May 8, 1934. E. G. DE FOE ET AL 1,958,266

CURB SERVICE TRAY

Original Filed June 13, 1932 2 Sheets-Sheet 1

Fig. 1.

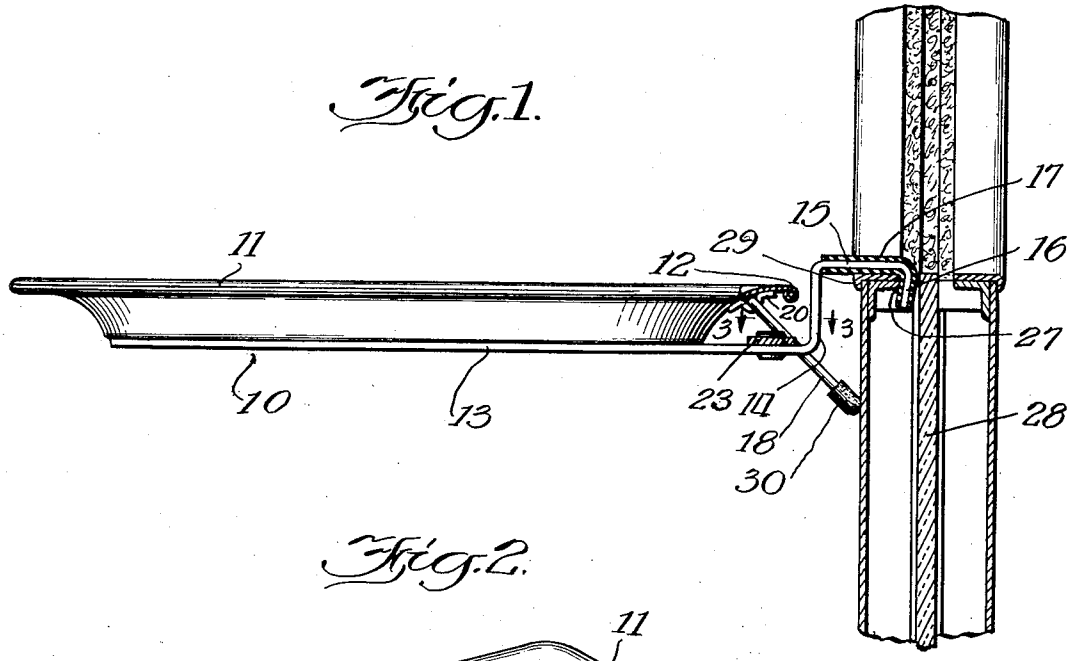
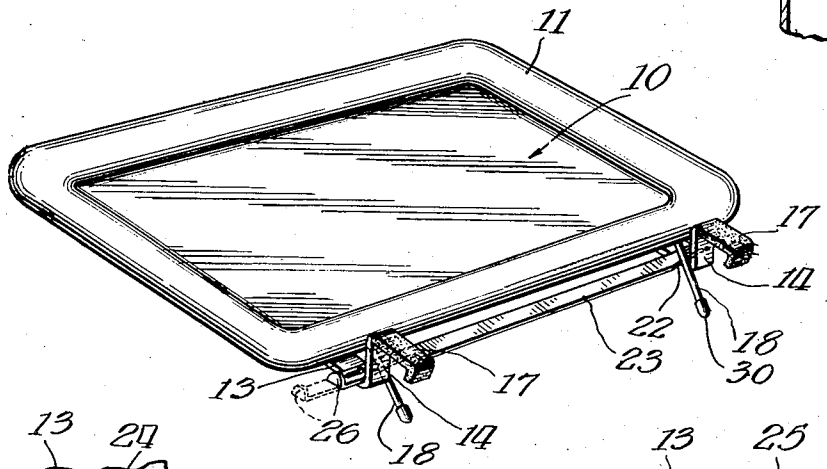


Fig. 2.



