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W. J. CONWELL

2,290,035

DOOR HINGE

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Fig. 1.

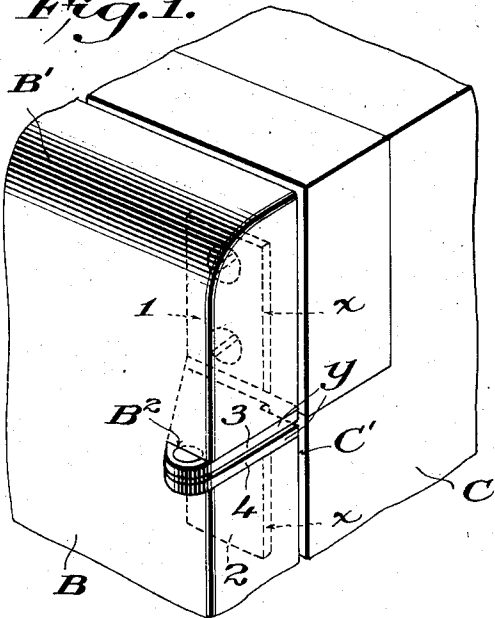


Fig. 3.

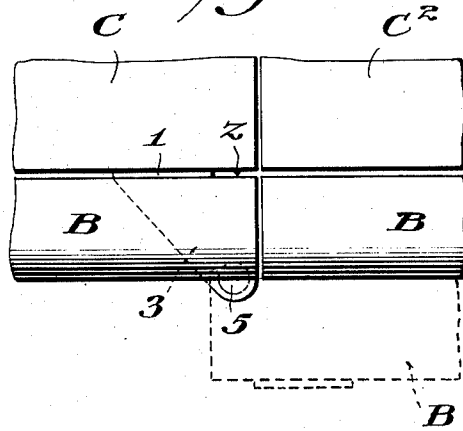


Fig. 2.

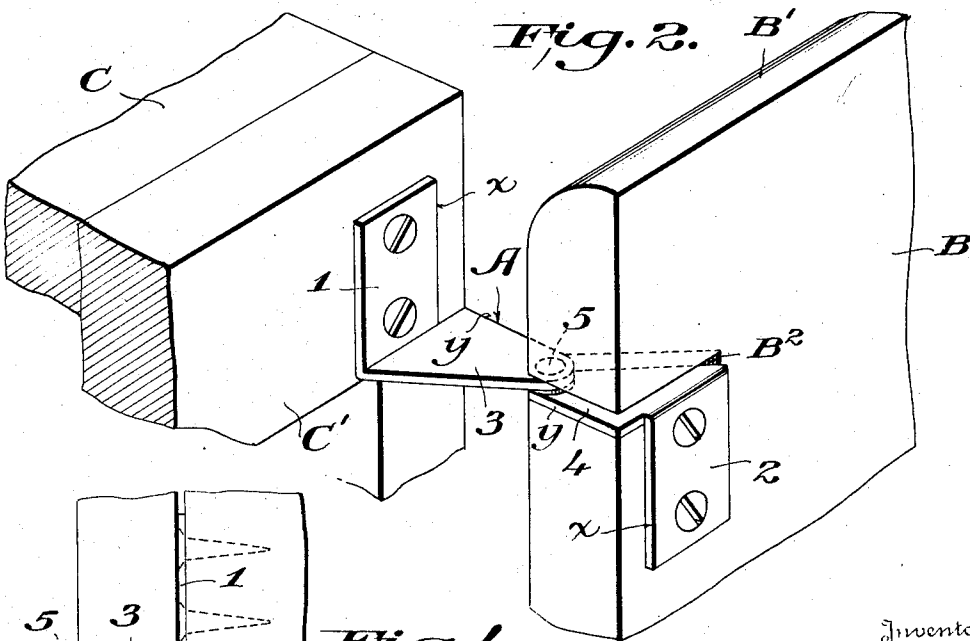
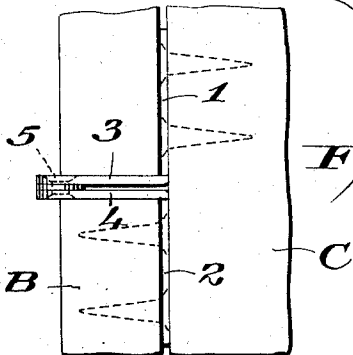


Fig. 4.



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DOOR HINGE

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Application February 21, 1942, Serial No. 431,870

1 Claim. (Cl. 16—135)

This invention relates to an improved type of hinge, intended to be used on kitchen cabinets or similar articles of furniture having a door or closure member for shelves or other compartments.

A primary object of the invention is to provide a hinge which may be easily and readily fitted to the door frame and the door, in such a manner that when the door is swung open, it will move outward for a distance equal to or greater than its own thickness, so that the door will substantially clear an adjacent door of equal thickness on the casing or frame adjoining the hinged edge thereof. That is to say, it is proposed to provide a hinge wherein the pintle is located relatively remote from the attaching arms of the leaves, namely, substantially at the outer face of the door. Moreover, a hinge of the type set forth herein, may be applied to a door which is mounted flushly over the door opening of the frame, without the necessity of rabbeting the door frame, thus involving less shop work in the mounting of the door and at the same time, enabling the upper and lower corners of the door to be shaped or molded as desired, thus lending itself to the design or ornamental characteristics of the cabinet or case to which it is fitted.

With the above and other objects in view which will be more readily apparent as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter 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 detail perspective view of a door closed on a casing and including the present hinge.

