

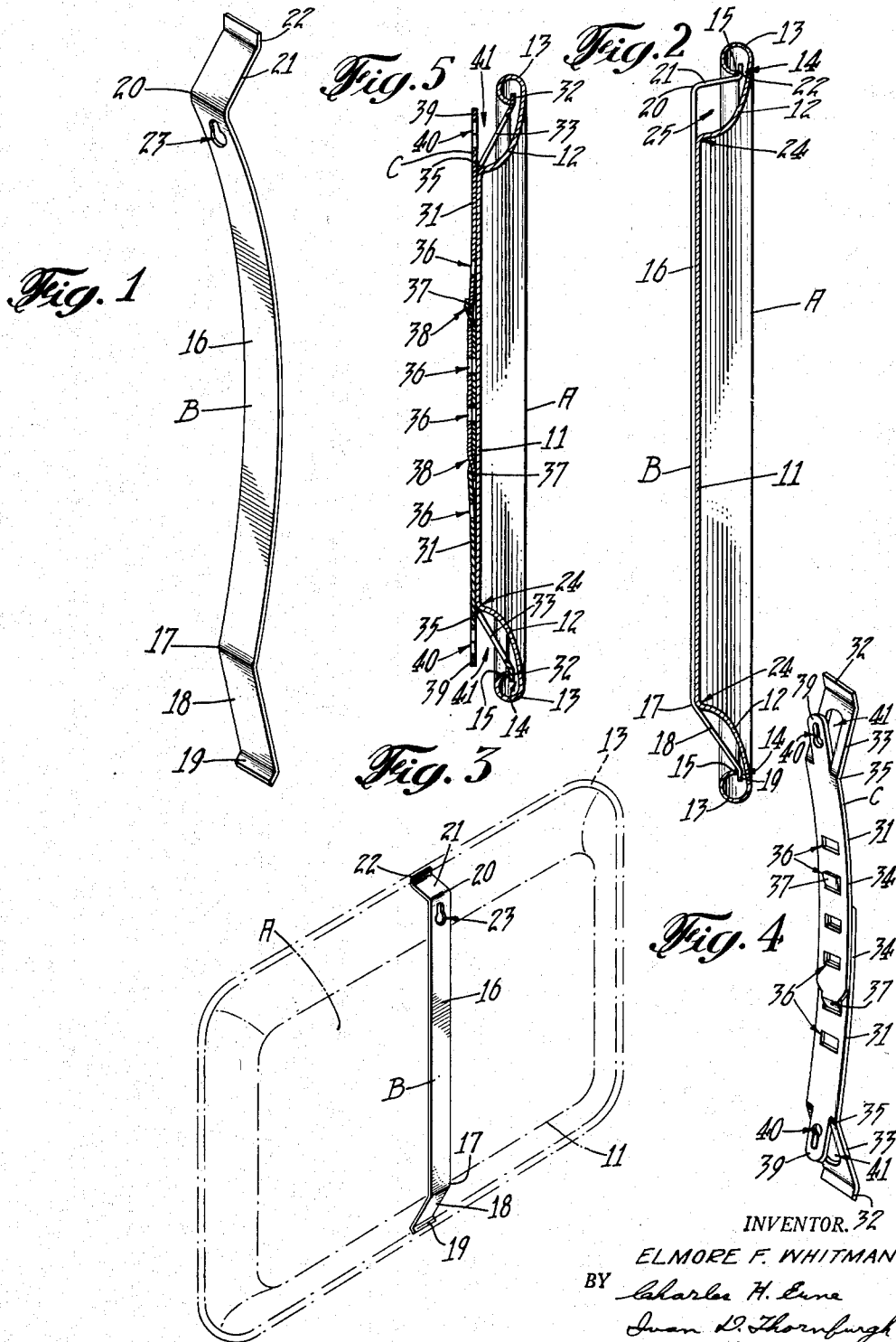
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TRAY HANGER

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TRAY HANGER

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1

This invention relates to hanging devices for trays, plaques, pictures and similar objects which have flat panels and transversely bent borders terminating in rearwardly curled edges and has particular reference to a tray hanger made from a resilient material such as a metal strip having a central portion which lies flush against the rear surface of the panel of a tray or similar object and end flanges which cooperate with said rearwardly curled edges of the object to removably secure the hanger and object together and render the hanger invisible when the object is in display position. One exemplary use of such a hanger is in connection with lithographed or decorated metal trays.

