VERTICALLY ADJUSTABLE TRAY FOR AUTOMOBILES

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1. Our invention relates to automobile accessories and more particularly to a tray adapted to be secured to the back of a front seat of an automobile, so that it may serve as a table for any occupant of the back seat of the automobile.

2. An object of our invention is to provide a tray of the character indicated above, which is adapted to be installed in any make of car having a front seat equipped with a back and a rear seat.

3. Another object of our invention is to provide a tray of the character indicated above, which is adapted to be installed easily without requiring any special mechanical skill.

4. Still further objects of our invention is to provide a tray of the character indicated above, adapted to be folded into and out of working position, so that it does not incommode any occupants of the rear seat.

5. Another object of our invention is to provide a tray of the character indicated above, adapted to be adjusted to a height, so that it may be used by children or adults.

6. Still another object of our invention is to provide a tray of the character indicated above, adapted to be adjusted to a height, so that it may be used by children or adults.

7. A further object of our invention is to provide a tray of the character indicated above, which is adapted to be removed from the car without the use of any tool.

8. Another object of our invention is to provide a tray of the character indicated above, which does not require the use of legs or braces to hold it in adjusted level position.

9. A further object of our invention is to provide a tray of the character indicated above, which is self-locking in inoperative position.

10. Other objects of our invention may appear in the following specification describing our invention with reference to the accompanying drawings illustrating a preferred embodiment of our invention.

11. It is, however, to be understood, that our invention is not to be limited or restricted to the exact construction and combination of parts described in the specification and shown in the drawing, but that such changes and modifications can be made which fall within the scope of the claims appended hereto.

In the several figures of the drawing similar parts are designated by similar reference characters.

1. Figure 1 is a view partly in section and partly in elevation illustrating a tray constructed in accordance with an embodiment of the invention.

2. Figure 2 is a view in perspective of the tray plate unappled.

3. Figure 3 is a view in perspective of the frame as herein embodied.

4. Figure 4 is an enlarged fragmentary view in perspective of a lock finger as herein included.

5. Figure 5 is an elevational view of Figure 1 with the tray plate in closed position.

6. The tray forming the subject matter of our invention comprises a metal frame a, having a substantially rectangular shape. The longitudinal members 10 and the transverse members 11 forming said frame a have each an inwardly projecting flange 12 and 13 respectively, and these flanges extend at right angles to the corresponding frame members.

7. In each of the flanges 12 and 13, a plurality of holes 14 are provided for a purpose to be described later.

8. A short distance inwardly from each transverse frame member 11, a corrugated slide 15 is secured to the longitudinal frame members 10, so that the curvatures of the corrugations of said slides extend in inward and outward direction of said frame, and that each slide 15 runs substantially parallel to the adjacent transverse frame member 11.

9. The above described frame a is secured to the rear of the back 16 of a seat of an automobile by means of a plurality of screws 17 extending through the holes 14 in the frame flanges 12 and 13 and threadably engaging the back of the automobile seat.

10. When the slide is secured to the seat back, the longitudinal frame members 10 are arranged substantially horizontally and the transverse frame members 11 and the corrugated slides 15 are arranged substantially vertically.

11. The inside length of the rectangular frame a is shorter than the inside diagonals of the rectangle formed by the longitudinal frame members 10 and the corrugated slides 15.

12. A tray b comprises a tray plate 18 being substantially rectangular and fitting snugly into the frame a. On the upper surface of the tray plate 18 in each of the forward corners thereof, a self-locking fitting plate c is secured, for instance by welding, and each fitting is provided in its lateral edge with a cut-out 19 forming a
lock finger 20 extending forwardly beyond the front edge of the tray plate 18. The lateral edge of each fitting 20 coincides with the corresponding lateral edge of the tray plate.

The tray b is mounted slidably in the frame a by tilting the tray so that it is located diagonally to the frame and the fingers 20 can slide through the rectangle formed by the longitudinal frame members 10 and the corrugated slides 15. The tray b is then arranged horizontally, so that the fingers 20 are located in front of the slides 15 and the latter are located in the corresponding cut-outs 16.

The tray is then adapted to be slidably moved upwardly and downwardly along the slides 15 and to be secured at any desired level by swinging the tray plate 18 downwardly, so that the lock-fingers 20 about the corrugation located right above each finger and the tray rests with its forward edge in and against the corrugation located just below the corrugation engaged by the finger.

Adjacent to the rear edge of the tray plate 18 a pair of leather tabs 21 or the like is secured to the lower surface of said plate. To remove the tray plate out of working position, which is described above, it is slid all the way down on the slides 15 and is then pivoted upwardly by means of the tabs 21 about the fingers 20.

