July 20, 1943. H. AUSLANDER 2,324,811

TRAY

Filed April 3, 1941

Fig. 1.

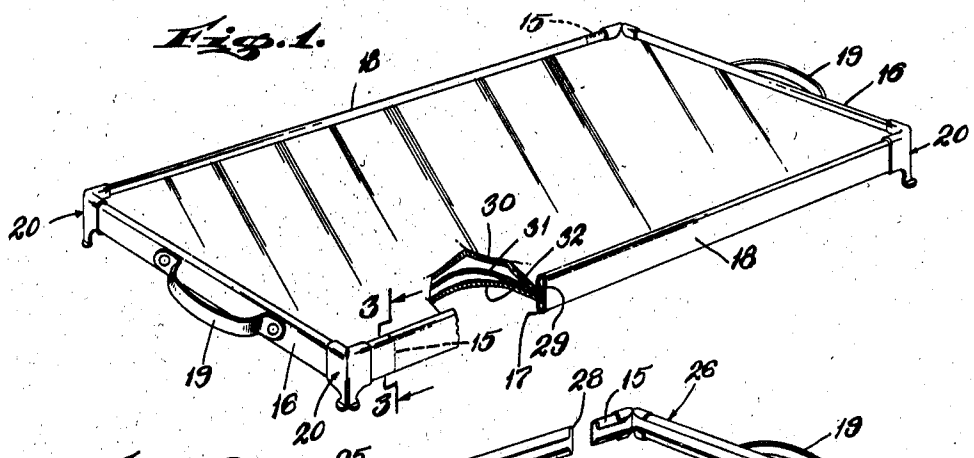


Fig. 2.

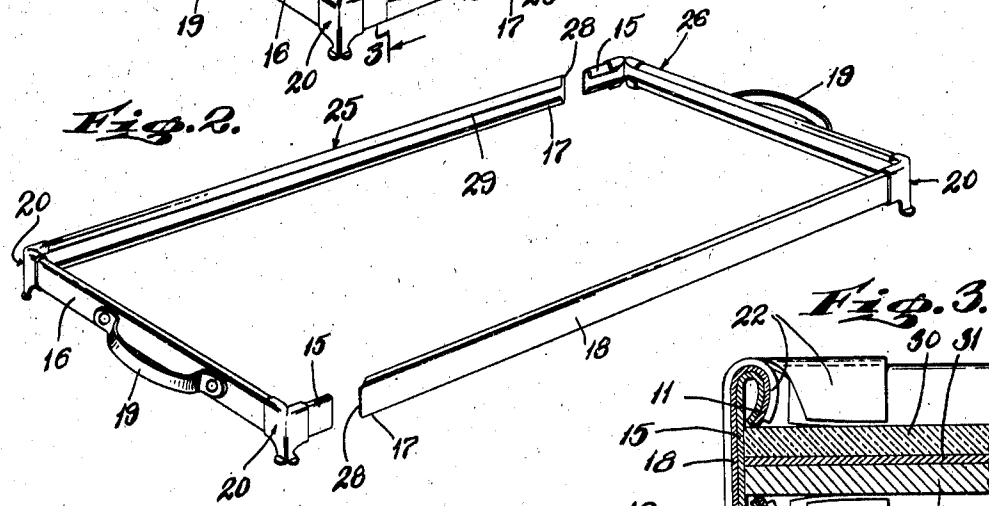


Fig. 3.

Fig. 4.

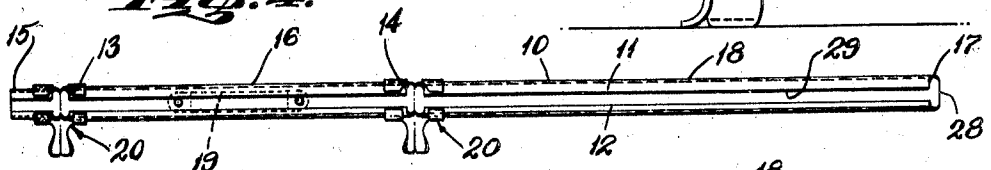


Fig. 5.

