United States Patent

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[72] Inventors **Ben A. Hull**
Van Nuys;
Bernard C. Governale, Covina, both of, Calif.

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[73] Assignee **W & F Manufacturing, Inc.**
Glendale, Calif.
Continuation-in-part of application Ser. No. 805,782, Mar. 10, 1969, now abandoned.

[54] **UNIVERSAL SLIDING DOOR HANDLE AND LATCH ASSEMBLY**
13 Claims, 11 Drawing Figs.

[52] **U.S. Cl.** 292/128
[51] **Int. Cl.** E05c 19/14
[50] **Field of Search** ..... 292/128, 101, 107 SDF, 107 Q, 113; 49/449; 70/95, 96, 97, 98, 99

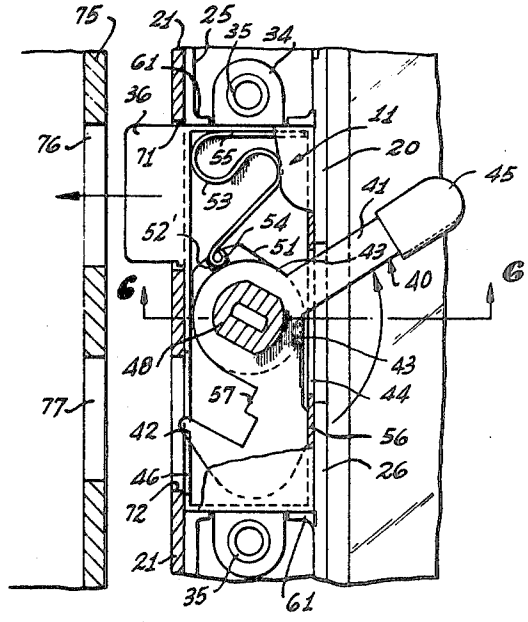
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Primary Examiner—James A. Leppink
Assistant Examiner—Robert L. Wolfe
Attorney—Fulwider, Patton, Rieber, Lee & Utecht

ABSTRACT: A handle having opposed abutments between which an elongated handle base is received and held against relative lateral and longitudinal displacement. The base, in turn, is adapted to receive a cartridge, incorporating a latch mechanism and holddown device, in either of two indexed positions whereby the possible combination of relative positions of the handle, base and latch cartridge can accommodate left- or right-hand, inside or outside sliding doors. Alternatively, the base mounts a latch actuating lever while the latch cartridge is mounted in the door stile within a mortised mount that receives a latch keeper secured to the door jamb to provide a double holddown, first, between the cartridge and the keeper and, second, between the mortised mount and the keeper.



