Nov. 12, 1946. C. E. LEISS 2,411,098

SWINGABLE CLOSURE FASTENER

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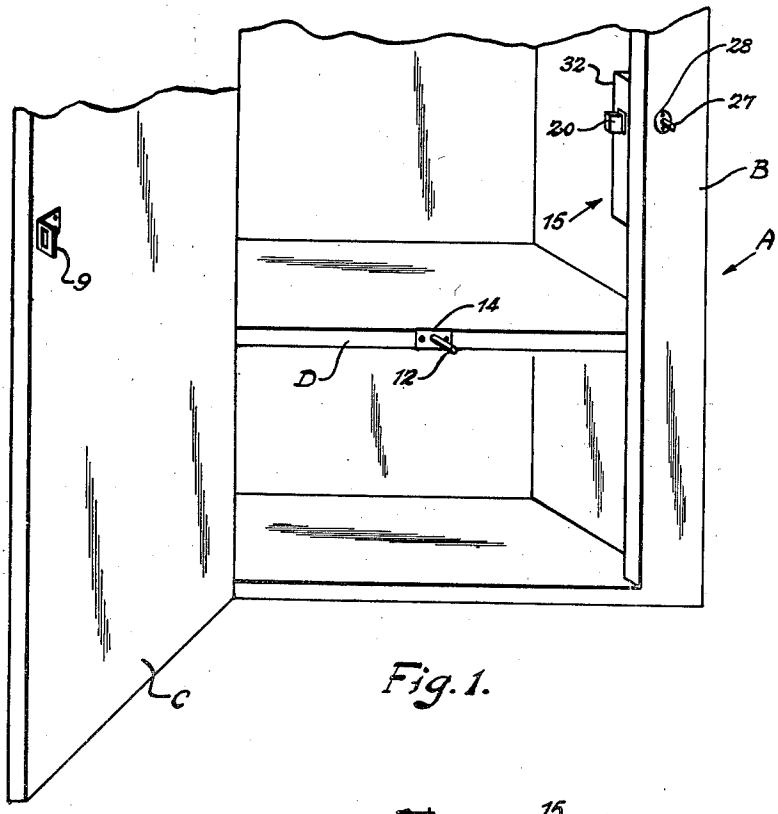
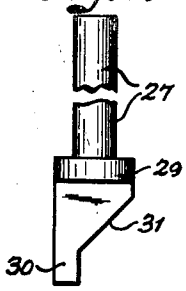


Fig. 1.

Fig. 5.



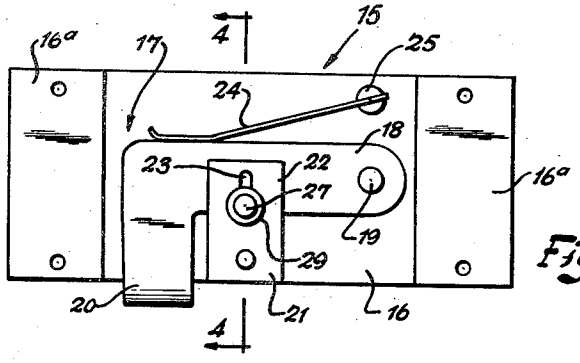


Fig. 2.

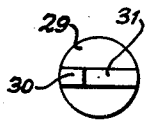


Fig. 6.

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Fig. 3.

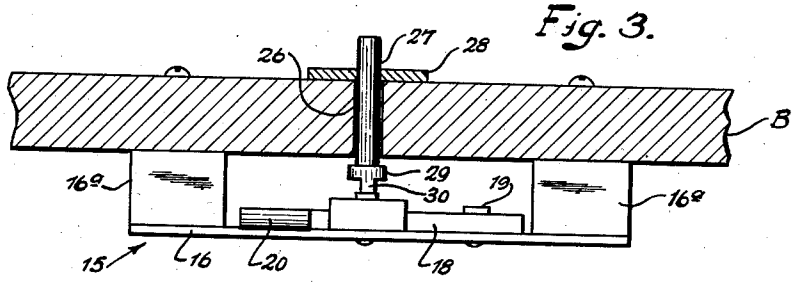


Fig. 4.

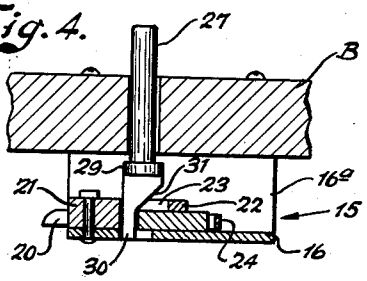


Fig. 7.

