

Nov. 3, 1953

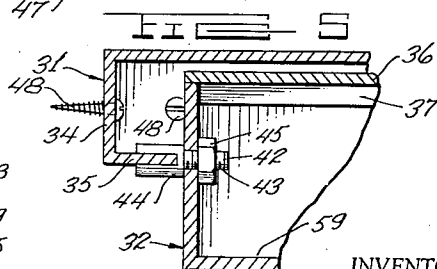
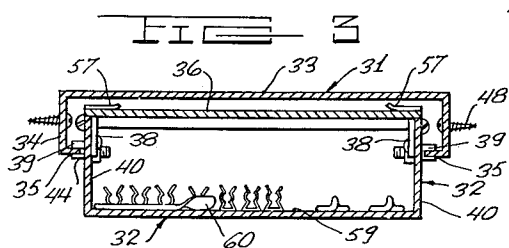
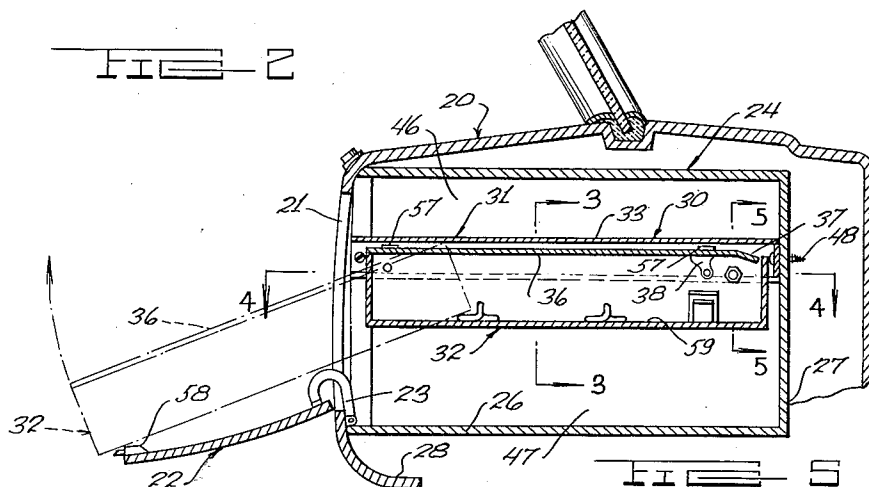
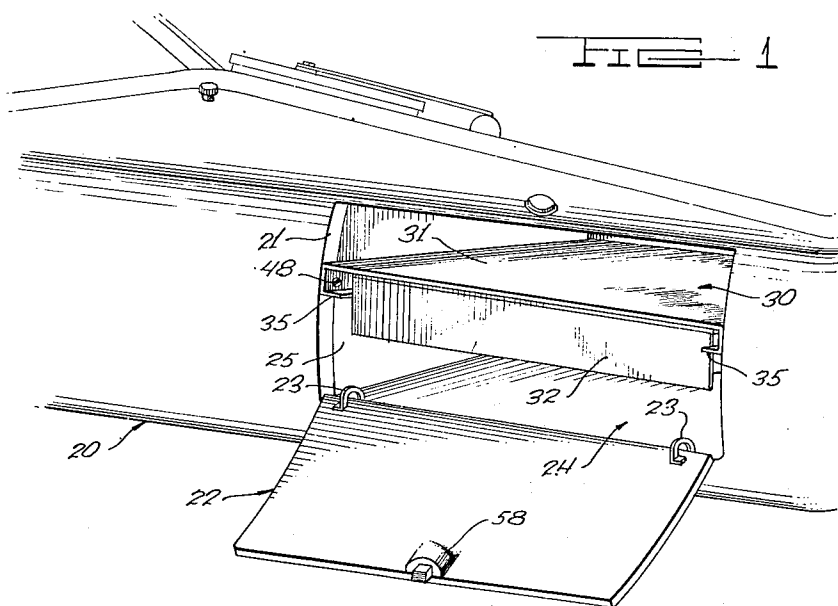
E. V. GILCHRIST

