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F. J. RUSSELL ET AL

3,416,829

ADJUSTABLE STRIKE

Filed June 23, 1967

Fig. 1

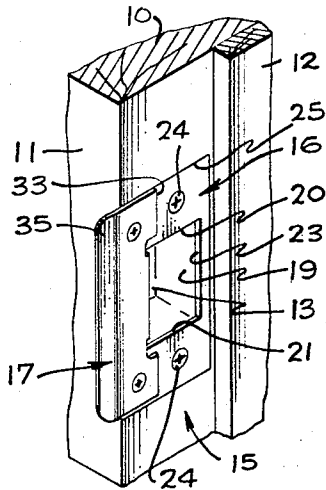


Fig. 2

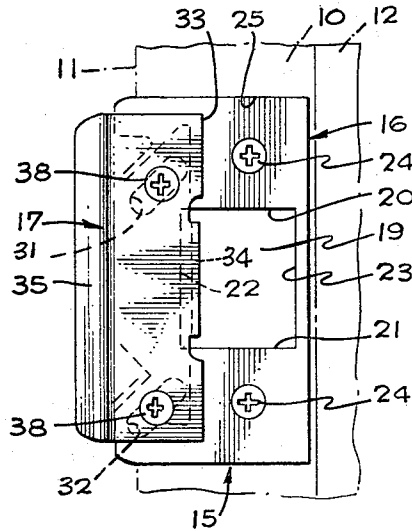


Fig. 3

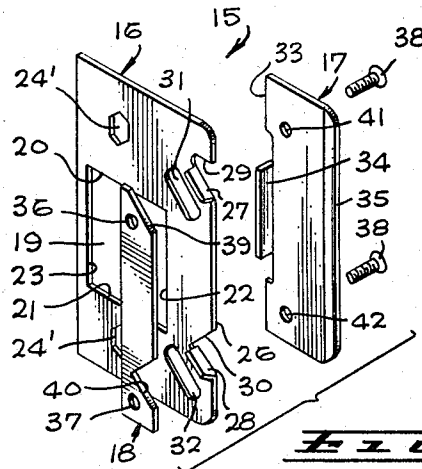
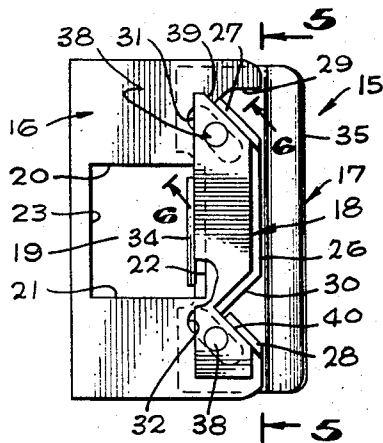


Fig. 4

Fig. 5

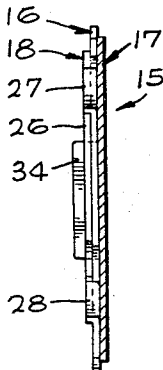
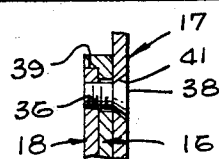


Fig. 6



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ADJUSTABLE STRIKE

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ABSTRACT OF THE DISCLOSURE

The disclosure of the invention shows an adjustable strike plate assembly which is mounted on a door frame and which is adapted to be engaged by the latch bolt of a lock in the door, when the door is closed. One plate element of the adjustable strike plate assembly is fastened immovably to the frame in a position such that a strike plate opening coincides with a corresponding strike plate opening in the door frame. A second plate element overlies the first, is adjustable relative to the first, so that it can be moved transversely to positions nearer or farther away from the door stop, and is fastened in a selected position by screws which extend from the second plate element through the first plate element to engage a fastening plate which underlies the first plate element. Oblique slots in the first plate element allow for the adjustment. The adjustment is to provide for a snug engagement between the appropriate edge of the second plate element and the flat side of a conventional latch bolt.