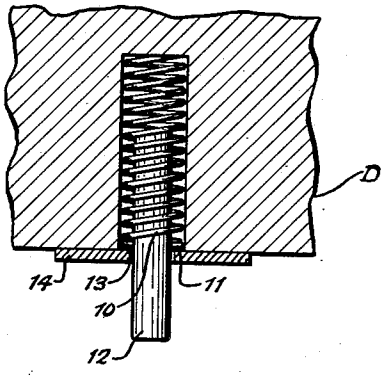
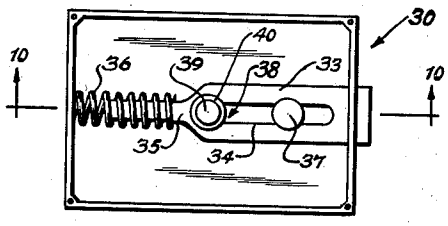


Fig. 9.



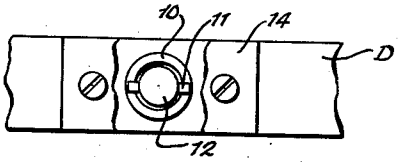


Fig. 8.

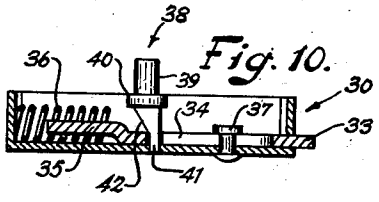


Fig. 10.

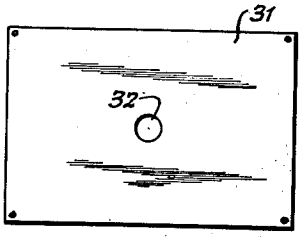


Fig. 11.

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Patented Nov. 12, 1946

2,411,098

UNITED STATES PATENT OFFICE

2,411,098

SWINGABLE CLOSURE FASTENER

Charles E. Leiss, Meriden, Conn.

Application March 1, 1945, Serial No. 580,295

2 Claims. (Cl. 292—124)

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This invention relates to novel and improved mechanical fastening means for hinged doors and equivalent closures, and has reference in particular to a push button released latch which is expressly adaptable for use in connection with door-closed cabinets and the like.

Needless to say, I am aware that the art to which the invention relates is active and well developed and is characterized by numerous and varied types of latch-equipped fasteners and so-called locks. Therefore, my primary aim is to specifically and otherwise structurally improve upon those known to me, this through the medium of a construction which is possessed of appreciable refinements and improvements, these providing an arrangement which, it is believed, better and more aptly fulfill the requirements of latch-type fasteners.

Another phase of the invention has to do with the adoption and use of a spring-pressed plunger mounted on one of the cabinet shelves and coacting with the abutting door so that when the latch is released, the plunger trips the door to cause it to clear the frame and to thus be readily swung to open position.

Other features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a perspective view of a cabinet including a hinged door, latch, keeper, and door plunger, all constructed in accordance with the present invention.

Figure 2 is an elevational view showing the latch mechanism and assembling frame therefor.

Figure 3 is an edge elevation, with a part of the cabinet in section, this to bring out the relationship of the push button to the rest of the structure.

Figure 4 is a view at right angles, this being taken approximately on the plane of the line 4—4 of Figure 2.

Figures 5 and 6 are side and end elevations of the push button.

Figure 7 is a view partly in section and partly in elevation of the door-opening, spring-pressed plunger.

Figure 8 is a front and elevation of Figure 7 with the face plate broken away.

Figure 9 is a top plan view of a modified type of push-button controlled latch unit.

Figure 10 is a central section taken approximately on the plane of the line 10—10 of Figure 9, looking in the direction of the arrows.

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Figure 11 is a plan view of a cover plate used in connection with the casing seen in Figures 9 and 10.

Referring first to Figure 1, it will be seen that the cabinet is denoted by the reference letter A, the same being provided with a frame B and a hinged door C, as well as internal shelves D. The door is provided at a suitable point with a substantially L-shaped keeper fixture 9 whose lateral free end is apertured to provide the keeper opening. The shelf is provided with a socket to accommodate a coiled spring 10, the spring bearing against projecting pins 11 on the plunger rod 12, this operating through a guide opening 13 in the face plate 14, the latter fastened to the edge of the shelf, the obvious purpose of this plunger being to exert constant stress against the door to serve as a sort of anti-rattler and automatic opening device.