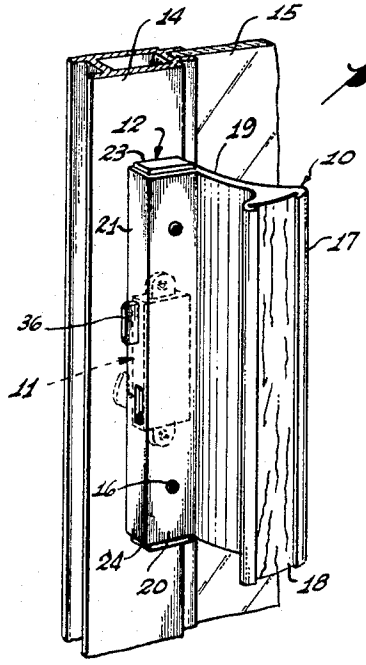


Fig. 1

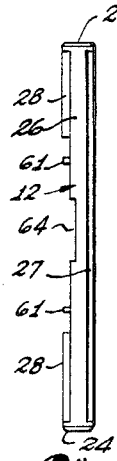


Fig. 3

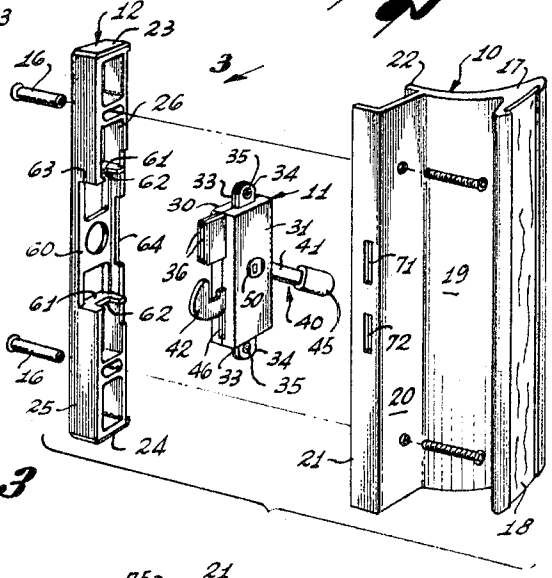


Fig. 2

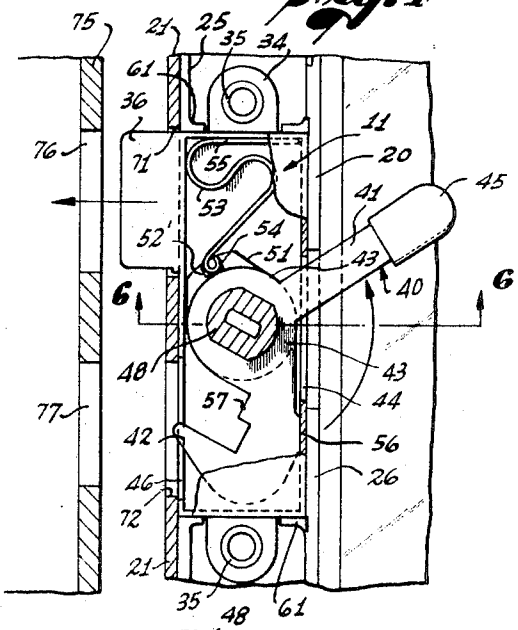


Fig. 4

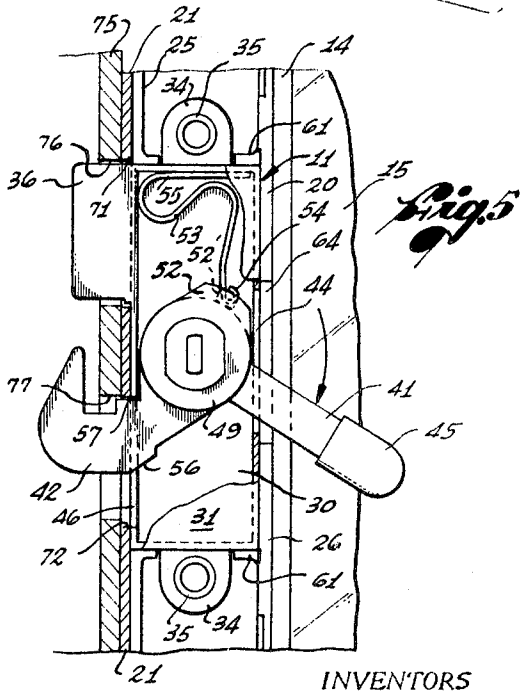


Fig. 5

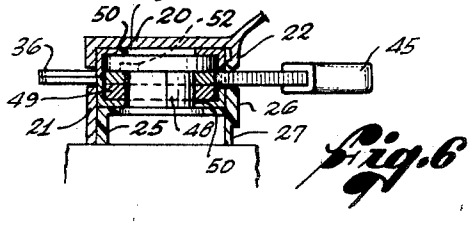


Fig. 6

INVENTORS
BERNARD C. GOVERNALE
BEN A. HULL
BY Zuhlwider, Patton Rieber, Lee, and Utecht
ATTORNEYS