2,657,967

UTILITY TRAY

Filed Feb. 21, 1950

3 Sheets-Sheet 1



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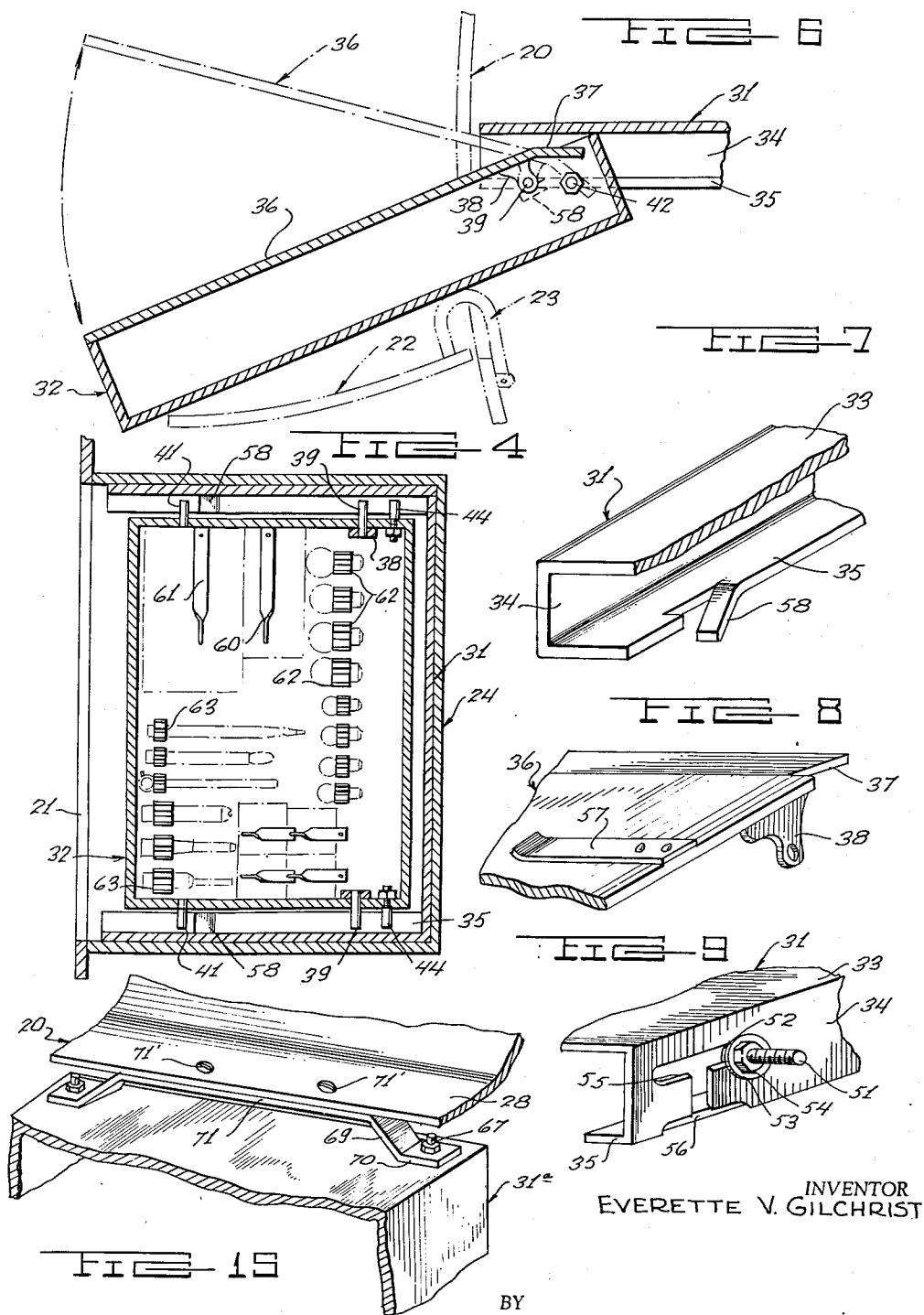
