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W. L. MCGINLEY

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SERVICE TRAY FOR AUTOMOBILES

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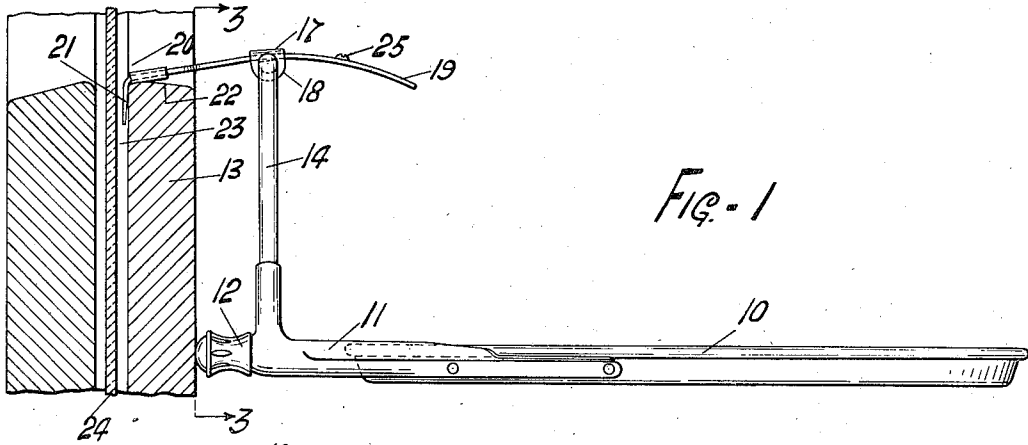


