March 19, 1968 R. D. W. BERG 3,374,020

LATCH MECHANISM

Filed May 2, 1966

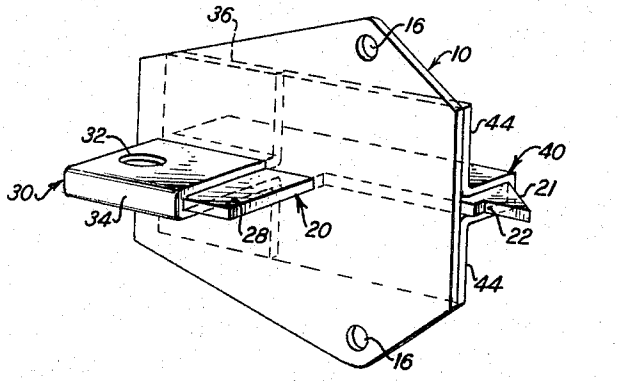


Fig. 2

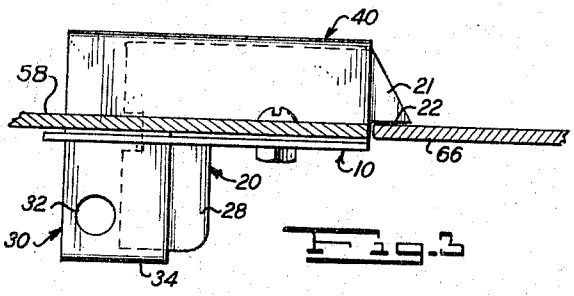


Fig. 3

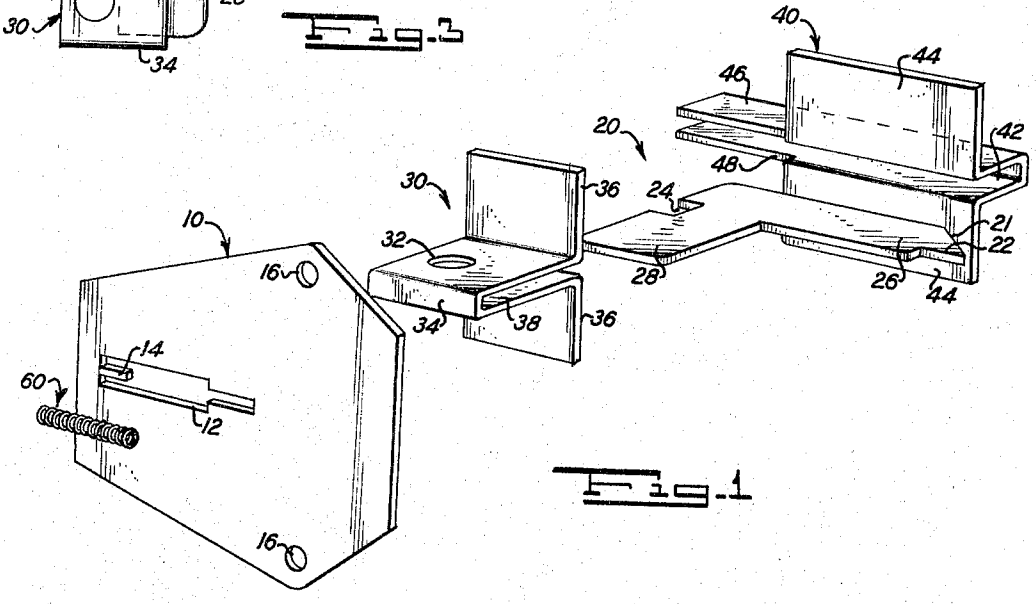


Fig. 1

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LATCH MECHANISM

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ABSTRACT OF THE DISCLOSURE

A locking unit for a closure comprising a rigid L-shaped latch bolt which is spring projected and secured to a mounting plate by a pair of U-shaped brackets.

This invention relates to a spring lock for swinging doors. More particularly, this invention relates to a sliding bolt or latch assembly which can be fitted in metal doors such as those closure members used in athletic lockers.