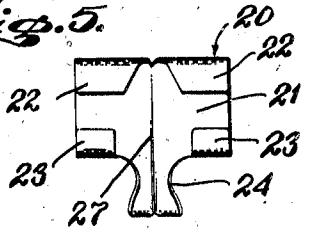
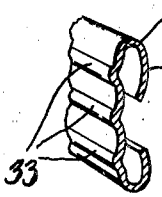


Fig. 6



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TRAY

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Application April 3, 1941, Serial No. 386,650

8 Claims. (Cl. 65—53)

This invention relates to articles of manufacture comprising a bordering frame within which is supported one or more sheets to stiffen and also to characterize the article particularly in the construction of what are commonly known as trays. The object of the invention is to provide a product of the character described, the frame of which is composed of two similar parts having telescoping couplings or corner portions of the parts for forming thereof a frame preferably rectangular in contour, each frame part comprising a channeled strip of relatively thin material, the flanges of which are cut at intervals to form freely bendable corner portions; a further object being to provide frame parts of the character described with reinforcements arranged upon the cut parts of the strip and so formed as to bend freely with the strip while being retained against displacement therefrom; a further object being to provide corner reinforcements including projecting feet portions for supporting the resulting tray formed from the tray parts in spaced relation to a supporting surface; a still further object being to provide frame parts including narrow and wide flange portions producing the channeled contour thereof and between inner edges of which predetermined panels are mounted and flexibly retained in producing the body portion of the tray; and with these and other objects in view, the invention consists in an article of manufacture as more fully hereinafter described.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my invention are designated by suitable reference characters in each of the views; and in which:

Fig. 1 is a perspective view of a tray made according to the invention with part of the construction broken away and in section.

Fig. 2 is an exploded view showing the two identical frame parts preparatory to the assemblage thereof.

Fig. 3 is an enlarged partial sectional view on the line 3—3 of Fig. 1.

Fig. 4 is an inside plan view of one of the frame parts in extended position.

Fig. 5 is an inside view of one of the corner reinforcements detached; and,

Fig. 6 is a cross sectional view through the frame illustrating one of a number of cross sectional contours which may be provided therein.

Trays and similar framed articles of manufacture as a rule are fairly costly from a standpoint of manufacture, particularly in dealing with ornamental types of trays including glass and other panels, and for a substantial tray of this type and kind, the minimum selling price has been expressed in terms of dollars. It is one of the objects of my invention to produce a reasonably large tray which can be made to retail at prices in terms of cents, while at the same time producing a tray possessing the required strength and having a neat and attractive appearance.

In producing the product, I first form an elongated strip of sheet metal or other suitable material as indicated at 10, Fig. 4, the strip being somewhat of the general form of channelled curtain rod strips, the channel being formed by inturned flanges 11 and 12. The flange 11 is preferably wider than the flange 12 so as to provide on the resulting tray a relatively high retaining flange around the periphery thereof to prevent articles from being displaced from the tray. The strip 10 is cut into predetermined lengths, and the flange portions 11 and 12 are cut out at intervals as seen at 13, 14, the cut-out at 13 being closely adjacent a short end 15 of the strip, whereas the cut-out 14 is so spaced from the cut-out 13 as to provide one short end wall 16, and between the cut-out 14 and the end 17 is formed a longer side wall 18.

Riveted or otherwise secured centrally of the end wall 16 is a handle member 19, note Figs. 1 and 2, and secured to the cut-out portions 13, 14, are corner reinforcing members 20, each member comprising a channeled body 21 formed by inturned top and bottom flanges 22, 23, which are disposed at end portions only of said reinforcement. Projecting from the lower edge of the body 21 is a downwardly extending foot 24, the flanges 23 being spaced widely to accommodate the contour of the foot as shown.

As each of the corner reinforcements 20 are of the same construction, and further as each strip 10 as shown in Fig. 4 is identical with its companion strip in forming the two frame parts 25, 26, Fig. 2, the brief description of one will apply to the other.

In completing the blank, Fig. 4, from which the separate frame parts 25, 26, are formed, two of the corner reinforcements 20 are arranged upon the strip 10, as noted, so as to be in alinement with the cut-outs 13, 14. This completes the formation of what might be termed the blank or strip assemblage; and in forming the frame parts, the strip is simply bent at 13 and 14 to extend the parts 15, 18, at right angles to the part 16. In bending the strip 10, the corner reinforcements are also bent or folded on the center line 27; and this operation automatically retains the

reinforcements 20 against shifting longitudinally of the frame parts as will be apparent. The crease or fold at 27 will be pre-formed particularly through the foot portion 24. In certain uses of the invention, the reinforcements 20 may be pre-formed angularly and applied to the folded corners of the frame, in which event, the flanges 22, 23 will be open and then bent around the flanges of the frame.