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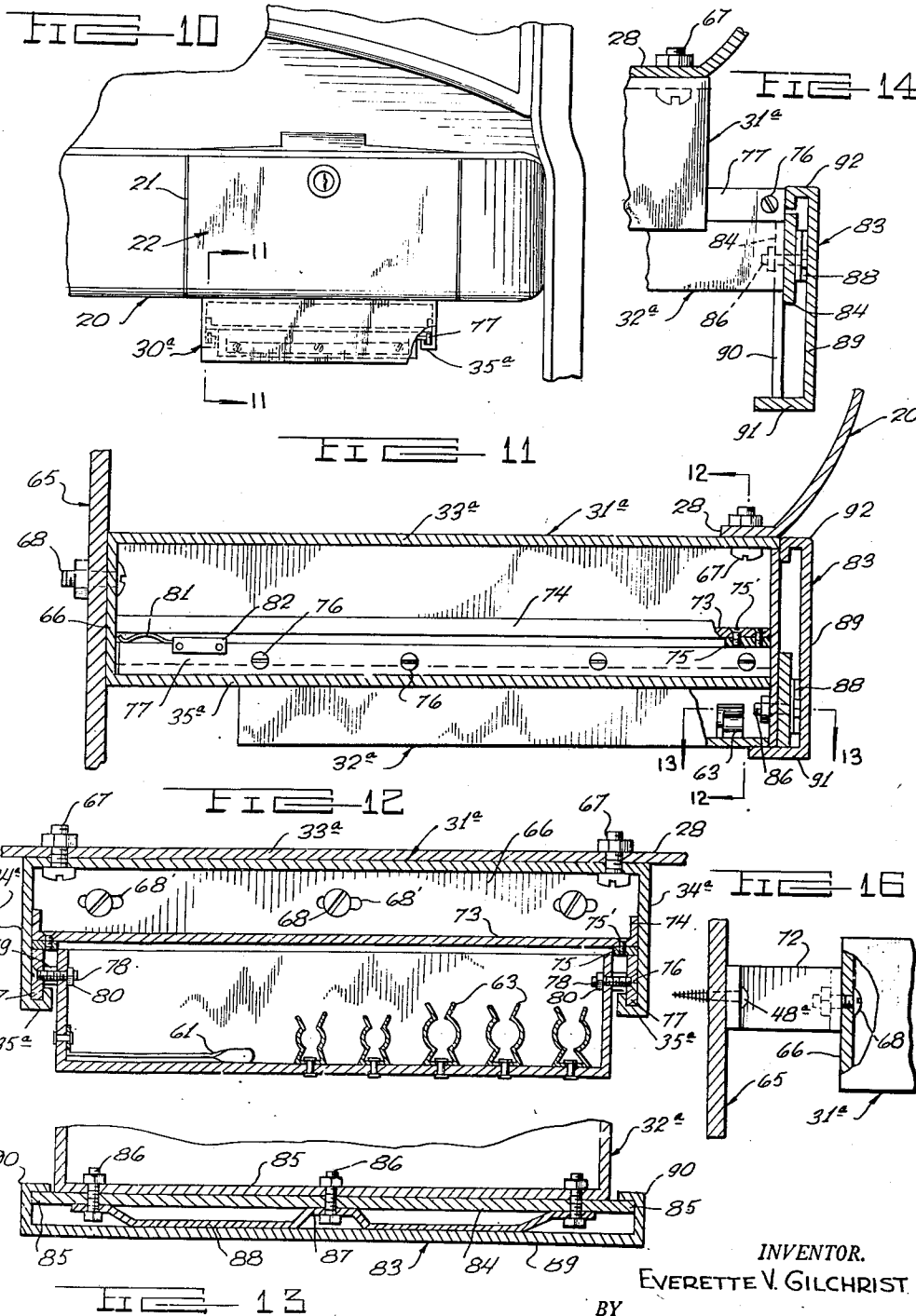
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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UTILITY TRAY

