

March 5, 1940.

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2,192,398

STRIKER PLATE CONSTRUCTION

Filed Jan. 26, 1939

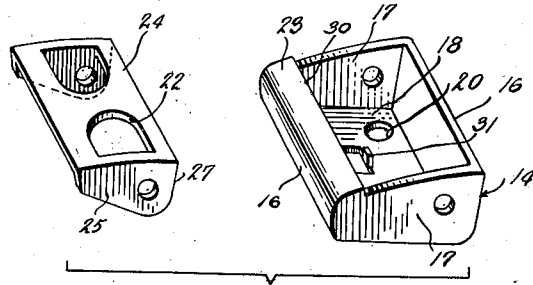


Fig. 1.

Fig. 2.

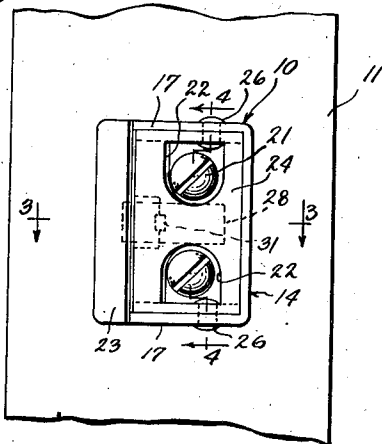


Fig. 3.

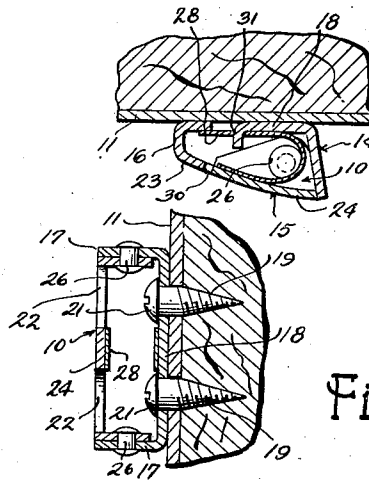


Fig. 4.

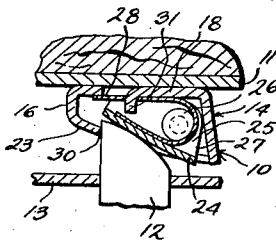


Fig. 5.

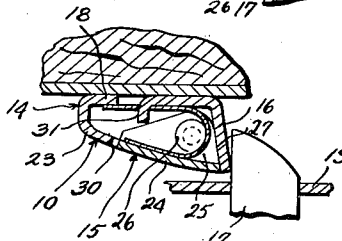


Fig. 6.

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2,192,398

STRIKER PLATE CONSTRUCTION

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Application January 26, 1939, Serial No. 252,975

7 Claims. (Cl. 292—340)

This invention relates generally to door latches and refers more particularly to improvements in striker plate assemblies.

It is one of the principal objects of the present invention to provide a striker plate assembly composed of a relatively few parts capable of being inexpensively manufactured, assembled, and installed.

Another advantageous feature of the present invention consists in the provision of a relatively small compact striker plate assembly embodying means cooperating with a latch bolt to effectively hold a closure in partially and fully closed positions.

A further feature of the invention resides in the provision of a striker plate assembly wherein the means set forth in the preceding paragraph not only positively prevents accidental opening movement of the closure from its partially closed position, but at the same time affords relatively easy continued movement of the closure to its fully closed position.

The foregoing, as well as other objects, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing wherein:

Figure 1 is a group perspective view of two parts of the striker plate assembly forming the subject matter of this invention;

Figure 2 is an elevational view of a door jamb showing the striker plate assembly secured to the vertical face of the jamb;

Figure 3 is a sectional view taken substantially on the plane indicated by the line 3—3 of Figure 2;

Figure 4 is a sectional view taken substantially on the plane indicated by the line 4—4 of Figure 2;

Figure 5 is a cross sectional view showing the striker plate assembly in the position the same assumes when cooperating with a latch bolt to hold the closure in partially closed position;

Figure 6 is a similar sectional view illustrating the manner in which the striker plate assembly cooperates with the latch bolt to hold the closure in its fully closed position.