The ends 15 are preferably made slightly smaller than the normal size of the end 17, the latter ends being cut to provide protruding tongues 28 which facilitate the placement of the ends 17 within the corner reinforcements 20 disposed adjacent the ends 15, as will appear in Fig. 1 of the drawing, so that in the resulting frame, the short ends 15 become invisible externally of the frame.

The inner ends of the flanges 11 and 12 are spaced apart to form the channel opening 29, and in assembling the frame parts 25 and 26, one or more panels are arranged in the channels 29 in the manner clearly seen in Fig. 3 of the drawing. For purposes of illustration, three panels or sheets 30, 31, and 32 are shown. The sheet 30 is preferably of transparent material, such for example as glass, Cellophane, and other types of plastics; and the sheet 31 is preferably in the form of a printed or lithographed sheet, and may be of the embossed type, if desired, and is employed to give ornamentation or other characteristics to the upper surface of the tray which is not shown in Fig. 1 in order to simplify the illustration. In some instances where a plain color is desired, a plain velvety or similar fabric can be used, and if desired, an ornamental fabric sheet of any type and kind can be employed, the latter being used in more expensive types of trays.

The sheet 32 forms a backing and reinforcement sheet, and may be composed of cardboard, composition board, wood, metal, or any other material, again depending upon the type of tray which is to be constructed. It will be understood that the panel or main body portion of the tray will fit snugly between the flanges 11 and 12 and probably require slight pressure in forcing the panel in position so that the panel will become firm and rigid within the frame of the tray and preferably extend to the outer walls of the frame, or to a point closely adjacent the same, as will be apparent. After the various parts of the tray have been assembled, the flange portions 22, 23 of the corner reinforcements may be compressed slightly upon the flanges 11 and 12 to retain the frame parts 25, 26, against separation.

In order to simplify the illustration in Figs. 1, 2, and 3 of the drawing, the outer surface of the strip 10 has been shown plain, and while this type of construction can be employed, it is preferred to include ribs or corrugations in this surface of the strip for the purpose of characterizing the strip, and still further to give added strength and rigidity thereto. To illustrate one form of such reinforcement and characterization, I have shown in Fig. 6 of the drawing a section and partly perspective view of a strip from which it will be seen that the outer surface of the strip is provided with three longitudinally extending and outwardly projecting ribs 33.

From a consideration of Fig. 3 of the drawing, it will appear that the upper and lower edges of the strip 10 are rounded in order to produce on the resulting tray, neat and finished edges. This rounding of the edges, rather than a sharp bending, also gives the representation of a substantially heavy frame on the tray. It will also be understood that the intervening sheet 31 of the panel forms a cushioning agent which will in effect tensionally support all of the panels 30, 31, and 32 in position within the channel openings 29, in addition to the spring-like engagement of the flanges 11 and 12 therewith.

In considering the structure as described, and aside from the particular type or kind of panelling employed, the entire tray is composed of three similar parts; one, the channeled strip; two, the corner reinforcement; and three, the handle member. The assemblage of these parts on one strip after the bending or forming thereof, produces on the other hand two like frame parts, each comprising one strip, one handle, and two corner reinforcements. It is by reason of these facts that the cost of producing the resulting product is minimized; and this is true not only from the standpoint of the simplicity and constructing of the various component parts, but further in the simplicity of assemblage of the various parts. In this latter connection, it will also be apparent that where the panel is composed of two or more parts, such as the parts 30, 31, and 32, these parts may be adhered together to form a unit, and as such unit can be assembled in the frame parts.

In the alternate method of producing the tray, the frame strips 10 without the reinforcements 20 may be formed and assembled, after which open angular corner reinforcements are applied to the corners by curling and compressing the flanges 22, 23, of the corner reinforcements around the flanges 11 and 12 of the frame. It will also appear that the device may be made up in small sizes so as to form flower pot trays to support a flower pot in spaced relation to a supporting surface, thus protecting the surface.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An article of manufacture of the class described comprising a panel of predetermined contour, a frame bordering peripheral edges of the panel, said frame comprising similar frame parts collectively forming said frame and channeled to receive the panel, each frame part having angularly extending substantially parallel coupling ends directly telescoped with the ends of a companion frame part in forming said frame, and means for securing the telescoped ends of said parts together to retain said frame parts against separation.