Fig. 1

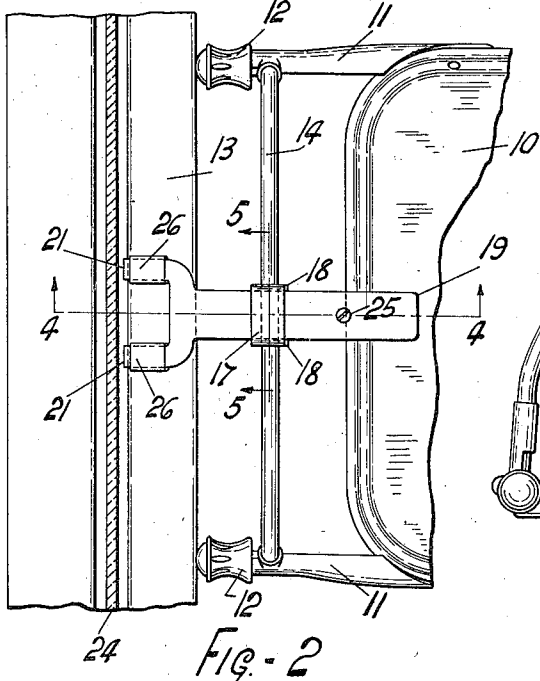


Fig. 2

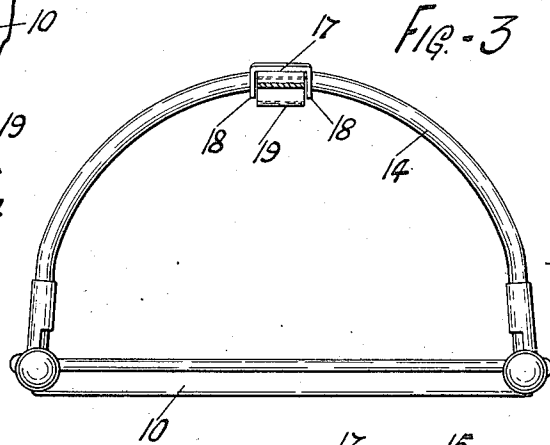


Fig. 3

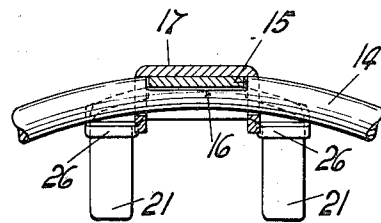


Fig. 4

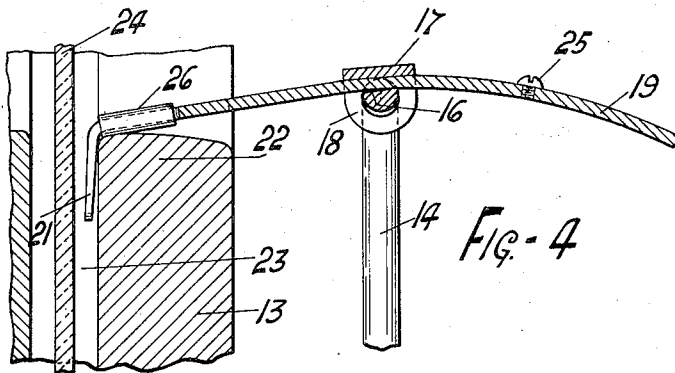


Fig. 5

INVENTOR
WILLIAM L. MCGINLEY

BY *Albert L. Ely*
ATTORNEY

UNITED STATES PATENT OFFICE

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SERVICE TRAY FOR AUTOMOBILES

William L. McGinley, Dallas, Tex., assignor to
Tray Service Company, Dallas, Tex., a corporation
of Texas

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10 Claims. (Cl. 311—22)

This invention relates to service trays for automobiles and particularly to the "inside" type of tray, more clearly shown in my copending application Serial No. 690,610, filed September 22, 1933, the present invention residing in improvements therein.

With service trays of this type, it is important that when positioned inside of the vehicle body and preferably supported upon the window frame, the tray is securely held against accidental disengagement and at the same time in a substantially horizontal position so that articles placed thereon will remain in proper position, but at the same time the tray should be readily removable from its support.

Various ways of supporting trays have been devised, but in most instances a manual operation of some sort of latching mechanism is required which takes time to operate and at the same time is not of utmost efficiency. The type of tray shown in my aforementioned application is much more efficient wherein the weight of the tray is relied upon to automatically secure the tray in proper position. It is of the latter type to which the present invention is applicable.

It is therefore an object of the present invention to provide a latching means for the tray wherein the weight of the tray causes the latching means to securely maintain the tray in proper position and the greater the weight upon the tray, the more effective is the latching means, but at the same time the latching means is ineffective the movement the weight of the tray is relieved as by the operator when the tray is to be removed.

A further object of the invention is to provide a service tray of the type referred to which is simple in construction, efficient in operation and inexpensive to manufacture.

With the objects above indicated and other objects hereinafter explained in view, my invention consists in the construction and combination of elements hereinafter described and claimed.

Referring to the drawing,

Figure 1 is a side elevational view of a tray embodying the present invention shown mounted on a supporting structure;

Figure 2 is a fragmentary top plan view of the tray shown in Figure 1;

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 1 showing more clearly the hanger;

Figure 4 is a longitudinal sectional view taken

on line 4—4 of Figure 2 but on an enlarged scale; and

Figure 5 is a detail sectional view taken on line 5—5 of Figure 2 and on an enlarged scale. In the drawing, the numeral 10 designates a suitable tray which may be made of any desired material, although in practice aluminum has been found most desirable because of its lightness and resistance to strains. At one end of the tray are spaced brackets 11, 11 extending endwise thereof and having spaced abutments 12, 12 thereon preferably covered with rubber or other soft material for engaging against the inside wall 13 of an automobile beneath a window or beneath an edge of a wall of the automobile.

A hanger 14, preferably in the form of an inverted U-shaped metallic rod, has its lower opposite ends connected to the adjacent brackets 11, 11 and extends upwardly at substantially right angles thereto as more clearly shown in Figures 3 and 1.

