach to a house or cabinet door. It has a novel appearance and appeal in contradistinction to the conventional door knob and escutcheon.

The latch body is provided with journal bearings 6 in which the pintle 7 supported on collars 7a of the latch lever 9 engage so that the lever is free to swing. This lever has arm 10, which is L-shaped, and part of a casting which, when assembled, reaches into the slot 11 in the bolt guide 12.

The face plate 13 is secured to the edge of the door by screws 14. This face plate has attached to the back,

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bent ends 15 of the bolt guide 12—either welded or hollow rivets formed by screw holes.

The bolt guide is made of one stamping, which is shown in its flat form in Fig. 7. This stamping is subjected to punch and die operations to form the two portions 16 and 17 at the ends of the narrow centerpiece 18 into the channels 19 and 20 shown in Fig. 6. The outer ends of portions 16 and 17 are separated by the notches 21 which allows the end pieces 22 and 23 to be folded up and welded or riveted to the back of the face plate. Slots 11 provide recesses in which the arms 10 and levers 9 reach in to contact the bolt.

This strap forms a guide for the sliding bolt 24 and an abutment for the coil spring 25 that stresses the bolt to cause its bevelled head to project from the face plate. The outer end 7 and the lever 5 abutting against the latch body, notches 30 are stopped in closed position.

The open end of the U latch body provides clearance 29 to permit the fingers to pass under the end of the lever to pull it out. This swings the arm 10 against the roll back 27 and retracts the bolt. The lever is of the first order and is fulcrumed at a point midway the power end of the load end. The front end of the lever extends quite a distance in front of the fulcrum so that this end may be easily pressed in to operate the lever by pushing as contradistinguished from taking a hold of the rear end and pulling. Hence, this arrangement provides a flush lever that may be operated at either end to open the door.

The latch casing and operating lever lie close to the door and the latch body appears much like an extended watch casing—about double the width of the normal watch casing. This provides a neat and pleasing appearance. There is a latch body and latch lever plate on each side of the door. The parts are interchangeable so only one set of dies is required to make the parts for the inside of the door and for the outside of the door.

An alternative form of the latch shown in Figs. 8-11, inclusive, embodies the same general form but here the two latch casings may be applied to the two sides of the door with two screws. Each latch casing is provided with two cylindrical bosses 32. These bosses are substantially all inset from the periphery of the opening 33 in the latch inner house and the mortise in the wood door. Consequently, two long bolts 34 can be used to secure the two latch casings to the door.

What I claim is:

1. A latch having in combination a face plate which is arranged to be secured to the face of the door post and provided with an opening, a bolt having a roll back, a bolt guide for the bolt secured to the face plate, a spring in the guide for normally projecting the bolt through the face plate, a latch body open at the rear end in which the bolt guide is secured and which has an open area and can be secured to the door and stand out therefrom around and over an opening in the door, the said latch body provided with journal bearings and a push and a plate-like pull lever accessible in the rear where the latch body is open, said lever provided with pintles fitting into the journal bearings to mount the lever in and fill the open area of the body to swing in and out, an arm on the inside of the lever having an end bearing against the roll back to withdraw the bolt, the said pintles being near the mid-portion of the lever to provide two power ends for the lever, one at the rear to pull the lever and one at the forward end to push the lever.

2. The combination claimed in claim 1 in which the rear end of the latch body has free space to provide clearance for gripping the rear end of the lever with the fingers.

3. The combination claimed in claim 1 in which the latch body is a casting.

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4. The combination claimed in claim 3 in which the latch body inside of the lever is provided with angular spurs having inclined screw holes.

5. The combination claimed in claim 1 in which the latch body is a casting in the form of a bevelled escutcheon U shape and in which the lever is a flat plate-like member completely filling the space inside the U and flush with the top of the escutcheon.

6. The combination claimed in claim 5 in which the ends of the U are chamfered at the same angle of the bevel in the escutcheon and in which the lever plate extends beyond the chamfered ends of the U to afford free space for the insertion of the figures to lift the lever.

7. A latch bolt guide comprising, a face plate and a piece of strap metal notched midway its length to provide a narrow center piece and notched near the ends to provide end pieces, the portions intervening between the end notches being slotted for the reception of the arm that contacts the roll back of the bolt, the intermediate portions being formed into channels and the end portions folded at right angles to contact the face plate with channel portions being folded over to substantially

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abut and the folded up end portions being secured to the rear of the face plate.

8. The combination claimed in claim 3 in which there are two latch casings secured on opposite sides of the door by means of one casting having two bosses with openings and the other two interiorly threaded bosses at the forward side of the openings through the castings and two long bolts secure both castings to the door by means of passing through the two bosses of one casting and screwing into the threaded openings in the other casting.

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