One of the objects of the present invention is to provide an inexpensive sliding latch-type device which can be easily fitted on a swinging door. Another object is to provide a lock assembly comprised of only a few parts with these parts preferably being made of sheet metal parts which are easily formed. Still another object is to provide a spring lock device which cooperates with a door jamb of a locker in closed position and which can be padlocked to prevent displacement of the lock. These and other objects will be apparent from the following description and drawings in which:

FIGURE 1 is an exploded view showing the various parts of the latch assembly;

FIGURE 2 is a perspective view of the latch assembly; and

FIGURE 3 is a top plan view of the lock installed on a swinging door.

As seen in FIGURE 1, the latch assembly is comprised of four metal parts which can be easily formed from flat steel. A slotted flat base plate **10** is provided with slot **12** which is "wishbone" in configuration, having a projection **14**. Holes **16** are provided to receive screws for securing the plate to the inside of a swinging door.

The sliding bolt is an L-shaped latch element **20** having an upper leg **28** with notch **24** and a lower leg **26** having a sloped-forward edge **21** provided with a recess **22**. A U-shaped bracket **30** has a hairpin section **34** which forms channel **38** and the section **34** is integral with a foot portion **36** on either side thereof. The section **34** slidably receives upper leg **28** of the latch element when the parts are assembled.

To prevent movement of the latch element, aligned apertures **32** are provided through each side of section **34** to receive a pin or padlock.

A channelled latch housing **40** includes an elongated hairpin-shaped portion **46** with channel **42** and foot parts **44** integral with portion **46**. Portion **46** slidably receives the lower leg **26** of the latch element **20** and is slightly longer than leg **26**. Foot parts **44**, however, terminate short of the length of portion **46** leaving cut-away spaces **48** approximately equivalent to the length of portions **36**.

When assembled, section **34** of bracket **30** is passed through slot **12** of plate **10** with the sides of section **34** straddling projection **14**. The foot portions **36** are then spot welded or otherwise secured to the underside of plate **10**. Next, the upper leg **28** of latch element **20** is fitted

in channel **38** and thereafter housing **40** is attached to the underside of plate **10** with the foot parts **44** of housing **40** abutting foot portions **36** of brakcet **30**. Foot portions **36** fit within spaces **48**.

A compression spring **60** is fitted over projection **14** of plate **10** to bear on the notch **24** of latch element **20** so that edge **21** of the latch **20** is normally urged to protrude beyond housing **40**.

When fitted on a locker door **58** with housing **40** entered through a slot in the door, edge **21** cooperates with a door jamb **66** to permit swinging closure but prevent opening until latch element **20** is manually actuated against the bias of spring **60**. Recess **22** of latch end **21** cooperates with the jamb **66** in a flush fitting arrangement.

It will be appreciated that among other advantages, the entire assembly may be easily removed and replaced. It will also be understood that the latch assembly can be used in closure applications other than metal locker doors. While the assembly is preferably made entirely of metal parts, other materials can be used.

What is claimed is:

1. A locking unit for a swinging door comprising a relatively flat base plate with a slot and a channelled latch housing having a flat base positioned against one side of said plate, an L-shaped latch element having a first leg with a latching end and a second leg generally perpendicular to said first leg, said first leg being slidably arranged within said channelled housing, a generally U-shaped channelled bracket having a flat base adjacent the base of said latch housing and positioned on the same side of said plate as said latch housing with its U-shaped portion extending through said slot, said second leg protruding through said slotted plate to be slidably accommodated within said bracket, resilient means for urging said latch element to one side whereby said latching end extends beyond the end of said housing to engage a door jamb and means associated with said bracket for preventing said second leg from sliding within said bracket, said first leg of said latch element comprising a slidable handle for actuating said unit.

2. The unit of claim **1** wherein the means associated with said bracket for preventing said second leg from sliding includes aligned apertures in the sides of said bracket for receiving a pin.

3. The unit of claim **1** wherein said resilient means is a spring which bears on one end of said latch element.

4. The unit of claim **3** wherein said one end of the latch element is notched to receive said spring.

5. The unit of claim **4** wherein the slot in said base plate is provided with a projection and said projection receives and retains one end of said spring.

6. The unit of claim **1** wherein said latching end of said latch element has a sloped forward edge which is notched to accommodate a door jamb.

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