The striker plate assembly 10 is adapted to be secured to the vertical face of a suitable door jamb 11 for cooperation with a suitable latch bolt 12 carried by a closure 13 to effectively hold the closure in the partially closed position shown in Figure 5 and in the fully closed position illustrated in Figure 6.

The striker plate assembly 10 comprises a shell or casing 14 having top, side, end, and bottom

walls 15, 16, 17, and 18, respectively. As shown in Figure 4, the bottom wall 18 is adapted to be secured to the vertical face of the jamb 11 by means of fastener elements 19 in the form of screws having the shank portions adapted to extend through openings 20 formed through the bottom wall 18 and having the usual slotted head portions 21 accessible for manipulation through slots 22 formed in the top wall 15 of the assembly.

The top wall 15 of the striker plate assembly is formed of two sections 23 and 24. The section 23 is a continuation of the outboard side wall 16 and is tapered to form, in effect, a pilot for guiding the latch bolt 12 into engagement with the section 24. The section 24 is in the form of a trip plate having lateral flanges 25 at opposite ends adapted to assume a position adjacent the inner surfaces of the end walls 17 and pivotally connected to the end walls 17 of the casing by means of the pins or rivets 26. The inboard edges 27 of the flanges 25 are shown in the several figures as being inclined at an angle corresponding to the angle of inclination of the inboard side wall 16 of the casing and are normally urged into abutting engagement with the inner surfaces of the inboard side wall 16 by means of a torsion spring 28. Upon reference to Figures 3 and 6, it will be noted that when the edges 27 on the flanges 25 of the trip plate are in abutting engagement with the inner surface of the inboard side wall 16 of the casing, the top surface of the section 24 forms a continuation of the top surface of the section 23. With the above construction, it will be noted that as the closure 13 is swung towards its closed position relative to the jamb 11, the bolt 12 engages the section 23 of the top wall of the striker plate and is retracted by the latter against the action of the usual roll-back spring incorporated in the latch (not shown). Upon continued closing movement of the closure 13, the bolt 12 engages the section 24 of the top wall at the outboard side of the pivots 26. The torsion spring 28 acting on the section 24 is of less strength than the roll-back spring (not shown), with the result that the section 24 is swung about the pivots 26 by the bolt to the position shown in Figure 5. In other words, the extremity of the bolt enters the casing 14 through the space occupied by the section 24 of the top wall and is prevented from outward movement relative to the striker plate by means of the free edge 30 of the top wall section 23. As the closure continues to move toward its closed position, the latch bolt 12 approaches the pivots 26, and the bolt is cammed outwardly with respect to the

casing 14 of the striker plates until it assumes a position beyond the inboard side wall 16 of the casing 14 whereupon the bolt roll-back spring (not shown) returns the bolt to its outermost position shown in Figure 6 of the drawing. When the bolt 12 is in the position thereof shown in Figure 6 of the drawing, the outboard side of the bolt engages the inboard side wall 16 of the casing 14 and outward movement of the closure is positively prevented until the bolt 12 is retracted.

As soon as the bolt 12 assumes the position shown in Figure 6, the torsion spring 28 returns the wall section 24 to its normal position wherein the top surface of this section lies flush with the top surface of the section 23. The torsion spring 28 is in the form of a substantially U-shaped spring metal strip housed in the casing 14 with one leg of the U apertured adjacent the extremity thereof to receive a projection 31 struck inwardly from the bottom wall 18 of the casing and with the opposite end engaging the inner surface of the top wall section 24 adjacent the inboard edge of the latter. As previously stated, the strength of the spring 28 is less than the strength of the usual roll-back spring provided to normally urge the latch bolt to its outermost position so that when the latch bolt is engaged with the wall section 24 at the outboard side of the pivots 26, this section will be swung inwardly to the position shown in Figure 5 against the action of the spring 28. The extent of inward movement of the wall section 24 is sufficient to allow the extremity of the bolt to extend into the casing 14 and engage the edge 30 of the wall section 23 to prevent outward movement of the closure 13.

Thus, from the foregoing, it will be observed that I have provided a striker plate assembly composed of a relatively few simple parts which may be inexpensively manufactured, assembled and installed. It will also be apparent that my improved striker plate assembly cooperates with a latch bolt to effectively hold a closure in partially and fully closed positions.

