July 22, 1958 E. FREY 2,844,429

LAP TRAY WITH ADJUSTABLE LEG-ENGAGING MEANS

Filed Dec. 5, 1956

Fig. 1.

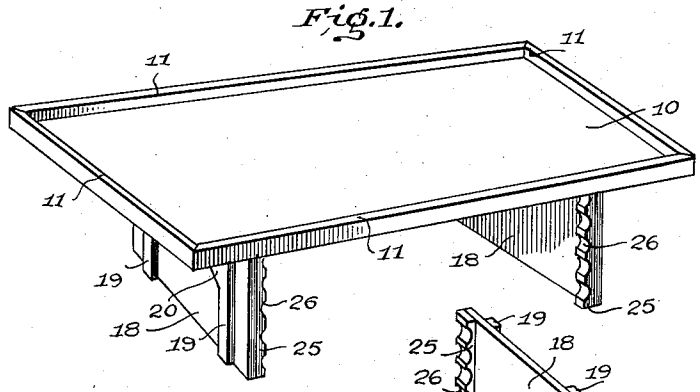


Fig. 2.

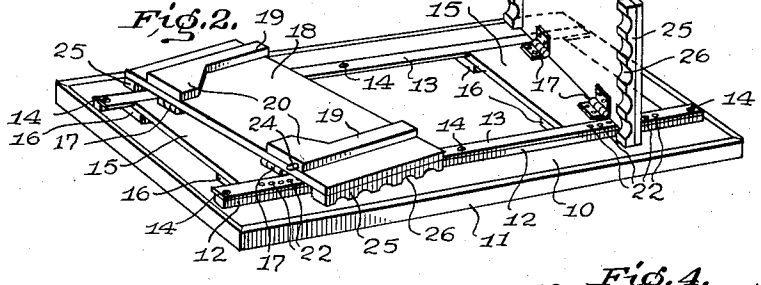


Fig. 3.

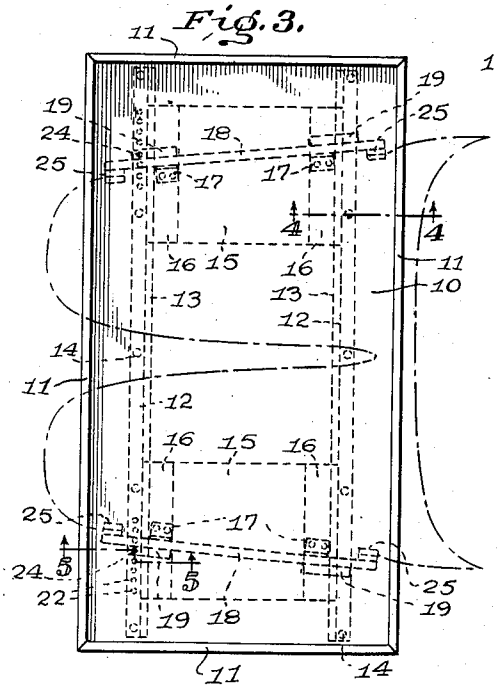


Fig. 4.

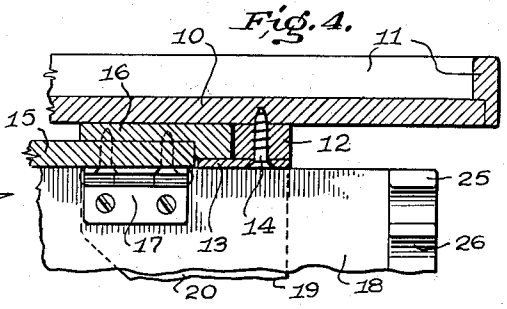
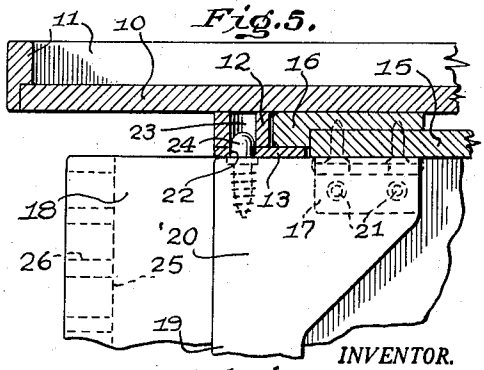


Fig. 5.



