

May 31, 1960

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2,938,227

HINGE CONSTRUCTION

Filed Aug. 28, 1957

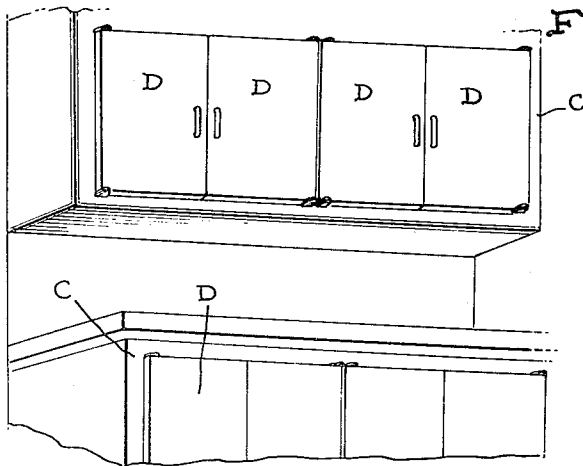


FIG. 1.

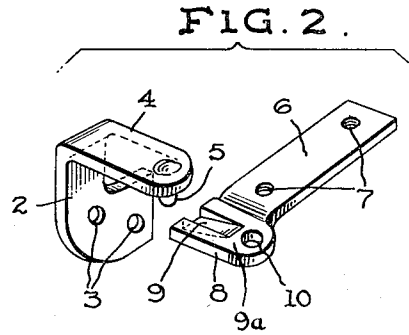


FIG. 2.

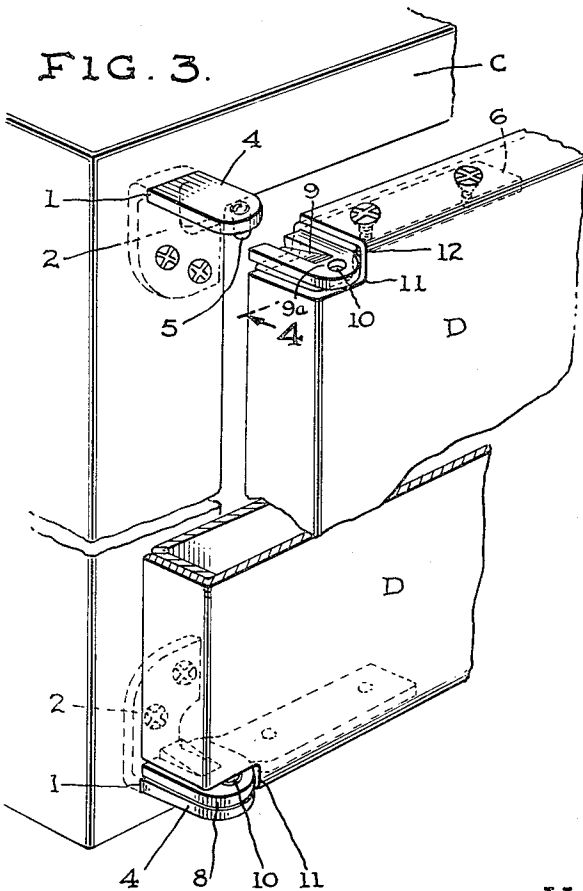


FIG. 3.

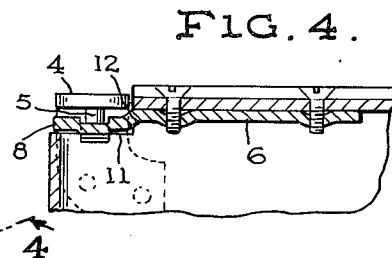


FIG. 4.

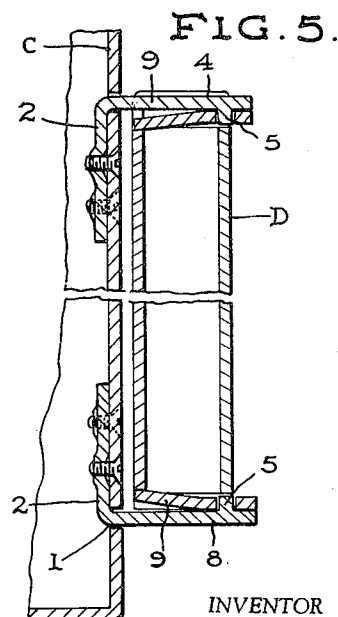


FIG. 5.

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HINGE CONSTRUCTION

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Filed Aug. 28, 1957, Ser. No. 680,872

2 Claims. (Cl. 16—135)

This invention relates to hinge means for readily and quickly installing doors on cabinets, such as kitchen cabinets and the like.

In this phase of the industry it is highly desirable to be able to provide doors of different colors which may be matched up and mounted on cabinet bases with little or no labor in the field. That is to say, it is desirable to be able to manufacture and stock doors of different colors so that field men can readily and quickly install the doors on the cabinets to make up a specified color arrangement by simply snapping together hinge-leaf elements respectively carried by the door and cabinet.