2. An article of manufacture of the class described comprising a panel of predetermined contour, a frame bordering peripheral edges of the panel, said frame comprising similar frame parts collectively forming said frame and channeled to receive the panel, each frame part having angularly extending substantially parallel coupling ends directly telescoped with the ends of a companion frame part in forming said frame, means for securing the telescoped ends of said parts together to retain said frame parts against separation, and corner reinforcements arranged on the corner portions of the frame parts and extending a distance onto angularly disposed walls at said corner portions.

3. An article of manufacture of the class described comprising a panel of predetermined contour, a frame bordering peripheral edges of the panel, said frame comprising two similar frame

parts collectively forming said frame and channeled to receive the panel, each frame part having angularly extending substantially parallel coupling ends engageable with ends of a companion frame part, means for securing the ends of said parts together in forming said frame, each frame part comprising at least two corner portions, corner reinforcements arranged on the corner portions of the frame parts and extending a short distance onto angularly disposed walls at said corner portions, and said corner reinforcements having integral projecting leg portions.

4. In an article of manufacture of the class described comprising a panel with a frame arranged on the peripheral edges of the panel, said frame comprising two similar frame parts collectively forming said frame and, each frame part comprising an elongated strip having inturned flanges forming a channelled cross sectional contour of the strip, both flanges being cut out at longitudinally spaced intervals to form corner portions on the resulting frame part, a corner reinforcing member comprising a plate having pairs of inturned flanges, one of said members being arranged upon each corner forming portion of said strip with the flanges of said member enveloping the flanges of said strip, and said strip when folded at the cut-out corner portions correspondingly folding said reinforcing members to reinforce the corners of the resulting frame part and to provide on the resulting frame part at least three angularly disposed wall portions.

5. In an article of manufacture of the class described comprising a panel with a frame arranged on the peripheral edges of the panel, said frame comprising two similar frame parts, each frame part comprising an elongated strip having inturned flanges forming a channeled cross sectional contour of the strip, both flanges being cut out at longitudinally spaced intervals to form corner portions on the resulting frame part, a corner reinforcing member comprising a plate having pairs of inturned flanges, one of said members being arranged upon each corner forming portion of said strip with the flanges of said member enveloping the flanges of said strip, said strip when folded at the cut-out corner portions correspondingly folding said reinforcing members to reinforce the corners of the resulting frame part and to provide on the resulting frame part at least three angularly disposed wall portions, and said members having projecting feet extending centrally from the lower edges thereof.

6. In an article of manufacture of the class described comprising a panel with a frame arranged on the peripheral edges of the panel, said frame comprising two similar frame parts, each frame part comprising an elongated strip having inturned flanges forming a channelel cross sectional contour of the strip, both flanges being cut out at longitudinally spaced intervals to form corner portions on the resulting frame part, a corner reinforcing member comprising a plate having pairs of inturned flanges, one of said members being arranged upon each corner forming portion of said strip with the flanges of said member enveloping the flanges of said strip, said strip when folded at the cut-out corner portions correspondingly folding said reinforcing members to reinforce the corners of the resulting frame part and to provide on the resulting frame part at least three angularly disposed wall portions, said members having projecting feet extending centrally from the lower edge thereof, and the outer wall of the sheet forming said frame part being of corrugated cross sectional contour.

7. In a tray of the class described having a panel portion bordered by a channeled frame, supporting foot members arranged at spaced intervals on the frame, said members each comprising a plate having pairs of inturned flanges at end portions thereof forming of the plate channeled portions receiving said channeled frame, and the lower edge of said plate centrally thereof having a downwardly projecting part forming the foot of said member.

8. In a tray of the class described having a panel portion bordered by a channelled frame, supporting foot members for said tray, each of said members comprising a plate having angularly disposed portions, each having pairs of inturned side flanges forming channelled portions for receiving said channelled frame, the lower edge of said plate centrally thereof and intermediate said flanges having a downwardly projecting integral part forming a foot on said member, said members being arranged at folded corner portions of said frame, and said foot members comprising angularly arranged parts conforming with angularity of said channelled portions of the plate.

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