By modern lithographic methods, artistic, multicolored landscapes, flowers, reproductions of classical paintings, etc. may be printed on a metal blank from which a tray is made, and thereby provide finished trays which are useful not only as refreshment handling trays but are also artistic enough to hang on walls in lieu of framed prints, paintings or other works of art.

Such metal trays are made by drawing a flat blank and forming a central panel surrounded by an imperforate, transversely bent border terminating at its outer periphery in a curled edge into which the flange of a metal strip hanger may be projected or locked. The back surface of the panel of such a metal tray presents a smooth imperforate surface which makes it difficult to attach present hanging devices without the hanger showing when the tray is in display position.

An object of the invention, therefore, is the provision of a tray hanging device, economically made from a strip of resilient material such as sheet metal strip, which is of a shape and has terminal flanges which cooperate with the terminal portions on the tray to secure the two together without any portion of the hanger showing when the tray is in display position.

Another object is the provision of a tray hanging device made from a resilient strip of material having a central portion which is resiliently curved before application and which is straightened out upon application to lie snugly against the body surface of a tray panel.

Yet another object is the provision of a tray hanging device of the type described that is adjustable as to its length so as to fit trays of various dimensions.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which,

2

taken in connection with the accompanying drawings, disclose a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a perspective view of a tray hanger embodying the instant invention;

Fig. 2 shows an edge view of the hanger of the instant invention applied to the back of a metal tray shown in cross section;

Fig. 3 shows a perspective view of the hanger applied to a metal tray shown in broken lines in rear elevation;

Fig. 4 is a perspective view of a modified form of the invention; and

Fig. 5 shows a sectional view of the modified form of hanger shown in Fig. 4 applied to the back of a metal tray.

A representative tray A (Figs. 2, 3 and 5) which can be suspended by or used with the hanger comprises a flat countersunk central panel 11, entirely surrounded by integral transversely bent side or countersink walls 12, which may be gracefully curved either as shown, or straight, as preferred. The side walls 12 at their outer or marginal edges merge into a peripheral rearward projection or open curl 13, which may extend around the entire perimeter of the tray. A hanger flange receiving channel 14 is thus provided between the back of a side wall 12 and the terminal edge 15 of the peripheral curl 13.

As a preferred or exemplary embodiment of the invention, the drawings (Figs. 1, 2 and 3) show a hanger B, made from a flat, resilient metal strip, such as a light gauge spring steel that is substantially rectangular in cross section, although other resilient materials, such as plastics and plastic impregnated fibers may also serve the purpose. The tray hanger comprises an elongated central body portion 16 which when the hanger is fully applied lies flush against the back or bottom surface of the tray panel. This central portion 16 is initially bowed inwardly or arched slightly to provide for extension when fully straightened against the back of a tray panel 11 and also to exert a rearward spring tension or pressure against the ends of the hanger, as will be described.

Near the bottom end, as viewed in Fig. 1, the body portion 16, merges into an inwardly bent angular or offset bridging section 18 at a line of bend 17. This offset section 18 is bent reversely near its terminal edge to provide an outwardly projecting tray engaging flange or hook portion 19. The angle between the body portion 16 and the offset section 18 is obtuse or substantially

3

greater than 90 degrees and remains so when assembled on a tray.

The top of the hanger is bent at 20 to form a top inwardly bent angular or bridging or offset section 21, which is outwardly or reversely bent near its terminal edge to provide a top tray engaging flange or hook portion 22. The angle of bend at 20 is substantially 90 degrees or only slightly greater when assembled with the tray. Adjacent the top bend 20 is a perforation 23 in the body portion 16 to accommodate a hook, the head of a nail or other suspending means.

