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BOTTLE OPENER FOR REFRIGERATORS

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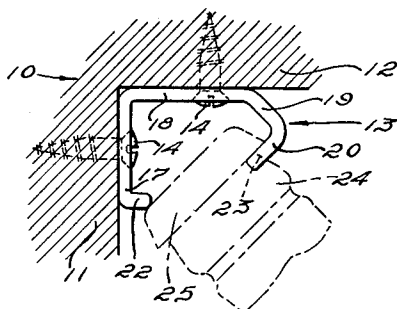
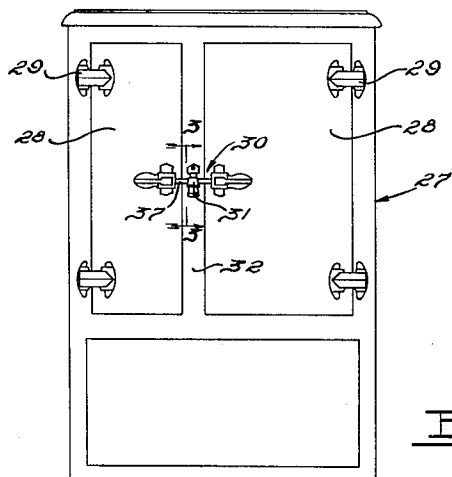


FIG. 1.

FIG. 2.

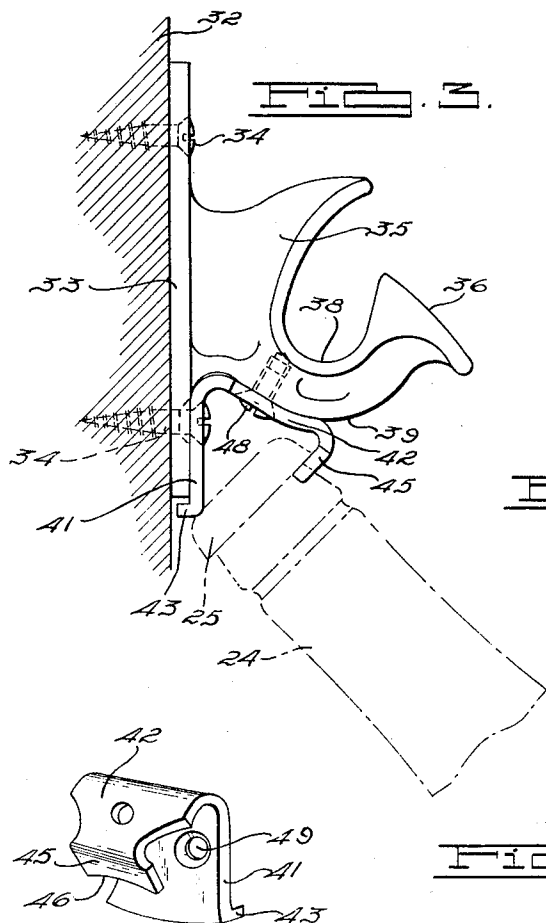


FIG. 3.

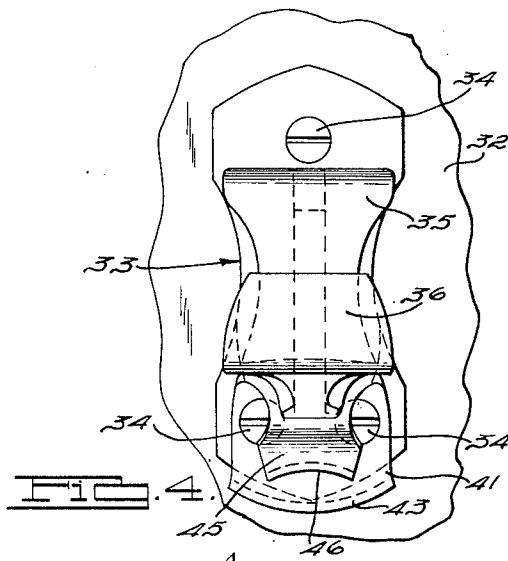


FIG. 4.

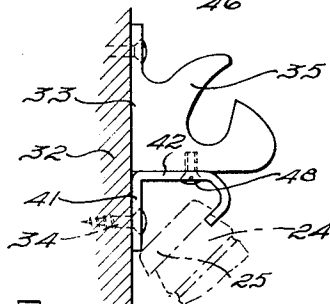


FIG. 5.

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BOTTLE OPENER FOR REFRIGERATORS

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This invention relates to a bottle opener and it has for one of its principal objects the provision of an opener mainly dependent upon its strength and rigidity upon a cooperating supporting member.

Another object of the invention is to provide a bottle opener adapted to be employed in conjunction with and supported by a latch member on the refrigerator cabinet.

Another object of the invention is to provide a latch for refrigerators in which the upper portion of the latch is so formed that a portion thereof is employed as a bottle opener.

