Nov. 1, 1955 C. G. CUDNEY 2,722,445

FLUSH LATCH CONSTRUCTION

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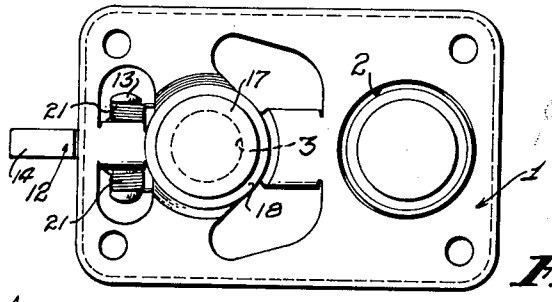


FIG. 1

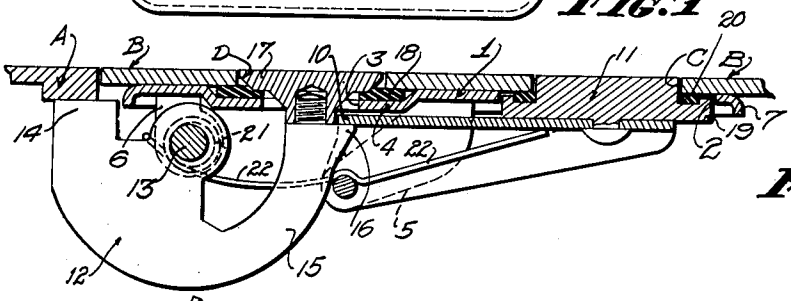


FIG. 2

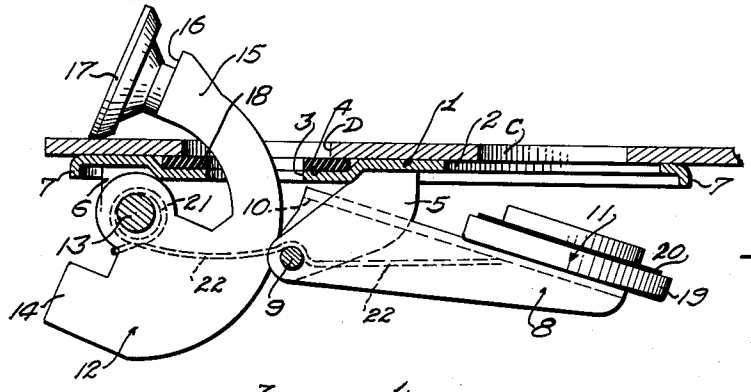


FIG. 3

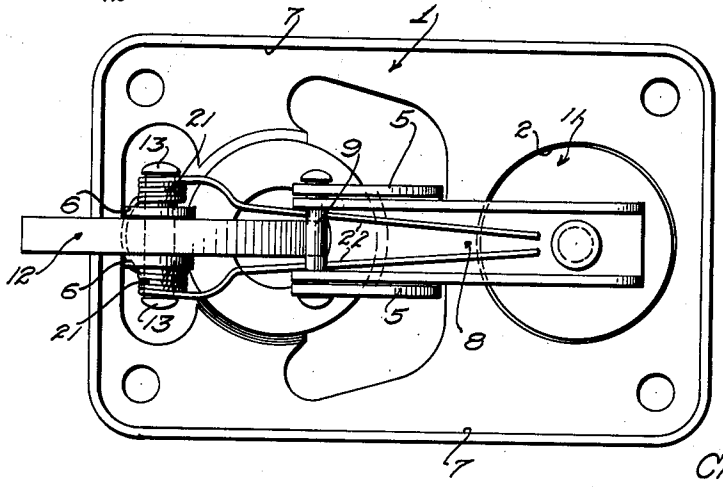


FIG. 4

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FLUSH LATCH CONSTRUCTION

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3 Claims. (Cl. 292—229)

My invention relates to flush latch constructions, that is, to latches which are adapted to set flush with the surface of a door or panel in which they are mounted. Included in the objects of my invention are:

First, to provide a flush latch which requires only small rivet openings and a pair of circular, easily formed access apertures in the panel in which it is to be mounted.

Second, to provide a flush latch which facilitates the provision of seals between its exposed operating means and the panel in which it is mounted.

Third, to provide a flush latch of this class which involves a minimum number of parts easily fabricated, thus providing a relatively inexpensive flush latch.

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

Figure 1 is a top or outside view of my flush latch construction.

Figure 2 is an enlarged longitudinal sectional view thereof, shown mounted in a door or panel arranged in its latching position.

Figure 3 is a similar longitudinal sectional view with portions in elevation showing my latch construction in its open position.

Figure 4 is an inside or bottom view of my latch construction shown in its closed position.

My latch construction includes a mounting plate **1** which is rectangular in form. The mounting plate is provided with a circular trip lever aperture **2** and a smaller bolt lever aperture **3**. The bolt lever aperture is set within a depressed margin **4**. Struck from the body of the mounting plate in the region between the apertures **2** and **3** and folded at right angles thereto is a pair of trip lever lugs **5**. Between the bolt lever aperture **3** and the adjacent end of the mounting plate **1**, a pair of latch lever lugs **6** are struck from the body of the mounting plate and folded at right angles thereto. The margin of the mounting plate may have a reinforcing rim **7**.

