Aug. 28, 1951 E. M. BORCHERS 2,566,015

CLOSURE FASTENER

Filed May 11, 1948

Fig. 1

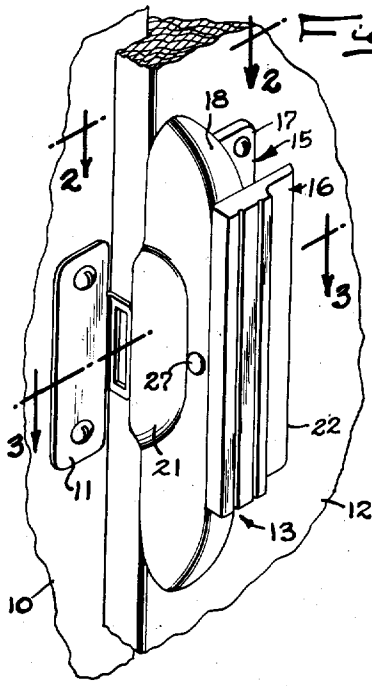


Fig. 2

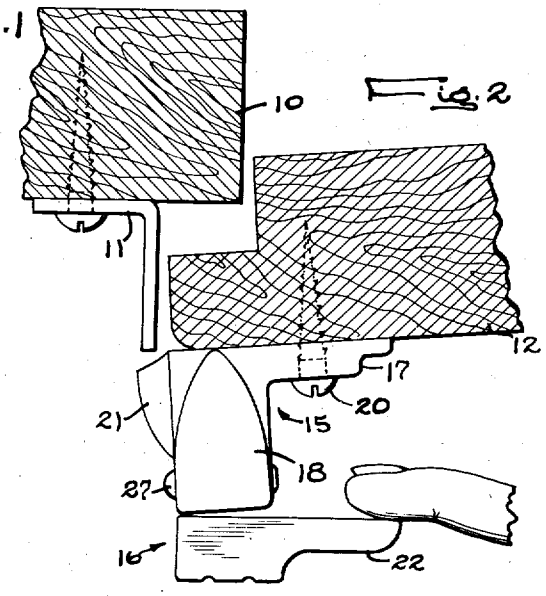


Fig. 6

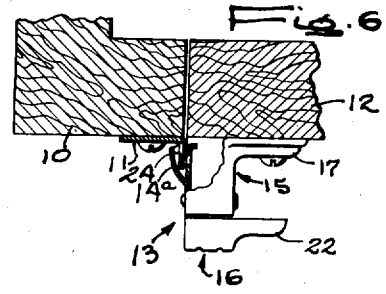


Fig. 3

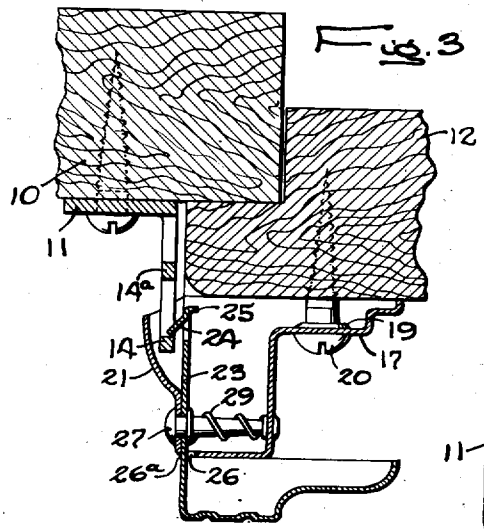


Fig. 4

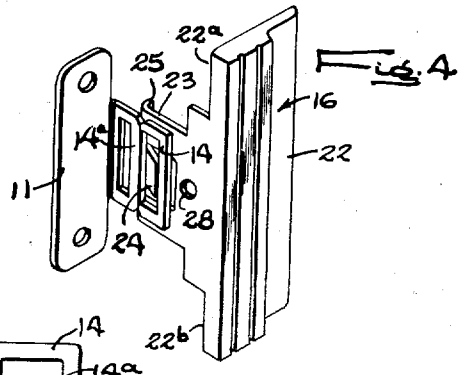


Fig. 5

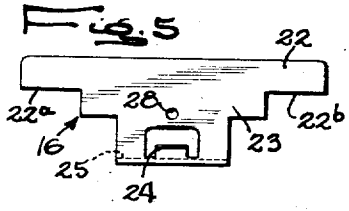
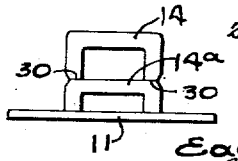


Fig. 7



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CLOSURE FASTENER

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2 Claims. (Cl. 292—128)

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The present invention pertains to closure fasteners of the type used on kitchen cabinets and the like in cooperation with a strike for releasably holding the cabinet doors closed.