Referring now to the latch construction, this comprises a frame structure, generally denoted by the numeral 15 and actually composed of a plate 16 having foundation and spacing blocks 16a attached thereto. The L-shaped latch 17 has its long arm 18 pivotally mounted, as at 19, with its short arm 20 projecting, normally, beyond one edge of the plate to engage in the keeper 9. An adapter block 21 is fastened to said plate and this has an extension 22 which serves as an accommodating member, and said extension has a slot 23. The swingable end of the arm 18 is pressed beneath the overhanging extension 22 by a flat spring 24 anchored in place, as at 25.

The panel or frame is provided with an opening 26 for a plunger rod 27, the latter having its outer end extending through a washer or facing ring 28. This plunger rod serves as a finger or push button and is provided on its inner end with a head 29 (see Figs. 5 and 6) having a central projection 30 terminating in a finger and provided on one edge with a cam 31, these parts 30 and 31 fitting into the slot 23 and the cam 31 engaging the edge of the arm 18.

When the door C is closed, the finger or end 20 of the latch engages in the keeper 9, as is obvious. Also, at this stage the plunger pin 12 is retracted and held against the tension of the spring by the door itself so that it actually functions as a sort of anti-rattler. The latch is held in the keeper by the spring 24. By engaging the push button 27 and exerting an inward thrust thereon, the cam 31 operating in the slot 23 en-

gages the edge of the arm 18 of the latch and the latch is thus disengaged from the keeper and as soon as the part 20 is clear of the keeper, the plunger 12 comes into play to force the door open, at least sufficiently to permit it to be grasped and conveniently swung to a full open position.

Referring to the modified form of the latch unit shown in Figures 9, 10 and 11, it will be seen that this comprises an open top, substantially rectangular casing 30 which is adapted to be enclosed by a removable lid or cover plate 31 provided with a plunger hole 32.

The latch proper is denoted by the numeral 33 and is provided with an elongated slot 34 and an offset shank 35, the latter projecting into a coiled spring 36 suitably anchored in the casing. The slotted portion of the latch is fastened slidably in place by a headed rivet or equivalent element 37. The plunger is denoted at 38 and comprises a push button 39 with a shoulder or stop flange 40. In addition, there is an extension 41 which projects down through the inner end of the slot and through an opening in the casing, as brought out in Figure 10. This extension is provided with a cam 42 which engages the adjacent edge portion of the slot to retract the latch against the pressure of the coiled spring. When the lid or cover 31 is in place, the button 39 projects through and beyond the hole 32 while the flange 40 engages the under or inner side of the cover, this as is obvious. The operation of this latch construction is the same as that already described.

If desired, and in actual practice, a cover plate 32 may be provided, this as shown in Figure 1. That is to say, a cover plate can be placed over one side of the latch-mounting frame and apertured to accommodate the projecting latch finger 20.

A careful consideration of the foregoing description in conjunction with the invention, as illustrated in the drawings, will enable the reader

to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

I claim:

1. In a latch construction of the class described, a flat plate, an L-shaped latch superimposed and pivotally mounted on said plate, a flat spring anchored at one end on said plate and engageable at its free end with one arm of the latch, an adapter block mounted on said plate at right angles to a coacting portion of said latch, said block having a slotted end extension overlying said portion of the latch, a push button comprising a cylindrical rod, said rod having a head, and said head being provided with an extension formed with a cam, the extension and cam movable in said slot and engageable with an edge of the latch.

2. In a latch of the class described, a flat rectangular plate, spacing blocks secured transversely across opposite end portions of one face of said plate, an L-shaped latch superimposed against said face of the plate, said latch being located between said blocks and being pivotally connected with said plate, an adapter block mounted on the same face of said plate and having an end extension spaced from the plate and overlying the pivoted portion of said latch, said extension being provided with a slot, a push button adapted to be slidably mounted on a relatively stationary door frame, said push button having a shank and said shank being provided at its inner end with a cam, said cam being movably operable in said slot and being engageable with an adjacent edge portion of said latch, and a spring on said plate engageable with and pressing the latch to a position between the extension and the plate.

CHARLES E. LEISS.