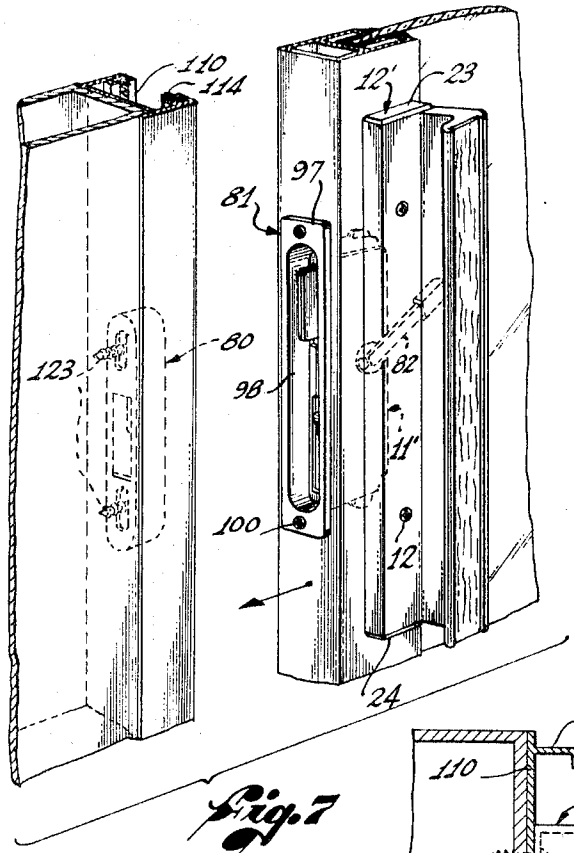


Fig. 7

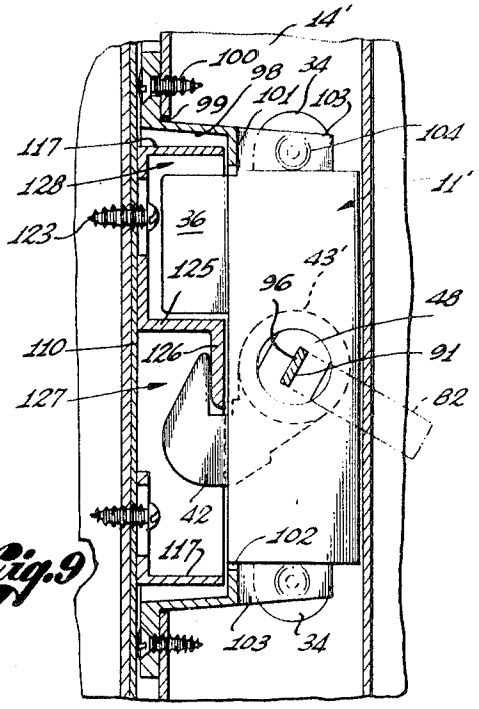


Fig. 9

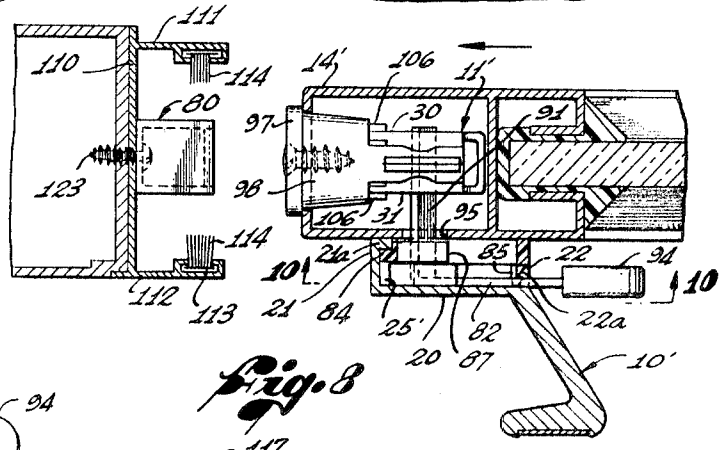


Fig. 8

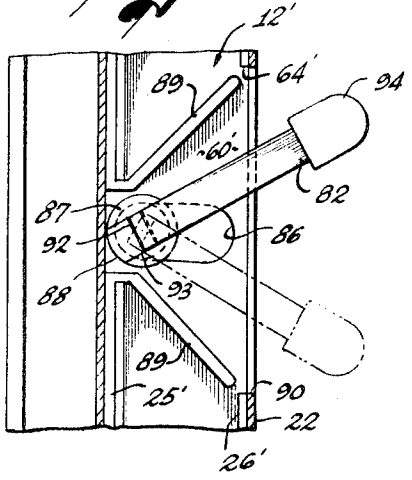


Fig. 10

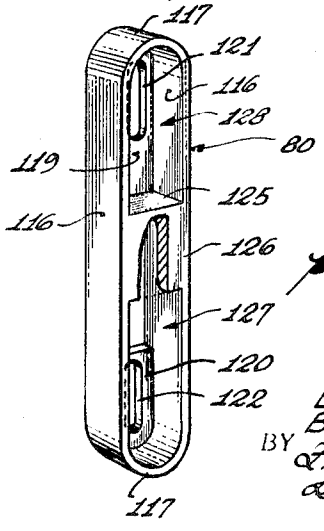


Fig. 11

INVENTOR.
BERNARD C. GOVERNALE
BEN A. HULL
BY Fulwider Patton Rieber Lee, and Utecht
ATTORNEYS

UNIVERSAL SLIDING DOOR HANDLE AND LATCH ASSEMBLY

This is a continuation-in-part of application Ser. No. 805,782, filed Mar. 10, 1969 and now abandoned.

BACKGROUND OF THE INVENTION

The present invention relates to latching mechanisms for sliding doors of the type in which the stile of the door can be locked and unlocked relative to a fixed jamb.

It is known in the art to provide a handle and latch assembly for sliding doors comprising a handle, a plastic handle base and a latch cartridge, such arrangement being adapted for use with either left-hand or right-hand doors. Such arrangements, however, have not been devised in a manner as to be readily usable, optionally, with either outside or inside sliding doors. More importantly, the known arrangements are inherently defective in that such flexibility is achieved is at the sacrifice of structural integrity.

SUMMARY OF THE INVENTION

Our invention provides handle and latching mechanisms of superior strength and does so in a way that the several components may be selectively arranged to accommodate either left-hand or right-hand sliding doors, whether the doors be mounted as inside or outside doors.

In one embodiment, a metal latch cartridge includes an integrally formed holddown tab or tongue, as well as a spring loaded latch hook. In every possible condition of assembly of the parts, the metal cartridge is disposed in metal to metal contact with an overlying front wall of a handle extrusion, this wall being provided with a pair of aligned slots through either one of which the holddown tab of the cartridge protrudes to positively index the cartridge with respect to the handle. The latch cartridge is further indexed with respect to the handle by means of a synthetic plastic handle base which is optionally arrangeable in either of two positions relative to the handle. As will more fully appear, any three of these components may be put together in such a way as to make up a handle and latch assembly suitable for either a left- or right-hand, inside or outside door.

In another embodiment, the latch cartridge is secured to a mount that is mortised into the door stile while a keeper is affixed to the door jamb in operative alignment with the cartridge and, also, is adapted for mortise and tenon relationship to the mount, to provide a double holddown arrangement. In this case, the handle base is adapted to mount a latch actuating lever on one side of the door stile, offset from the cartridge, the lever being adjustable relative to the base to position its fulcrum in operative engagement with the hub of the latch hook in the cartridge.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a partial perspective view of a sliding door having a presently preferred embodiment of the invention secured to a side of a stile of the door.