It is a general object of the invention to provide a fastener for cabinet doors which is effectual in operation, capable of being quickly and easily applied and manipulated, of simple construction and which may be manufactured economically.

A more specific object is to provide a door fastener of novel construction and improved appearance serving both as a catch and as a door pull, which is operative to receive a strike therein and latch automatically upon pushing the door closed and which is releasable as an incident to pulling on its handle in the direction the door is to open.

The objects of the invention thus generally set forth, together with other and ancillary advantages are attained by the construction and arrangement shown by way of illustration in the accompanying drawings, in which:

Fig. 1 is a perspective view of a fastener embodying the features of the present invention showing the same installed on a cabinet door.

Fig. 2 is a fragmentary section taken substantially in the plane of line 2—2 in Fig. 1.

Fig. 3 is a fragmentary section taken substantially in the plane of line 3—3 in Fig. 1.

Fig. 4 is a perspective view of the fastener operator and strike.

Fig. 5 is an elevation of the fastener operator.

Fig. 6 is a fragmentary sectional view similar to Fig. 3 but showing the fastener installed on a different form of cabinet door.

Fig. 7 is an elevational view of the strike used with the fastener.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

The improved closure fastener is of the type adapted for use with either wood or sheet metal cabinets and comprises in general a base and a latch and operator therefor supported on the base for coaction with a strike, the whole fastener being adapted for mounting on the outer surface of the cabinet door to the end that no holes or

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recesses other than those to accommodate mounting screws or the like are required. More particularly I use to advantage a pivoted, spring biased lever having one arm serving both as a fingerpiece for the fastener and as a pull for the door on which the fastener is installed and the other arm supporting a hook element for positive latching engagement with a strike, the pivotal axis of the lever being substantially in alinement with the strike with the result that engagement and disengagement of the fastener therewith is facilitated.

In the drawings there are shown for purposes of illustration, fragmentary parts of a cabinet including a wall 10, on which is secured a strike 11, and a door 12, on which the improved fastener, generally designated 13, is mounted. The strike 11, as shown is of simple form extending perpendicularly outward from the wall 10 and is fashioned from heavy sheet metal having sections struck out to provide catch engaging portions 14 and 14a.

The exemplary fastener includes a base 15 and an operating lever 16 pivotally supported on the base. As shown, the base 15 is fashioned from a blank of sheet metal to provide a laterally extending flange 17 and an elongated housing 18. The flange 17 serves to support the fastener on the door 12, and to this end it is provided with countersunk holes 19 for the reception of mounting screws 20. The housing 18 is in the form of a hollow rib disposed substantially at right angles to the flange 17.

Provision is made for the reception of the strike 11 within the rib 18 when the door is closed. To this end the door side of the rib is left open, and in the present instance the outer wall of the housing 18 has a lateral extension 21 therein which is adapted to extend beyond the edge of the door 12, when the fastener is installed thereon, for the reception of the strike 11.

The lever 16 of the fastener is of generally bell-crank form having an arm 22 constituting a finger piece and a second arm 23 disposed substantially at right angles to the arm 22 and supporting a hook element 24 for engagement with the strike 11. In the exemplary embodiment the lever 16 is fashioned from a blank of sheet metal and the hook element 24 is in the form of a tongue struck outwardly at an angle from the arm 23. To provide sufficient rigidity the inner end of the arm 23 is bent rearwardly to form a stiffening flange 25.

To position the hook 24 within the housing 18 of the base 15 for engagement with the strike 11,

the housing 18 has a longitudinal slot 26 therein adjacent its outer wall through which the arm 23 of the lever 16 is passed. The lever 16 is retained in assembled relation on the base 15 by means of a pin 27 secured transversely of the housing 18 intermediate the ends thereof and guidingly received in a hole 28 in the arm 23 of the lever. To prevent rocking of the lever 16 on the pin 27 the arm 23 of the lever is of narrower width than the arm 22 thus leaving longitudinally projecting shoulders 22*a* and 22*b* extending beyond the ends of the slot 26 for engagement with the housing 18. The arm 23 and the hook 24 are yieldably urged into latching position by means of a spiral spring 29 interposed between the arm 23 and the inner wall of the housing 18 and supported by the pin 27, thus normally maintaining the lever 16 in the position shown in Figs. 1 and 3.

Provision is made to permit free movement of the arm 23 over the pin 27 as the lever is operated. Thus, in the present instance, the body of the pin 27 is tapered, decreasing in diameter from the end secured in the outer wall of the rib 18, so that movement of the arm 23 will not cause the pin to bind in the hole 28.

Application of a force to the finger piece 22 in a direction to open the door 12 fulcrums the lever 16 on the outer edge 26*a* of the slot 26 and moves the arm 23 laterally within the housing 18 against the action of the spring 29. Such movement of the arm 23 carries the hook 24 clear of the strike portion 14 permitting the door 12 to be open. Upon pushing the door 12 closed, the hook 24 hits the strike portion 14 and cams the arm 23 laterally inwardly against the action of the spring 29 until the hook is in position for latching engagement with the strike whereupon the spring 29, which was compressed by the camming action, is effective to move the arm 23 laterally outwardly thus carrying the hook 24 under the strike portion 14 to latch the door closed.

It is to be noted especially that the fulcruming of the lever 16 on the outer slot edge 26*a* locates the pivotal axis of the lever substantially in alinement with the strike 11. Thus very little movement of the lever is required for engagement and disengagement, thereby facilitating its action. Additionally such construction eliminates the necessity for a pivot pin or the like.

The instant fastener can be used equally well on many forms of doors. For example, in Figs. 1–3 inclusive the fastener is shown installed on an overlapping type door, and in Fig. 6 the fastener is shown installed on a flush mounted door. The only difference between the two installations comes not in the fastener itself, but rather in the strike. Referring particularly to Fig. 7 it will be noted that the strike, as previously set forth, is fashioned to have two hook engaging portions, 14 and 14*a*, either of which can serve to coact with the hook 24 of the fastener. When used with the first door form shown the whole strike is utilized, the additional height of the portion 14 accommodating the additional door thickness. Where such height is unnecessary as when the fastener is installed on a flush mounted door, the upper strike portion 14 is removed and the portion 14*a* serves for engagement by the hook 24. To facilitate the removal of the portion 14 the strike is scored as at 30 so that it can be readily broken off and discarded.

I claim as my invention:

1. In a closure fastener for a door a catch adapted for use with a strike plate having a flange for mounting the same on the door frame and a catch engaging portion extending outwardly therefrom, said catch comprising, in combination, a base providing an apertured flange for attachment of the catch to the outer face of the door and including a hollow channel-shaped rib having a flat outer wall for disposition in flush relation to the edge of the door, said rib having a slot therein adjacent said outer wall, an operating lever having one arm extending through said slot and a hook rigid with the inner end thereof, said arm having a hole therein intermediate its ends, a pin secured transversely of the rib and received in said hole to retain said lever arm in assembled relation on said base while permitting movement of the lever arm with respect thereto upon fulcruming the same on the outer edge of the slot, and a spring supported by the pin and disposed between the inner wall of the rib and the lever arm and operative to urge the lever arm and hook into latching position wherein said arm abuts the inner face of the outer wall of the rib, and said hollow rib having a boss formed in the outer wall thereof and projecting laterally beyond the door edge for the reception of said strike portion therein to permit engagement by said hook.

2. In a closure fastener for a door a catch adapted for use with a strike plate having a flange for mounting the same on the door frame and a catch engaging portion extending outwardly therefrom, said catch comprising, in combination, a base providing an apertured flange for attachment of the catch to the outer face of the door and including a hollow channel-shaped rib having an outer wall for disposition in flush relation to the edge of the door, said rib having a slot therein adjacent said outer wall, an operating lever having one arm extending through said slot and a hook rigid with the inner end thereof, means operative to retain said arm in assembled relation on said base while permitting movement of said arm with respect thereto toward and away from said outer wall, and spring means interposed between the inner wall of the rib and the lever arm and operative to urge the lever arm and hook into latching position, said hollow rib having a boss formed in the outer wall thereof and projecting laterally beyond the door edge for the reception of the strike portion therein to permit engagement by said hook.

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