Substantially midway of the hanger 14, the upper surface thereof is provided with a recess 15 of suitable length. The bottom of the recess has a flat surface 16 extending preferably at an inclination transversely as more clearly shown in Figure 4. A bridge 17 of a length slightly greater than the length of the recess 15 has depending integral ears or flanges 18 positioned in parallelism and having aligned openings through which said hanger extends. The bridge 17 is normally disposed above said recess 15 and is adapted to have oscillatory movement about the axis of the hanger rod for a purpose to be later described.

A member 19 has a hooked end 20, in this instance comprising spaced, depending, integral hooks 21, 21 for engaging over a window sill 22 and preferably in the window groove 23 of an automobile between the usual glass panel 24 and the inner sill 22 of the window whereby the glass panel 24 may be raised into closed or partly closed position with the tray supported in the automobile as shown. Rubber sleeves 25, 25 are positioned upon the hooked end 20 to contact with the sill and prevent injury thereto. These also tend to frictionally grip the sill to prevent slippage between the hooked end and sill. The opposite end of said member 19 is of a width and thickness to permit its insertion through the bridge 17 and to be slidably disposed within the groove 15 as clearly shown in Figure 5, and at the same time prevented from moving longitudinally of the hanger 14 by its engagement with the opposite ends of the recess. This member is of sufficient length to adapt the tray for mounting upon automobiles of

various makes wherein differences of construction are found and may also be used as a hand grip member by which the tray may be carried from one place to another, especially when the tray is loaded. This member 19 is preferably made of spring steel so that damage thereto is eliminated in the event the tray should accidentally fall and strike the member. The member is further preferably formed arcuate longitudinally so as to be more efficient in its operation and this condition is maintained by reason of the material used inasmuch as the spring steel will resist any tendency toward bending out of shape. A machine screw 25 is secured in a screwthreaded opening adjacent the end of the member 19 to prevent accidental disengagement from the hanger, but any other means may be employed to obtain the same result.

It is to be observed that the tray hanger, the abutments, etc., are all above the bottom of the tray so as to permit rigidly supporting the tray on a flat surface such as that of a counter without tilting or rocking while being loaded.

In use, the tray is first loaded with the desired refreshments to be served, being usually placed on a counter for this purpose, and it is then carried out to the automobile to be served, preferably by grasping the member 19 with one hand. The other hand of the service attendant may, if desired, grasp a portion of the tray to steady the same. Inasmuch as the member 19 is disposed centrally of the hanger the tray is well-balanced.

Upon reaching the automobile, the attendant reaches through the window or over the edge on which the tray is to be supported, moving the tray through the window or over the edge and downwardly inside thereof and engages the hooks 21, 21 in the groove 23 or over the edge of the sill 22. With his hand holding the end of the tray, he then shifts the tray as required until abutments 12, 12 engage the inside wall of the automobile as shown. Thereupon he merely releases the tray and the weight thereof causes the bridge 17 to slightly oscillate about the axis of the hanger rod toward the higher edge of the bottom surface, thereby securely gripping the slidable member 19 in its proper position in which the tray 10 is in substantially a horizontal position convenient to the passenger. It will be noted that any increased load upon the tray does not cause the latching or gripping means to fail, but rather results in an increased grip being effected as the tendency is to cause the higher edge of the bottom surface of the recess to bite or grip the slidable member and thus prevent any tendency of the latter to slide within the bridge.

As will be apparent after the tray is in place, the glass panel 24 may be raised to closed or partly closed position for the comfort of the occupants. The brackets 11, 11 and abutments 12, 12 are preferably arranged so as to space the end of the tray sufficiently from the inside wall of the automobile beneath the window as not to interfere with the operation of the usual window operating handle (not shown).

To remove the tray, it is merely necessary for the service attendant to reach through the window and lift the tray upwardly, thus relieving the weight thereof and disengaging the hooked ends 21, 21 from within the window groove 23 and engagement with the sill 22. The member 19 is then free to move within the bridge for subsequent attachment to another automobile in the manner heretofore described.

It will also be understood that the hooking

means may be engaged over an automobile window sill on the door or edge of a wall of an open car without being engaged in a window groove to support the tray in a position inside the automobile.