To secure the tray plate in closed or idle position, a rubber block 22 is arranged in each lower corner of the frame 5, so that it engages the corresponding lock finger 20 when the tray is in its lowermost position. When the tray is pivoted into upright idle position it is forced downwardly at the same time, compressing the rubber blocks 22, so that the tray can be pivoted into the frame a. The upward pressure exerted by the rubber blocks against the tray b secures it in upright idle position.

When an automobile equipped with the tray described above is parked on an inclined surface, so that one side of the auto is located lower than the other one, the tray b can be adjusted in a substantially horizontal position, by sliding the lower side of the tray upwardly on the corresponding corrugated slide.

For cleaning purposes, the tray may be removed from the frame a by arranging the tray diagonally to the rectangle formed by the longitudinal frame members 10 and the corrugated slides 15, so that the lock fingers 20 are disengaged from the corrugations.

Having described our invention we claim as a new and desirable to secure by Letters Patent:

1. An adjustably supported tray, comprising two long, transversely corrugated slides arranged uprightly in spaced parallel relation, a tray plate, a self-locking support fitting secured in each of two corners of the tray plate adjacent to a lateral and transverse edge thereof, the lateral edge of each fitting coinciding with the lateral edge of the tray plate, each fitting being provided with a cut-out in its lateral edge forming a lock finger disposed forwardly disposed beyond the adjacent transverse edge of the tray plate, the said slides each being located in a cut-out, the lock fingers engaging the corrugations just above said fingers and adjacent transverse edge of the plate resting on the corrugation just below said plate.

2. An adjustably supported tray structure comprising two long straight strips of material transversely corrugated through their lengths, means supporting the strips in spaced, parallel, edge opposed relation, a tray plate having one longitudinal edge of a length greater than the space between the strips whereby said edge may position against the corrugated faces of the strips, and a support fitting secured to the tray at each of said edge and comprising an upstanding plate having a slot formed therein from one of said edges and the other edge extending lengthwise of said edge, the fingers being positioned for engagement across the strips upon the opposite sides thereof from said plate edge with the strips lying in the slots.

3. An adjustably supported tray structure of the character described in claim 2, wherein the said fingers extend away from one another each toward an end edge of the tray whereby said tray may be coupled with the corrugated strips by being disposed with the said longitudinal edge thereof at an inclination to the lengths of the strips whereby the fingers may be readily disposed across the sides of the strips opposite from the said longitudinal edge of the plate.

4. An adjustably supported tray comprising a frame, two long, transversely corrugated slide strips arranged uprightly in said frame in spaced parallel relation, said frame having a depending flange along the top thereof, a tray plate, a self-locking support fitting secured to each of two forward corners of the tray plate adjacent to a lateral and transverse edge thereof, the lateral edge of each fitting coinciding with the lateral edge of the tray plate, each fitting being provided with a cut-out in its lateral edge forming a lock finger disposed forwardly beyond the adjacent transverse edge of the tray plate, the said transverse edge of the tray plate being adapted to position against the corrugated faces of the slides with the slides engaged in the cut-outs, the lock fingers engaging the corrugations just above said fingers and the front edge of the plate resting on the corrugation just below said plate, and a pair of rubber blocks secured in the frame in the lower part thereof and adapted to be engaged by the said transverse edge of the tray plate to urge the tray plate upwardly after it has been disposed in closed position within the frame to effect engagement of the opposite transverse edge of the tray plate behind said depending flange.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>584,651</td>
<td>Doolittle</td>
<td>Feb. 15, 1896</td>
</tr>
<tr>
<td>621,856</td>
<td>Schwarz</td>
<td>Mar. 28, 1899</td>
</tr>
<tr>
<td>907,501</td>
<td>Jarrett</td>
<td>Dec. 22, 1908</td>
</tr>
<tr>
<td>1,544,788</td>
<td>West</td>
<td>July 21, 1925</td>
</tr>
<tr>
<td>1,738,835</td>
<td>McGuinley</td>
<td>Dec. 10, 1929</td>
</tr>
<tr>
<td>1,873,549</td>
<td>Tatum</td>
<td>Jan. 3, 1933</td>
</tr>
<tr>
<td>1,920,428</td>
<td>Cuff et al</td>
<td>Sept. 5, 1933</td>
</tr>
<tr>
<td>2,096,426</td>
<td>McDonald</td>
<td>Nov. 8, 1937</td>
</tr>
<tr>
<td>2,186,210</td>
<td>Hawksley</td>
<td>Aug. 1, 1939</td>
</tr>
<tr>
<td>2,249,337</td>
<td>Gearheart et al</td>
<td>July 15, 1941</td>
</tr>
<tr>
<td>2,284,611</td>
<td>Ferrelle</td>
<td>June 2, 1942</td>
</tr>
<tr>
<td>2,437,162</td>
<td>Keller</td>
<td>Mar. 2, 1948</td>
</tr>
</tbody>
</table>