April 3, 1945. E. W. NORTH 2,372,977

HINGE

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Fig. 1.

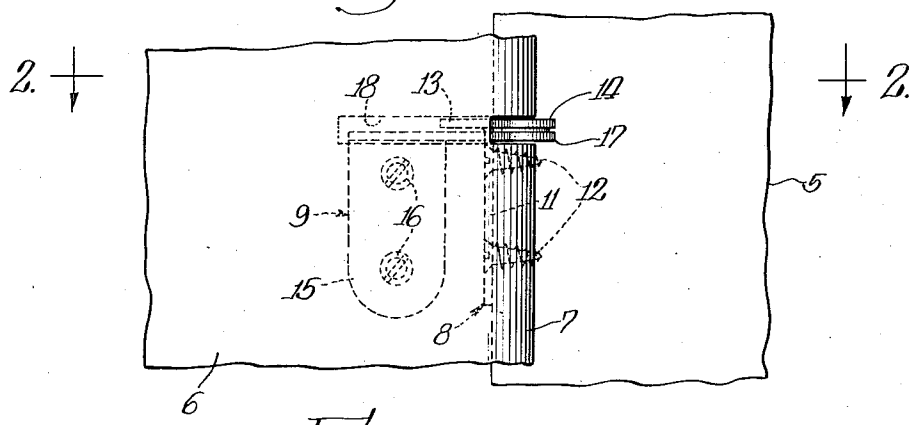


Fig. 2.

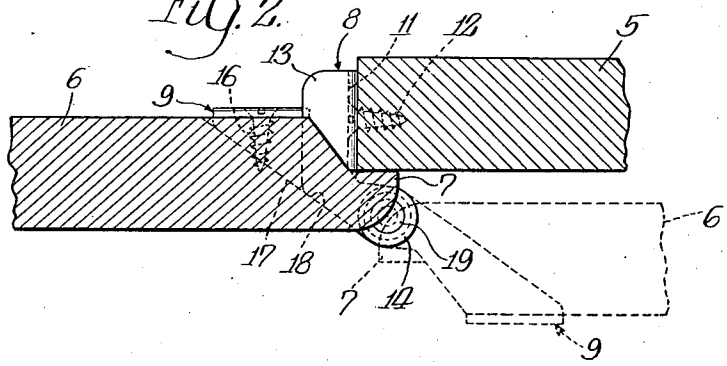
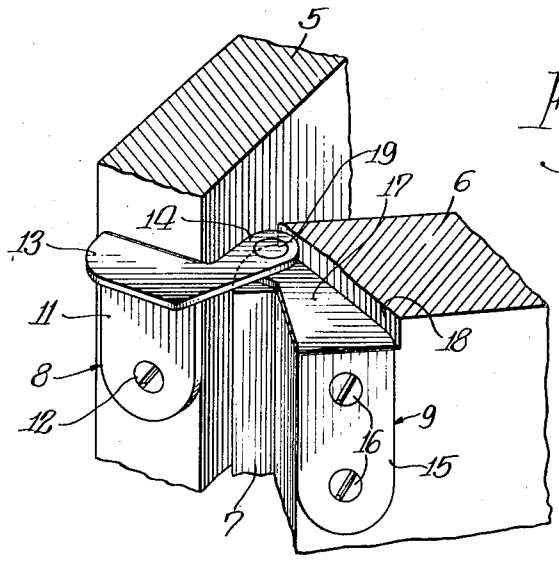


Fig. 3.



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HINGE

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Application November 1, 1943, Serial No. 508,455

2 Claims. (Cl. 16—135)

This invention relates to hinges, and more particularly to a type suitable for mounting relatively light doors, such, for instance, as cabinet doors and the like.

One of the purposes of the invention is to provide a hinge which can be economically manufactured and quickly and easily mounted, and one which will be substantial and durable in use and will permit the swinging of the door through an arc of substantially 180° from fully closed to fully open position.

Another advantageous feature of my improved hinge is that only a small part of the hinge is exposed on the outside of the cabinet. This part may be painted, while the remainder of the hinge concealed within the cabinet may be left unfinished, thereby reducing the cost over a metal plated or an enamel coated hinge.

Other objects and advantages of the invention should be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawing.

Referring to the drawing,

Fig. 1 is a front elevation of a portion of a cabinet showing a hinge embodying my invention mounted in door supporting position;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1, illustrating in dotted lines the position of the door and hinge when the door is fully open; and

Fig. 3 is a perspective view showing the door in partially open position.

On the drawing reference character 5 designates a portion of the frame upon which the door is mounted, and 6 designates a portion of the door mounted on the frame member in overlapping relation thereto. As will be apparent from Figs. 2 and 3, the mounted edge of the door and, if desired, the entire peripheral margin of the door is shaped so as to provide an overlapping flange or surrounding marginal projection 7 adapted to overlie the inner margin of the door frame when the door is in closed position.

My improved hinge is particularly adapted for the mounting of this type of door and comprises a pair of pivotally connected leaves designated generally by reference characters 8 and 9, respectively. The leaves are made of sheet metal of suitable weight and strength for the door to be supported, each leaf being of integral formation, stamped out, and then bent into the requisite shape.

The leaf 8, which is adapted to be mounted upon the inner edge of the frame member 5, comprises a plate 11 adapted to be attached to the frame member by screws 12, one end of the plate, in this instance the upper end, being bent inwardly, that is, toward the interior of the door frame to form a flange 13 projecting transversely of the plate portion. This flange is extended at one end outwardly beyond the outer face of the frame member and also outwardly beyond that face of the frame member to which the plate portion 11 is attached, to provide a projecting arm 14 disposed obliquely with respect to the frame member upon which this hinge leaf is mounted.

The other leaf 9 also comprises a plate portion 15 adapted to be attached by screws 16 to the inner face of the door 6 an appreciable distance away from the edge of the door. At one end of the plate portion 15, in this instance also the upper end, the metal is bent at right angles to form an arm 17 extending outwardly obliquely with respect to the plane of the door 6 and positioned in an inclined slot 18, previously sawed in the edge of the door, of sufficient width to accommodate the arm 17 and the arm 14 in overlapped relation, as shown in Fig. 1. The ends of the arms 14 and 17 projecting beyond the outer face of the door are pivotally connected by a pintle 19.

While the arms 14 and 17 are illustrated as extending from the upper ends of the plate portions 9 and 11 of the respective leaves, it should be manifest that their position could be reversed, so that they projected from the lower ends of these plate portions instead of the upper, if preferred.

In mounting the hinge, no slotting of the door frame is necessary, as the leaf 8 is mounted directly against the inner edge of the frame. The inclined slot formed in the edge of the door can be easily and economically produced as a single saw cut, and that portion of the slot extending through the bead or flange 7 becomes closed by closing of the door since the flange is then disposed in overlapping relation with the frame margin as shown in Fig. 2. When the door is closed, only the rounded ends of the arms 14 and 17 are visible at the front of the cabinet so that the structure presents a neat and attractive appearance.

The structural details illustrated and described may be varied within considerable limits without departure from the essence of the invention as defined in the following claims.

I claim:

1. A hinge for mounting a door in marginally

overlapping relation upon a door frame when closed and so as to be capable of swinging through an arc of 180° to fully open position, comprising a pair of pivotally connected leaves each formed from a single piece of sheet metal, one of said leaves consisting of a plate portion adapted to be secured against the inner edge of the door frame and provided with an inwardly projecting flange terminating in an arm extending at one end beyond the edge of said plate portion and outwardly beyond the plane of the inner edge of said frame, the other of said leaves consisting of a plate portion adapted to be secured against the inner face of the door and provided with an arm projecting obliquely outwardly therefrom in position to be disposed in an inclined slot extending through the door at its inner edge, the outer ends of said arms being disposed in overlapping relation and pivotally connected together.

2. A hinge for mounting a door in marginally overlapping relation upon a door frame, comprising a pair of pivotally connected leaves each formed from a single piece of sheet metal, one of said leaves consisting of a flat plate portion adapted to be secured against the inner edge of a door frame and a flange at one end thereof extended to form a diagonally disposed arm projecting beyond the outer face of said frame, the other of said leaves consisting of a plate portion adapted to be secured against the inner face of the door and formed at one end to provide an obliquely projecting arm, the door being provided at its inner edge with a diagonal slot to accommodate said arms, the free ends of said arms of the respective leaves being overlapped and pivotally secured together at the outer face of the door.

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