July 31, 1956 J. G. NOCA 2,757,033

LATCH

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Fig. 2

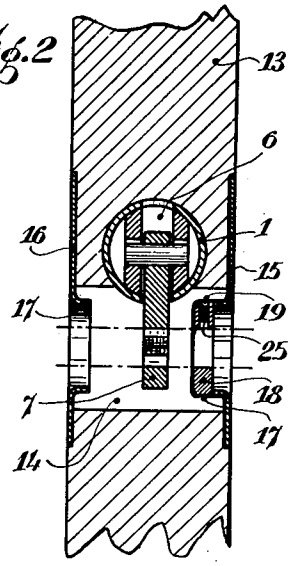


Fig. 1

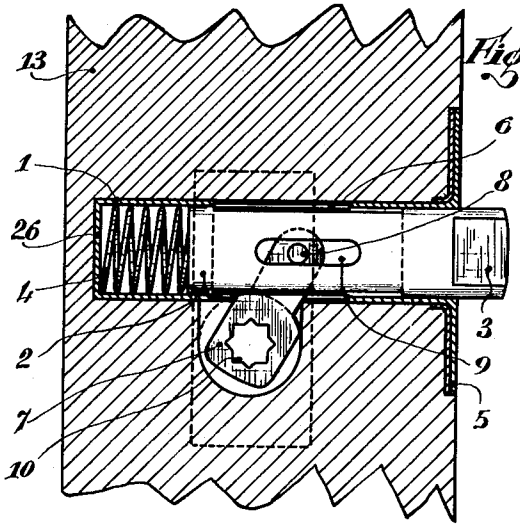


Fig. 3

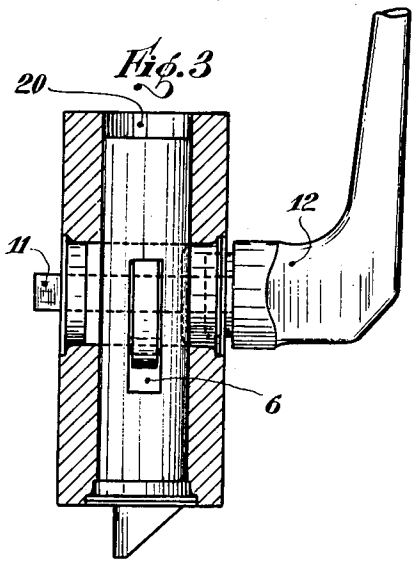


Fig. 4

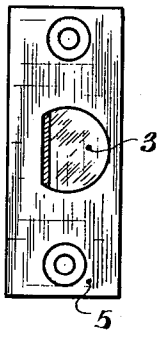
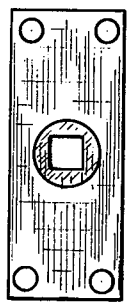


Fig. 5



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LATCH

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4 Claims. (Cl. 292—173)

This invention relates to latches and its primary object is to provide a latch of tubular type which can be used in any desired locking direction.

Another object of the invention is to provide a latch requiring only the drilling of two small holes, one in the edge and another in the side of a door, without requiring any other mortising or precise drilling or positioning.

Still another object is to provide in such a latch means for temporary locking of the latch in retracted position without requiring the use of a key, thumb lever or the like.

A further object of this invention is to provide a latch of dependable locking action and which can be manufactured at low costs.

With the above indicated objects in view, the invention resides in certain novel constructions and combinations and arrangements of parts, clearly described in the following specification and fully illustrated in the accompanying drawings, showing an embodiment of the invention as at present preferred.

In the drawings:

Fig. 1 is a full sized longitudinal, sectional view of a mounted latch in closing position;

Fig. 2 is a cross sectional view of the same;

Fig. 3 is a plan view of the latch provided with a lever and

Figs. 4 and 5 are end views of both latch end and lever end.

The preferred embodiment of the latch illustrated in Figs. 1 to 5 inclusive comprises a cylinder **1** closed at one end by the wall **26** and provided at its open end with a flange **5** adapted to be fastened to the edge of the door.

Slidably mounted in the cylinder **1** is a tubular locking member **2** tapered at its outer end so as to form a latch **3** and being urged outwardly by means of a spring **4** seated between the bottom of the cylinder and the inner end of the locking member.

Both latch member **2** and cylinder **1** are provided with a vertical recess **6** for the reception of the head of a link **7**, pivotally mounted therein on a transversal pivot **8** which is slidably mounted within a horizontal slot **9**.

The lower portion of the link **7** is provided with a star-shaped central hole **10** adapted to receive the square spindle **11** of a lever **12**. It is a feature of this invention that this star-shaped hole **10** permits to insert the spindle of the lever in any desired direction.

An aperture **14**, provided in the side of the door for the introduction of the spindle of the lever, is covered on both sides by two plates **15** and **16**, having inwardly bent U-shaped flanges **17** serving as supports and as escutcheons.