What I claim as my invention is:

1. A striker plate comprising a casing having an outboard side wall and an inboard side wall of greater width than the outboard side wall, a sectional wall inclined from the outboard side wall to the inboard side wall for engagement with a latch bolt to guide the bolt to a position in engagement with the inboard side wall of the casing, said sectional wall having a section pivotally supported adjacent the inboard side wall to provide for swinging movement of the opposite edge of said section into the casing by the latch bolt during movement of the latter to its position in engagement with the inboard side wall of the casing, and yieldable means resisting inward swinging movement of said wall section by the latch bolt.

2. A striker plate comprising a casing having a wall provided with an opening therethrough for receiving the free end of a latch bolt and having one edge of the opening engaged by the bolt to prevent movement of the bolt in one direction relative to the casing, and a closure having portions pivoted to the casing to provide for swinging movement of the edge of the closure adjacent the edge of the opening aforesaid into the casing by the bolt and effective upon movement of the latch bolt in a direction opposite the direction aforesaid to guide the bolt to a position in engagement with the inboard side of the casing.

3. A striker plate for cooperation with a latch bolt to hold a closure in a closed position relative to a jamb member, comprising a casing having a base secured to the jamb and having an opening through the wall opposite the base for receiving the free end of a latch bolt, a closure for the opening forming a continuation of said wall and pivoted to the casing to provide for swinging movement of the outboard edge of the closure into the casing by the latch bolt, and a substantially U-shaped spring member housed in the casing with one of the leg portions abutting the base and with the opposite leg portion abutting the inner surface of the pivoted wall section to resist swinging movement of the latter by the bolt.

4. A striker plate comprising a casing having a base provided with openings therethrough for receiving fastener elements and having a wall opposite the base provided with an opening therethrough for receiving the free end of a latch bolt, a closure for the opening forming a continuation of said wall and pivotally supported on the casing to provide for swinging movement of the outboard edge of the closure into the casing by the latch bolt, said closure having openings therethrough opposite the openings in the base through which an implement may be inserted for manipulating the fastener elements, and yieldable means resisting swinging movement of the closure by the latch bolt.

5. A striker plate comprising a casing having a base provided with a lug extending into the casing and having a wall opposite the base provided with an opening therethrough for receiving the free end of a latch bolt, a closure for the opening forming a continuation of said wall and pivoted to the casing to provide for swinging movement of the outboard edge of the closure into the casing by the latch bolt, and a substantially U-shaped spring having an opening through one of the leg portions for receiving said projection and having the other leg portion engageable with the closure to resist inward swinging movement of the latter by the latch bolt.

6. A striker plate for cooperation with a latch bolt to hold a closure in a closed position relative to a jamb member, comprising a casing having a base secured to the jamb and having a wall opposite the base provided with an opening therethrough for receiving the free end of the latch bolt, a closure for the opening forming a continuation of said wall and effective to guide the latch bolt to a latching position at the inboard side of the casing, means pivotally mounting the closure on said casing providing for swinging movement of the outboard side of the closure into the casing by the latch bolt upon initial movement of the bolt in a direction toward the inboard side of the casing whereby the wall of the opening adjacent the outboard edge of the closure cooperates with the bolt to prevent movement of the latter in the opposite direction.

7. A striker plate for cooperation with a latch bolt to hold a door in closed position relative to a jamb member, comprising a body attachable to the jamb member and having an inclined bolt engaging face provided with an opening therethrough of sufficient dimensions to receive the free end of the bolt, said body also having a wall at the inboard end thereof forming a shoulder engageable with the bolt to latch the door in closed position, a closure for the opening nor-

5 mally lying flush with the inclined face on said body and effective to guide the bolt to a latching position in engagement with the shoulder aforesaid, means pivotally mounting the closure on said body providing for swinging movement of the outboard edge of the closure into the opening by the latch bolt upon initial movement of the bolt in a direction toward the shoulder afore-

said on the body whereby the edge of the opening adjacent the outboard edge of the closure cooperates with the bolt to latch the door in a partially closed position relative to the jamb member, and yieldable means for resisting swinging movement of the outboard edge of said closure into the opening in said body. 5

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