To assemble the tray and hanger, the bottom flange 19 of the hanger is inserted into the flange receiving channel 14 of the tray. The bottom bend 17 of the hanger coincides closely with the juncture 24 (Fig. 2) of the panel 11 and side walls 12 of the tray. The bottom offset section 18 of the hanger extends along and is spaced from the back of the side walls 12 of the tray and spans the distance between the juncture 24 and the terminal edge 15 of the curl 13. The bottom flange 19 of the hanger projects into channel 14 and abuts against the terminal edge 15 of the peripheral curl 13. After the bottom of the hanger is in the position described, the top offset section 21 is forced downwardly slightly and the top flange 22 is snapped into the flange receiving channel 14 of the tray at a point diametrically opposite the bottom flange 19 of the hanger. The top flange of the hanger projects into channel 14 and abuts against the terminal edge of the peripheral curl 15 of the tray. The angle or line of bend 20 of the top offset section 21 of the hanger is located above the juncture 24 between the tray panel 11 and the side wall 12, to provide an open space or area 25 for the reception of the protruding head of a hook or nail that may be projected through perforation 23.

In this assembled relation, the angle between the bottom offset section 18 and the body portion 16 of the hanger remains obtuse. The angle between the top offset section 21 and the body portion 16, however, is about 90 degrees or only slightly greater.

The normal bow or arch of the body portion 16 is thus manually flexed so that the hanger lies substantially straight and flush against the back of the panel, thereby exerting spring tension to urge the bottom and top offset sections 18 and 21 and their respective flanges 19 and 22 into firm abutting engagement against the terminal edges 15 of the peripheral curl 13.

A modified form C of the invention (Figs. 4 and 5) comprises two similar or like strips or parts 31 which are adjustably joined as to length by a slot and tongue connection, to form a hanger that is adaptable for use on various sized trays. Inasmuch as each part 31 of the hanger has a similar construction, only one such part will be described.

Each part or strip 31 has a reversely bent flange or hook 32 at one end. Adjacent each flange 32 is an angular or bridging or offset section 33 which merges with an elongated, arched or bowed central portion 34 at a line of bend 35. The arched or bowed portion 34 has a plurality of slots 36 of approximately uniform size punched along the central longitudinal axis of the hanger. At the end opposite to flange 32, each part or strip 31 terminates in a stepped tongue 37, so dimensioned that it will fit into any one of the slots 36 of a second and similar part or strip 31 and overlap a portion thereof as shown in Figs. 4 and 5. The step 38 (Fig. 5) is equivalent to

4

approximately the thickness of the material from which the hanger is made. By passing the tongue of one part through a slot of a second similar part and interlocking them, the length of a hanger can be adjusted to fit a number of differently dimensioned trays.

A tab or lug 39 containing a nail or hook perforation 40 is struck from each angular or offset section 33 and bent backwardly until it is substantially in a plane with the arched or bowed portion 34. A space 41 between the tab and angular section 33 is provided for the protruding head of a nail or hook or other suspending means for the assembled tray and hanger.

The angle between body portion 34 and the offset section 33 is obtuse or substantially greater than 90 degrees, and is substantially the same for each part or strip 31.

In assembling a tray with the adjustable hanger, the parts are adjusted to proper length and interlocked by passing a tongue 37 of one part 31 through a slot 36 of a complementary strip 31 (Fig. 5). One flange 32 of the adjusted hanger is then placed in the flange receiving channel 14 and the opposite flange is snapped under the terminal edge 15 of the curl 13 at a diametrically opposite part of the tray. The bend 35 in each part 31 of the hanger substantially coincides with a respective juncture 24 between a tray panel 11 and a side wall 12 thereof, and each angular or offset section 33 of the hanger forms an obtuse angle or an angle substantially greater than 90 degrees with its main body portion. The hanger lies substantially flush against the back of panel 11, and, as in the previously mentioned preferred form of the invention, the bow or arch of the main body portion providing for slight hanger elongation, tending to urge the bridging section and their flanges rearwardly slightly so that the flanges 32 of the hanger abut against the terminal edge 15 of the curl 13 of the tray. In the adjustable structure there is no need to distinguish between a top and bottom end for the hanger, since the parts are so similar that they can be used interchangeably as either top or bottom.

