Sept. 7, 1937. G. A. LYON 2,092,176

FRAME CONSTRUCTION

Filed Aug. 19, 1933

Fig. 1.

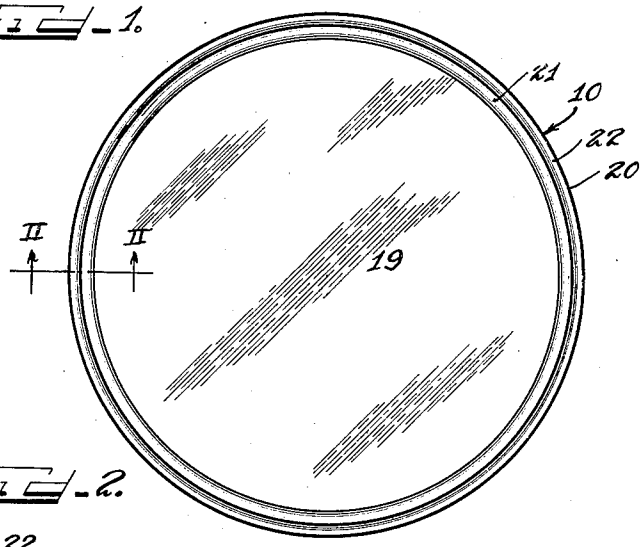


Fig. 2.

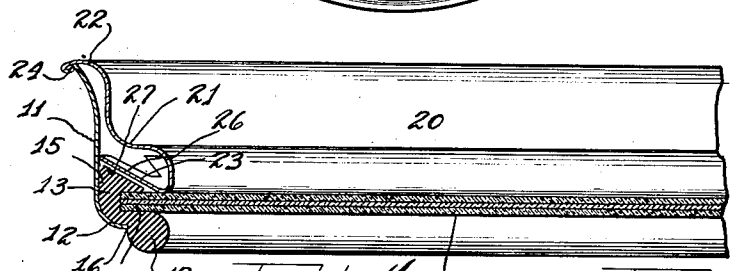


Fig. 4. Fig. 3.

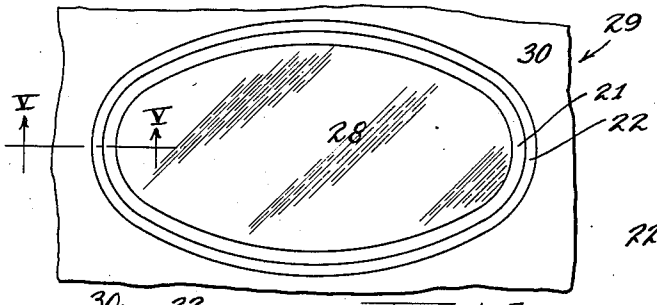
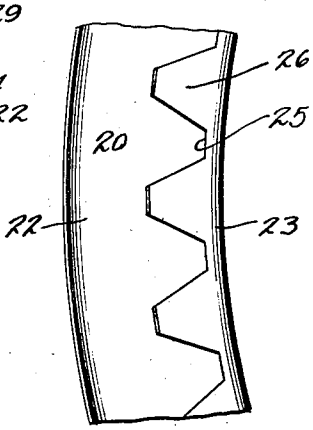


Fig. 5.



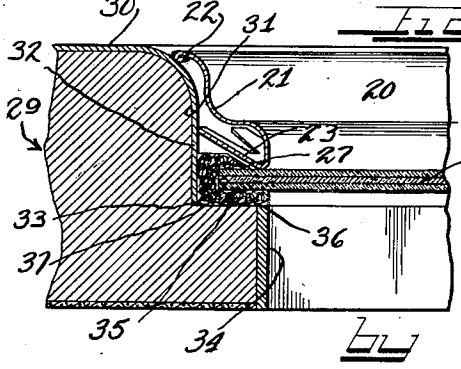


Fig. 6.

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FRAME CONSTRUCTION

George Albert Lyon, Detroit, Mich.