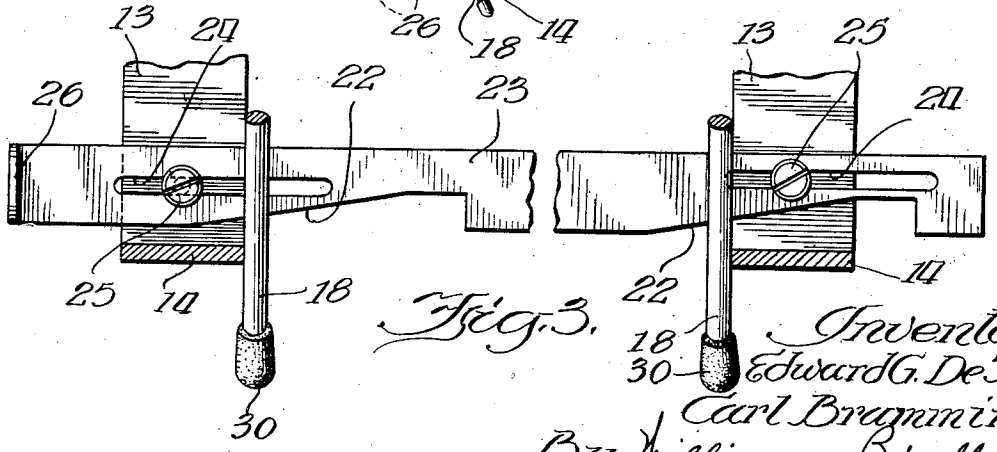


Fig. 3.

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Fig. 4.

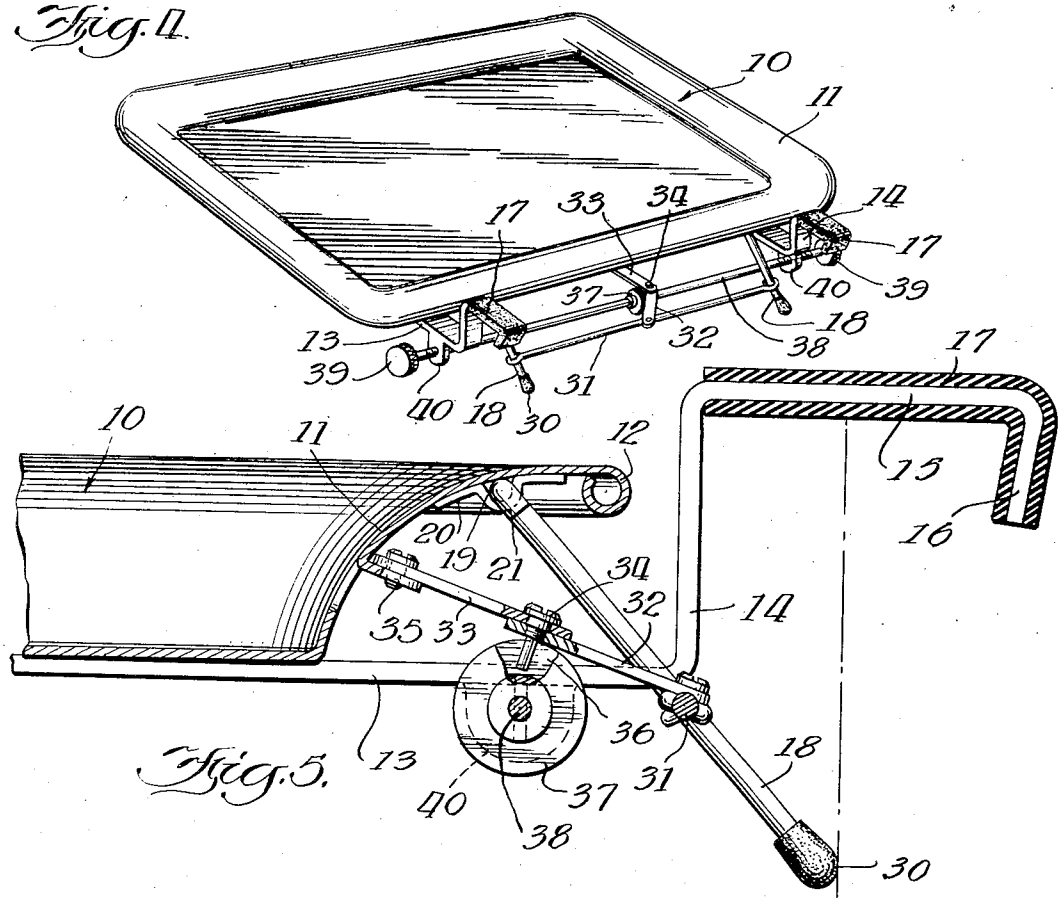


Fig. 5.

