Jan. 20, 1931. M. HANSEN 1,789,405

DOOR LATCH

Original Filed June 1, 1928 2 Sheets-Sheet 1

Fig. 1.

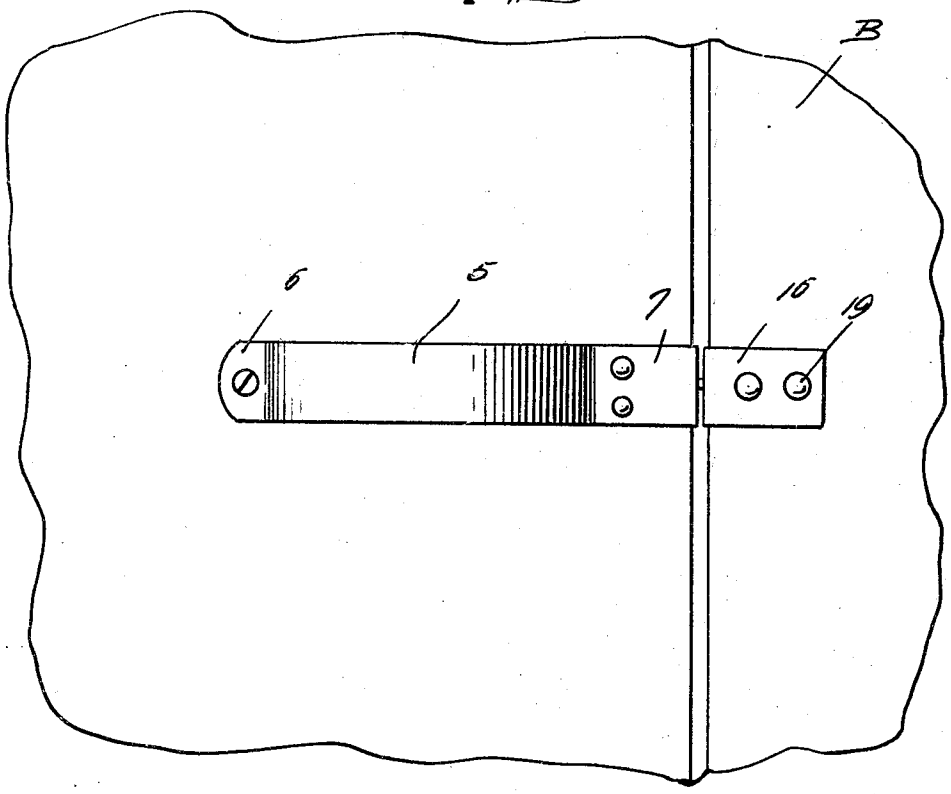
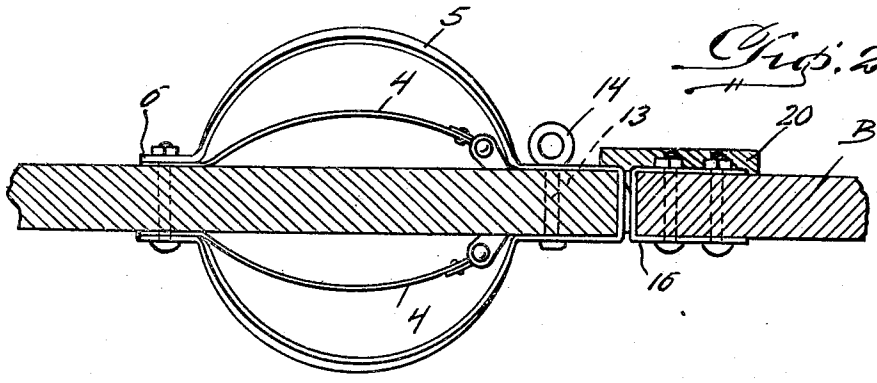


Fig. 2.



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Fig. 3.

