Jan. 17, 1933. L. M. SADLER 1,894,913

SLIDING DOORLATCH

Filed June 7, 1932

Fig. 1.

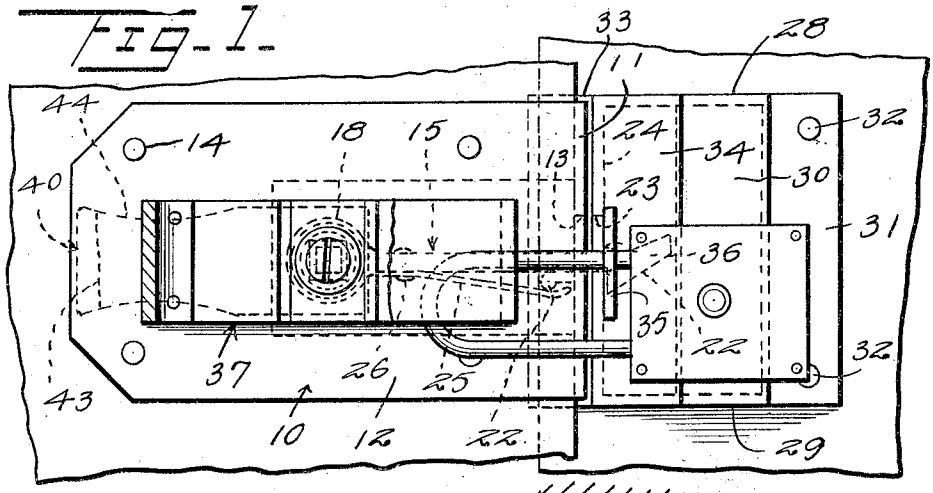


Fig. 2.

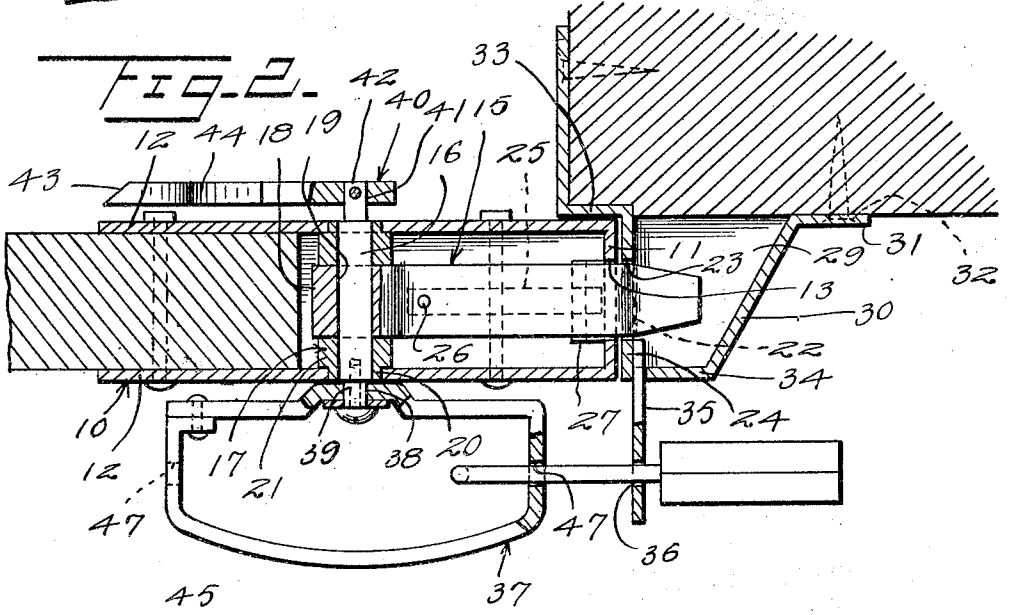
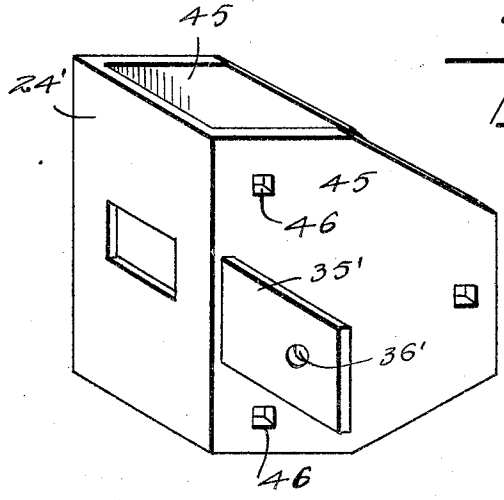


Fig. 3.



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UNITED STATES PATENT OFFICE

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SLIDING DOORLATCH

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This invention relates to door latches and more particularly to a roller or sliding door latch.

An object of this invention is to provide a latching means which can be mounted on any of the various types of sliding doors either single or double so as to releasably hold the doors in closed position.

Another object of this invention is to provide a latching means of this kind which is so constructed that it can be operated from either side of the door, one side being so constructed as to permit movement of the device inwardly of the edge of the door frame.

A further object of the invention is to provide a device of this kind which includes only a relatively small number of parts so that it can be readily and cheaply manufactured.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:—

Figure 1 is a detail front elevation of a device constructed according to the preferred embodiment of this invention mounted on a door and door frame which are shown in fragmentary form.

Figure 2 is a longitudinal section partly in detail taken substantially through the longitudinal center of the device.

Figure 3 is a detail perspective view of a modified form of keeper.

Referring to the drawing wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 designates generally a housing which, in the present instance, is constructed in substantially U-shaped form with the bight or closed end 11 provided with a latch opening 13 at a point intermediate the ends of this bight or end plate. The sides 12 of the housing 10 are parallel and provided with suitable apertures 14 for the reception of bolts or screws so as to mount the housing on a door with the end plate 11 on one edge of the door.

A latch member, generally designated as 15, is mounted on a square shaft 16 which is journaled between the parallel legs 12 by means of bearing members 17 which rotatably engage the parallel legs 12 of the housing. The square shaft 16 is slidable relative to the latch member 15, which latch member is provided with an enlarged inner end portion 18 having a square hole 19 loosely receiving the shaft 16. This shaft 16 is also slidable in the bearing members 17.

Preferably, the bearing members 17 are constructed in substantially cylindrical form and provided with an offset portion 20 which rotatably engages suitable round openings in the parallel legs 12 and the body portion 21 of these bearing members 17 is of a length to loosely engage against an end portion of the latch member 15 so that these members 17 will be held against lateral movement relative to the parallel legs 12. The latch member 15 is provided with a tongue 22 provided with an upwardly inclined lower surface and this tongue 22 is adapted to engage in an opening 23 provided in a keeper plate 24.

A spring 25 is secured as by rivets 26 or the like to the lower surface of the latch 15 and the forward end of this spring 25 engages a flange 27 formed with the front plate 11 of the housing 10. The keeper 14 is provided with upper and lower walls 28 and 29, respectively, and these walls engage an end wall 30 which is provided with a flange 31 having an aperture 32 through which a screw or bolt is adapted to pass for securing the keeper 24 on a door frame or the like. An L-shaped plate member 33 is formed with the keeper 24 and extends forwardly therefrom and is adapted to be mortised or countersunk in a face and side portion of a door frame so as to hold the keeper 24 in desired position.

An outer wall 34 is formed with the keeper 24 and an outstanding plate 35 is secured as by welding or riveting to the keeper 24 and extends through the front wall 34. This plate or arm 35 has an aperture 36 therein to receive a conventional lock for locking a looped handle 37 which is secured to the outer end of the square shaft 16. Preferably, the handle 37 is provided with an angular or

square opening 38 and the handle is riveted or otherwise secured to a reduced square portion 39 on the outer end of the shaft 36.

An inner handle 40 having a square opening 41 is riveted or otherwise secured to a reduced inner end portion 42 of the shaft 16 and this inner handle is adapted, when the outer handle is pulled outwardly, to be disposed flat against the inner wall of the housing 10. The free end of the handle 40 is tapered, as at 43, and that portion of the handle 40 between the tapered end portion 43 and the opposite end is cut out on opposite edges as at 44, so as to provide a convenient gripping means for gripping the handle.

As shown in Figure 3, a keeper 24′ has formed with the opposite edges thereof a pair of plates 45 which are disposed in parallel relation to each other and provided with suitable apertures 46 to receive mounting bolts or the like, and this keeper 24′ with the parallel side members 45 is adapted to be mounted on a second sliding or rolling door being disposed on an edge of the door confronting the latch member 15. A plate or arm 35′ is secured to the keeper 24′ and is provided with a hole 36′ to receive a lock or other securing means so as to hold the two doors together.

In the use and operation of this device, the housing 10 is adapted to be mounted in a position where the first plate 11 is disposed on one edge of the door and the keeper 24 mounted on the door frame for engagement by the latch member 15 when the door is moved into closed position. The handle 37 may be positioned exteriorly of the door and this handle may be provided with alined openings 47 through which a lock or other securing means is adapted to pass, this lock also engaging the apertured arm 35 on the keeper 24. When it is desired to open the door, the handle 37 may be partially rotated by swinging the latch member 15 upwardly against the tension of the spring 25. When it is desired to open the door from the inside, the handle 40 may be drawn away from the adjacent face of the door, this being possible by the sliding mounting of the square shaft 16. The handle 40 may be pulled away a sufficient distance to permit it to be conveniently grasped in a hand and the handle may then be turned, thereby swinging the latch 15 upwardly into the open position.

It will be obvious that the latching means herein disclosed may be readily and cheaply manufactured, and due to the simplicity of construction, it will not readily get out of order.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. A sliding door holder comprising a substantially U-shaped housing, a latch extending through the bight of the housing, a square shaft slidably engaging the latch and extending transversely of the housing, a handle for each end of the shaft, means engaging the shaft and the housing to rotatably mount the shaft in the housing while permitting slidable movement of the shaft transversely of the housing, a keeper, and means for mounting the keeper for engagement with the latch, a flange integral with the housing below the latch and a spring carried by the latch and engaging the flange to constantly urge the latch into latching position.

2. A sliding door holder comprising a substantially U-shaped housing, a latch having a portion thereof disposed exteriorly of the housing, a square shaft slidably engaging the latch and extending transversely of the housing, a flange carried by the housing beneath the latch, a spring carried by the latch and engaging said flange to hold said latch in closed position, means for rotatably mounting the shaft in the housing while permitting transverse movement of the shaft, a handle on each end of the shaft, a keeper, and an arm carried by the keeper and coacting with one of the handles to provide means for receiving a lock to hold the housing and latch against movement relative to the keeper.

In testimony whereof I hereunto affix my signature.

LEO M. SADLER.