June 21, 1955 C. G. CUDNEY 2,711,336

PUSH-BUTTON FLUSH LATCH

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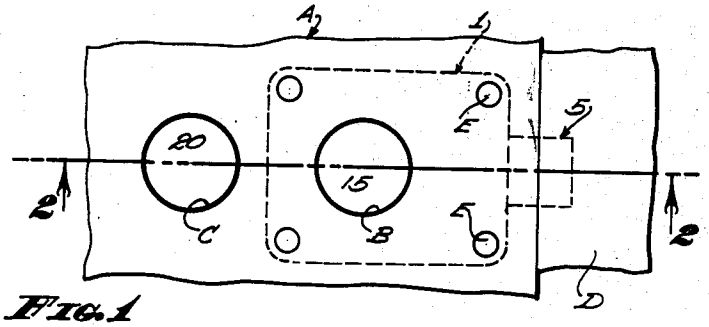


FIG. 1

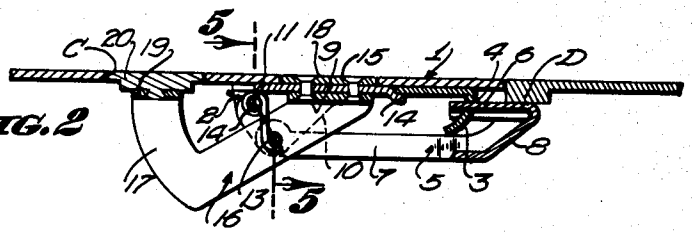


FIG. 2

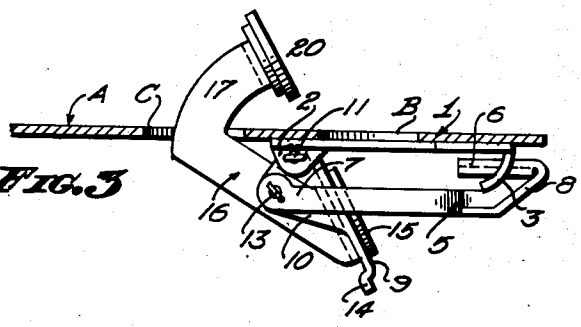


FIG. 3

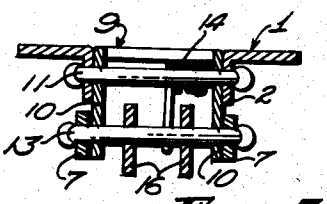


FIG. 5

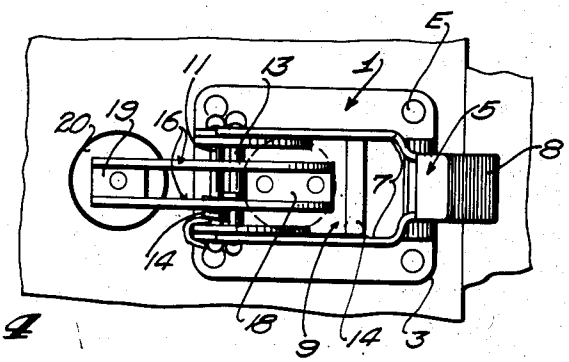


FIG. 4

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PUSH-BUTTON FLUSH LATCH

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2 Claims. (Cl. 292—173)

My invention relates to push-button flush latches, that is, to latches wherein the only exposed parts are buttons set flush with the surface in which the latch is mounted.

Included in the objects of my invention are:

First, to provide a latch of this type wherein depression of a push button effects longitudinal sliding movement of a latch member toward its retracted position and simultaneously extends another button to form a handle.

Second, to provide a flush latch of this type which is easily mounted and wherein all openings in the structure in which it is mounted may be circular and thus easily drilled or punched.

With the above and other objects in view as may appear hereinafter, reference is directed to the accompanying drawings, in which:

Figure 1 is an exterior view of my flush latch shown mounted in a door or panel, the surrounding structure being shown fragmentarily.

Figure 2 is a longitudinal sectional view thereof taken through 2—2 of Figure 1, showing the latch in its secured position.

Figure 3 is a view similar to Figure 2 but with portions of illustration showing the latch in its released position.

Figure 4 is an inside view of the latch.

Figure 5 is an enlarged transverse sectional view thereof through 5—5 of Figure 2.

