Dec. 2, 1924. 1,517,447

O. H. MERZ

LOCKING MEANS

Filed Feb. 4, 1924

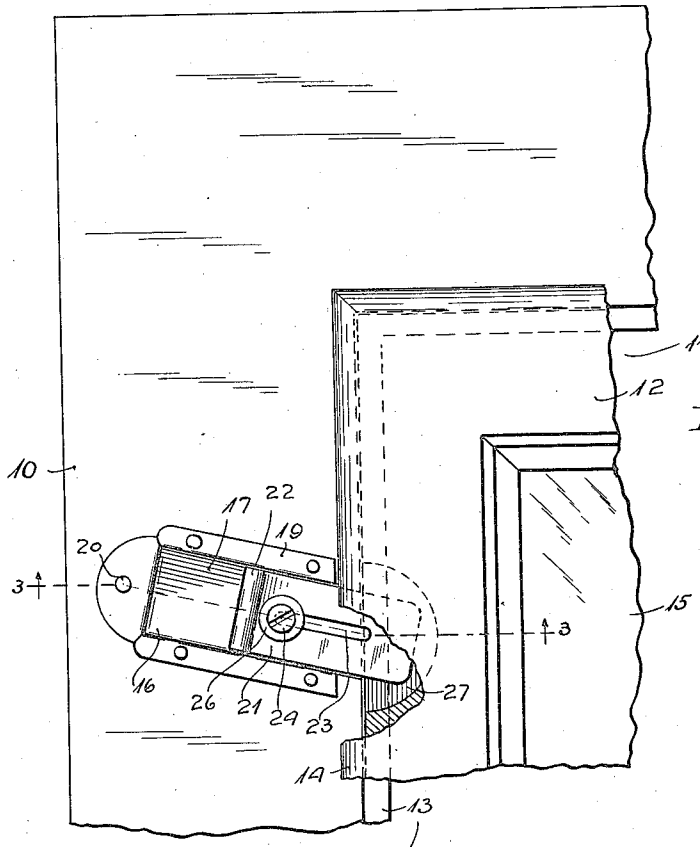


Fig. 1.

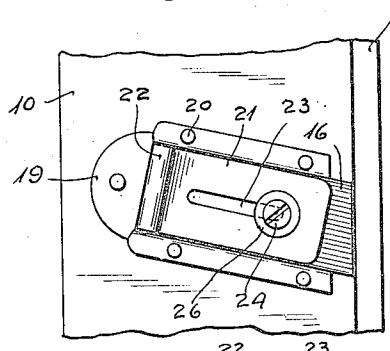


Fig. 2.

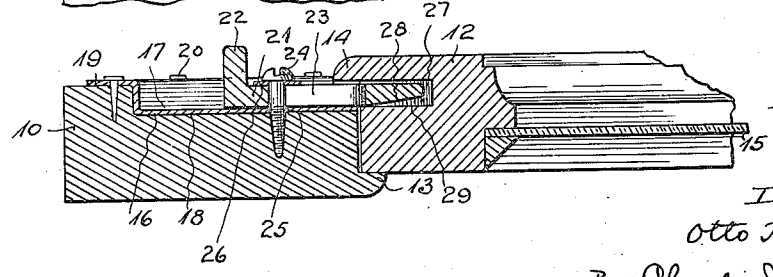


Fig. 3.

Inventor,
Otto H. Merz
By Charles J. Schmidt
Atty.

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UNITED STATES PATENT OFFICE.

OTTO H. MERZ, OF FOND DU LAC, WISCONSIN.

LOCKING MEANS.

Application filed February 4, 1924. Serial No. 690,411.

To all whom it may concern:

Be it known that I, OTTO H. MERZ, a citizen of the United States, and a resident of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Locking Means, of which the following is a specification.

My invention relates to improved locking means which is particularly adaptable for use in such structures as combination storm and screen doors for detachably locking either the glazed or screened closures in the door frame or casing. The object is to provide a simple, inexpensive locking means which will securely lock the respective closures in the door frame.