A trip lever **8** is provided. This member is formed of sheet material folded to form a channel, the flanges of which increase in depth toward one end. This end is journaled between the lugs **5** by means of a journal pin **9**. At this end of the trip lever, the web thereof forms a catch means **10**. Secured on the extended end of the trip lever is a trigger button **11** which is adapted to enter the aperture **2**.

A bolt lever **12** is provided. This lever is generally arcuate in form with a radially inwardly directed portion which receives a pivot pin **13** extending through the latch lever lugs **6**. The bolt lever **12** is provided with a latch end **14** which is adapted to project under a frame A adjacent the panel or door B under which the latch is mounted. The other end of the bolt lever forms an arcuate handle portion **15** which is adapted to rotate through the bolt lever aperture **3**. Adjacent its end, the handle portion **15** is provided with a shoulder **16** adapted to engage the

catch means **10** of the trip lever **8**. Secured to the extremity of the latch portion **15** is a bolt lever button **17** disposed outwardly of the aperture **3**.

The mounting plate is secured under the door or panel B with its trip lever aperture **2** and bolt lever aperture **3** in registry with a trip lever opening C, and a bolt lever opening D formed in the door or panel B, as shown best in Figures 2 and 3. Secured between the margins of the bolt lever aperture **3** and bolt lever opening D is a bolt button gasket **18** against which the underside of the button **17** may seat. The trip button **11** is provided with a flange **19** and a gasket **20**, the latter adapted to bear against the underside of the trip lever opening C.

The bolt lever **12** is provided with a double spring **21** wrapped around the pin **13** and arranged to urge the bolt lever toward its open position shown in Fig. 3. Arms **22** extend from the double spring under the pin **9** and bear against the trip lever **8** to urge it toward its closed position.

Operation of my flush latch construction is as follows:

When it is desired to release the bolt or latch end **14**, the trip button **11** is pressed inwardly until the catch end **10** disengages the catch lug **16**. The spring **21**, thereupon, urges the bolt lever from its restrained position in Figure 2 to its open position in Figure 3. The trip lever **8** automatically returns to its position shown in Figure 2. The protruding portion of the bolt lever forms a handle to facilitate opening the panel secured by the latch construction.

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 construction adapted to be mounted in a panel having a pair of spaced push button apertures, comprising: a mounting plate having a bolt lever aperture and a trip lever aperture spaced from each other and in registry with corresponding push button apertures, said mounting plate also having a pair of bolt lever pivot lugs and a pair of trip lever pivot lugs; a bolt lever pivotally supported by said bolt lever lugs, said bolt lever having a portion extending radially from its pivotal axis, a handle arm extending arcuately from one circumferential extremity of said radial portion, said bolt lever also having a latch arm diametrically opposite from said arcuate handle arm, said arcuate handle arm adapted to project through said bolt lever aperture and having a catch lug adjacent its circumferential extremity remote from said radial portion; a trip lever pivotally supported by said trip lever lugs and including a catch end engageable with said bolt lever lug to restrain said bolt lever in its operating position, and a push button end disposed in registry with said trip lever aperture; springs biasing said levers to urge said bolt lever away from its operating position and urging said trip lever toward its bolt lever restraining position; a gasket clamped between said mounting plate and the overlying panel for engagement by the push button end of said bolt lever; and a second gasket surrounding said trip lever push button for sealing engagement with the margins of said trip lever aperture.

2. A flush latch construction adapted to be mounted in a panel having a pair of spaced push button apertures, comprising: a mounting plate including an apertured gasket recess registering with one of said apertures, a clearance opening registering with the other of said apertures, a pair of trip lever lugs underlying said gasket recess, and a pair of bolt lever lugs between said gasket recess and the adjacent end of said mounting plate; a bolt lever substantially in the form of a half circle journaled at its center of curvature between said bolt lever lugs,

said bolt lever forming an arcuate bolt arm adapted to protrude beyond said mounting plate and said panel to engage a surrounding frame and an arcuate operating arm adapted to pass through said gasket recess and corresponding aperture in said panel, said operating arm terminating in a head adapted to fit flush in said aperture, and a catch lug adjacent said head; a gasket in said recess sealingly engageable by said head; a trip lever pivotally mounted between said trip lever lugs, said trip lever having an end engageable with the catch of said bolt lever, and a flanged head at its other end adapted to register with said other aperture in said panel; and a gasket carried by said flanged head sealingly engageable with the margins of said aperture.

3. A flush latch construction adapted to be mounted in a panel having a pair of spaced push button apertures, comprising: a mounting plate including an apertured gasket recess registering with one of said apertures, a clearance opening registering with the other of said apertures, a pair of trip lever lugs underlying said gasket recess, and a pair of bolt lever lugs between said gasket recess and the adjacent end of said mounting plate; a gasket in said recess; a bolt lever head adapted to fit

flush in said one aperture in said panel and sealingly engage said gasket; a trip lever head having a gasket and adapted to enter said opening to sealingly engage the margins of the other of said apertures in said panel; a semicircular bolt lever journaled between said bolt lever lugs at approximately its center of curvature and including an operating arm extending through said gasket recess and attached to said bolt lever head, a catch means adjacent said head, and an arcuate latch arm adapted to project beyond said mounting plate and panel; and a trip lever journaled between said trip lever lugs and including an end engageable with said catch means to restrain said bolt lever, and an arm attached to said trip lever head.

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