My latch structure includes a flat base plate 1 which may be essentially U-shaped in plan, forming a rectangular recess. A pair of bearing lugs 2 bent from the base plate 1 confront each other at the recess extremity of the base plate. The other extremity or web portion of the base plate is provided with a curved lip 3 bent outwardly therefrom and provided with a transverse slot 4.

A latch bolt 5 is provided which includes a slide portion 6 and arms 7 to one end of the slide portion and extending in offset relation thereto over the lip 3. The root portions of the arm 7 which diverge from the slide portion 6 support the cam portion 8. It will be seen that the latch bolt is stamped from a sheet material, the arms 7 being folded at right angles to the slide portion 6, that is, into parallel relation with each other and the cam portion being folded from the plane of the slide portion over the diverging root portions of the arm.

Fitting in the rectangular recess, formed in the base plate, is an operating plate 9 having lugs 10 disposed adjacent the lugs 2 and pivotally supported therefrom by a journal pin 11. The operating plate 9 may have offset margin 12 which engages the web of the base plate to form a stop. The lugs 10 of the operating plate project beyond the lugs 2 and fit within the extremities of the arms 7 of the latch bolt 5 and are connected therewith by a journal pin 13. The relative axes of the journal pins 11 and 13 are such that on pivotal movement of the operating blades 9, the latch bolt 5 moves longitudinally. A slight pivotal movement of the latch bolt occurs but it is not sufficient to be of consequence.

A spring 14 is wrapped about the journal pin 11 and

is anchored at one end to the base plate and at its other end is caused to bear against the journal pin 13 so as to urge the operating plate to its closed position substantially flush with the base plate and to urge the latch bolt toward its extended position as in Figures 2, 4 and 5.

It is intended that the latch be mounted in a door or other panel A formed of sheet material and that such door be provided with a pair of apertures B and C, one of the apertures being covered by the operating plate 9. The extended portion of the latch bolt is adapted to pass under an adjacent structure or frame D. Rivets E secure the base plate to the panel A.

The operating plate 9 carries a push button 15, so arranged as to fill the opening B and be flush with the surface of the panel as shown best in Figure 2.

A pair of connecting bars 16 are secured to the operating plate 9 and extend angularly therefrom, terminating in an arcuate portion 17 having a center of curvature coinciding with the axis of the journal pin 11. The extremities of the connecting bars are joined together by webs 18 and 19 which are substantially coplanar. The web 18 provides means for attaching the connecting bars to the operating plate, whereas the other web 19 is provided with a button 20 which registers with the opening C in the panel A.

Operation of my latch is as follows,

When it is desired to open the latch, the button 15 is pressed inwardly which withdraws the latch and causes the button 20 to be extended so that it may form a handle to hold the latch in its retracted position.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. A flush latch, comprising: a mounting plate having a slot in one end and a latch bolt guide at its other end; an operating plate fitting said slot and pivotally connected to said mounting plate; a slidable latch bolt having a tongue slidable in said guide and a pair of arms joined at their extremities to said operating plate and clearing the lateral sides thereof, whereby said latch bolt reciprocates on pivotal movement of said operating plate; a push button on said operating plate adapted to project through an aperture provided in a sheet member under which said mounting plate may be fastened and movable inwardly between said latch bolt arms to effect release of said bolt; a lever rigidly connected to said operating plate and including a straight arm extending angularly from said operating plate past the pivotal axis thereof, in a direction away from said latch bolt; and a curved arm extending from said straight arm at its end remote from said latch bolt, said curved arm adapted to project through a second aperture in said sheet member upon depression of said push button.

2. A flush latch adapted to be set in a panel of sheet material having a pair of spaced apertures near one margin, comprising: a mounting plate adapted to be secured to said panel, said plate having a folded portion at one end, slotted to form a guide, a slot at its other end exposing the aperture nearest the margin of said panel, and a pair of journal lugs bordering said slot at its end remote from said guide; an operating plate journaled between said lugs and covering said slot and aperture; a latch bolt including a beveled operating end, a folded tongue at said end slidably received in said guide, and a pair of arms spaced to clear the sides of said operating plate and pivotally attached thereto, for movement about an axis offset from the pivotal axis of said operating plate whereby pivotal movement of said operating plate away from said aperture retracts said latch bolt; a rigid arm extending angularly from said operating plate

and terminating in an arcuate portion adapted to pass through the aperture furthest from the margin of said panel when said operating plate is pivoted; and buttons on said operating plate and arcuate arm portion fitting said apertures and adapted to be disposed flush with the outer surface of said panel.

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