While I have described the preferred embodiments of the invention, it is to be understood that changes or modifications may be resorted to without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:

1. A service tray of the character described comprising a hanger, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported on the upper portion of said hanger and having a depending hook means at its outer end, a member movably connected to said hanger and adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said movable member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

2. A service tray of the character described comprising a hanger, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported on the upper portion of said hanger and having a depending hook means at its outer end, a member pivotally connected to said hanger and adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said pivoted member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

3. A service tray of the character described comprising a hanger, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported on the upper portion of said hanger and having a depending hook means at its outer end, a retaining member extending across said slidable member upon the opposite side from said hanger and pivotally connected to the latter, said retaining member being adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said retaining member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

4. A service tray of the character described comprising a hanger, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported on the upper portion of said hanger and having a depending hook means at its outer end, a member bridging said slidable member and having opposite end portions pivotally connected to said hanger, said member being adapted for engagement with said slidable member for securing the latter in relatively adjustable positions,

and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said bridging member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

5. A service tray of the character described comprising a hanger having a recess formed therein adjacent its upper central portion, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported in the recess of said hanger and having a depending hook means at its outer end, a member movably connected to said hanger and adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said movable member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

6. A service tray of the character described comprising a hanger having a recess formed therein adjacent its upper central portion, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported in the recess of said hanger and having a depending hook means at its outer end, a member bridging said slidable member and having opposite end portions pivotally connected to said hanger, said member being adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said bridging member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

7. A service tray of the character described comprising a hanger having a recess formed therein adjacent its upper central portion, the bottom surface of said recess having a longitudinally extending rib, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported in the recess of said hanger and engaging said rib, said member having a depending hook means at its outer end, a member movably connected to said hanger and adapted for engagement with the opposite side of said slidable member, and a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said movable member and said rib to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure.

8. A service tray of the character described

comprising an inverted U-shaped hanger rod having a recess formed at its upper central portion with the bottom of the recess extending at an inclination transversely of the axis of said hanger rod, abutting means connected to the lower ends of said hanger rod and extending outwardly therefrom, an arcuate member slidably supported on said hanger rod within said recess and extending transversely of said rod, the outer end of said slidable member having a depending hooked end portion, a bridging member extending above said slidable member and having depending extensions pivotally connected to said hanger rod, said bridging member being adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, the weight of said tray causing said slidable member to be rigidly gripped between said bridging member and the high edge of the bottom of said recess on said hanger rod when said tray is supported from its supporting structure.

9. A service tray of the character described comprising an inverted U-shaped hanger rod having a recess formed at its upper central portion with the bottom of the recess extending at an inclination transversely of the axis of said hanger rod, abutting means connected to the lower ends of said hanger rod and extending outwardly therefrom, an arcuate member slidably supported on said hanger rod within said recess and extending transversely of said rod, the outer end of said slidable member having a depending hooked end portion, a rubber sleeve carried by the outer end portion of said slidable member adjacent the hooked end portion thereof, a bridging member extending above said slidable member and having depending extensions pivotally connected to said hanger rod, said bridging member being adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, the weight of said tray causing said slidable member to be rigidly gripped between said bridging member and the high edges of the bottom of said recess on said hanger rod when said tray is supported from its supporting structure.

10. A service tray of the character described comprising a hanger, abutting means secured to the lower portion of said hanger and extending outwardly therefrom, a member slidably supported on the upper portion of said hanger and having a depending hook means at its outer end, a member movably connected to said hanger and adapted for engagement with said slidable member for securing the latter in relatively adjustable positions, a tray secured to the lower portion of said hanger and extending in the opposite direction from said abutting means, the weight of said tray causing said slidable member to be securely gripped between said movable member and said hanger to thereby secure said slidable member in the desired position when said tray is supported from its supporting structure, and means on the inner end of said slidable member for preventing accidental disengagement of the latter.

WILLIAM L. MCGINLEY.