March 23, 1943. W. A. ENDTER 2,314,613

WEDGE KEEPER FOR ROTARY LATCHES

Original Filed Oct. 17, 1936

Fig. 1.

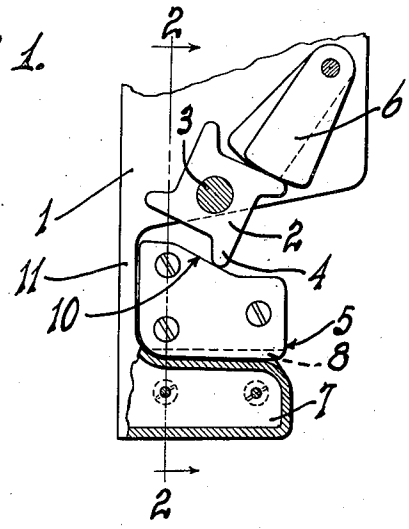
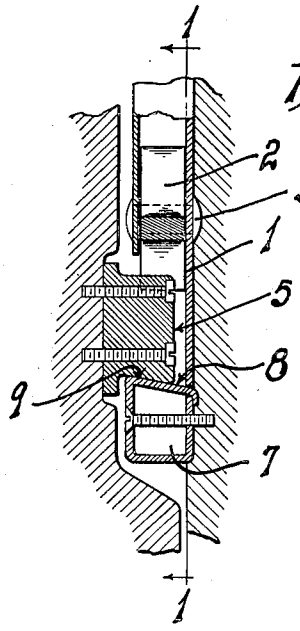


Fig. 2.



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Patented Mar. 23, 1943 2,314,613

UNITED STATES PATENT OFFICE

2,314,613

WEDGE KEEPER FOR ROTARY LATCHES

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Original application October 17, 1936, Serial No. 106,243, now Patent No. 2,224,512, dated December 10, 1940. Divided and this application September 11, 1940, Serial No. 356,275

7 Claims. (Cl. 292—213)

This application is a division of my Patent No. 2,224,512, issued December 10, 1940, for Door latch.

This invention relates to a wedge type keeper for rotary latches, whereby the closure on which the latch is mounted is held in a number of directions, namely in a closing direction; an opening direction, and in a direction substantially in the plane of the closure and the frame in which it is mounted.

An object of my invention is to provide a novel keeper which is adapted to be clamped between a rotary bolt and a stationary guiding surface, this guiding surface and the keeper having co-acting, inclined surfaces which tend to pull the closure towards the frame.

A feature of my invention resides in the novel wedging keeper of the character stated, which holds the door against both horizontal and vertical movement.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description, and the appended claims.

In the drawing:

Figure 1 is a fragmentary, sectional view taken on line 1—1 of Figure 2.

Figure 2 is a fragmentary, sectional view taken on line 2—2 of Figure 1.

Referring more particularly to the drawing, my wedge keeper for rotary latches includes a latch frame 1, which is suitably attached to or mounted in a door or similar closure. A rotary bolt 2 is rotatably mounted in the frame 1 on a horizontal pin 3. The rotary bolt 2 may consist of a plurality of latching heads 4, any one of which may engage the keeper 5. One or more cam dogs 6 engage the various heads or surfaces of the rotary bolt 2 for the purpose of camming the heads 4 of the bolt against the keeper 5, as will be subsequently described. The cam dogs 6 may be of the type shown in my co-pending application, Serial No. 106,243, which has matured into the patent above mentioned.

A stationary lug 7 is mounted opposite to the rotary bolt 2 and spaced therefrom substantially as shown. The keeper 5 cooperates with the stationary lug 7 for the purpose of holding the door securely in position and against horizontal movement, as will be further described. The upper surface 8 of the lug 7 is inclined inwardly substantially as shown—that is, the surface 8 is arranged at an acute angle to a horizontal plane. The lower surface 9 of the keeper 5 engages the surface 8, substantially as shown in Figure 2—that is, these surfaces engage and co-act when the closure is in latched position. I thus provide a wedge or dovetail connection between the lug 7 and the keeper 5 which holds the door against spreading away from its frame.

The keeper 5 is provided with an inclined surface 10 against which the heads 4 of the rotary bolt bear when the closure is in latched position. The rotary bolt thus presses the keeper inwardly to hold the door against swinging movement, and also presses the keeper against the stationary lug 7 and holds the inclined or wedged surfaces 8 and 9 in close engagement. When the closure is completely closed, the keeper 5 bears against the stop 11 and is pressed against this stop by the rotary bolt 2.

Having described my invention, I claim:

1. A latch and keeper mechanism for association with a closure, comprising a frame, a multiheaded rotary bolt journaled in the frame, dogging means mounted in the frame and adapted to engage any of the heads of the rotary bolt, a keeper, a projecting lug on the frame vertically spaced from and opposite to said rotary bolt, said projecting lug engaging one side of the keeper, any head of the rotary bolt engaging the other side of the keeper whereby the keeper is clamped between the rotary bolt and the lug, the surface of the lug engaging the keeper being beveled inwardly towards the frame, and the complementary surface to the lug of the keeper being beveled to fit against the lug.