FIG. 2 is an exploded perspective view of the components of the invention as embodied in FIG. 1.

FIG. 3 is an elevational view of the handle base shown in FIG. 2, taken in the direction of the arrow 3 of FIG. 2.

FIG. 4 is a partial sectional view, on a larger scale, of the latch mechanism showing the parts in the latch-open condition.

FIG. 5 is a view similar to FIG. 4 but showing the parts of the latch mechanism in the engaged position and locked to a jamb of a doorway.

FIG. 6 is a sectional view taken on the line 6–6 of FIG. 4.

FIG. 7 is a perspective view of a second embodiment of our invention.

FIG. 8 is a transverse sectional view of the second embodiment.

FIG. 9 is a longitudinal sectional view through the parts, in latched position.

FIG. 10 is a sectional view on the line 10–10 of FIG. 8.

FIG. 11 is a perspective view of our latch keeper.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 2, the device comprises a handle 10, a latch cartridge 11 and a handle base 12. As represented in FIG. 2, the parts are oriented with respect to one another in such a manner as to make up a handle and latch assembly for a door oriented as shown in FIG. 1. Thus, in FIG. 1 there is represented, by way of example, a sliding glass door which opens by movement to the right, as viewed in the figure, the door being made up, inter alia, of a stile 14 and pane of glass 15, the handle and latch assembly being made up of an appropriate combination of the parts 10, 11 and 12, secured to the stile 14 by means of threaded fastener means 16.

More particularly, the handle 10 typically comprises a short length of extruded aluminum. The handle 10 is typically formed with any convenient shape of handhold portion 17 which may, for example, be somewhat channel shaped, as indicated, to adapt it for the reception of a decorative face or cover sheet 18 secured between the channel walls. The handhold portion 17 may project from the base portion of the handle 10 by any desired configuration of the intermediate portion, for example, the curved portion 19 shown in FIG. 2. It will, of course, be appreciated that the specific shape of the intermediate portion 19 and handhold portion 17 are immaterial for purposes of the present invention so long as some convenient handhold means is provided.

In the assembly of the device, the latch cartridge 11 is first nested in a desired orientation within the base 12 and the base 12, with a cartridge therein, is then placed in a desired orientation within the handle 10. To this end, the handle 10 is provided with means for indexing the base 12 therein in the desired orientation. Thus, the handle 10 includes a cover portion 20 that is formed along one longitudinal edge with a front flange 21 and that is formed along the other longitudinal edge with a flange 22 of abbreviated height. The pair of flanges 21 and 22 receive the handle base 12 therebetween and hold it against relative lateral displacement, while the abbreviated flange 22 is further adapted to cooperate with a portion of the base 12 to hold the base against displacement longitudinally of the handle 10.

The handle base 12 is generally of elongated box frame configuration, preferably made of a synthetic plastic material which is essentially rigid. As is shown in FIGS. 2 and 3, the base 12 includes opposite end walls 23 and 24 that are interconnected by longitudinally extending front wall 25 and real wall 26. A plan view of the real wall 26 of the base 12 is shown in FIG. 3. From this view, it will be seen that the opposite longitudinal edges of the rear wall 26 are relieved to define a shoulder 27 along one edge and a shoulder 28 along the other edge. These shoulders are closed at the opposite ends of the base 12 by the end walls 23 and 24 and are of a length to snugly receive the abbreviated flange 22 of the handle 10.

When the base 12 is mounted within the handle 10, the base is always oriented with the front wall 25 thereof against the inside of the front flange 21 of the handle. However, either the shoulder 27 or the shoulder 28 of the rear wall 26 of the base 12 may be oriented in registration with the abbreviated flange 22 of the handle 10. Thus, referring to FIG. 2, the base 12 may be mounted in the handle 10 either in the position illustrated in the figure or, alternatively, the base 12 may be turned end for end so that the end wall 24 is the upper end and the base then mounted in place with the shoulder 27 receiving the abbreviated flange 22. In either case, the base 12 is keyed into the handle 10, being held against lateral displacement between the front flange 21 and abbreviated flange 22 of the handle 10 and being held against relative longitudinal displacement by the opposite end walls 23 and 24 of the base 12 abutting the opposite ends of the abbreviated flange 22.

The latch cartridge 11 has a housing made up of a male half 30 and a female half 31. Each of these halves is generally of shallow elongated boxlike configuration. These halves may be

secured together by any convenient means, for example, by forming a pair of ears 33, one at each end of the male half, to register with a similar pair of ears 34 on the female half 31. The male tabs or ears 33 are provided with tubular rivet portions 35 that are receivable through holes formed in the female tabs 34, after which they may be upset to securely hold the housing halves together.

An antilift or holddown device is provided as an integral part of the latch cartridge housing. Thus, each of the housing halves 30 and 31 is integrally formed at the upper end thereof with a generally rectangular tab 36 projecting from the front wall thereof. As is indicated in FIG. 2, when the housing halves 30 and 31 are assembled, the tabs 36 are in abutting registration with one another.