Accordingly, an object of the present invention is to provide hinge means comprising complementary leaves for attachment to the case or cabinet and to the door, one of said leaves having a pintle and the other having a pintle receiving opening aligned with a guide-way or channel formed by deflecting a portion of the metal of the body of the door leaf out of the normal plane thereof, whereby the leaf, when installed on the cabinet and the door leaf when installed on the door, may be moved toward each other so that the pintle will be guided by the channel into the pintle opening.

A further object of the invention is to provide a hinge leaf which lends itself to standard manufacturing procedure such as metal stamping, thereby making it possible to mass produce hinges of the type of the invention by metal stamping machines having appropriate dies.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the invention consists in the novel construction, combination and arrangement of parts, herein-after more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawing, in which:

Fig. 1 is a perspective view of typical cabinets to which the hinge means of the present invention may be applied.

Fig. 2 is an exploded view of the two hinge elements in unassembled relationship.

Fig. 3 is an enlarged detail perspective view partly in section showing the hinge elements applied to a door and cabinet with the lower door leaf engaged with its complementary cabinet leaf.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view of the end of a door and cabinet showing the hinge elements in assembled relationship.

Referring to the drawings in detail C designates the front wall or frame of a cabinet to which a hollow door D is to be attached by means of the present novel hinge arrangement.

The cabinet C is provided with upper and lower slots 1—1 adapted to receive a cabinet leaf provided with a base portion 2 having fastener receiving openings 3 and an arm 4 extending at substantially right angles to said base portion. Arm 4 has fixed at its outer end a pintle 5 for operative engagement with a door leaf about to be

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described. The cabinet leaf is made of resilient material such as spring metal so that it will return to its normal position after being bent or flexed.

The door leaf comprises a base portion 6 having fastening receiving openings 7 therein and a head portion 8 offset from the plane of base 6. Said head portion is provided with a channel 9 formed by a tongue struck out from one edge thereof, and has an opening 10 at its opposite edge in line with said channel 9. Although the channel is in alignment with the hole 10, it does not connect directly with the edge thereof, but terminates a short distance therefrom to provide a better bearing surface for arm 4.

The door D to which the door leaf is to be attached has its top and bottom rails notched as indicated at 11 to receive head portion 8 of the door leaf and is provided with slots 12 in the vertical wall of the notched portions to receive base portion 6 of said leaf.

To assemble the hinge to the door and cabinet, the base portion 2 of the cabinet leaf is inserted through slot 1 in the cabinet so that said base portion lies flush with the inner wall to which it is fastened by appropriate fasteners. When correctly positioned, arm 4 carrying pintle 5 extends at substantially right angles to the cabinet front.

The door leaf is applied to the door by inserting the base portion 6 through slot 12 with channel 9 facing the back of the door. Fasteners are applied through the door rail and through openings 7 to firmly attach the leaf to the door.

The doors and cabinet may be quickly and easily assembled in the following manner: with the inner face of the door towards the front of the cabinet, the door is tilted inwardly so that opening 10 in the lower door leaf can be placed over pintle 5 in the lower cabinet leaf. With channel 9 of the upper door leaf in line with pintle 5 of the upper cabinet leaf, the door is pushed towards the cabinet and the pintle will travel through the channel and, due to the resiliency of arm 4, snap into opening 10. The underside of arm 4 to the rear of the pintle bears on surface 9a thus assuring a more positive locking condition between the connected parts. The door will thus be quickly and securely hinged at both top and bottom to the cabinet for free swinging movement in relation thereto by the mere act of fitting the door proper to the related opening of the cabinet.

By providing readily attachable separate doors, the problem of carrying in stock a large number of cabinets of varying colors is eliminated since with the present arrangement, it is possible to stock a supply of pre-enameled cabinet doors of various colors which can be fitted to a cabinet base of the same or a different color, for example, thereby satisfying the preferences of home owners and builders as to specific cabinet colors with a minimum of effort and labor and enabling a wide range of factory methods to be readily adapted to both the cabinets and doors.

It may be noted that my improved hinge will normally be used in pairs on a given door, but it is contemplated that a door could be mounted using only one of my hinges in conjunction with a similar hinge without my improvement. Thus the conventional hinge might be used to form bottom edge support of the door and my improved hinge at the top, or vice versa; in the former instance, the pintle of the lower hinge would be set into its cooperating receiving opening and then the door moved inward towards the cabinet at the top to bring the upper hinge pintle into its respective receiving opening by guided movement along the guide channel.

I claim:

1. A hinge structure for mounting a door on a cabinet by the act of moving the door to a position to be pivotally secured to said cabinet, comprising, a cabinet mounted

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leaf including a vertical attaching portion and a resilient horizontal arm extending outwardly therefrom, a pintle carried by the underside of said arm and having its axis parallel to said vertical attaching portion, a door mounted leaf having a planar fastener receiving portion for attachment to an edge of the door and a depressed pintle portion provided with an opening near its front edge whose axis is at right angles to said planar portion, and also having a struck out tongue portion radial to said opening and providing an inclined ramp leading upwardly from the rear edge of the depressed portion toward the said opening for guiding the pintle thereto.

2. A hinge structure according to claim 1, wherein, the

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guideway formed by said tongue terminates short of said opening in the depressed portion of the door mounted leaf, to provide a bearing surface for said cabinet mounted leaf, said guideway being directed toward the vertical attaching portion of the cabinet leaf.

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