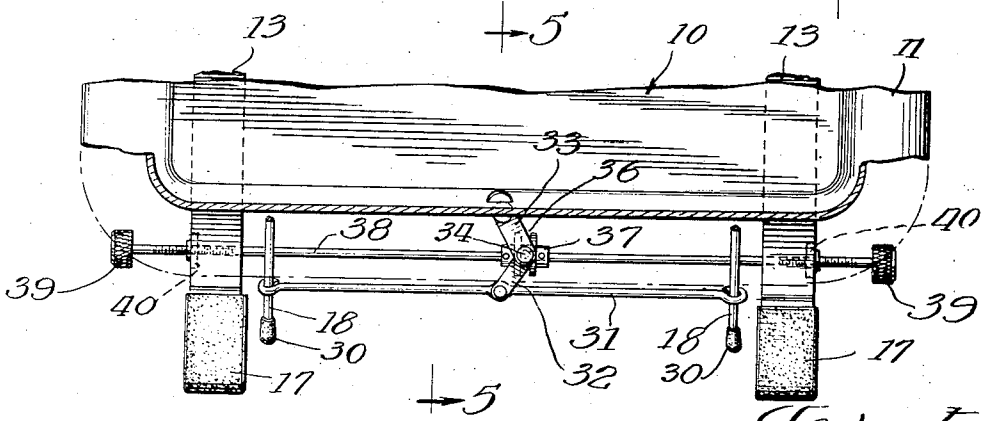


Fig. 6.

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Patented May 8, 1934 1,958,266

UNITED STATES PATENT OFFICE

1,958,266

CURB SERVICE TRAY

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Application June 13, 1932, Serial No. 616,773
Renewed September 30, 1933

13 Claims. (Cl. 45—51)

This invention relates to improved curb service trays, that is, trays particularly adapted for use in serving refreshments to the occupants of vehicles, primarily automobiles.

This invention relates to trays of the general type described and claimed in our copending application, Serial No. 588,074, filed January 22, 1932.

One of the objects of the invention is to provide an improved tray of this type which is inexpensive to manufacture and which is readily installed in the conventional automobile door in convenient relation to the occupants.

Another object of the invention is to provide improved and simple means whereby the level of the tray, when so mounted, can readily be adjusted.

Other objects, advantages and capabilities of the invention will hereinafter appear from the following description of preferred embodiments thereof, taken in conjunction with the accompanying drawings, in which

Figure 1 is an end elevation of the tray embodying my invention, mounted upon a typical automobile door, the latter being shown in section;

Fig. 2 is a perspective view of the tray in unmounted condition;

Fig. 3 is a sectional detail taken on the line 3—3 of Fig. 1, showing on a larger scale the cam mechanism for adjusting the struts;

Fig. 4 is a perspective view showing a further embodiment of the invention;

Fig. 5 is a transverse sectional view therethrough, taken on the line 5—5 of Fig. 6; and

Fig. 6 is a fragmentary plan, partly in section, showing the relation of parts adjacent the supporting side.

Referring to the drawings and particularly to Figs. 1, 2 and 3, the tray, which is designated by the reference numeral 10, is of conventional form and may suitably comprise a flat sheet of metal provided around its perimeter with a molded rim 11, the edge of which is formed into a bead 12.

To the under side of the tray 10 are secured two bars or strips 13, for example, by welding. These bars extend transversely across the tray and project therebeyond on the side along which the tray is to be supported. The projecting portions of the bars are bent upwardly beyond the tray to provide vertical portions 14 which are bent outwardly away from the tray to provide horizontal portions 15.

The extreme ends of the strips 13 are turned downwardly so as to provide hooked ends 16. The ends 16 are preferably inclined towards the tray slightly, as will readily be seen in Fig. 1. The portions 15 and 16 of the strip 13 are preferably provided with a coating 17 of rubber or other suitable material to prevent marring the surfaces of the door with which they come in contact.

On the under side of the molded edge adjacent the hooks 16 are pivotally mounted on a longitudinal axis two struts 18 which preferably consist of rods, the ends of which are bent at right angles and are entered into openings 19 provided by straps 20 riveted or otherwise secured to the under side of the molded edge 11, as shown in Fig. 1. The struts 18 may be secured in the openings provided in these straps by turning their extreme ends outwardly again substantially parallel to the main length of the strut 18, as shown in Fig. 5, the outturned edge being designated 21. The free ends of the struts 18 are provided with ferrules 30 of rubber or other soft material to prevent them from marring the surfaces with which they come into contact.

