

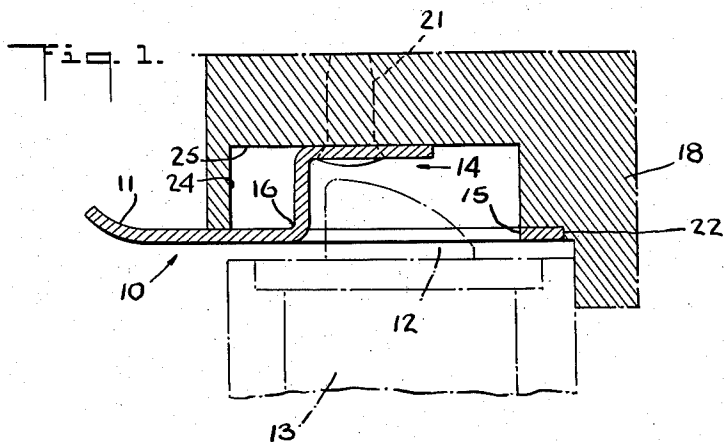
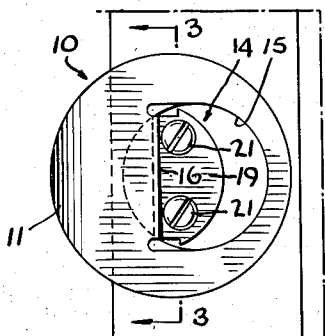
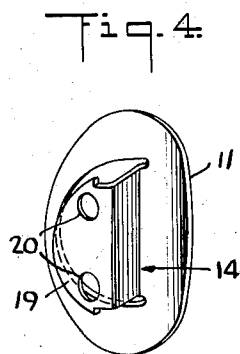
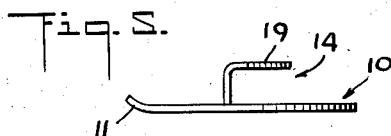
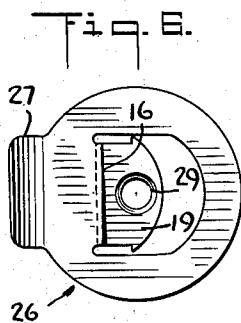
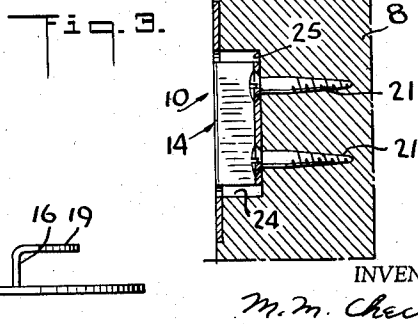
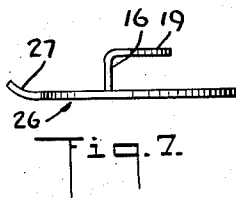
Dec. 13, 1960

M. M. CHECK

2,964,346

STRIKE

Filed Feb. 26, 1958



INVENTOR.
M. M. Check
BY
A. H. Golden
ATTORNEY

1

2,964,346

STRIKE

Mathias M. Check, Valley Forge, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut

Filed Feb. 26, 1958, Ser. No. 717,685

1 Claim. (Cl. 292—340)

This invention relates to a door lock, and, more particularly, to an improved strike constructed for mounting in a door frame and for engagement by a conventional latchbolt.

Heretofore, it has been proposed to form strikes of the class described by drawing the central portion of a metal blank into the form of a recess. The recessed portion of the strike was then inserted into a mortise in a door frame and the strike was secured to the frame. This type of construction requires relatively thick metal stock so that the finished strike will have sufficient thickness after the drawing operation. Then, too, it will be appreciated that drawing requires extremely costly tooling. Additionally, the forming of mortises is a relatively time consuming operation requiring a certain degree of skill and therefore also adds considerably to the cost of installing lock sets.

I have conceived by my invention a novel construction that contributes an exceedingly simple and effective solution to the problems presented.

In essence, my invention resides in the utilization of a strike made of sheet metal that may be formed in a single operation without the need for drawing any part of the stock.

As a feature of my invention, I provide a strike formed of flat sheet metal stock, the central portion of which has an opening for a latchbolt formed by punching or severing a substantial portion of the area of the metal from the stock and bending the same out of the plane of the remainder of stock. The severed metal remains integral with the flat marginal portion of the strike along a line of a length greater than the width of a conventional latchbolt, and a part of the severed metal extends from that line in a plane that is angularly disposed relatively to the plane of the flat marginal portion of the strike and is then bent into a part lying parallel to and offset from the flat marginal portion of the strike. The parallel part of the severed metal may be provided with means for securing the strike to a door frame.

As another feature of my invention, I provide a strike having a configuration that enables it to be mounted in a circular bore in a door frame. A very short circular bore may be provided to enable the outer surface of the strike to be disposed flush with the frame and a counterbore is drilled in the frame to receive the severed portion of the strike. It will be appreciated that a circular bore may be made with an ordinary twist drill with considerably less skill and in much less time than is required to mortise a door frame.

