

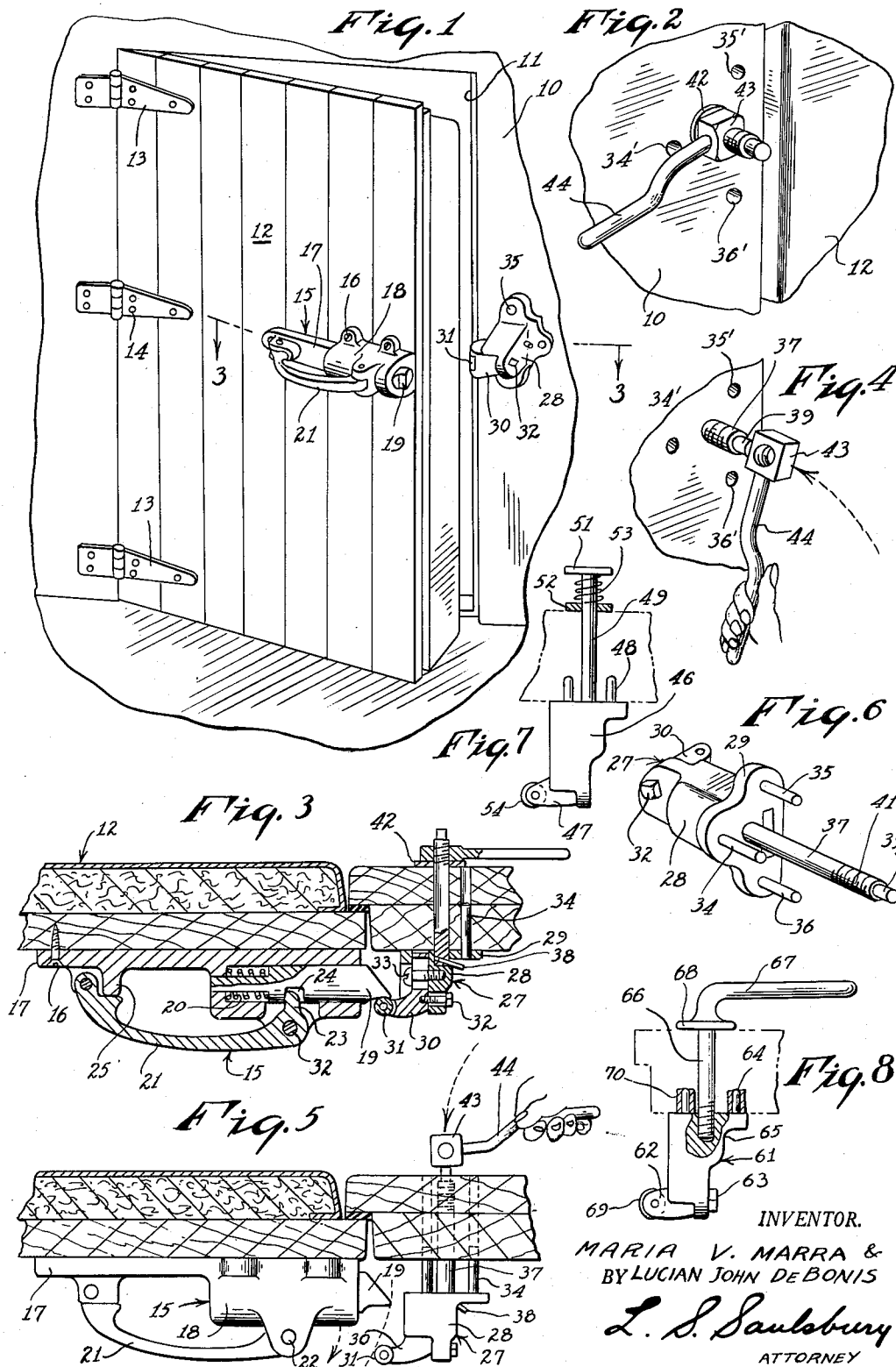
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LATCH KEEPER FOR REFRIGERATOR DOORS

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LATCH KEEPER FOR REFRIGERATOR DOORS

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1 Claim. (Cl. 292—340)

This invention relates to a latch for refrigerator doors and more particularly to a latch which can be released from the interior of the refrigerator.

It is an object of the present invention to provide a latch for refrigerator doors having cooperating parts lying on the inner side of the refrigerator and adapted to be released so as to release the latch and permit the opening of the refrigerator door from within the refrigerator should the refrigerator be accidentally latched externally by one other than the person who is within the refrigerator at the time.