The latch cartridge 11 also incorporates a spring-loaded latching mechanism. Referring to FIG. 4, this mechanism includes a latch member 40 that has a lever portion 41 and hook portion 42 extending generally oppositely outwardly away from a hub portion 43 thereof. The housing halves 30 and 31 have a vertically elongated opening 44 defined in the rear wall thereof through which the lever portion 41 is swingable upwardly and downwardly when a knob 45 on the rear end of the lever portion 41 is moved in a corresponding direction. Another vertically elongated opening 46 is defined in the front wall of the cartridge housing to permit the hook portion 42 to swing therethrough, inwardly and outwardly of the housing, in response to actuation of the lever 41.

The latch member 40 is mounted within the latch cartridge 11 by means of a stud 48 and a spacer washer 49. The opposite sidewalls of the cartridge housing are formed with coaxially aligned openings to provide bearings for opposite ends of the stud 48, as indicated in FIG. 6. The stud 48 is noncircular in transverse cross section, as best seen in FIG. 4, and the hub portion 43 of the latch member 40 and the spacer washer 49 are formed with holes of matingly complementary configuration so as to be keyed to the stud 48. Accordingly, upon movement of the lever portion 41 corresponding corotation of the stud 48 and spacer washer 49 is effected.

The stud 48 is formed with a radially projecting lobe 51 and the spacer washer 49 is formed with a congruently shape lobe 52. At their outer ends, each of these lobes is formed with a notch 52, the two notches being in opposed relation to define a pocket for the reception of one end of a leaf spring 53. As is indicated in FIGS. 4 and 5, the lower end of this leaf spring is formed with a loop portion 54 adapted to seat in the notches 52 and to remain seated therein as the lower end of the spring is swung overcenter from one side to the other of the axis of rotation of the stud 48. An upper end 55 of the spring 53 bears against the upper end of the latch cartridge housing. Positive stops to limit the range of angular movement of the latch member 40 may be provided by any convenient means, for example, an offset edge portion 56 along the rear edge of the hook portion 42 and a shoulder 57 on the forward edge of the hook portion 42. Thus, as shown in FIG. 4, the offset 56 limits angular movement of the latch member 40 in one direction by abutment against the inside of the rear wall of the cartridge housing. As shown in FIG. 5, the shoulder 57, by abutting the upper end of opening 46 in the forward wall of the cartridge housing, limits movement in the other direction.

The handle base 12 is adapted to receive the latch cartridge 11 in either of two differently oriented positions. To this end, the base 12 is provided with a central web portion 60 that is so located that either side of the cartridge 11 may be lain thereon with the other side lying flush with or in the same plane as a side of the base 12. In order to properly index the cartridge 11 longitudinally of the base 12, the base is provided with a spaced pair of transverse walls 61 for abutting opposite ends of the cartridge 11 and each of the walls 61 is provided with a clearance notch 62 for the reception of the ears 33 and 34 on the cartridge ends. As is best seen in FIG. 2, the front wall 25 of the base 12 is provided with a rectangular open-sided notch 63 to receive the front wall of the cartridge 11. As is shown in FIG. 3, the rear wall 26 of the base 12 is relieved, as indicated at 64, to provide clearance for up and down movement of the latch lever 41. As is shown in FIGS. 4 and 5, the relationship of the parts is such that when the latch cartridge 11 is nested within the base 12 the forward face of the latch cartridge lies in the same plane as the forward face of the base 12.

The latch cartridge 11 may be mounted in the base 12 either in the orientation shown in FIG. 2, i.e., with the tabs 36 uppermost or, alternatively, the cartridge 11 may be turned end for end so that the positions of the tabs 36 and latch hook 42 would be reversed relative to the base 12. In either position of orientation of the cartridge 11 within the base 12, the base 12, with the cartridge therein, can be mounted within the handle 10 in either of two differently oriented positions of the base, in the manner previously described. For any of these possible combinations, the front flange 21 of the handle 10 is in any event provided with a pair of vertically aligned and spaced apart slots 71 and 72, each of which may receive therethrough either the tabs 36 or the latch hook 42. The location of slots 71 and 72 illustrated in FIG. 2 is appropriate for an inside sliding door, either left or right hand. However, for an outside sliding door, whether left or right hand, the location of the slot 71 and 72 would be shifted towards the free edge of the flange 21 to compensate for the corresponding change in location of the cartridge 11 when the base 12 is turned end for end from the position shown in FIG. 2.

FIGS. 4 and 5 show a fixed door jamb 75 provided with a pair of vertically elongated slots 76 and 77 adapted for the reception of the tabs 36 and latch hook 42, respectively. The operation of the latching mechanism will be apparent from these two figures but it should particularly be noted that the relationship of the several parts is such as to achieve a latching mechanism of superior strength. Thus, FIG. 5 shows the latch hook 46 as being engaged behind the jamb 75 in the locked position. Assuming now that an attempt is being made at forcible entry through the door, as by the application of force in a door opening direction, it will be seen that as the front flange 21 of the handle 10 bears directly against the front wall of the cartridge 11, the door cannot be opened short of applying sufficient force to deform the front flange 21 or breaking off the hook 46. On the other hand, in prior constructions of this class there was no such metal to metal transmission of forces and it was possible to force open the door tearing the cartridge loose from the plastic and leaving the lock engaged while the door opened.