The struts 18 are preferably located adjacent to and immediately on the inside of the straps 13, although they may be placed in different locations. It must be understood that, while two struts 18 are shown, it is not intended to limit the invention in this respect since a greater number may be employed and, if desired, a single strut may be used.

The struts 18 normally extend downwardly and outwardly and rest upon cam surfaces 22 provided on a cam bar 23. This cam bar 23 is mounted for free longitudinal movement with respect to the tray and is preferably supported by the projecting portions of the bars 13 below the molded edge 11 so as to be normally obscured from the view of the occupants of the automobile. The bar 23 is provided with longitudinal slots 24 through which extend large headed screws 25 which primarily secure the bar 23 to the bars 13 while permitting the longitudinal movement referred to.

It will readily be understood from Fig. 3, that if the bar 23 is moved to the right, the struts 18 are moved outwardly, whereas, if the bar 23 is moved to the left, the struts 18 move inwardly with respect to the tray 10. The bar 23 is provided with an upturned end which may be engaged by the thumb of the operator in order to adjust the level of the tray when mounted.

A typical manner of using the tray is as follows. The bar 23 is moved to the left, as viewed in Figs. 2 and 3, which permits the struts 18 to move inwardly. The tray is passed into the

automobile through the open window shown in Fig. 1, and the hooked ends 16 are passed downwardly into the opening 27 which occurs in cars of conventional construction between the glass pane 28 and the trim 29 at the lower side of the window aperture. The tray is held by hand in level position, and the bar 23 is moved to the right as viewed in Figs. 2 and 3, by means of thumb-piece 26 so as to move the struts 18 outwardly until they contact with the inside of the door, as shown in Fig. 1. The tray will now be held in horizontal position for as long as desired, and may be readily removed by merely lifting the hooked ends out of the openings 27.

In the modification shown in Figs. 4, 5 and 6, similar parts are designated by the same reference numerals. In this modification the struts 18 are actuated by a rod 31, the ends of which are bent to provide loops which are adapted to slide over the struts 18. At its center the rod 31 is pivotally connected to a short link 32, which link in turn is pivotally connected to a link 33 by means of a pin 34, the end of which projects downwardly beyond said links.

The link 33 is pivotally mounted on a lug 35 which is struck outwardly from the molded rim 11 of the tray as is best shown in Fig. 5. The projecting end of the pin 34 extends into the groove 36 of a wheel 37 which is rigidly mounted on a rod 38. The rod 38 extends longitudinally of the tray below the molded rim 11 adjacent the projecting ends of the bars 13.

At its ends the rod 38 carries knurled buttons 39 whereby it may be rotated. Immediately adjacent its ends the rod 38 is threaded, the threaded portions being mounted in tapped openings in lugs 40 which are welded or otherwise secured to the projecting portions of the bars 13.

It will readily be seen that if the buttons 39 are rotated, the rod 38 is moved longitudinally with respect to the tray, and the engagement of the pin 34 with the grooved wheel 37 causes the links 32 and 33 to be actuated so as to force the rod 31 outwardly or pull it inwardly, depending upon the direction of rotation applied to the buttons 39. This movement of the rod 31 causes it to slide along the rods 18 and change their angular relation with respect to the tray. It will be obvious that this embodiment is employed in substantially the same manner as the first embodiment, that is, the hooked ends 16 may be placed in the opening 27 and the buttons 39 adjusted so as to move the struts 18 into the appropriate position for maintaining the tray in desired horizontal position.

While the tray above described is particularly intended for mounting in the slot between the window pane 28 and the molding 29, it is not intended to be limited thereto, since the hooked ends 16 may be adapted to engage any desired portion of the automobile, and indeed, any desired horizontal element in any place.

Although the invention has been described in connection with the specific details of preferred embodiments thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

Having thus described our invention, what we claim is new and desire to secure by Letters Patent of the United States is:

1. In combination, a tray, hooks rigidly secured thereto and projecting beyond one side thereof and adapted to engage a suitable support, strut means pivotally mounted on said tray and adapted to extend downwardly and outwardly towards said hooks and below the hooks, and cam means adapted to be moved manually so as to cause the strut means to project outwardly.