Since there is a certain limit to the accuracy with which a carpenter can work when mounting a strike plate on a door frame, so as to coincide with the location of a lock already installed in a door, it is customary to allow for a certain amount of freedom. Otherwise, the latch bolt will not enter the hole in the strike plate when the door is closed against the door stop. This means that the door may rattle slightly when closed. Although it might be possible to relocate a conventional single piece strike plate, this is a burdensome operation. When old and new screw holes get too close to each other, as they do when the change in position is only a small one, it may be difficult to tighten the strike plate sufficiently in place in its proper position of adjustment.

In recognition of the need for providing some form of adjustment for a strike plate, various attempts have been made in the past to provide strike plates having multiple parts, adjustable one with respect to the other. One of the difficulties encountered by various attempts to provide adjustable strike plates has been the provision of some means for making certain that, once relatively adjustable multiple parts of a strike plate have been fastened together, they hold their adjusted position. To overcome this difficulty, prior devices have resorted to numerous bolts and lock washers, serrated engaging surfaces, and often a somewhat bulky and expensive construction to permit building into the devices the necessary degree of security from maladjustment. Some prior art devices of this kind are exemplified by Patents Nos. 3,257,139; 3,695,807; and 1,297,528.

In an attempt to make adjustable strike plates simple in character, some prior art devices have resorted to flanges at the edges of the latch bolt opening which can be bent slightly by means of a screwdriver, once installed, to provide some degree of adjustability in order to engage the latch bolt when it enters the hole. At best, these less expensive adjustment attempts are approximate only and not always capable of a sufficient amount of adjustment, to accommodate all degrees of tolerance in the initial mounting of the strike plate on the door frame. Also, they tend to blend out of adjustment.

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Among the objects of the invention is to provide a new and improved adjustable strike device which has ample latitude in its adjustment capabilities, and which, at the same time, is one capable of firmly holding its adjustment, once the parts have been interlocked in position.

Another object of the invention is to provide a new and improved multiple piece adjustable strike device of relatively simple construction, having parts which interlock and also are of simple construction.

Still another object of the invention is to provide a new and improved multiple part adjustable strike device which is relatively flat and compact, so that it will present a neat appearance when in place on a door frame, but which will be capable of adjustment and readjustment by simple means, whenever that might become necessary.

With these and other objects in view, the invention consists in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter set forth, pointed out in the appended claims and illustrated in the accompanying drawings.

In the drawings:

FIGURE 1 is a front perspective view of the adjustable strike assembly mounted on a door frame.

FIGURE 2 is an elevational view of the adjustable strike assembly mounted on a door frame.

FIGURE 3 is an underside elevational view.

FIGURE 4 is an exploded perspective view.

FIGURE 5 is a longitudinal sectional view on the line 5—5 of FIGURE 3.

FIGURE 6 is a fragmentary cross-sectional view on the line 6—6 of FIGURE 3.

In an embodiment of the invention chosen for the purpose of illustration, there is shown a conventional door frame 10 having an exposed edge 11 on one side and a conventional door stop 12 on the other side. In the door frame 10 is a latch bolt hole 13 into which a conventional latch bolt (not shown) is adapted to be projected.

An adjustable strike assembly, indicated generally by reference character 15, is shown mounted on the door frame 10 in FIGURES 1 and 2. The adjustable strike assembly 15 consists in the main of an underlying plate element 16, an overlying plate element 17 and a fastening plate 18.

In the underlying plate element 16 is a latch bolt opening 19 which corresponds generally to the latch bolt hole 13 in the door frame 10, except that it is slightly smaller. The latch bolt opening 19 has upper and lower transverse edges 20 and 21, an outside edge 22, and an inside edge 23. Screws 24 hold the underlying plate element 16 on the door frame 10 in an appropriate recess 25, the screws extending through screw holes 24'.