Everette V. Gilchrist, Jackson Heights, N. Y.

Application February 21, 1950, Serial No. 145,400

1 Claim. (Cl. 312-246)

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This invention relates to improvements in utility trays for installation on automobile instrument panels and the like, the primary object of the invention being to provide more practical and efficient devices of this character which can be easily installed and removed, and which can be made in attractive and serviceable forms at relatively low cost.

Another important object of the invention is to provide tray devices of the character indicated above which are especially adapted for installation in the glove compartment or boxes of instrument panels having movable elements to serve as containers for small articles when positioned within the glove boxes, and as map supports, writing desks, and the like when withdrawn outwardly from such position.

Another important object of the invention is to provide tray devices of the above indicated character which are especially adapted for installation beneath instrument panels or the like and have relatively rigidly supported movable elements which in the out-drawn position can support eating utensils such as bottles, cups, plates and the like.

Other important objects and advantageous features of the invention will be apparent from the following description and appended drawings, wherein, merely for purposes of illustration herein, specific embodiments of the invention are set forth in detail.

In the drawings:

Figure 1 is a perspective view of the rear of an automobile instrument panel having a glove compartment or box, showing the door thereof open and a tray device embodying the invention installed therein.

Figure 2 is a transverse vertical section taken through Figure 1, showing the tray component of the tray device in pushed-in position in full lines, and in pulled-out position in dotted lines.

Figure 3 is a transverse vertical section taken on the line 3-3 of Figure 2.

Figure 4 is an enlarged horizontal section taken on the line 4-4 of Figure 2.

Figure 5 is an enlarged fragmentary transverse vertical section taken on the line 5-5 of Figure 2.

Figure 6 is an enlarged transverse vertical section showing the device open.

Figure 7 is a further enlarged fragmentary perspective detail of a stop lug on a runner channel at one side of the tray device housing.

Figure 8 is a similarly enlarged fragmentary perspective view showing the paper or map holding spring of the cover of the tray compartment.

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Figure 9 is a similarly enlarged fragmentary perspective view showing an optional arrangement for adjustably mounting the tray device housing in the glove compartment.

Figure 10 is a rear elevation of an instrument panel, showing another embodiment of the invention mounted thereunder.

Figure 11 is an enlarged transverse vertical section taken through Figure 10 along the line 11-11, showing the tray component in pushed-in position.

Figure 12 is a transverse vertical section taken on the line 12-12 of Figure 11.

Figure 13 is a fragmentary horizontal section taken on the line 13-13 of Figure 11.

Figure 14 is a fragmentary transverse vertical section showing the tray component pulled-out part way.

Figure 15 is a fragmentary perspective view showing a mounting bracket; and,

Figure 16 is an enlarged fragmentary sectional detail showing an optional mounting bracket.

Referring in detail to the drawings, wherein like or similar numerals designate like or similar parts throughout the several views, and first to Figures 1 to 9 thereof, showing the type of tray device designed for glove compartment installation, the numeral 20 generally designates a conventional form of automobile instrument panel having an opening 21 normally closed by a door 22 mounted at its lower edge on hinge brackets 23, the compartment or box 24 under and behind the instrument panel being composed of sidewalls 25, a bottom wall 26, and a rear wall 27, the box 24 being spaced upwardly from the horizontal flange or ledge 28 at the lower edge of the instrument panel.

The tray device generally designated 30 comprises a housing 31 and a tray component 32, the housing 31 comprising a horizontal plate 33 the shape and size of the interior of the glove compartment 24 having a depending L-shaped portion extending across its rear edge and along the opposite sides thereof and defined by a vertical flange 34 and a horizontal flange 35. These flanges with the plate 33 define runner channels along opposite sides of the housing 31 and the horizontal flange 35 at the rear of the housing 31 acts as a tray stop.

The tray 32 comprises an open top rectangular pan somewhat shorter than the depth of the housing 31, as shown in Figure 2, and slightly narrower than the width between the horizontal flanges 35 of the housing 31. A cover 36 in the form of a plain plate has its rear edge slightly

down-turned at 37, as shown in Figure 2 and positioned close to the rear wall of the tray 32, for clearance purposes, and has depending ears 38 on opposite side edges hinged on pins 39 which traverse the tray sidewalls 40 near their rear ends, the forward edge of the cover plate 36 being arranged to rest upon the upper edge of the front of the tray 32 in the closed position of the cover, as shown in Figure 2. The pins 39 project outwardly from the tray sidewalls 40 and rest slidably upon the upper sides of the channel flanges 35. Near the front end of the tray 32 its sidewalls 40 have pins 41 projecting laterally outwardly therefrom like the pins 39 to similarly engage the upper sides of the flanges 35.

Traversing the tray sidewalls 40 between the rear end thereof and the rear pins 39 are bolts 42, which, as shown in Figure 5, comprise threaded shanks 43 passing through the sidewalls with slotted heads 44 abutting the outer sides of the sidewalls and slidably receiving the horizontal channel flanges 35. Nuts 45 are threaded on the inward ends of the bolts 42, to hold the same in place while permitting limited rotation of the bolts in the tray sidewalls.

The housing 31 is horizontally mounted within the glove box or compartment 24 preferably in vertically spaced relation to the top and bottom walls of the compartment, thereby providing upper and lower storage spaces 46 and 47, respectively, above and below the installed tray device 30. The housing 31 can be installed by means of screws 48 projected through the vertical flange 34 and through the side walls 25 and back wall 27 of the glove compartment 24.

An alternative method of installing the housing 31 in the glove compartment 24, shown in Figure 9, involves bolts 51 capable of factory installation in the sidewalls and back wall of the glove compartment, having heads 52, washers 53, and nuts 54, the bolts being arranged to be positioned through T-shaped slots 55 formed in the vertical housing flanges 34 through openings 56 at their lower ends opening through the flanges 35, with the heads 52 and washers 53 against the inner and outer sides of the vertical flanges. The shape of the T-slots provide ample horizontal and vertical adjustment for properly positioning the tray device as when installed by a local accessory dealer.

As shown in Figures 2, 3 and 8, four laterally inwardly elongated leaf springs 57 are secured to the top of the cover plate 36 at the corners thereof near the side edges thereof to serve as a holder for maps or papers placed upon the cover 36. Forward end portions of the horizontal housing flanges 35 have downwardly and inwardly angulated stop lugs or fingers 58 struck therefrom to supportably engage the rearward edge portion of the glove compartment door 22 with the door open and the tray 32 in pulled-out position, as shown in Figure 2. In the pulled-out position the front pins 41 on the forward ends of the tray sidewalls disengage from the housing channel flanges 35 and permit the tray 32 to subside to the declining position shown, in which a map or paper on the cover 36 can be more easily inspected and written on.

The bottom 59 of the tray 32 can have secured thereto, as shown in Figures 2, 3 and 4, various article holding means, such as a map or paper holding spring arms 60 and 61, a row of spare bulb holder clips 62, a row of small tool holding clips 63, and the like whereby such articles are securely stored in a non-rattling manner within

the tray 32. The cover 36 is freely operable, as indicated in Figure 6, in the pulled-out position of the tray 32, to afford access to the articles within the tray. The tray 32 is restored to pushed-in position simply by elevating the same and re-engaging the front pins 41 on the housing flanges 35 and pushing the tray into the glove compartment. Sufficient friction is provided between the housing flanges 35 and the slotted head 44 of the bolts 42 to prevent vagrant forward shifting of the tray 32 from engagement with the flange 35 at the back of the housing 31.

The embodiment of the invention generally designated 30a and shown in Figures 10 to 16, adapted for mounting under the instrument panel 20, comprises a housing 31a, and a tray component 32a which is rigidly and slidably supported in the housing 31a instead of being tiltable downwardly as in the above described embodiment.

The housing 31a comprises a plate 33a of the desired width and preferably of a length to reach from the flange or ledge 28 of the instrument panel 20 to a point close to the dashboard or fire wall 65. The plate 33a has on its rear edge a down-turned strengthening and mounting flange 66 and along its side edges depending vertical flanges 34a terminating at their lower edges in upturned channel flanges 35a.

The housing 31a is preferably mounted under the instrument panel 20 by means of bolts 67 traversing the front end of the plate 33a and the panel ledge 28, and bolts 68 traversing horizontal slots 68' in the rear flange 66 and the fire wall or dashboard 65, as shown in Figure 11. However, where the reach of the housing 31a is short or levelling of the housing relative to the panel ledge 28 is required or is advisable, a front bracket 69, such as shown in Figure 15, is employed between the housing 31a and the panel ledge 28, with the bolts 67 engaged with the depressed ends 70 of the bracket 69. The middle part 71 of the bracket is secured to the panel ledge 28 by bolts 71'. A rear bracket 72, similar to the front bracket 69 is secured to the firewall 65 by screws 48a and to the housing mounting flange 66 by means of the mentioned bolts 68, as shown in Figure 16.

The housing 31a has a shelf plate 73 spaced downwardly from the plate 33a to provide a storage compartment for maps and the like, the plate 73 having upstanding flanges 74 along its side edges which are welded or otherwise suitably secured to the flanges 34a of the housing, as shown in Figure 12. Short stop and spacer strips 75 are secured to the underside of the shelf plate 73 along its sides at the front end thereof by means of flat headed screws 75'.

The tray component 32a comprises a rectangular pan or open top drawer shorter than the housing 31a, as indicated in Figure 11 and of a depth to depend below the channel flanges 35a from close proximity to the underside of the shelf plate 73, as shown in Figure 12. The tray bottom 59a has fixed thereon article holding means similar to those of the first described embodiment.

Upper portions of the sides of the tray 32a are traversed by flat head screws having heads 76 countersunk in the outer sides of horizontal runner bars 77, with their shanks 78 traversing these bars, spacers 79, and the sides of the tray, as shown in Figure 12, with nuts 80 on the shanks at the insides of the tray sides, with the lower edges of the runner bars slidably confined in and upon the channel flanges 35a, and the upper edges of the runner bars slidably engaging the stop or spacer strips 75 on the underside of the

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shelf plate 73. The bars 77 extend rearwardly beyond the tray 32a, as shown in Figure 11, and the rearwardly extending portions thereof are provided on their upper edges with rearwardly directed and upwardly bowed leaf springs 81 whose forward ends are secured by anchor blocks 82. The action of the springs 81 is to increase the frictional engagement of the runner bars 77 with the channel flanges 35a and thereby preclude unwanted shifting of the tray 32a in either open or closed position, and to prevent rattling of the tray. The anchor blocks 82 are arranged to engage the stop strips 75 to limit outward movement of the tray 32a.

On the front end of the tray 32a is a vertically slidable finishing panel 83 which comprises a vertical plate 84 wider than the tray 32a to have edges 85 reaching beyond opposite sides of the tray, and of a height to reach from the bottom of the tray 32a to a position against the underside of the housing plate 33a when the tray 32a is in closed position, as shown in Figure 11, and the panel 83 is in its raised position. In its closed or raised position the panel 83 closes the map compartment above the shelf 73 and conceals the tray 32a, while in its depressed position, shown in Figure 14, this compartment is exposed.

The plate 84 of the panel 83 is secured to the front wall 85 of the tray 32a by bolts 86 passing therethrough and through the plate 84 and offset portions 87 of a tensioning leaf spring 88 which projects forwardly from the plate 84, as shown in Figure 13. The panel 83 is completed by the cover consisting of a plate 89 having vertical hook flanges 90 on its side edges slidably engaging behind the side edges 85 of the plate 84, a bottom flange 91 engaging the bottom of the tray 32a in the elevated position of the panel 83, as shown in Figure 11, and a top hook flange 92.

The leaf spring 87 increases the frictional engagement of the panel hook flanges 90 with the

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edges 85 of the plate 84 so as to prevent unwanted vertical shifting of the finishing panel 83.

What is claimed is:

An instrument panel tray device comprising a housing adapted to be fixedly mounted on the instrument panel, said housing having a horizontal plate and opposed horizontal flanges arranged below and spaced from said plate and dependently carried by the latter, a tray slidably movable inwardly and outwardly along said pair of flanges, said tray including an open top and upstanding sides arranged so that the top is below and spaced from said plate with its sides between and spaced from said flanges, a horizontal pin projecting exteriorly of each of the sides of said tray, said pins being slidably supported and movable upon said pair of flanges, and slotted bolts on the tray sides adjacent the inner ends thereof slidably receiving said pair of flanges for limiting the sliding outward movement of said tray.

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