Similarly, in our construction the antilift out means is of superior strength. Thus, assuming the door to be locked as in FIG. 5 and that a forcible entry is attempted to be made by lifting on the door in an attempt to turn the latch hook 46 out of locking engagement, the antilift out tabs 36 will prevent such lifting. Again, displacement of the cartridge 11 relative to the handle 10 is prevented by metal to metal contact between the tabs 36 and the front flange 21 of the handle 10, which is superior to prior constructions in which the ultimate yield point was determined by metal to plastic contact.

From the foregoing it will be seen that any desired type of handle and latch assembly, whether it be for a left- or right-hand door that is inside or outside mounted, may readily be made up from any handle 10, cartridge 11 and base 12 and without any further machining other than to locate the slots 71 and 72 and the proper position for either an inside or outside sliding door. Moreover, once the three parts are assembled, they are indexed together in such fashion that they are interlocked against relative displacement so forming a conveniently handled assembly that can very quickly be mounted as a unit on the stile of the door simply by passing the fasteners 16 through the handle assembly and stile and securing them in place.

FIGS. 7 through 11 show a second embodiment of the invention in which the parts are adapted for mounting in place at the job site or during manufacture of the door. While this embodiment is shown in connection with a metal door, it will be appreciated that, as in the case of the first embodiment, it may equally well be applied to wooden doors, and, in any case,

provides an effective latch that is secure against forcible entry, particularly by virtue of the double-holddown feature of this embodiment.

The device includes a handle 10', latch cartridge 11' and handle base 12', generally like the corresponding parts of the first embodiment. Additionally, the device includes a latch keeper 80, a latch cartridge mount 81, and an actuating lever 82, by means of which additional parts the device is adapted for a mortise type installation.

More specifically, while the handle 10' and base 12' are generally similar to their counterparts in the first embodiment, they are in this case adapted for only a single indexed position of the base 12' with respect to the handle 10'. The handle 10', like the handle 10, has a cover portion 20 formed along its rear edge with an abbreviated flange 22 and along its front edge with a front flange 21, between which flanges the base 12' is adapted to be received. However, the front flange 21 is, in this case, formed along its free edge with a flange 21*a*, projecting toward the rear flange 22, adapted to seat within a shoulder 84 formed in the front wall 25' of the base 12'. The base 12' is provided with a plurality of spaced, integrally formed tabs 85 adapted for snap engagement with a lip 22*a* formed on the abbreviated rear flange 22, in order to hold the base 12' against displacement outwardly from the handle 10'. As in the case of the base 12, the base 12' has opposite end walls 23 and 24 adapted to embrace opposite ends of the base receiving portion of the handle 10' in order to hold the base 12' against displacement longitudinally. As before, the handle is secured to the door stile by fasteners 16.

With this arrangement, the base 12' can be seated in the handle 10' in only one orientation of the base with respect to the handle, in order to slidably and rotatably mount the actuating lever 82. In this connection, a central web portion 60' of the base 12' is formed with an elongated slot 86, extending transversely of the web (FIG. 10), adapted to slidably receive a reduced diameter portion 87 of a lever support member having an enlarged diameter base portion 88 that is slidably disposed between confronting surfaces of the web 60' and cover portion 20. On that side of the web 60' confronting the cover portion 20 of the handle, the base 12' is integrally formed with a pair of angularly related ribs 89 diverging towards an opening 64' in the rear wall 26' of the base, in registration with an opening 90 formed in the rear flange 22 of the handle 10'.

As is shown in FIG. 8, the actuating lever 82 is of noncircular cross section and has a right-angularly disposed arm 91. This arm extends through an opening 92 formed axially through the reduced diameter portion 87 of the lever mounting member, while the base portion 88 of the mounting member is formed with a diametrically extending slot 93 to receive the lever 82. As will be apparent, moving of the lever 82 between the solid and dotted outline positions of FIG. 10, by means of a handle 94, effects rotation of the lever supporting member and the arm 91 for operating the latch, the lever 82 being turnable between the limits imposed by the ribs 89 on the web 60'.

The latch cartridge 11' is in this case mounted within a stile 14' of the sliding door, by means of the mount 81. The cartridge 11' is, in all material respects, identical to the previously described cartridge 11 except that, in this case, the latch member has a hub portion 43' which does not include a lever portion 41. Actuation of the hook 42 in this case is accomplished by the lever arm 91 extending through a hole 95 in the side of the stile 14' and into a matingly engageable noncircular opening 96 formed axially through the stud 48 which mounts the latch hub 43', the slot 86 providing clearance for proper alignment of the parts.