Within the bent portions **17** of both plates or in only one of the plates, for instance plate **15** as shown in Fig. 2, is located a therein freely rotating ring **18** provided with a square hole adapted to receive the square spindle **11** of the lever **12**. This ring **18** serves not only as a guide and

bearing for the lever spindle but provides also means for the locking of the retracted latch **3**. This is accomplished by means of a spring pressed ball catch, located in a transversal bore in the ring **18**. By actuating the lever **12** as far as possible, that is to say by retracting completely the locking member **2** and latch **3**, the ball **19** which is urged outwardly by the spring **25**, arrives in front of a hollow, provided in the flange **17**, into which it snaps, retaining thereby ring **18** and therewith spindle **11** and through link **7**, latch **3** in retracted position.

It will be easily understood that link **7** controls the longitudinal sliding movement of the locking member within the cylinder and that these movements are limited by the sliding pivot **8** in either direction.

The latch of this invention is easily installed on any door or screen by drilling a hole **20** in the edge and by providing an aperture **14** through the side of the door or screen. In order to insert the cylinder into the hole **20**, link **7** has to be raised into the recess **6** from where it falls into the aperture **14**, bored perpendicularly to and adjacent the hole **20**; then the plates **15** and **16** are fastened and spindle **11** of the lever **12** is inserted, through the square opening of the ring **18**, into the star-shaped hole **10** of the link. Finally flange **5** is fixed to the edge of the door.

Although I have shown and described a preferred embodiment of my invention, it will be understood that certain parts and elements thereof may be replaced by mechanical equivalents without departing from the spirit of my invention.

What I claim is:

1. A latch device comprising, in combination, elongated housing means open at one end and formed with a longitudinal opening therein; tubular bolt means mounted in said housing means slidable axially therein between an operative position projecting from the open end thereof and an inoperative position retracted inwardly from said open end, said bolt means formed with at least one axially extending slot and being constantly urged toward its operative position; and operating means associated with said elongated housing means for operating said bolt means therein, said operating means comprising shaft means extending normal to said housing means and being rotatable about its axis, and link means extending through said longitudinal opening of said housing means transverse to said shaft means and to said housing means and being secured at one end to said shaft means for turning therewith and having a transverse engaging member at its opposite end movable along said slot during turning of said link means and engageable with said bolt means at the innermost end of said slot so that turning of said shaft means about its axis in one direction serves to move said bolt means from its operative to its inoperative position, and turning the same in the opposite direction allows the bolt means to be urged into its operative position.

2. A latch device comprising, in combination, elongated housing means open at one end and formed with a longitudinal opening therein; bolt means mounted in said housing means slidable axially therein between an operative position projecting from the open end thereof and an inoperative position retracted inwardly from said open end, said bolt means being constantly urged toward its operative position; operating means associated with said elongated housing means for operating said bolt means therein, said operating means comprising shaft means extending normal to said housing means and being rotatable about its axis, and link means extending through said longitudinal opening of said housing means transverse to said shaft means and to said housing means and being secured at one end to said shaft means for turning therewith and being engageable at its opposite end with said bolt means so that turning of said shaft means about its

axis in one direction serves to move said bolt means from its operative to its inoperative position, and turning the same in the opposite direction allows the bolt means to be urged into its operative position; bearing means for said shaft means including a stationary member, and a ring member secured to said shaft means for rotation therewith relative to said stationary member; and detent means comprising a recess in one of said members and a spring-pressed ball means in the other member adapted to engage said recess for holding said bolt means in its inoperative position when said shaft means is turned to a predetermined position.

3. A latch device comprising, in combination, elongated housing means open at one end and formed with a longitudinal opening therein; bolt means mounted in said housing means slidable axially therein between an operative position projecting from the open end thereof and an inoperative position retracted inwardly from said open end, said bolt means being constantly urged toward its operative position; and operating means associated with said elongated housing means for operating said bolt means therein, said operating means comprising shaft means extending normal to said housing means and being rotatable about its axis, and link means extending through said longitudinal opening of said housing means transverse to said shaft means and to said housing means and being secured at one end to said shaft means for turning therewith and being engageable at its opposite end with said bolt means so that turning of said shaft means about its axis in one direction serves to move said bolt means from its operative to its inoperative position, and turning the same in the opposite direction allows the bolt means to be urged into its operative position, said shaft means being of polygonal cross section and said link means having an aperture of polygonal shape so that said link means may be secured to said shaft means in different angular positions thereon.

4. A latch device comprising, in combination, elongated housing means open at one end and formed with a longitudinal opening therein; tubular bolt means mounted in said housing means slidable axially therein between an operative position projecting from the open end thereof and an inoperative position retracted inwardly from said open end, said bolt means formed with a pair of opposite axially extending slots and being constantly urged toward its operative position; and operating means associated with said elongated housing means for operating said bolt means therein, said operating means comprising shaft means extending normal to said housing means and being rotatable about its axis, and link means extending through said longitudinal opening of said housing means transverse to said shaft means and to said housing means and being secured at one end to said shaft means for turning therewith and having a transverse engaging member at its opposite end movable along said slots during turning of said link means and engageable with said bolt means at the innermost ends of said slots so that turning of said shaft means about its axis in one direction serves to move said bolt means from its operative to its inoperative position, and turning the same in the opposite direction allows the bolt means to be urged into its operative position.

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