July 8, 1941. G. E. CURTISS, JR 2,248,493

HINGE

Filed May 20, 1940

Fig. 1

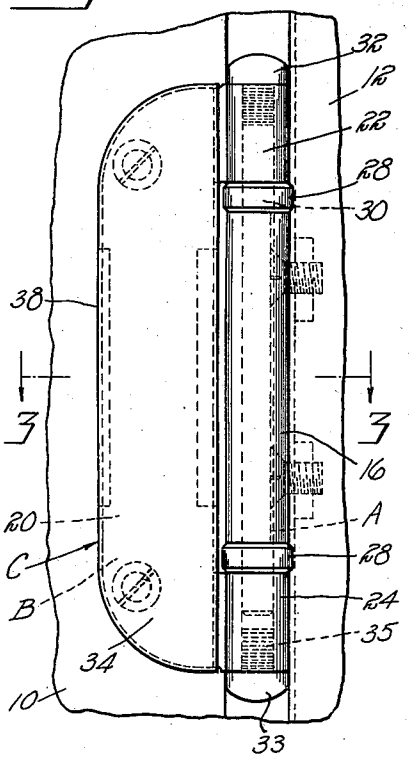


Fig. 2

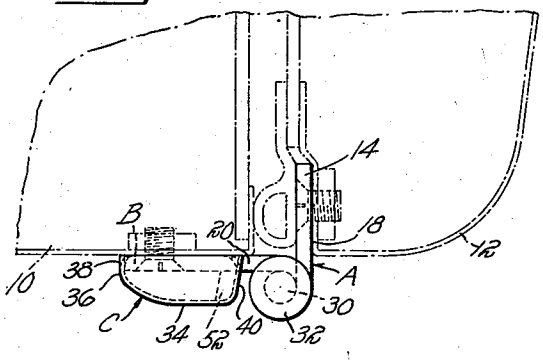


Fig. 3

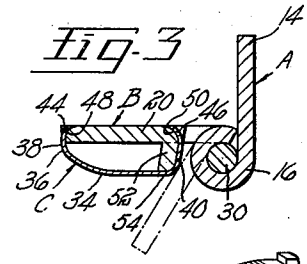


Fig. 4

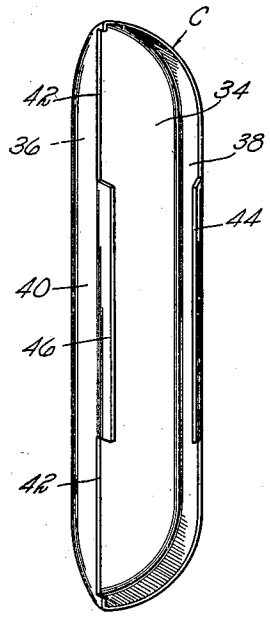
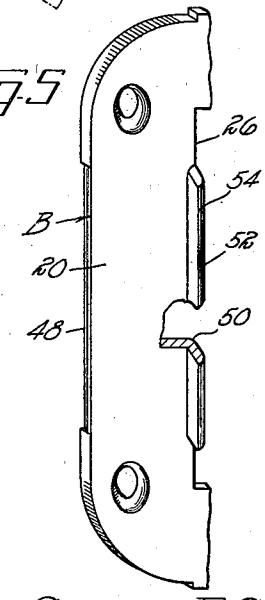


Fig. 5



Inventor

GEORGE E. CURTISS, JR.

By Lindsey & Caldwell

Attorneys

Patented July 8, 1941

2,248,493

UNITED STATES PATENT OFFICE

2,248,493

HINGE

George E. Curtiss, Jr., New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Application May 20, 1940, Serial No. 336,176

3 Claims. (Cl. 16—143)

The present invention relates to hinges and more specifically to a hinge particularly adapted for use on refrigerators.

The hinge contemplated by the present invention is intended for use on the types of refrigerators wherein for reasons of convenience or economy in manufacture a portion of the hinge structure, such as the hinge knuckles, and one of the hinge leaves is mounted in exposed position. When so mounted, the exposed portion, in order not to mar the appearance of the refrigerator, must be finished in a manner to blend therewith and yet be so constructed as to permit ready installation or removal.

The object of the invention herein is to provide an improved hinge of the above-indicated character, and the hinge is so constructed that the parts thereof may be readily assembled and, when so assembled, the exposed portions provide a desirable appearance.

Another object is a hinge wherein stop means are provided to limit the swing of the door and prevent marring of the hinge parts or refrigerator structure.

A still further object is an improved hinge of simple construction utilizing a minimum number of parts and capable of being economically and efficiently manufactured in large quantities.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the accompanying drawing:

Figure 1 is a front view of a hinge embodying the invention herein shown in its mounted position on a refrigerator;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a view taken on the line 3—3 of Fig. 1;

Fig. 4 is a rear perspective view of the removable cover plate; and

Fig. 5 is a perspective view of the exposed hinge leaf with the cover plate removed.

Referring to the drawing, the hinge is shown mounted on a refrigerator having a cabinet 10 and door 12; these parts being fragmentarily shown as a complete disclosure is not essential to an understanding of the invention herein.

In accordance with the present invention, the hinge comprises generally a pair of hinge sections A and B pivotally connected for relative swinging movement and a cover plate C removably attached to the hinge section B. More specifically, the hinge section A includes a leaf member 14 and a knuckle 16 integral and coextensive in length with the inner edge thereof, and the leaf member 14 is adapted to be secured to the inner face 18 of the door 12 adjacent the peripheral edge thereof and with the knuckle 16 located outside of the door and in exposed position.