It is another object of the invention to provide a latch for refrigerator doors wherein the latch keeper is fastened to the wall of the refrigerator by a bolt extending therethrough which may either have a handle attached to it so that it can be released from the latch keeper, or which has an attaching nut with a handle available upon the nut for loosening the nut and wherein this handle and nut can be used as a striking member adapted to strike at the end of the bolt to cause the latch keeper to be separated from the front wall of the refrigerator and free of the door latch whereby the door can be readily and easily swung outwardly by pushing upon the interior surface of the door and the captive one thereby given freedom.

Other objects of the invention are to provide a refrigerator latch and latch keeper assembly which can be released from within the refrigerator, that is of simple construction, inexpensive manufacture, easy to assemble on the refrigerator, adapted for use with old latches, permits the old keepers to be built over to include the features of the present invention, compact, convenient and efficient in use.

For other objects and for a better understanding of the invention reference may be had to the following detailed description, taken in conjunction with the accompanying drawing, in which:

Figure 1 is a perspective view of the refrigerator door and upon the side of the refrigerator utilizing the latch keeper embodying the features of the present invention and with the door swung free of the refrigerator opening;

Fig. 2 is a perspective view looking upon the invention upon the interior wall of the refrigerator and upon the releasable securing nut which can be removed to release the latch keeper;

Fig. 3 is an enlarged transverse sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is an illustrative view in perspective showing the manner in which the nut with the handle is utilized to press outwardly the through-bolt and the latch keeper from the front of the refrigerator wall;

Fig. 5 is a fragmentary top plan view looking upon the latch and the latch keeper, after the latch keeper has been struck outwardly sufficiently to free the latch bolt from it;

Fig. 6 is a perspective view of the latch keeper removed

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from the wall of the refrigerator and looking upon the centering prongs and securing bolt at the rear of it;

Fig. 7 is an elevational view of a modified form of the latch keeper utilizing a spring for holding the latch keeper normally in place, but releasable upon pressing outwardly on the inner side of the refrigerator door;

Fig. 8 is a plan view of a still further form of the invention wherein the bolt which secures the latch keeper to the wall of the refrigerator has an integral handle thereon and wherein the latch keeper has short centering prongs.

Referring now particularly to Figs. 1 to 6, there is shown a refrigerator wall 10 having a door opening 11 therein. Hinged to the side of the opening is a refrigerator door 12 having hinges 13 vertically spaced from one another and fixed to the door and refrigerator wall by screws 14 and a latch mechanism 15 which is secured to the opposite side of the door by screws 16.

This latch mechanism comprises a base member 17 having a sleeve formation 18 in which a bolt 19 is slidable and which is normally held in its extended position by a spring 20 but can be released therefrom by a handle lever 21 pivoted to the sleeve 18 by a bolt 22 and having a projection 23 entering a slot 24 in the bolt 19. The end of the handle lever 21 is supported in a projection 25 on the attaching plates 17. The refrigerator door 12 is of the usual heavy and insulated construction.

A latch keeper 27 embodying the features of the present invention is attached to the wall 10 of the refrigerator adjacent the latch mechanism 15. According to the first form of the invention, this latch keeper comprises a body 28 having a flange 29 that seats against the surface of the refrigerator wall. Adjustable in this body element is a keeper element 30 having a roller 31 on its outer end for engagement with the outer end of the latch bolt 19. This keeper element 30 can be adjusted and retained in its adjusted position by securing bolts 32 and 33.

In the portion 29 that rests against the wall of the refrigerator there is provided three centering pins 34, 35 and 36, which are extended into holes in the refrigerator wall and which will hold the keeper 27 against angular displacement on the wall. The holes may extend through the entire wall or only partially therethrough and are indicated respectively at 34', 35' and 36'.

Into the body 28 there is also provided and extended a long bolt 37. This bolt extends into an opening 28 and will be retained therein by a pin 38. This bolt may also be threaded into the body 28 and held against rotation and against axial displacement by the pin 38. A large hole is provided in the wall of the refrigerator and this bolt 37 will extend therethrough. The through bolt has a reduced end 39 so that it can be hammered without destroying threads 41 thereon. With the keeper in place upon the wall, the washer 42 is placed over the end of the bolt 37 and a nut 43 is secured to the threaded portion 41 thereof. This nut preferably has a handle 44 welded to it so as to be always available at times when the user of the refrigerator has become locked within the refrigerator. This handle 44 also serves when the nut 43 is used as a hammer against the reduced portion 39 of the bolt 37 in the manner illustrated in Figs. 4 and 5 in order to free the keeper 27 from the front face of the refrigerator wall and allow the latch bolt 19 to pass the roller 31 on the keeper element 30. It will be apparent that the nut 43 is readily removable from the interior of the refrigerator and that the latch keeper can be easily released from the refrigerator wall by simply striking the end of the bolt 37 with the hammer nut 43.