The mount 81 is preferably formed as an integral casting including an escutcheon plate portion 97 around a vertically elongated walled channel 98. As is indicated in FIG. 9, the face of the stile 14' which confronts the door jamb is formed with a vertically elongated opening 99 adapted to receive the channel 98 with the escutcheon 97 abutting and being secured to the stile by means of appropriate screw fasteners 100. The channel 98 has a floor 101 that is formed with a longitudinally extending opening 102 of a configuration adapted to receive the front face of the cartridge 11', in substantially flush relation to the floor 101. On the blind side of the floor 101, at opposite ends of the opening 102, it is formed with pairs of tabs 103 between which the tabs or ears 33, 34 at each end of the cartridge 11' are received, the parts being riveted together as indicated at 104. As is indicated in FIG. 8, the channel floor 101, along opposite sides of the opening 102, on the blind side of the floor, is integrally formed with a parallel opposed pair of flanges 106 to embrace the opposite sidewalls 30, 31 of the cartridge housing.

With this embodiment, the jamb of the door opening is preferably adapted for mounting the keeper 80 in recessed relationship to the jamb. Thus, the jamb may comprise a channel 110 having opposite sidewalls 111, 112 adapted, as at 113, to receive opposed weatherstrips 114. As is best seen in FIG. 11, the keeper 80 comprises a generally boxlike member having opposite longitudinally extending sidewalls 116 joined at their opposite ends by arcuate wall sections 117, the whole being adapted for mating tenonlike reception within the channel 98 of the mount 81. Adjacent its upper end, the keeper 80 is formed with a floor portion 119 and at its lower end with a floor portion 120, both of which are formed with vertically elongated slots 121 and 122 adapted to receive appropriate fasteners 123 for securing the keeper 80 to the floor of the channel 110. Between the ends 117, the opposite sidewalls 116 of the keeper 80 are bridged by a partition 125 extending between the floor portion 119 and an abbreviated front wall portion 126 to define a hook receiving chamber 127 at the lower end of the keeper, and a holddown tab receiving chamber 128 in the upper end portion of the keeper, as indicated in FIG. 9.

As shown in FIG. 9, when the door is closed, the keeper 80 enters the channel 98 of the mount 81 while the holddown tabs 36 of the cartridge 11' enter the chamber 128. The latch hook 42, when in the unlatched position, is in registration with the opening into the lower chamber 127 of the keeper and upon turning of the lever arm 91 into the solid outline position of FIG. 9, the hook 42 comes into latching engagement with the blind or underside of the front wall 126. Now, if a forcible entry is attempted by raising the door relative to the jamb, it will be seen that a double-holddown arrangement prevents the door being lifted sufficiently to pivot the hook out of latching engagement with the wall portion 126. First, the limited vertical clearance between the holddown tabs 36 and the top end wall 117 of the keeper and, secondly, the limited vertical clearance between the top end wall 117 of the keeper and the confronting end of the channel 98, positively limit raising of the door sufficiently to prevent counterclockwise pivotal movement of the hook 42 far enough for releasing the hook from the member 126.

Various modifications and changes may be made with respect to the foregoing description without departing from the spirit of the invention or the scope of the following claims.

We claim:

1. In a sliding door latch, the combination comprising:

a latch housing integrally rigidly formed with a holddown element that projects forwardly from a forward wall of said housing,

a selectively operable latch means mounted in said housing, and

a rigid means adapted for rigidly securing said latch housing to a door stile with said holddown element in position to engage an aperture in a door jamb said rigid means comprising a handle integrally formed with a front flange against the inside of which flange said latch housing is disposed,

said flange being formed with an opening therethrough that receives said holddown element,

said opening and said holddown element having opposed surfaces adapted and arranged to hold said housing and handle against relatively longitudinal displacement.

2. A device as in claim 1 in which:
said handle is formed with a rear flange laterally offset from said front flange and said housing has a rear wall, the spacing between said flanges being adapted to matingly receive the front and rear walls of said housing between said flanges when said holddown element is within said opening whereby to prevent relative lateral displacement of said housing and handle.

3. A device as in claim 1 in which:
said handle includes a cover portion extending rearwardly from said front flange, and
a base is mounted within said cover portion and said front flange of said handle to support said handle on the stile of a door,
said base and handle having cooperating means for holding said base and handle against relative displacement,
said base including a rear wall offset rearwardly from said front flange and abutting a rear wall of said housing to prevent relative lateral displacement of said housing and handle.

4. A device as in claim 3 in which:
said cooperating means for holding said base and handle against relative displacement comprise a rear flange formed on said handle and a shoulder formed along one edge of said base, said shoulder being closed at both ends,
said rear flange being matingly received in said shoulder whereby the closed ends of said shoulder abuttingly prevent relative longitudinal displacement of said handle and base,
said rear flange and front flange of said handle being adapted and arranged to prevent relative lateral displacement of said housing and said base.

5. A device as in claim 1 in which:
said device includes a latch keeper adapted to be rigidly secured to a door jamb, and
said rigid means includes a channel having rigid opposite end walls that is adapted to the mortised into a door stile,
said channel having said latch housing rigidly secured thereto with a front wall of said housing in registration with an opening formed in a floor of said channel to dispose said holddown element within said channel and in registration with an opening in said keeper.

6. A device as in claim 5 in which said keeper comprises a rigid member adapted to be matingly received within said channel with limited vertical clearance between opposite ends of said keeper and said opposite end walls of said channel to positively limit vertical displacement of said channel and of the door on which said channel is to be mounted, relative to said keeper.