To cooperate with the hinge section A, the hinge section B includes a leaf 20 of greater length than the leaf member 14 and having a pair of top and bottom knuckles 22 and 24 integral with the inner edge 26 thereof. As indicated the knuckles 22 and 24 are spaced to straddle the knuckle 16 of hinge section A, and to avoid having the top and bottom knuckles 22 and 24 in direct contact with the central knuckle 16, there is arranged between the knuckles a pair of spacer rings 28. As indicated, the rings 28 may have a larger outside diameter than the knuckles and be given a like or contrasting color thereto, thus adding to the appearance of the structure.

With the knuckles and rings properly aligned, a hinge pin 30 may be inserted therethrough to interconnect the hinge sections together. To position and secure the pin 30, the upper end is provided with a cap 32 abutting against the top knuckle 22, and immediately beneath the cap the pin is scored annularly to make a force fit. As the pin 30 terminates short of the bottom knuckle 24, a cap 33 having an annularly scored stud 35 is forced into position thereon to give a like appearance to both ends of the knuckle.

With the hinge so constructed, the hinge leaf 20 of the section B is secured to the refrigerator cabinet in exposed position and, unless particularly designed for the purpose, will detract from the appearance thereof. However, as the making of a special hinge leaf would be too costly, there is provided in the present instance the cover plate C which is stamped from relatively light metal and may be given any required color or design and shaped to correspond to the shape of the hinge leaf 20. The cover member C is adapted to overlie the leaf member 20, and to accomplish this it comprises a front plate 34 having a depending peripheral wall 36 which when positioned frictionally engages the peripheral edge of the hinge leaf.

As best seen in Figs. 2 and 3, the depth of the forward portion 38 of the peripheral wall 36 is approximately equal to the thickness of the leaf 20 at the outer edge thereof and tapers upwardly until the straight rear portion 40 of the peripheral

wall is of substantially greater depth than the thickness of the leaf. To position the cover on the leaf the wall portion **40** has cut therefrom top and bottom rectangular sections **42** where the rear wall portion overlies the leaf portions adjacent the top and bottom knuckles **22** and **24**; the depth of the cut away sections being such that the lower edge of the peripheral wall will, when the cover is in position, lie in the plane of the rear face of the leaf **20**.

To secure the cover in position, the forward wall portion **36** is further provided with an inturned lip **44** and the rear portion with an inturned lip **46**; these lip portions being respectively received under bevels **48** and **50** provided on the front and rear edges of the hinge leaf **20** (see Fig. 3). Inasmuch as the material of the cover is relatively light, these lips may be sprung sufficiently to permit the cover to be placed onto the hinge leaf, whereupon the lips will snap into position to secure the cover thereon. In like manner, by simply springing the lips the cover plate may be readily removed.

Due to the taper of the peripheral wall **36**, it will be seen that the cover member in effect constitutes a shell with the front face **34** spaced outwardly from the hinge leaf **20**, and inasmuch as the cover is of a light material it would readily crush if subjected to any force, such as being hit by the swinging door. To prevent such crushing, the inner edge of the leaf **20** is provided with a rib **52** extending outwardly and at right angles to the plane of the leaf member and of such height that its outer edge **54** underlies and supports the face plate **34** of the cover C. In this manner, the face plate is reinforced, and crushing thereof will not result if the door swings against same in the manner indicated by dotted lines in Fig. 3.

In addition to providing a reinforcement for the cover member, the rib **52** further functions as a stop to limit the swinging of the door and prevent it from hitting the cabinet and likewise putting undue strain on the hinges, as well as keeping the door within convenient reach of the user.

From the foregoing it is apparent that with the cover plate C in position the hinge leaf **20** is provided with a finish which blends with the refrigerator cabinet, and due to the heretofore described construction of the hinge knuckles and the spacing rings therebetween, the entire exposed portion of the hinge may be given a finish which blends with the construction of the refrigerator.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

1. A hinge comprising a pair of hinge sections pivotally connected for relative swinging movement, one of said hinge sections including a hinge leaf, a cover for said hinge leaf, said cover having a peripheral wall engaging the peripheral edge of the hinge leaf and a face plate positioned outwardly from the hinge leaf and engageable with the other of said hinge sections so as to limit pivotal movement of the sections in one direction relative to one another, and a rib extending outwardly from the hinge leaf and underlying said face plate along the line engaged by said other hinge section to prevent crushing thereof when so engaged.

2. A hinge comprising a pair of hinge sections pivotally connected for relative swinging movement, one of said hinge sections including a hinge leaf, a cover for said hinge leaf, said cover having a peripheral wall engaging the peripheral edge of the hinge leaf and a face plate positioned outwardly from the hinge leaf and engageable with the other of said hinge sections, a rib extending outwardly from said hinge leaf and underlying said face plate along the line engaged by said other hinge section to support and prevent crushing thereof, said peripheral wall being provided with inturned lips positioned beneath bevels provided on the hinge leaf for removably securing said cover in place.

3. A hinge comprising a leaf provided with a knuckle coextensive in length with one edge thereof, a second leaf provided with a pair of spaced knuckles adapted to straddle the knuckle of the first leaf, a spacer ring positioned between each knuckle of said second leaf and the knuckle of the first leaf, a pivot pin extending through said knuckles to connect same for relative pivotal movement and to maintain said spacer rings in position, a cover for the second leaf, said cover having a peripheral wall engaging the peripheral edge of the second leaf, a face plate positioned outwardly from the second leaf and engageable with the first leaf so as to limit pivotal movement therebetween, a rib extending outwardly from said second leaf and underlying said face plate along the line engaged by the first leaf so as to support and prevent crushing thereof when so engaged.

GEORGE E. CURTISS, JR.