April 21, 1953 M. B. BASIL 2,635,678

COLLAPSIBLE TRAVEL SERVICE TRAY

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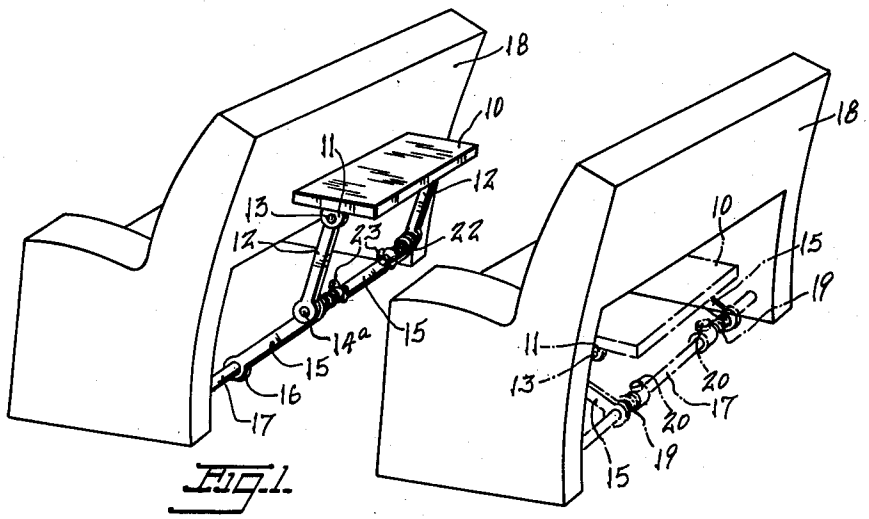


FIG. 1.

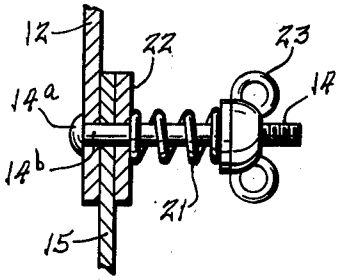


FIG. 2.

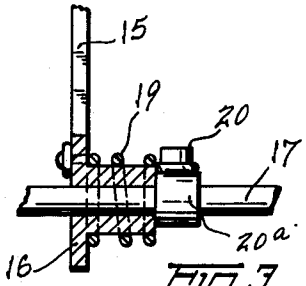


FIG. 3.

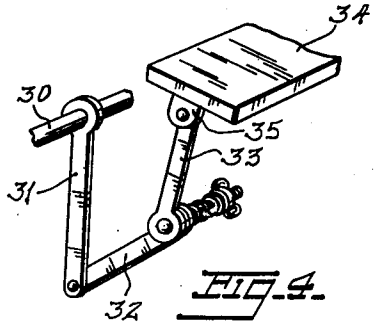


FIG. 4.

INVENTOR.
MORTON B. BASIL
BY
ATTORNEY

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COLLAPSIBLE TRAVEL SERVICE TRAY

Morton B. Basil, New York, N. Y.

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1 Claim. (Cl. 155—123)

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This invention relates to an improved service tray which is extendable from a forward seat of a public conveyance, such as a train, car or a bus, and in particular relates to a construction which is normally folded under a forward seat and which may be manually operated to provide a service tray for one or more passengers for use in eating, writing, or in card or game playing.

One of the objects of the invention is to provide a service tray for a public conveyance, which can be mounted easily in place, and which will support a lap board or tray board in convenient reach of one or more passengers occupying the next following seat to the one on which the service tray is supported.

A further object of the invention is to provide a construction which will minimize the effect of gravity exerted by the service tray or lap board, so that a woman or other person not used to handling heavy weights or loads may operate the device with little effort and practically no skill.

For further comprehension of the invention and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claim, in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing, forming a material part of this disclosure:

Fig. 1 is a perspective view, showing the improved service tray.

Fig. 2 is a detail sectional view, showing a spring tension joint.

Fig. 3 is a detail sectional view, showing a spring for balancing the weight of the service tray and its supporting links.

Fig. 4 is a perspective view, showing a modified form of the link support for the service tray.

Referring now in detail to the drawings, the figures show the practical embodiment of the invention, wherein 10 designates a service tray, which is provided at each end with a bearing lug 11.