Application August 19, 1933, Serial No. 685,837

3 Claims. (Cl. 65—53)

The present invention relates generally to a frame construction and is more specifically concerned with improved means for securing the component parts thereof in cooperative relationship.

It is a primary object of the present invention to provide a frame construction embodying a plurality of parts, wherein the parts of the frame are maintained in cooperative relationship solely by reason of a self-retained member.

It is a further object of the invention to provide a frame construction embodying a plurality of parts which are secured in tight cooperation by the engagement of one of the parts with another of the parts.

It is a further object of the invention to provide in a frame construction embodying a plurality of parts, means to maintain the parts in assembled relationship, said means being disposed in such a manner as to be concealed by the parts constituting the frame construction.

Another object of the hereinafter described invention is to provide improved means for securing a panel within an associated frame structure.

It is also an object to provide improved means for securing a pane of glass within an associated frame structure, wherein the panel will be maintained against removal from the frame by reason of a self-retained frame member.

In accordance with the general features of this invention there is provided an arcuate frame structure in which the frame opening is defined by a metallic strip forming an outer frame member. Disposed within this metallic strip is a second frame member of similar longitudinal curvature and having a curved transverse cross-section. One edge of this member is curved so as to extend over an edge of the metallic strip and is formed at its inner margin with a plurality of resilient teeth or lugs which engage the inner surface of the frame strip when the frame parts are in assembled position. The diameter of the toothed portion is normally greater than the surface of the strip to which it is applied, and for this reason, when the parts are assembled, the teeth will forcibly bite into the surface to which it is applied. Moreover, the outer frame member is deflected at its lower edge to support a panel which is to be framed. The panel is prevented from removal from the frame by the inner member of the frame which bears against the upper surface of the panel.

Other objects and features of this invention will more fully appear from the following detail description, taken in connection with the accompanying drawing which illustrates several embodiments thereof, and in which:

Figure 1 is a plan view of a serving tray embodying the features of the present invention;

Figure 2 is an enlarged fragmentary cross-sectional view through the peripheral frame of the tray, taken substantially on line II—II of Fig. 1;

Figure 3 is an enlarged fragmentary rear view of the inner frame member showing the teeth for engaging the surface of the outer frame member;

Figure 4 is a slightly modified form of the invention illustrating its use in connection with an automobile window, and

Figure 5 is an enlarged transverse sectional view through the window supporting frame structure, taken substantially on the line V—V of Fig. 4.

As shown on the drawing:

My present invention is illustrated in Figure 1 as being incorporated in a serving tray which is generally indicated by the numeral 10. This tray is illustrated as being circular in form, but it will be apparent to one skilled in the art, that the tray need not necessarily be of the shape illustrated, but may have any desired peripheral curvature.

This serving tray comprises a circumferentially extending frame structure composed of an outer frame member 11 having its lower edge inwardly deflected to form a flanged portion 12. This outer frame member may be constructed of any suitable material or decorated in any manner desired. For this purpose, stainless steel has been found to be very satisfactory.

Supported within the outer frame member 11 upon the flange 12 is a gasket 13 which is preferably constructed of rubber or other resilient material. The gasket 13 is formed with an outer surface 15 conforming to the associated portion of the outer frame member 11 with which it engages. At the inner edge 16 of the flange 12, the gasket 13 is formed into a circular integral bead 17 which projects below the flange 12 of the outer frame member and forms a resilient cushion for the tray. Opposite the surface 15 of the gasket, there is provided a recess 18 for receiving the peripheral margin of a panel 19 which forms the bottom of the tray.

The bottom 19 of the tray may be of any desired construction, but is preferably constructed of shatter-proof glass. The panel 19 and gasket 13 are retained against removal from the outer frame member 11 by means of an inner frame member generally indicated at 20.