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LAP TRAY WITH ADJUSTABLE LEG-ENGAGING MEANS

Ephriam Frey, Flint, Mich.

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5 Claims. (Cl. 311—25)

The present invention relates to an improved lap tray of that type illustrated in my co-pending application, Serial No. 479,304, filed January 3, 1955, now Patent Number 2,783,109, issued February 26, 1957.

Generally, the invention comprises a tray which may be firmly supported on a horizontal plane by the legs of the user irrespective of slight inclinations of the user's legs, and the particular improvements in the present invention are the provisions of novel means for frictionally engaging leg-abutting panels for supporting the tray horizontally and novel means for adjusting the distance between a pair of leg-abutting panels which form a part of the invention. Essentially, the device comprises a tray, preferably of rectangular formation, and having upon its underside a pair of longitudinally extending spaced parallel trackways between which is slidably arranged a pair of base members to each of which is hingedly connected a leg-abutting panel. A novel arrangement is provided for locking the panels in their upright positions after they have been adjusted toward or away from each other.

It is accordingly an object of the invention to provide an improved lap tray having novel means for adjusting a pair of leg-abutting members toward and away from each other.

Another object of the invention is to provide, in a device of the character set forth, novel means for locking leg-abutting members forming part of the invention in adjusted positions.

A further object of the invention is to provide an improved lap tray having novel means whereby the tray may be supported horizontally by the legs of a user independent of the inclination of the lap of the user when said user is seated in a comfortable position.

A still further object of the invention is to provide a device of the character set forth which is simple in construction, inexpensive to manufacture, and yet effective and efficient in use.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with drawing, in which:

Figure 1 is a perspective view of an embodiment of the invention showing the same in operative position,

Figure 2 is a perspective view of the underside of the tray illustrated in Figure 1 showing one leg-abutting member in closed position and one leg-abutting member in opened position, such leg members forming parts of the invention,

Figure 3 is a top plan view of the tray illustrating the same in position upon the lap of a user, and

Figures 4 and 5 are enlarged fragmentary vertical sectional views illustrating certain details of construction and taken substantially on lines 4—4 and 5—5, respectively, of Figure 3.

Referring more particularly to the drawing, there is shown a rectangular tray **10** composed of a thin plate of lightweight rigid material which may be thin plywood or the like and which has affixed to its marginal edge portions strips forming an upstanding ledge **11** along all sides of the tray.

Secured to the underside of the tray **10** is a pair of strips **12** of wood or like material, the strips **12** being spaced inwardly from the longer sides of the tray and extending longitudinally thereof in spaced parallel relation. Affixed to the underside of each of the strips **12** is a relatively thin strip of metal **13**, the strips **13** extending inwardly beyond the inner sides of the wood strips **12** to provide trackways. The strips **12** and **13** are each secured to the tray **10** by means of a plurality of screws **14** or the like.

A pair of support plates **15** is provided and each has affixed to the upper side of each of its side edge portions a longitudinally and laterally extending guide member **16**, the outer edges of the guide members **16** being received by the trackways formed by the pairs of strips **12** and **13**, as clearly shown in Figures 4 and 5.

On the underside of each of the supporting plates **15**, there is affixed by means of hinges **17**, a dependent leg-abutting panel **18**. The panels **18** are adapted to be folded toward each other to a position whereby they will be substantially parallel to the tray **10** and in such condition may be stacked or otherwise stored when not in use.

It will be noted by reference to Figures 2 and 3 that the panels **18** are so hinged that they extend across opposite end portions of the assembled device at slight angles to each other and, of course, are of greater length than height whereby to present a maximum surface contact with the legs of the user as will be hereinafter set forth.

Each of the panels **18** has affixed in any suitable manner upon its outer face and adjacent each end portion thereof stiffening strips **19**, each of which is provided with an integrally formed enlarged head **20** at its upper end, that is to say, that end of the panel **18** which lies adjacent the tray **10**. It is in these enlarged heads that the screws **21** (Figure 5) attaching the hinges **17** to the leg-abutting panels **18** are extended for firm securement of the hinges.

One of the strips **13** has formed therein adjacent each end thereof a series of vertical openings **22**, and the associated strip **12** is provided with registering openings **23**. Each of the enlarged heads **20** which lies adjacent the strips having the openings **22** and **23** is provided with a dowel **24** which is selectively engaged in the openings **22—23** upon swinging the leg-abutting panels **18** to depending positions at right angles to the tray **10**.

At the forward and rearward end portions of the leg-abutting end panels **18** and on their inner sides that fold up next to the tray **10** when the device is not in use are vertically extending strips **25** having irregular surfaces **26** on their exposed sides that frictionally engage the sides of the legs of a user so as to permit supporting the tray on a horizontal plane independent of the inclination of a user's lap.

In operation, when it is desired to use the tray of the present invention, it is only necessary to first move the supporting plates **15** toward or away from each other until the proper and most comfortable position of the same is arrived at, whereupon the panels **18** may be extended to a vertical position as shown in Figure 1. This action will force the dowel pins **24** into engagement with the openings **22—23** thus locking the panels in the preselected positions. The tray may now be placed over the upper portions of the user's legs in the manner indicated in Figure 3, and it will be apparent that a slight outward pressure of the user's legs will tend to engage the ribs **25** to securely hold the tray **10** in a substantially horizontal position and in such a manner that both of the user's hands are free. It will also be seen that the provision of the dowel pins and the openings for receiving the same makes

the present device one which may be utilized by persons of different sizes.

In view of the foregoing description taken in conjunction with the accompanying drawing, it is believed that a clear understanding of the construction, operation, and advantages of the device will be quite apparent. A further detailed description of the operation is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, various changes may be made without departing from the spirit and full intendment of the invention.

What is claimed is:

1. A lap tray that is supported by engagement of the legs of a user therewith, said lap tray comprising a substantially rectangular tray top, a pair of spaced parallel longitudinally extending trackways affixed to the underside of said tray top, a pair of support plates each slidably mounted in said trackways, a leg-abutting panel hingedly connected to the underside of each of said plates and each swingable toward the other from a position at substantially right angles to said tray top to a position substantially parallel to said tray top, and means automatically latching said plates in preselected positions in said trackways upon swinging of said leg-abutting panels to positions at substantially right angles to said tray.

2. A lap tray as defined in claim 1 wherein said latching means includes a plurality of spaced openings in one of said trackways, and a dowel affixed to each end panel and selectively receivable in said openings.

3. A lap tray that is supported by engagement of the legs of a user therewith, said lap tray comprising a substantially rectangular tray top, a pair of spaced parallel longitudinally extending trackways affixed to the underside of said tray top, a pair of support plates each slidably mounted in said trackways and having undersurfaces thereof substantially on the same plane as undersurfaces of said trackways, a leg-abutting panel hingedly connected to the underside of each of said plates and each swingable toward the other from a position at substantially right angles to said tray top to a position substantially parallel to said tray top, a pair of stiffening strips affixed to the outer face of each of said panels, said stiffening strips abutting the undersides of said trackways when said panels are in positions at substantially right angles to said tray top, and means at the abutment of said stiffening strips with said trackways for automatically holding said plates in preselected positions on said trackways upon swinging said leg-abutting panels to positions at substantialiy right angles to said tray top.

4. A lap tray as defined in claim 3 wherein said holding means includes a plurality of longitudinally spaced openings adjacent each end portion of one of said trackways, and a dowel affixed to a stiffening strip of each panel and selectively receivable in said openings.

5. A lap tray that is supported in a level position by engagement of the legs of a user therewith, said lap tray comprising a substantially rectangular tray top having forward and rearward edge portions extending lengthwise thereof, a pair of leg-abutting end panels extending transversely of and depending at substantially right angles from the underside of said tray top adjacent its ends, said panels being of greater length than their widths and being positioned outwardly of the legs of a user, and a narrow vertically extending strip along at least one end portion and on the inner side of each of said leg-abutting panels, said strips having irregular exposed surfaces thereon so as to frictionally engage the sides of the legs of a user for supporting the tray top substantially on a horizontal plane.

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