2. A latch and keeper mechanism for association with a closure, comprising a frame, a multiheaded rotary bolt journaled in the frame, a cam dog mounted in the frame and adapted to engage a head of the rotary bolt, a keeper, a lug projecting from the frame vertically spaced from and opposite to said rotary bolt, said projecting lug engaging one side of the keeper, a head of the rotary bolt engaging the other side of the keeper, the face of the keeper engageable by the rotary bolt being disposed at an angle to the surface engaging the projecting lug, whereby the keeper is clamped between the lug and the rotary bolt, the surface of the lug engaging the keeper being beveled inwardly towards the frame, and the complementary surface to the lug of the keeper being beveled to fit against the lug.

3. A latch and keeper mechanism for association with a closure, including a projecting member on the closure, a rotary bolt mounted on the closure, dogging means engaging the rotary bolt, said bolt being capable of further rotation in a latching direction while in a latched posi-

tion by means of said dogging means, said rotary bolt being fixedly journaled on the closure, a keeper including a surface engageable with the first named projecting member, and a second surface inclined thereto, said bolt engaging the inclined surface of the keeper and tightly pressing thereon, the projecting member on the closure bearing against the other described surface of the keeper, said keeper being clamped between the rotary bolt and the projecting member on the closure, the projecting member on the closure being beveled inwardly towards the frame and the complementary surface of the keeper being beveled to fit against the lug.

4. A latch and keeper mechanism for association with a closure, comprising a frame, a stationary projecting lug on the frame, a keeper, a bearing surface on the keeper adapted to bear against said lug for the purpose of restraining movement in one direction, the surface of the lug engaging the keeper being beveled inwardly towards the frame, and the complementary surface of the keeper being beveled to fit against the lug, a second bearing surface on the keeper inclined to the first named bearing surface, a rotary bolt, said rotary bolt being adapted to bear against the second bearing surface on the keeper for the purpose of restraining movement in one direction, said keeper cooperating with the lug and the rotary bolt whereby the latch is restrained from movement in an outward direction, and at the same time, held in alignment, dogging means engaging the rotary bolt whereby said rotary bolt is fixedly held pressed against said second surface.

5. A latch and keeper mechanism for association with a closure, comprising a frame, a stationary lug projecting from said frame, a keeper, a bearing surface on the keeper adapted to bear against said lug for the purpose of yieldably restraining movement thereof in one direction, the surface of the lug engaging the keeper being beveled inwardly towards the frame, and the complementary surface to the lug of the keeper being beveled to fit against the lug, a second bearing surface on the keeper arranged at an angle to the first named surface, a multiheaded rotary bolt journaled in the frame, any head of said bolt bearing against the second bearing surface for the purpose of restraining movement thereof in one direction, said keeper cooperating with the lug and the rotary bolt whereby the lug is restrained from movement in an outward direction and yieldably restrained from movement in a vertical direction, and at the same time, held in alignment, and dogging means engaging the rotary bolt whereby said bolt is fixedly held pressed against said second surface.

6. A latch and keeper mechanism for association with two relatively moveable members, comprising a stationary abutment carried by, and projecting from, one of said members, a keeper carried by the other member and having a bearing surface adapted to bear against said abutment, the surface of the abutment engaging the keeper being beveled inwardly towards the member on which the abutment is mounted, and the complementary surface of the keeper being beveled to fit against the abutment, said keeper having a second bearing surface thereon, a multiheaded rotary bolt journaled in said one member, any one head of said bolt being disposed to bear against the second bearing surface on the keeper, said keeper cooperating with the abutment and the rotary bolt and received between the abutment and the bolt, whereby the members are secured in latched position, and dogging means engaging the rotary bolt whereby said bolt is fixedly held pressed against said second surface, and the stationary abutment and the rotary bolt being vertically spaced.

7. A latch and keeper mechanism for association with two relatively moveable members, comprising a stationary abutment carried by, and projecting from, one of said members, a keeper carried by the other member, and having a bearing surface adapted to bear against said abutment, the surface of the abutment engaging the keeper being beveled inwardly and towards the member on which the abutment is mounted and the complementary surface of the keeper being beveled to fit against the abutment, said keeper having a second bearing surface thereon, a multiheaded rotary bolt journaled in said one member, any one head of said bolt being disposed to bear against the second bearing surface of the keeper, said keeper cooperating with the abutment and the rotary bolt and received between the abutment and the bolt whereby the members are secured in latched position, and a plurality of cam elements operatively associated with the bolt so as to provide a progressive cam action thereon and hold said bolt in engagement with said second surface on the keeper.

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