An outer edge 26 is adapted to be located slightly beyond the exposed edge 11 of the door frame 10 when the adjustable strike assembly 15 is mounted thereon. Extending obliquely inwardly from the outer edge 26 are flanges 27 and 28 forming guides. Adjacent the respective flanges are cutout portions 29 and 30. The flanges 27, 28 are parallel to each other. Spaced from, but adjacent the flanges 27, 28 are respective oblique slots 31 and 32. The overlying plate element 17 has an inside edge 33 which overlies the underlying plate element 16. Intermediate opposite ends of the inside edge 33 is a flange 34 which extends into the latch bolt opening 19 of the underlying plate element 16. A substantially conventional strike lip 35 is provided on the opposite side of the overlying plate element 17. (Of course, strike plates for some types of locks, such as deadbolt locks, do not have strike lips.)

The fastening plate 18, previously described, underlies a portion of the underlying plate element 16 adjacent the

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slots 31 and 32, the fastening plate 18 being provided with threaded holes 36 and 37 to accommodate bolts 38. The fastening plate 18 is additionally provided with guide edges 39 and 40, parallel to each other, and having the same oblique direction as the center lines of the slots 31 and 32 and as the flanges 27 and 28 which serve as guides.

In operation, the underlying plate element 16 is firmly attached to the door frame 10 by means of the screws 24. The overlying plate element 17 is then applied over the outer portion of the underlying plate element 16, and bolts 38 are extended respectively through clear holes 41 and 42 in the overlying plate element 17, then through the respective slots 31 and 32, and finally into threaded engagement with the threaded holes 36 and 37, respectively, in the fastening plate 18. To adjust the overlying plate element 17, it is merely moved up or down, as the case may be. Movement up or down causes the guide edges 39 and 40 to slide along the respective flanges 27 and 28, and this will cause the fastening plate 18 to move out or in, depending on whether the shift is up or down. At the same time, the overlying strike plate 17 is moved a corresponding distance out or in as the bolts 38, which extend through it, move within the slots 31 and 32 and the position of the bolts 38 is shifted by action of the guide edges 39 and 40 against the flanges 27 and 28. The effect of this is to adjust the location of the inside edge 33 with respect to the expected position of the latch bolt (not shown). When the proper adjusted position has been reached, the bolts 38 are tightened into place, and the adjustment then becomes fixed.

While the invention has herein been shown and described in what is conceived to be a practical and effective embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims, so as to embrace any and all equivalent devices.

Having described the invention, what is claimed as new in support of Letters Patent is:

1. An adjustable strike assembly for mounting on a door frame with a latch bolt clearance hole therein, said assembly comprising an underlying plate element having a latch bolt opening therein and means adapted to secure said underlying plate element to the frame, with said opening and said clearance hole in alignment and with a longitudinal axis of said underlying plate element extending longitudinally relative to said frame, an overlying plate element adapted to overlie the underlying plate element,

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one edge of said overlying plate element serving as a latch bolt retaining edge, a fastening plate beneath the underlying plate element, said underlying plate element having slot means therethrough extending in an oblique angular direction with respect to the longitudinal axis of said underlying plate element, and adjustable fastening means extending through said plate elements into engagement with said fastening plate, whereby to fasten said overlying plate element in a selected position of adjustment.

2. An adjustable strike assembly according to claim 1, wherein there are longitudinally spaced guides on the lower face of the underlying plate element having an angular direction corresponding to the angular direction of said slot means and guide edges on said fastening plate corresponding to and in sliding engagement with said guides.

3. An adjustable strike assembly according to claim 1, wherein said means adapted to secure said underlying plate element to the frame comprises at least two screws on respective opposite sides of said latch bolt opening and extending through said underlying plate element into said frame.

4. An adjustable strike assembly according to claim 1, wherein said overlying plate element is shorter than said underlying plate element, and said slot means and said adjustable fastening means acting together to limit movement of said overlying plate element to a position within opposite ends of said underlying plate element.

5. An adjustable strike assembly according to claim 1, wherein said slot means comprises a plurality of parallel slots in the underlying plate element and said adjustable fastening means comprises a bolt extending through the overlying plate element and the respective slot in the underlying plate element and having a threaded engagement with said fastening plate.

References Cited

UNITED STATES PATENTS

964,789	7/1910	Kozlowski	292—341.18
3,161,429	12/1964	Tornoe	292—341.18
3,257,139	6/1966	Russell	292—341.18

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292—341.18