The inner frame member embodies a strip of

metallic material, such as stainless steel, which is longitudinally curved to fit within the outer frame member 11 and is provided with a curved intermediate portion 21 interconnecting lateral marginal portions 22 and 23. The lateral portion 22 is curved to form an outwardly deflected flange extending over the upper edge 24 of the outer frame member 11. The other marginal portion 23 is deflected toward the under surface of the curved intermediate portion 21 and has cut-away portions 25 defining a plurality of spaced projections or teeth 26 having their outer ends disposed for engagement with the inner surface of the outer frame member 11. It will be observed that these teeth are upwardly inclined so as to engage the inner surface of the outer frame member 11 at an angle. Since the inner frame member 20 is constructed of resilient material, the teeth 26 normally have a circumference at their free ends which is slightly greater than the circumference of the outer frame member 11 so that when the inner frame member 20 is assembled in position, the teeth 26 will be deflected and thereby apply pressure outwardly against the associated surface of the outer frame member 11. The upper edge of the gasket 13 is beveled as shown at 27 to define a surface which is substantially parallel to the plane of the teeth 26.

From the foregoing description it will be readily understood that the utilization of the present invention in a serving tray, results in a tray that is of pleasing and serviceable construction and that the parts are of simple design and easily assembled, and that when assembled are securely held in cooperative relationship.

To assemble the tray, the gasket 13 is first disposed over the peripheral edge of the tray bottom 19 and the bottom and gasket are then inserted within the outer frame member 11 with the surface 15 of the gasket in engagement with the lower margin and flange 12 of the member 11. In this position the bead 17 projects below the flange 12 to form a cushion for the tray. The inner frame member 20 is inserted within the outer member 11 and pressed into position against the bottom 19, thereby forcing the longitudinally spaced teeth 26 into tight engagement with the inner surface of the outer frame member 11. This operation causes the teeth 26 to be deflected and forcibly bite into the member 11 and at the same time the curved intermediate portion 21 is slightly flexed so that the resulting forces cause the inner ring member to be securely held in place. Since the inner ring member bears against the tray bottom 19 and the bottom 19 is resiliently supported on the flange 12 on the outer member, the gasket 13 will be slightly compressed and the inner and outer members will cooperate to clampingly retain the tray bottom in position.

In Figure 4 there is illustrated a modified form of the invention wherein the principles thereof are utilized in connection with a window 28 of an automobile body which is represented in part by the numeral 29.

In this application of the invention, the metallic shell 30 of the automobile body is deflected into a window opening 31 to define an annular lining 32 which extends a portion of the way through the body structure. At the inner end 33 of the lining portion 32, the window opening has a contracted portion 34 which defines a seating flange 35 for the window pane. Seating on this flange or shoulder is a rubber gasket 36 which is provided on its inner edge with a groove 37 adapted to receive therein the peripheral margin of the window 28.

In this application of the invention, the lining portion 32 cooperates with the shoulder 35 to perform the same function as the outer frame member 11 of the serving tray. The inner frame member is of the same construction in this case as is the tray and cooperates with the lining 32 in the same manner as has been already described.

Now it is of course to be understood that, although I have described in detail several embodiments of my invention, the invention is not to be thus limited but only insofar as defined by the scope and spirit of the appended claims.

I claim as my invention:

1. In a frame construction, the combination comprising a longitudinally curved frame member having an inwardly deflected edge defining a flange, a gasket seated on said flange, a transparent member having its peripheral margin in engagement with said gasket, and a self-retained inner frame member cooperating with the outer frame and bearing against the upper surface of the transparent member, a portion of the gasket being extended below said flange and shaped to function as a seat for the entire construction.

2. A serving tray comprising a peripheral frame structure, a resilient insert in said frame, and a bottom supported in said insert, said insert being extended below the tray bottom to form a tray supporting cushion.

3. In a frame construction, a dished longitudinally curved frame member, an inwardly turned shoulder associated with said frame member to support an article to be framed, a framed article in the dished part of said member, and a second frame member overlying the inner portion of said dished member and having an underturned margin for engagement with an outer portion of said dished member, said second frame member having a resilient underturned portion the peripheral edge of which extends into biting engagement with the inner smooth surface of said dished member.

GEORGE ALBERT LYON.