Although a slot and tongue connection is shown to adjust the length of and interlock the two parts of the adjustable hanger, it is to be understood that any other means of adjusting the length may be used, such, for example, as a slot and screw, a sleeve that slides over the periphery of the parts, or any other well known means of accomplishing such a result.

For economy in manufacture, it is preferable to have each part 31 of similar or identical construction. It is also possible to make an adjustable tray hanger in which the upper part has a structure similar to the top half of the hanger of Fig. 1 and the bottom the same as that shown in Fig. 4.

Similarly, the one-piece hanger in Fig. 1 can readily be modified by having each angle of bend substantially equal, and striking a tab or lug from the top offset part, like that shown at 39 in Figs. 4 and 5.

After either the one-piece hanger or the adjustable multi-part hanger is assembled with a tray, the hanger may be manually shifted or slid along the flange receiving channel into a tray balancing position (Fig. 3) at which time the assembly is ready for suspending from a hook or nail. The construction and assembly thus described has the advantage of providing an effective hanger device which is entirely hidden from

view when the tray is hung from a support in ultimate display position.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction, and arrangement of the parts, without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the construction hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A hanging device for a tray having a countersunk panel surrounded by a border wall terminating in a peripheral projection, comprising a flat strip of resilient material having a normally bowed central portion for application in substantially flat distorted condition against the back of the panel of said tray to thereby exert spring tension against the tray, an offset section of said strip at each end of said central portion being disposed at an angle thereto in the direction of the bow of said central portion for bridging the distance between the back of the panel and the peripheral projection along opposing edges of said tray, said offset sections each forming an obtuse angle with said central portion, an outwardly extending flange on the outer end of each said offset strip sections, said flanges being engageable beneath the peripheral projection along said opposing edges of said tray, and perforate means adjacent one end of said central strip portion for suspending an assembled tray and hanging device from a nail or the like.

2. A hanging device for a tray having a countersunk panel surrounded by a border wall terminating in a peripheral projection, comprising a composite multiple part flat strip of resilient material having a normally bowed central portion for application in substantially flat distorted condition against the back of the panel of said tray to thereby exert spring tension against the tray, an offset section of said composite strip at each end of said central portion being disposed at an angle thereto in the direction of the bow of said central portion for bridging the distance between the back of the panel and the peripheral projection along opposing edges of said tray, each of said offset sections terminating at its outer end in an outwardly and angularly projecting flange for engagement beneath the peripheral projection along said opposing edges of said tray, means for adjusting the length of said strip to compensate for like trays of varying sizes, and means adjacent an end of said central portion for suspending an assembled tray and hanging device from a nail or the like.

3. A hanging device for a tray having a countersunk panel surrounded by a border wall terminating in a peripheral curl, comprising a flat strip of resilient metal having a normally bowed central portion for application in substantially flat spring tension exerting condition against the back of the panel of said tray, an offset section of said strip at each end of said normally bowed central portion being disposed at an angle thereto in the direction of the bow in said central portion, one of said offset sections forming an obtuse angle with said central portion of greater degree than a corresponding angularity formed by the other of said offset sections with said central portion, an outwardly extending flange on the outer end of each of said offset strip sections, said flanges being engageable beneath the peripheral curl along said opposing edges of said tray, and perforate means in said central strip portion adjacent one of said offset strip sections for suspending an assembled tray and hanging device from a nail or the like.

4. The combination of a tray having a flat countersunk central panel surrounded by an upstanding wall terminating in an open inwardly extending peripheral edge curl and a hanging device comprising a removable normally bowed flat strip of resilient material having its central portion lying substantially flat and exerting spring tension against the back of said tray panel, an offset strip portion at each end of its said central portion being disposed at an angle thereto for bridging the space between the back of the tray panel and said edge curl at opposite marginal portions of said tray, each of said offset strip portions terminating in an oppositely and angularly extending flange frictionally and resiliently engaging against the terminal edge of said peripheral curl at said opposite marginal tray portions, and means on an end of said central strip portion for engaging a supporting means to suspend said tray and hanging device as a unit.

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