Each end of the service tray is supported by an upper link bar 12, which is pivoted at 13 to the bearing lug 11, and at 14 to the lower link bar 15.

The lower end of each lower link bar 15 is pivotally supported by its integral boss 16 on the cross bar 17, which is attached to or which forms a standard part of a conventional railway car or bus seat 18.

In order to minimize the effect of gravity pressure of the link bars and the service tray, a coil

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spring 19 is mounted on each boss 16, one end of this spring being engaged with the lower link bar 15 and the other end being engaged with the pin 20 engaged through a collar 20a and into the cross bar 17. The pressure of the spring acts to balance the weight of the service tray and the supporting links.

The pivot pin 14 which connects the adjacent ends of the upper link bar 12 and the lower link bar 15, is equipped with a coiled spring 21, which engages the friction disc 22, which has sliding engagement with the upper end of the lower link bar 15, and is engaged thereagainst by the wing nut 23, threaded on the shank of the pin 14 which holds the spring 21 under tension. The other end of the pin 14 is provided with a head 14a and a squared shank 14b, which is keyed to the engaged end part of the upper link bar 12.

By tightening the wing nut the pressure on the coil spring 21 is increased and the frictional resistance offered by the friction disc 22 to the relative movement of the upper and lower link bars 12 and 15 may be varied.

Normally the service tray is concealed under the passenger seat. When the person or persons occupying the seat in the rear of the one which carries the link bars desires to use the service tray for spreading out foods for eating, or to support a magazine, book or newspaper for reading, or paper for writing, or a game board or playing cards for playing a game, the service tray is grasped and pulled upwardly, until it reaches the elevation preferred for service use. The service tray may be placed over the lap or supported forwardly of the lap.

When it is desired to remove the service tray, it is pushed toward the passenger seat upon which it is supported and the upper link bars are folded on the lower link bars, so that the service tray is housed wholly within the frame of the passenger seat, out of the way of the feet of all passengers.

In Fig. 4, a modified form of the invention is shown, wherein the supporting cross bar or shaft 30 is secured to the advance seat frame at a higher elevation. On this cross bar or shaft a link bar 31 is pivoted, and to the lower end of the link bar 31 a link bar 32 is pivoted. To the other end of the link bar 32, the third link bar 33 is pivoted, and to the outer end of this link bar the service tray 34 is pivoted by the bracket 35.

In this construction, the service tray swings directly under the seat at a higher elevation than is shown in Fig. 1. Each of the pivoted joints

may be provided with a spring tensioning washer or other friction producing means.

The invention provides means for adding to the comfort and pleasure of passengers using railway cars, buses and even airplanes and ships, as the invention may be applied to any support, but is particularly designed for use with conventional double seats as are generally installed in railroad cars and in public buses.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed, and the right is hereby reserved to all changes and modifications coming within the scope of the invention, as defined by the appended claim.

Having thus described my invention what I claim as new, and desire to secure by United States Letters Patent is:

A service tray for attachment to the back of a seat of a public conveyance having a space at the bottom thereof opening to the rear, comprising a cross bar for attachment to the seat within the bottom space, spaced lower link bars having their one ends pivotally mounted on said cross bar, spaced upper link bars having their one ends pivoted to the other ends of said lower link bars, a tray pivotally mounted on the other ends of said upper link bars, the adjacent ends of said link bars being formed with aligned holes, said pivotal connection of said link bars, comprising pins having their shanks engaged through said aligned holes, said pins being keyed to the ends of one of said link bars, wing nuts threaded on the ends of said shanks, friction discs on said pins and engaging the sides of the other of said link bars than the ones to which said pins are keyed, coil springs on said pins and operating between said friction discs and said wing nuts urging said friction discs into frictional contact with the other of said link bars for frictionally holding said upper and lower link bars in desired pivoted positions with relation to each other, bosses formed on the said one ends of said lower link bars and pivotally engaged with said cross bar, and coil springs surrounding said bosses under tension and having one of their ends attached to said lower link bars and their other ends attached to said cross bar to counterbalance the weight of said link bars and said tray and maintain said tray at the desired elevated position.

MORTON B. BASIL.

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