A further object of the invention is to provide a bottle opener on a portion of a refrigerator cabinet, in such manner that an opener is provided that is both stronger and more durable than the openers heretofore employed and that is conveniently positioned and arranged for use at all times.

The above being among the objects of the present invention the same consist of certain features of construction combination of parts to be hereinafter described with reference to the accompanying drawing, and then claimed having the above and other objects in view.

In one of the broad aspects of the invention, a bottle opener is provided which is formed from metal strip material and so shaped in relation to co-operating surfaces of a supporting member that its strength and rigidity is mainly dependent upon the supporting member. The application of the invention is particularly adapted for use in combination with the front of a refrigerator cabinet where the keeper member of the latching means is employed as a means for securing the doors of the refrigerator cabinet in closed relation. The bottle opener in such case is provided with one or more surfaces complementary to one or more surfaces of the keeper member, thereby depending on the latter, at least in part, for its necessary strength and rigidity.

For a better understanding of the invention reference may now be had to the accompanying drawing, forming a part of this specification, in which:

Fig. 1 is a fragmentary sectional view of

a member having a bottle opener secured thereto and disclosing a general application of the invention;

Fig. 2 is a front elevational view of a refrigerator cabinet disclosing a latching means having a bottle opener included therewith, disclosing a specific application of the invention;

Fig. 3 is an enlarged fragmentary vertical sectional view of the invention disclosed in Fig. 2, taken substantially along line 3—3 of Fig. 2;

Fig. 4 is an enlarged front elevational view of the invention disclosed in Fig. 3;

Fig. 5 is a perspective view of one form of a bottle opener element employed in my invention, and

Fig. 6 is a fragmentary sectional view disclosing another application of the invention.

In practicing my invention any member 10, having an approximately vertically disposed surface 11 and an angularly extending surface 12, may be employed to support, strengthen and increase the rigidity of a bottle opener 13 secured to the member 10 by any suitable means such as screws 14. The bottle opener 13 may be formed from a plate or strip material provided with surfaces which are complementary to the surfaces 11 and 12. The specific embodiment of the bottle opener element shown in Fig. 1 is provided with a vertical portion 17, and a horizontally disposed flange portion 18 adjacent the outer ends of which is provided an outwardly extending downwardly inclined portion 19 terminating in an inwardly extending downwardly inclined portion 20. The lower edge of the vertical portion 17 preferably terminates in an outwardly directed flange portion 22 disposed in parallel relation to the portion 18, although this is not essential in all cases. An arcuate surface 23 provided at the lower edge of the inclined portion 20 is adapted to fit the neck of a bottle 24 below the lower edge of a cap 25.

In operation, the capped bottle is so disposed that the top surface of the cap 25 adjacent the outer edge thereof is placed in contacting relation with the flange 22, and

the lower edge of the cap on the opposite side engaged over the downwardly inclined inwardly extending portion 20, the neck of the bottle being received against the arcuate edge surface 23. To then remove the cap from the bottle it only requires the movement of the bottom of the bottle toward the member 10. All the major stresses to which the opener is subjected to in this operation are, of course, resisted mainly by the member 10 and the securing means between this member and the opener. For this reason the opener may be made of relatively light stock. It will also be noted that the bottle is positioned in substantially a vertical plane when the cap is removed, thus avoiding spilling of any of the contents of the bottle.

When adapting the present invention to a refrigerator cabinet the keeper member of the latch structure for the doors of a cabinet may be employed to advantage, either in whole or in part, as a supporting and strengthening member for the bottle opener. In Figs. 2 to 5 inclusive such an application is shown. Referring to Fig. 2 I show a refrigerator cabinet indicated generally as at 27 and provided with doors 28 hinged thereto as at 29, each door being provided with a latching mechanism indicated generally as at 30, both of which are adapted to co-operate with a keeper structure indicated generally as at 31 and secured to the pillar or post 32 of the cabinet disposed at the free edges of the door. As indicated in Figs. 3 and 4, the keeper element includes a plate-like back portion 33 providing means for co-operation with screws such as at 34 or other suitable fastening devices for securing the keeper to the post 32, and further providing a support for the outwardly projecting portion 35 which constitutes the keeper proper. This last portion includes an inclined cam surface 36 adapted to engage the end portions of the latch bars 37, when the doors are swung in closed position and to direct them upwardly into the mouth of the latch bar recess 38 in the keeper member. The lower surface of the portion 35 may be curved as indicated at 39 for the sake of appearance or otherwise, or may be of any other shape as will hereinafter be apparent.