On the accompanying drawing, I have clearly represented my improved construction and arrangement.

On the drawing,

Fig. 1 is an elevational view of the corner of a door frame and closure insert secured therein by means of my improved locking means.

Fig. 2 is a similar view of a section of the door frame showing a locking means in unlocking position, and

Fig. 3 is a sectional view on plane 3—3, Fig. 1.

Referring to the drawing 10 represents the door frame surrounding the rectangular opening 11 for either a glazed or screened closure frame 12. The door frame has the weather ledge 13 along one edge surrounding the opening 11, while the closure frame 12 has the ledge 14 along the opposite edge, the frame 12 engaging against the ledge 13 and the ledge 14 engaging against the frame 10 when the closure is inserted in the opening 11 to thus form a weather tight fit. The closure frame shown supports the glass 15, it being understood that instead of glass it could support a screen.

The fitting for locking the closure frame within the door frame opening comprises a frame 16 which has the rectangular guide groove 17 therein. This frame may be stamped integral from suitable sheet metal and is secured to the door frame 10 by being inserted in the depression or pocket 18 so that the flange sections 19 on the frame 18 may engage against the face of the door frame, the locking frame being then secured as by means of nails or screws 20. Slidable in the groove 17 is locking plate or latch 21 which is rectangular and has at its outer end the extension 22 forming an abutment by means of which the plate can be readily shifted into locking or unlocking position. The plate has the longitudinally extending slot 23 through which engages a screw 24 which passes through a hole 25 in the bottom of the frame 16 and threads into the door frame 10, a washer 26 being preferably inserted between the screw head and top of the plate. This screw and slot connection limits the sliding movement of the plate.

It is understood that any desired number of locking fittings may be provided. The locking plates when shifted inwardly have their inner ends projecting beyond the inner edge of the door frame, and in the closure frame 12 adjacent each plate fitting there is a recess 27 for receiving the projected plate. As indicated at 28 each plate is beveled at its lower inner edge so that when the plate is projected into locking position it will have wedging engagement with the adjacent wall 29 of the recess 27 and thus force the closure frame 12 intimately into position against the ledges 13 and with its ledges 14 against the door frame 10, as clearly shown in Fig. 3. By means of the screw 24 the wedging power of the plate against the closure frame can be readily adjusted.

I preferably apply the locking fittings to the door frame in inclined position so that the weight of the locking plates will hold them in locking position should they inadverently become loose. To insure uniformity of application of the fittings in such inclined position I therefore form the inner edge of the plate supporting frame 16 on the bias so that when the bias edge is applied parallel with the inner edge of the door frame the fittings will all be in corresponding angular position.

I thus provide a simple inexpensive and efficient fitting which can be quickly applied to the door frame and which can be readily manipulated to lock or release the closure frame. The locking plate supporting frame can be inexpensively made integral of sheet metal and the locking plate can be formed integral from flat bar material or can be in the form of a casting. The angular arrangement of the fittings on the door frame prevent any accidental opening of the latch plates.

I do not however desire to be limited to the exact construction and arrangement shown

as changes can be made which would still come within the scope of the invention.

I claim as follows:

The combination with a wall having an opening, and a closure frame seating in said opening and having a recess in its side edge, of a locking device comprising a supporting frame, a locking bar, and a screw, said supporting frame being of U-shape cross-section to form a longitudinally extending guide groove for said bar, said wall having a depression for receiving said supporting frame and to bring said bar into alignment with said recess, said bar having a longitudinal slot and said screw extending through said slot and the bottom of said supporting frame and threading into said wall to hold said frame in said depression and to limit the movement of said bar, the end of said supporting frame being on the bias and said wall depression being inclined toward said recess to receive said frame with its bias edge parallel with the side edge of said closure frame, the inclination of said depression and frame causing said bar to tend to keep itself in locking position with its end in said recess.

In witness whereof, I hereunto subscribe my name this 25th day of January A. D., 1924.

OTTO H. MERZ.