Referring now to Fig. 7, there is shown a modified form of the invention including a keeper body 46 having a keeper element 47 thereon. This keeper body 46 has short prongs 48 that enter holes in the front surface of

the refrigerator wall and a through bolt 49 that extends through the wall in the manner as shown and which has a head 51 on its rear end spaced from the rear or inner surface of the refrigerator wall. A washer 52 engages the inner surface of the wall and a spring 53 reacts between this washer 52 and the enlarged head 51 so as to normally retain the keeper body 46 and the prongs 48 thereof in engagement with the front surface of the wall. This spring is sufficiently strong to normally hold the door of the refrigerator closed, but upon the application of heavy force against the inner side of the door, the spring 53 will compress so as to allow the keeper body 46 to be moved outwardly with the latch bolt and to a sufficient distance so that the latch bolt will pass free of keeper element roller 54.

The keeper body 46 has a door which is forced outwardly and will be made free of the front wall and may turn slightly so that the short prongs 48 will become slightly out of register with the holes in the refrigerator wall and thus may have to be angled after the user of the refrigerator has had exit therefrom, in order to replace the keeper body 46 in its proper position for further use. This form of the invention provides for an automatic release of the door from the interior of the refrigerator and by the mere application of pressure on the inner side of the door.

Referring now particularly to the form of the invention shown in Fig. 8, a latch keeper body 61 is provided with a keeper element 62 which can be fixed in any one of adjusted position by clamping bolts 63 and in a manner as shown in Fig. 3. This retainer body 61 has short prongs 64 and has a threaded hole 65 into which a securing bolt 66 is fixed in order to clamp the latch keeper 61 to the refrigerator wall. The latch bolt 66 has a handle 67 that corresponds to the handle 44 on the nut 43 shown in the first form of the invention and which can serve for tightening the bolt 66 to secure the keeper 61 and also to release the bolt at times of emergency. A flange 68 will seat against the inner face of the refrigerator wall. With this form of the invention the bolt 66 is released and made entirely free of the keeper body 61 so that upon applying pressure upon the door from the inner side thereof, the keeper 61 can be made free of the front wall surface and allow the refrigerator door to be opened. The keeper 61 has a roller 69 that is engaged by the bolt 19, and the bolt 19 will thereby sweep the keeper from the wall as the door is pushed outwardly. The keeper can thereafter be easily installed by replacing the prongs 64 in the holes in the walls of the refrigerator and again applying the bolt 66 from the inner side thereof. The holes in the wall of the refrigerator

are preferably lined with metal sleeves 70 to relieve the same from wear.

It should now be apparent that there has been provided a fully releasable latch keeper for use upon refrigerators whereby the user of the refrigerator can easily make the keeper releasable so that he can readily and quickly be made free of the refrigerator, should the user become locked therein.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention, as defined by the appended claim.

What is claimed is:

A keeper for a refrigerator latch comprising a body portion having a flange adapted to seat against the outer surface of a refrigerator wall, a keeper element in said body portion for engagement with the outer end of a latch bolt, means for adjusting and securing said keeper element in said body portion, a plurality of pins secured to said flange and adapted to extend into holes in a refrigerator wall, said body portion having a threaded aperture therein, a threaded bolt secured in said aperture in said body portion independently of said keeper element and adapted to extend through an opening in a refrigerator wall and freely pass therethrough when released, a removable pin securing said threaded bolt against rotation and axial displacement in said aperture, a reduced end portion extending beyond the threaded portion of said bolt, a releasable nut adapted for threaded engagement with said bolt, and straight handle means rigidly secured to said nut and laterally extending from one side of the nut in a common plane therewith to provide with the nut means, when released from the bolt, by which hammer blows can be made upon the reduced end portion of the bolt to dislodge the bolt from the opening in the refrigerator wall, whereby the keeper element and the body portion can be readily displaced from the outer surface of the refrigerator wall.

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