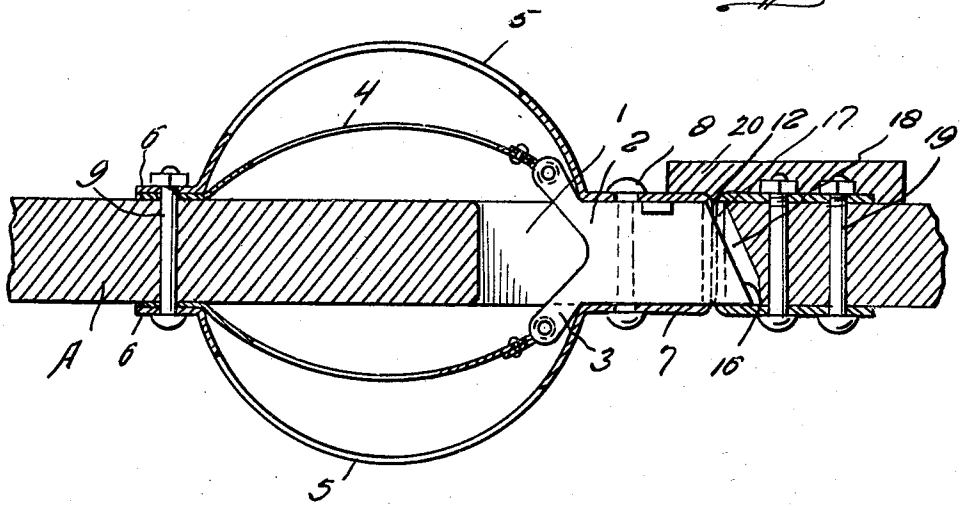


Fig. 4.

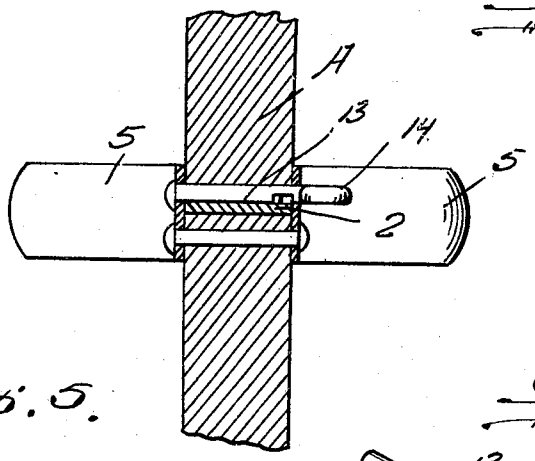


Fig. 5.

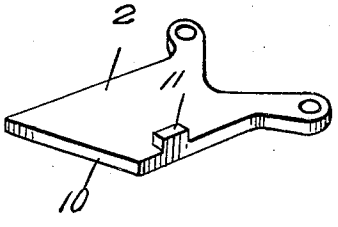
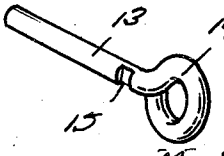


Fig. 6.



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UNITED STATES PATENT OFFICE

MADS HANSEN, OF TEKAMOH, NEBRASKA

DOOR LATCH

Application filed June 1, 1928, Serial No 282,177. Renewed December 8, 1930.

The present invention relates to improvements in door latches, the same contemplating the provision of a door securing means capable of being operated with but little effort on the part of the operator, and which has for one of its most important objects the provision of latch means of this nature which can be manufactured and sold at low cost, and yet be of such strong and durable construction as to reduce any liability that the same will be easily broken or otherwise impaired.

Another object is to provide a latch construction including a spring projected bolt, wherein the spring employed for projecting the bolt is accessible to the hand of the operator, so that by effecting a pressure against the spring, the bolt will be retracted.

After reading the following specification and claim, other important objects and advantages of this invention will become apparent.

In the drawings:

Figure 1 represents a fragmentary portion of a door structure with the present invention shown associated therewith and in door securing position.

Figure 2 represents the fragmentary sectional view of a door in closed position with respect to the jamb portion of the doorway showing the leaf springs for normally maintaining the slidable bolt projected outwardly.

Figure 3 is a sectional view, through the door and jamb portion of the door way, showing a top plan view of the slidable bolt member.

Figure 4 is a vertical sectional view through a portion of the door and latch mechanism, showing the key for latching the bolt in either projected or retracted position.

Figure 5 is a perspective view of the bolt, and

Figure 6 is a perspective view of the key member for securing the bolt against movement.

Referring more specifically to the drawing, wherein like numerals designate like parts, a door A of usual construction is shown in the drawings, in closed relation to the jamb portion of a wall B. The door is formed with an inwardly and horizontally disposed slot 1, in which the latch plate or bolt 2 is slidable.

This latch plate is provided at its inner end with outwardly diverged arms 3 which project beyond opposite sides of the door. A leaf spring 4 is secured to each side of the door. Each of these leaf springs is secured at one end to the door, while its opposite end is connected to one of the diverged arms 3 of the latch plate 2 for normally maintaining the latch plate in projected position.

A semi-circular shaped handle 5 is secured to each side of the door. Each of these handles is provided at its respective ends with laterally disposed feet 6 and 7 respectively, the foot 7 being substantially longer than the opposite foot 6 and is adapted for disposition over the open side of the slot 1 formed in the door. A rivet 8 secures the elongated foot portions of the handles 5 against opposite sides of the door and in a position to partially close the open sides of the slots 1, and provide a guideway for the slidable latch plate 2. The short pieces 6 of the handle are disposed against the fixed end portions of the leaf springs 4 and are then secured in place by a suitable bolt 9 extending through the door and tightly binding the end portions of these elements thereagainst.

The latch plate 2 is preferably formed with a bevelled end 10 and an upstanding lug 11 formed thereon. The ends of the feet 7 are preferably connected by a jamb plate 12, in which an opening is formed, to permit the projection of the bevelled end 10 of the latch plate to project.

A T-member 13 is formed at one end with a loop 14 and a notch immediately inwardly from this looped end. The shank of the key is arranged through registering openings in the feet portions 7 and the door A, immediately above the latch plate 2.

The free end of the key may be bent or enlarged to prevent the displacement thereof. By rotating the key, the same may be disposed in the position shown in Figure 4, whereby the latch plate 2 will be free to move without limitation. However, if the key is turned to a right angular position in re-

spect to its disengaged position, the same will prevent the inward motion of the latch plate, if the lug 11 thereon is disposed outwardly from the key, while on the other hand, if the key is turned to the engaging position while the plate is in retracted position, the key will prevent the bolt from being projected outwardly.

A U-shaped plate 16 is secured to the jamb edge portion of the wall B, so that its bight portion will be in opposed relation to the connecting structure 12 of the handles 5. The bight portion of the U-shaped plate is formed with an opening 17, registering with an opening 17 formed in the edge of the wall. Obviously, when the latch plate is in projected position, the bevelled end 10 thereof is seated within the socket 18 of the wall B. The leg portions of the plate 16 are secured to the opposite sides of the wall B by suitable bolts 19. A stop plate 20 is secured to the inner side of the wall and is adapted to project at one end beyond the edge thereof, to afford a stop for the door.

It will be noted that when the particular spring 4 is drawn toward the corresponding handle 5, the latch plate 2 is retracted and permits the closure to be opened. Of course, this latch plate cannot be retracted until the key 13 has been properly set so that the lug 11 will pass through the notch 15 in the key stem. Promptly upon release of the spring 4, the same will assume its projected position and be ready to snap into position in the socket of the door frame when the door is swung to closed position.

While the preferred form of the invention is disclosed in the accompanying drawings, changes in the shape, size or material, in the construction of this invention may be resorted to, without departing from the spirit of the invention or the scope of the appended claim.

Having described the invention, what is claimed as new is:

A closure fastener comprising a pair of handles constructed of a single strip of material, said strip being bent at its intermediate point to form a substantially U-shaped portion for engagement against the jamb portion of the closure, each end portion of said strip being curved outwardly from the closure with its extremity secured to the corresponding side of the closure, the bight portion of the said strip being provided with an opening, a latch bolt slidably disposed within the confines of the U-shaped portion of the strip and being slidable through the opening in the bight portion thereof, a pair of leaf spring elements, one at each side of the closure, and each being interposed between one side of the closure and the corresponding handle portion, one end of each leaf spring being secured to the free end of the corresponding handle, while the opposite end thereof is secured to the inner end of the latch bolt, said leaf spring being normally spaced from the intermediate portions of the said handle so that by drawing the leaf springs toward the handles, the latch bolt will be retracted.

In testimony whereof I affix my signature.

MADS HANSEN.