2. In combination, a tray, hook elements rigidly mounted thereon adjacent one side, a strut pivotally mounted on the underside of said tray and adapted to project downwardly and outwardly toward said side, and longitudinally movable cam means operable manually to force said strut outwardly to an adjusted extent.

3. In combination, a tray, hook elements rigidly mounted thereon adjacent one side, a strut pivotally mounted on the underside of said tray and adapted to project downwardly and outwardly toward said side, and means adapted for rotation and axial movement to force said strut outwardly to an adjusted extent.

4. In combination, a tray, hooks rigidly secured thereto and projecting beyond one side thereof and adapted to engage a suitable support, strut means pivotally mounted on said tray on axes parallel to the line joining said hooks and adapted to extend downwardly and outwardly towards said hooks and below the hooks, and cam means adapted to be moved manually so as to cause the strut means to project outwardly.

5. In combination, a tray, hook elements rigidly mounted thereon adjacent one side, a strut pivotally mounted on the underside of said tray and adapted to project downwardly and outwardly toward said side, and a cam bar mounted on said tray for longitudinal movement having a sloping cam surface adapted to engage said strut to force same outwardly to an adjusted extent when the bar is moved manually.

6. In combination, a tray, two straps rigidly secured to the underside thereof and extending beyond said tray, their projecting extremities being provided with downwardly directed ends, two struts pivotally mounted adjacent the edge of the tray on axes parallel to the line joining said ends and adapted to project downwardly and outwardly towards said side, and a cam bar mounted on said straps for longitudinal movement and provided with cam surfaces adapted to engage said struts to force same outwardly to an adjusted extent when the bar is moved manually.

7. In combination, a tray, hook elements rigidly mounted thereon adjacent one side, strut means pivotally mounted on the underside of said tray and adapted to project downwardly and outwardly towards said side, means rotatably mounted on said tray, and means operated by said rotation engaging said strut means, whereby the same may be projected outwardly by said rotation.

8. In combination, a tray, hook elements rigidly mounted thereon adjacent one side, strut means pivotally mounted on the underside of said tray and adapted to project downwardly and outwardly towards said side, a rod rotatably mounted on said tray and adapted to be moved longitudinally by said rotation, and a linkage secured to said strut means and said tray adapted to be actuated by said rod so as to adjust the position of said strut means.

9. In combination, a tray, a pair of hook elements rigidly mounted thereon adjacent one side, a pair of struts pivotally mounted on the underside of said tray on axes parallel to the line joining said hook elements and adapted to project downwardly and outwardly towards said side, a rod located in the longitudinal direction provided with a screw-threaded mounting on said tray, a

rod slidably mounted on said struts and extending therebetween, a link pivoted to the last said rod, another link pivoted to the first said link and pivoted to the tray, and a grooved wheel rigidly mounted on the first said rod and adapted to engage the common pivot of said links, whereby the struts may be adjusted in position by rotation of the first said rod.

10. In combination, a tray, hooks rigidly mounted thereon, strut means pivotally mounted on said tray adapted to project downwardly and outwardly towards said hooks, and actuating means mounted on the tray inwardly of said strut means, adapted to engage the inner under sides of said strut means and adapted to be moved progressively outwardly so as to force said strut means outwardly to a desired position of adjustment.

11. In combination, a tray, hooks rigidly mounted thereon, strut means pivotally mounted on said tray adapted to project downwardly and outwardly towards said hooks, and actuating means mounted on the tray inwardly of said strut means, adapted to engage the inner under sides of said strut means and adapted to be moved progressively outwardly so as to force said strut means outwardly to a desired position of adjustment, said actuating means including an element adapted to move parallel to the line joining said hooks.

12. In combination, a tray, a pair of straps secured to the under side of said tray and projecting beyond an edge thereof, the projecting ends being formed into hooks, struts pivotally mounted on the under side of the tray so as to project downwardly and outwardly towards said hooks, and actuating means mounted on said straps between the tray and their hooked ends and inwardly of said struts, and adapted to force said struts outwardly to a desired extent.

13. In combination, a tray, a pair of straps secured to the under side of said tray and projecting beyond an edge thereof, the projecting ends being formed into hooks, struts pivotally mounted on the under side of the tray so as to project downwardly and outwardly towards said hooks, and actuating means mounted on said straps between the tray and their hooked ends and inwardly of said struts, and adapted to force said struts outwardly to a desired extent, said actuating means including an element adapted to move parallel to the line joining said hooks.

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