I have thus outlined rather broadly the more important features of my invention in order that the detailed description thereof that follows may be better understood, and in order that my contribution to the art may be better appreciated. There are, of course, additional features of my invention that will be described hereinafter and which will form the subject of the claim appended hereto. Those skilled in the art will appreciate that

2

the conception on which my disclosure is based may readily be utilized as a basis for the designing of other structures for carrying out the several purposes of my invention. It is important, therefore, that the claim be regarded as including such equivalent constructions as do not depart from the spirit and scope of my invention, in order to prevent the appropriation of my invention by those skilled in the art.

An illustrative embodiment of the invention has been chosen for the purposes of illustration and description and is shown in the accompanying drawing forming a part of the specification.

In the drawing:

Fig. 1 is a horizontal sectional view illustrating a door frame mounting a strike in accordance with the present invention and showing in broken lines part of a latchbolt assembly with the bolt in interlocked engagement with the strike;

Fig. 2 is a front elevational view illustrating the strike and frame of Fig. 1;

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of the strike shown in Figs. 1 to 3;

Fig. 5 is a top plan view of the strike shown in Figs. 1 to 4;

Fig. 6 is a front elevational view of a modified form of strike; and

Fig. 7 is a top plan view of the strike shown in Fig. 6.

Referring to the drawings, and particularly to Figs. 1 to 5 thereof, there is shown a strike 10 formed from a circle of sheet metal, and having a portion 11 of the periphery thereof bent into a curve to constitute the strike surface for camming a latchbolt 12, shown in broken lines in Fig. 1 as part of a latchbolt assembly 13, also shown in broken lines.

The central portion of the strike, generally indicated by the reference numeral 14, is substantially severed from the marginal portion thereof to form a latchbolt opening 15 but maintains an integral connection with the marginal portion along the line 16 that is parallel to a chord about which the portion 11 is bent to form the latchbolt camming surface.

The severed metal 14 is bent along the line 16 in a plane substantially perpendicular to the plane of the marginal portion of the strike and extends in that plane for the desired depth of the latchbolt opening. The severed portion 14 then terminates in a tab 19 that is parallel to the flat marginal portion of the strike and offset therefrom. A pair of screw holes 20 may be formed in the tab 19 to secure the strike to the door frame, by screws 21, for example.

It will be appreciated by those persons skilled in the art that the strike that I have described may be fabricated from sheet metal stock entirely in a single operation. That is, the metal required to form the strike may be cut from stock at the same time that the central portion of the strike is severed from the marginal portion and bent into its final contour. The camming surface 11 is, of course, also formed in the same operation.

In order to install my novel strike in a door frame 18, it is merely necessary first to drill a very shallow bore 22 in the frame of a diameter to receive the flat marginal portion of the strike so that its outer surface will be flush with the surface of the frame, as shown in Fig. 1. This bore will overextend the edge of the frame in order to locate the camming surface 11 in proper camming relation to a conventional latchbolt mounted in a door. A circular counterbore 24 is then drilled within the bore 22 to a depth sufficient to provide a surface 25 for abutting engagement by the tab 19, and of sufficient

diameter to receive the severed portion 14 of the strike and to underlie the marginal portion of the strike that surrounds the severed portion.

In Figs. 6 and 7, there is shown a modified form of my invention in which I utilize a strike 26 similar to that shown in Figs. 1 to 5, except that the sheet metal is cut from stock to have a substantially circular contour but with a projecting portion 27 extending outwardly of a zone of the margin thereof defined by a chord that is parallel to the line 16. In forming the strike, this projected portion 27 is curved to form the latchbolt camming surface. In this particular embodiment, I prefer to use a single screw for which the hole 29 is provided in the tab 19.

From the foregoing description, it will be seen that I have contributed a novel strike that may be fabricated from sheet metal stock in a single forming operation that eliminates the need for drawing the stock. At the same time, I provide a strike that may be readily installed by an unskilled worker without mortising the door frame. In addition, it will be noted that the periphery of the bore that receives the bent portion of the strike is hidden from view beneath the marginal portion of the strike. I believe that the construction and installation of my novel invention will now be fully appreciated by those persons skilled in the art.

I now claim:

A strike formed substantially as a circle of sheet metal, a portion of the interior area of said metal spaced a substantial distance from the marginal edge of said sheet metal being partially severed therefrom to form a latchbolt opening while leaving the severed metal integral with the marginal portion of sheet metal along that line where a latchbolt interlocks with the strike, the severed metal being bent along said line for the depth of the latchbolt opening and then terminating in a tab that is parallel to the circle of sheet metal and is formed with a screw hole, and said sheet metal having an integral marginal portion opposite said line which is bent into a curve to form a strike surface for camming a latch bolt.

References Cited in the file of this patent

UNITED STATES PATENTS

538,421	Johnston	Apr. 30, 1895
1,148,248	Moorhouse	July 27, 1915
2,042,024	Schlage	May 26, 1936
2,255,860	Riedel	Sept. 16, 1941
2,272,241	Fendring	Feb. 10, 1942
2,446,206	Beckman	Aug. 3, 1948
2,645,516	Robertson	July 14, 1953