Fig. 2 is a detail perspective view similar to Fig. 1 showing the door open.

Fig. 3 is a detail top plan view showing how the door may be opened when two casing units are mounted in abutting relation.

Fig. 4 is a fragmentary side elevation showing the hinge in closed position.

Similar reference characters designate corresponding parts through several figures of the drawing.

According to the embodiment shown, the same includes a hinge designated generally as A, adapted to be applied to the door B which covers the opening in a cabinet or case C. The cabinet C preferably includes a door frame C' which is completely covered by the door B whose upper

end may be rounded or otherwise ornamentally formed as indicated at B¹, the door itself being provided at one edge with a slot or kerf B² for accommodating the knuckle portion of the hinge which will now be described more in detail. As will be seen from Fig. 1 the edge of the door B is flush with the side wall of the cabinet C.

According to Fig. 3, the hinge A preferably includes a pair of leaf plates each of which are of right angular form, thereby to provide the attaching arms 1 and 2 and the knuckle arms 3 and 4. The attaching arms 1 and 2 are provided with suitable openings for receiving screws or other fastenings, and, as will be seen from the drawings, when the hinge is closed, the said attaching arms are disposed in opposite co-planar relation, while the knuckle arms are in juxtaposed registering relation.

The attaching arms 1 and 2 are intended to be secured directly to the face of the casing or frame C' and the inner face of the door respectively. Also to avoid binding of the attaching arms or the inner corner of the door on the face C' of the door frame, when the door swings open, the edge x of each attaching arm adjacent the outer right angular edge y of each knuckle arm is cut away to provide the clearance z. In other words the edge x of each attaching arm is located inwardly of the plane of the side wall of the cabinet C as well as the edge of the door B which is flush with the side wall.

The knuckle arms 3 and 4 are preferably of substantially triangular formation, that is, in the form of a right angle triangle, wherein one of the right angular sides of the triangle is connected with its related attaching arm and the other right angular side is, as above described, preferably offset from or disposed outwardly of the side edge of said related arm, while the hypotenuse of the triangle is located at the inner side of the hinge. The knuckle arms 3 and 4 are connected by a pintle 5 located in the included angle of the triangle which is remote from the attaching arms 1 and 2. Thus, in the embodiment shown, it will be clear from Figs. 1 and 2, that the axis of the pintle 5 is located substantially in the plane of the outer face of the door B.

When the hinge A, having the features above described, is mounted or applied, the attaching arm 1 may be secured to the outer face of the door frame C' while the attaching arm 2 is fastened to the inner face of the door B, without the necessity of mortising in either case, and the juxtaposed knuckle arms, which form the knuckle of the hinge, are located in the slot or kerf B²

previously referred to. The slot is cut through the inner face and one edge of the door and partly into the outer or front face of the door while the bottom of the slot is inclined to substantially the same angle as the hypotenuse of the triangular knuckle arms.

It will of course be understood that as many hinges A may be applied to the door B, as desired or required, all of said hinges, however, being mounted as described.

When the door is opened, it will pivot on the pintle 5, and because the axis of the pintle is located outwardly of the face of the door frame, for example, substantially in the plane of the outer face of the door, the inner corner of the door, will not bind against the face C' of the frame of the cabinet in moving to open position because the edge x of the attaching arm 1 is located inwardly of the edge y of the knuckle arm 3, and moreover, the door A will also substantially clear the free edge of the adjacent door B of an adjacent cabinet C', which may be closed, as shown in Fig. 3.

As will be apparent from the drawing, each leaf of the hinge is bent into right angular formation to provide an attaching arm and a knuckle arm, and when the leaves are assembled by the pintle 5, the corresponding faces of the knuckle arms will be in substantially abutting relation. That is to say, the face of the knuckle arm 3 which is lowermost, when the hinge is installed in a vertical position, will be adjacent to the upper face of the knuckle arm 4, thereby distinguishing the present arrangement from hinges wherein the top face of one knuckle arm would engage the bottom face of the other knuckle arm.

The individual hinge leaves are duplicates of each other and when reversed to be assembled in the order shown, have their attaching arms 1 and 2 respectively disposed in opposite directions.

This arrangement is important since when the hinge is closed, the attaching arms 1 and 2 will lie in co-planar relation instead of parallel abutting relation, as would be the case if the attaching arms 1 and 2 were not oppositely disposed. If the arms were disposed in the same direction to lie in parallel abutting relation, the door would be unduly offset from the face of the cabinet when the hinge is closed.

10 I claim:

15 A door mounting for cabinets adapted to be placed in side by side relation, with the door frames lying in a common plane, and each having a door coextensive with the frame, each door having a slot in one edge at a hinge location, a door hinge comprising a pair of leaf plates of right angular form to provide attaching arms and knuckle arms, said attaching arms being disposed in opposite directions and one arm being attached directly to the outer face of the door frame and the other arm being secured directly to the inside face of the door, and, when the door is closed, said attaching arms lying in co-planar relation, said knuckle arms being in the form of right angular triangles adapted to be disposed in superimposed registering relation when the door is closed and lying in said slot, one of the right angular sides of each triangular pintle arm being connected with its related attaching arm and the other right angular side being disposed outwardly of the side edge of said related attaching arm, and a pintle connecting said knuckle arms and located in the included angle thereof remote from said attaching arms, the axis of the pintle lying substantially in the plane of the outer face of the door, whereby said door when swung through an arc of approximately 180° will clear the swinging edge of a closed door on an adjacent cabinet and flushly overly the same.

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