The bottle opener in such case includes two main portions 41 and 42, extending angularly with respect to each other, the portion 42 being curved to fit the corresponding portion of the surface 39 of the keeper member and the portion 41 being flat and adapted for engagement with that part of the plate member 33 disposed downwardly with respect to the surface 39. If desired, the lower end of the portion 41 may be inwardly bent as at 43 over the lower end of the plate 33, not only to improve the outward appearance of the same but to provide a rounded surface for co-operation with the outer edge of a bottle cap, as

will hereinafter be apparent. The free end of the portion 42 is bent downwardly and inwardly as at 45 and its lower end is curved in the manner illustrated in Fig. 4, at 46, for suitable engagement with the neck of the bottle immediately under the cap as previously described in connection with the opener shown in Fig. 1. The opener may be secured to the keeper member by screws such as 48 threaded into the portion 35 thereof, and for the purpose of additionally securing the opener in place it may be provided with openings 49 as illustrated in Fig. 5 so located and spaced that the screws 34 holding the lower end of the keeper member to the pillar 32 may also be projected therethrough and serve to hold the opener to the keeper as well as holding the keeper to the pillar.

In the application of the invention as illustrated in Fig. 6, only a portion of the bottle opener is supported and strengthened by the keeper 35. In this case the bottle opener is very similar in construction to that shown and described in Fig. 1, with the member 41 secured directly to the pillar 32 of the refrigerator cabinet by means of the screws 38 and the portion 42 secured to the lower surface of the portion 35 by the screws 48. In this case both the pillar and keeper contribute to the strength and rigidity of the opener.

From the foregoing description, it is apparent that I have provided a bottle opener which may be mainly dependent upon a co-operating supporting member for its strength and rigidity, thereby permitting employment of a bottle opener having the structural features as described above. Accordingly, a device is provided which is not only equally as durable as any bottle openers heretofore provided, but the device is also equally as efficient and considerably more economical than the openers heretofore provided.

While I have shown in the drawing a particularly illustrative view of my invention, various modifications may be made in the same, and in the various features of construction, without materially changing the invention therein, and formal changes may be made in the specific embodiments of the invention described, without departing from the spirit or substance of the broad invention, the scope of which is commensurate with the appended claims.

I claim:

1. In combination with a member having a pair of fixed surfaces disposed in angular relation with respect to each other, a bottle opener including a pair of angularly disposed portions having surfaces complementary to the first mentioned surfaces and fixed thereto, whereby said opener is reinforced by said member.

2. In combination with a member having a pair of fixed surfaces disposed in angular

relation with respect to each other, a bottle opener including a pair of angularly disposed portions having surfaces complementary to the first mentioned surfaces and fixed thereto, whereby said opener is reinforced by said member, one of said opener portions having an angular disposed end portion for cooperating with the lower edge of a bottle cap.

3. In combination with a member having a pair of fixed surfaces disposed in angular relation with respect to each other, a bottle opener formed from strip metal and including a pair of angularly disposed portions having surfaces complementary to the first mentioned surfaces and fixed thereto whereby said opener is reinforced by said member, one of said opener portions having an outwardly extending downwardly inclined portion terminating in an inwardly directed downwardly inclined portion, the distance between the upper surface of the downwardly directed portion when extended and the lower edge of the vertical portion being substantially equal to the width of a bottle cap.

4. In combination with a member having a pair of surfaces in angular relation to each other, and a bottle opener rigidly secured to said member and reinforced thereby, the opener comprising a vertically disposed portion, the lower edge of which terminates in an outwardly directed flange member, an outwardly extending downwardly inclined portion, a portion directed downwardly and inclined toward said outwardly extending flange portion, the lower edge of said inwardly inclined portion having an arcuate surface adapted to fit about the neck of a bottle.

5. In combination with a refrigerator cabinet having a latch member rigidly secured thereto in angular relation to the front surface of the cabinet, of a bottle opener rigidly secured to said cabinet and latch member and reinforced thereby, said opener comprising a vertically disposed flange portion abutting said cabinet, an outwardly extending portion complementary to the lower surface of said latch member and terminating in a downwardly directed end portion, said end portion being adapted to engage the edge of a bottle cap.

6. In combination with a refrigerator cabinet having a latch member disposed in angular relation to the front of the refrigerator cabinet and secured thereto by an attaching flange, of a bottle opener comprising a vertically disposed portion abutting the flange, a flange portion on the lower edge of said vertically disposed portion directed toward said refrigerator cabinet, an upwardly and outwardly curved portion terminating in downwardly inclined portion complementary to the lower surface of said latch member, and an inclined portion on the

lower part of said complementary portion directed downwardly and toward the refrigerator cabinet, the distance between the upper surface of the last mentioned inclined portion and the flange of the vertical portion being substantially equal to the width of a cap of a bottle.

7. A bottle cap remover comprising an approximately L-shaped member having a lip upon the end of one branch of the L, directed diagonally toward the other branch, each branch having screw holes provided therein whereby both branches may be secured to the surfaces of a mating angle in such manner that the surfaces of the angle will reinforce both branches of the member.

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