7. A device as in claim 5 in which:
said keeper comprises a rigid member having a chamber adapted to receive said holddown element,
said holddown element and said keeper having opposed confronting surfaces adapted to prevent raising said holddown element whereby to prevent unlatching movement of said latch means.

8. A universal handle and latch assembly for sliding doors comprising:
a handle, a base and a latch cartridge,
said handle being formed with a cover portion and a front flange,
said base comprising an elongated framework that is adapted to be received within said cover portion and front flange to seat said handle on the stile of a door,
said base being formed with a cavity adapted to seat said cartridge within said base with a front wall of said cartridge flush with a front wall of said base and abutting said front flange of said handle,
said front flange of said handle being formed with a pair of vertically elongated slots,
said front wall of said cartridge being formed with a vertically elongated holddown element protruding forwardly from said front wall to matingly extend through one of said slots of said flange to key said cartridge and said base against longitudinal displacement relative to said handle,
said front wall of said cartridge also being formed with a vertically elongated slot in registration with the other of said slots of said flange,
said cartridge internally mounting a latch having a hook portion that is swingable through said slot of said cartridge and said other slot of said flange.

9. A device as in claim 8 in which:
said handle is formed with an abbreviated rear flange, and
said base has a rear wall whose opposite edges are formed with a pair of shoulders, each of said shoulders being adapted for alternative mating engagement with said rear flange whereby said base can selectively be reversely oriented with respect to said handle for mounting on either inside or outside doors.

10. A device as in claim 8 in which:
said slots of said front flange are vertically aligned and of equal length, and
said holddown element and said slot of said cartridge are vertically aligned and of a length equal to the length of said slots of said flange and adapted for congruent registration with said slots of said flange,
whereby said cartridge may be seated on said base in either of two positions with said holddown element matingly extending through either of slots of said front flange and said slot of said cartridge in registration with either of said slots of said front flange for mounting the assembly on either a left- or right-hand door.

11. A latching device for sliding doors comprising:
a pair of rigid hollow members adapted for mortise and tenon engagement,
one of said members comprising a latch mount defined by a rigid vertically elongate hollow mortiselike member mounting a selectively operable rotary latch means,
the other of said members comprising a latch keeper defined by a rigid vertically elongate hollow tenonlike member having a rigid portion that is releasably engageable by said latch means upon actuation of said latch means when said pair of members are in mortise and tenon engagement,
said pair of members having opposed wall portions adapted to prevent relative lateral displacement of said pair of members in a direction to unlatch said rotary latch means,
said latch mount including a channel defined by an endless wall having a floor portion,
said latch means being rigidly secured to a blind side of said floor of said channel,
said latch means including a housing having a front wall positioned in registration with an opening formed in said floor of said channel.

12. A device as in claim 11 in which:
said latch housing includes an integrally formed holddown element on said front wall,
said latch keeper including a chamber adapted to receive said holddown element when said latch keeper and said latch mount are in mortise and tenon engagement,
said holddown element and said chamber having opposed surfaces adapted to prevent relative lateral displacement therebetween in a direction to unlatch said rotary latch means.

13. A device as in claim 12 in which:
said latch engageable portion of said latch keeper comprises a forward wall portion of a second chamber of said latch keeper that is adapted for confronting said forward wall of said latch housing,
said rotary latch means including a hook portion that is swingable into and out of engagement with said rigid front wall portion of said latch keeper.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,596,954 Dated August 3, 1971

Inventor(s) Ben A. Hull et al.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

ABSTRACT, lines 5 and 12, change "holddown" to --hold-down--.

Column 1, lines 29, 34 and 47, change "holddown" to --hold-down--.

Column 2, lines 19, 27 and 29, change "hand-hold" should read -- holddown --; line 75, change "boxlike" to --box-like--.

Column 3, line 8, change "holddown" to --hold-down--; same line, change "antilift" to --anti-lift--; line 33, change "noncircular" to --non-circular--; line 34, change "cross section" to --cross-section--; line 38, change "corotation" to --co-rotation-- line 41 change "shape" to --shaped--.

Column 4, lines 46 and 50, change "antilift" to --anti-lift--.

Column 5, line 2, change "double-holddown" to --double hold-down-- line 46, change "noncircu-" to --non-circu- --; line 47, change "cross section" to --cross-section--; line 66, change "noncircular to --non-circular--.

Column 6, line 19, change "boxlike" to --box-like--; line 22, change "tenonlike" to --tenon-like--; lines 32, 36, 44, 47, 59, 65, 71 and 72, change "holddown" to --hold-down--; line 44, after "double" delete "-".

Column 7, lines 6, 41, 52, 53, and 73, change "holddown" to --hold-down--.

Column 8, lines 21, 26, 55, 58 and 60, change "holddown" to --hold-down--; line 35, change "mortiselike" to --mortise-like--; line 38, change "tenonlike" to --tenon-like--.

Signed and sealed this 14th day of March 1972.

(SEAL)
Attest:

EDWARD M.FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents