

**Jan. 27, 1953**

L. E. DUBACH  
FOLDING TRAY

**2,626,845**

Filed Dec. 24, 1949

2 SHEETS—SHEET 1

*Fig. 1.*

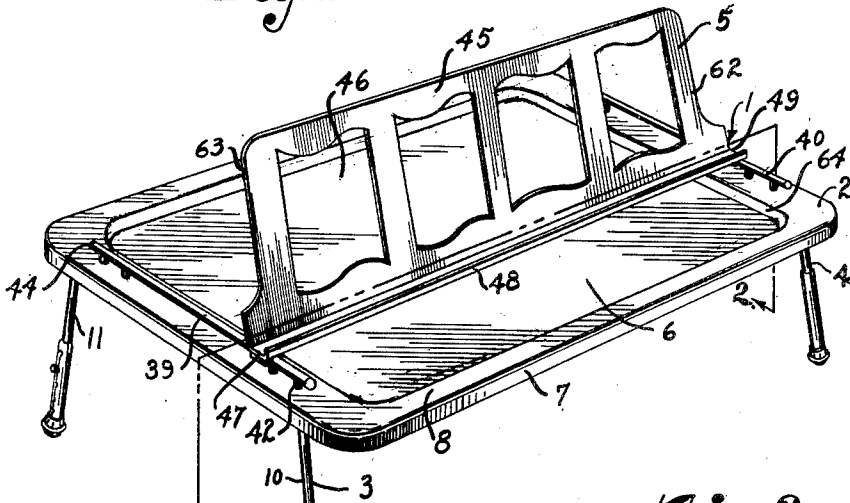
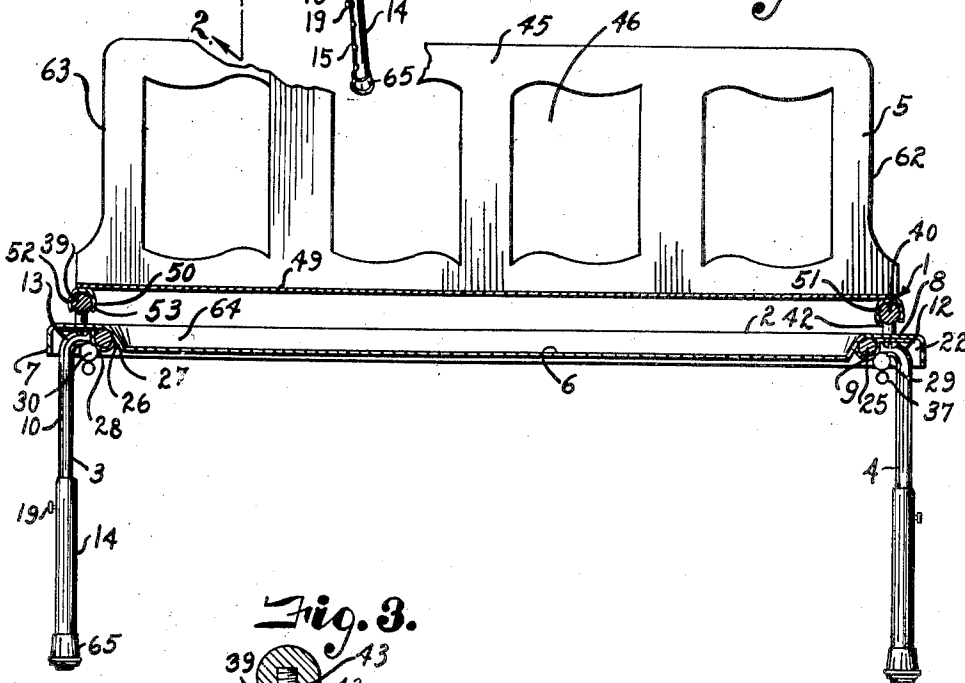
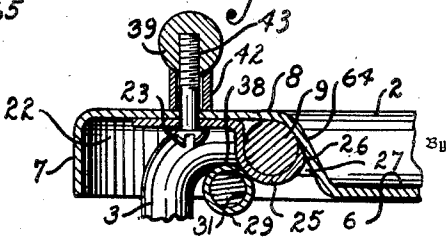


Fig. 2.



**Fig. 3.**



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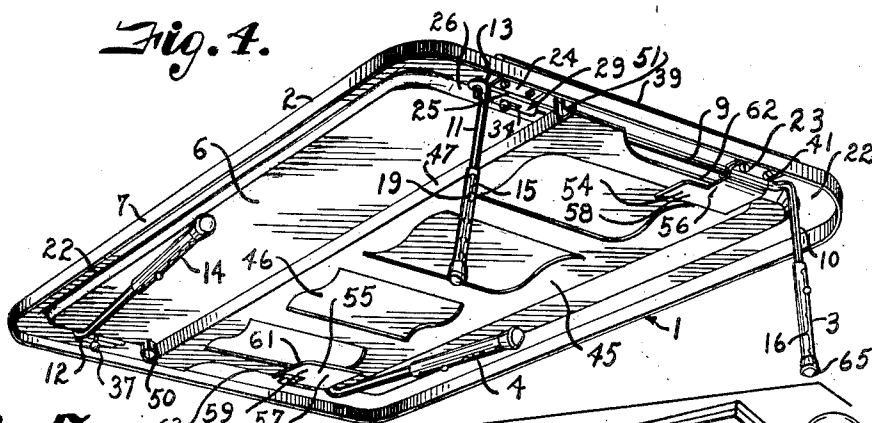
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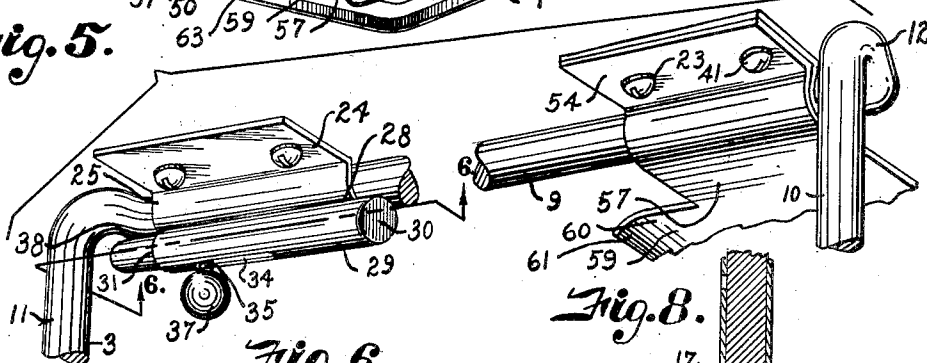
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2 SHEETS—SHEET 2

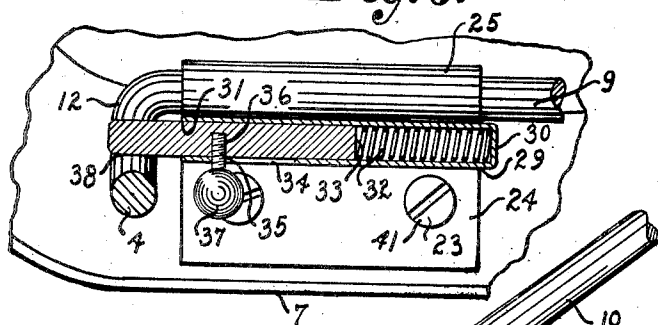
*Fig. 4.*



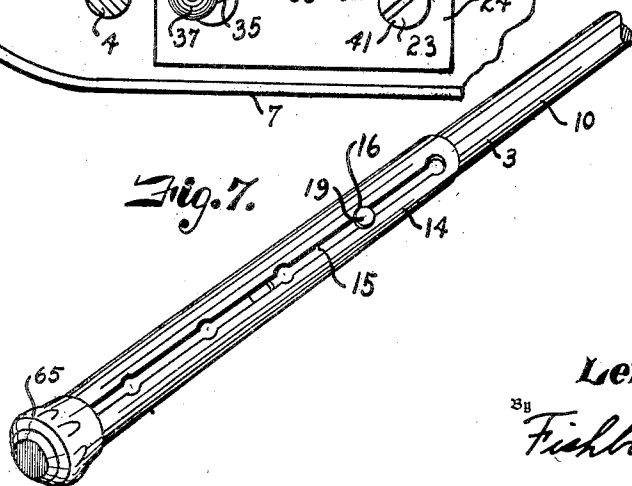
*Fig. 5.*



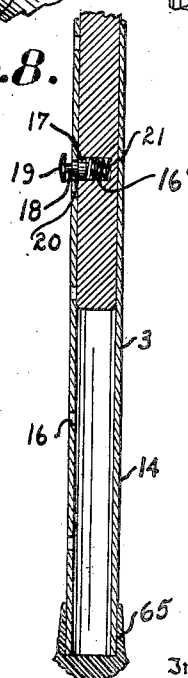
*Fig. 6.*



*Fig. 7.*



*Fig. 8.*



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## UNITED STATES PATENT OFFICE

2,626,845

## FOLDING TRAY

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Application December 24, 1949, Serial No. 134,991

1 Claim. (Cl. 311-87)

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This invention relates to a combined food serving tray or table and reading rack for the use of persons in bed, particularly hospital patients, and has for its principal object to provide a device of this character which is of simple, lightweight construction and which is adapted to be adjustable in height, and the reading rack adjustable on the table to and from the user.

Other objects of the present invention are to provide a device of this character adapted for a support directly on the bed crosswise of the user's body; to provide a structure that is readily formed of stainless aseptic material which may be readily sterilized and kept in sanitary condition; to provide a leg structure which is not likely to catch on the bed covers; to provide brackets for foldably retaining the leg structure underneath the table top; to provide supports secured on top of the table for slidably carrying the reading rack thereon; to provide a structure whereby the fastening devices for the leg brackets engage the supports on top of the table to retain the supports on the table and so that there is nothing above the table except the rack and supporting structure; to provide extensions on the legs to adjust the height of the table to suit the user; to provide brackets with extensions for receiving the tray of the rack structure and retaining the same underneath the table top when the reading rack is not in use, said brackets being retained by the same means as the leg brackets; and to provide a device of this character simple, economical to manufacture and efficient in operation.

In accomplishing these and other objects of the present invention, I have provided improved details of structure as illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of my combination serving tray and reading rack set up for use.

Fig. 2 is a cross sectional view taken on a line 2-2, Fig. 1.

Fig. 3 is a fragmentary cross sectional view through the leg supporting brackets and the means fastening the brackets to the rack supporting member.

Fig. 4 is an underneath view of the device showing the rack in stored position when not in use.

Fig. 5 is a fragmentary elevational view of the brackets and locking means on the supporting legs.

Fig. 6 is a fragmentary cross sectional view taken on a line 6-6, Fig. 5.

Fig. 7 is a fragmentary elevational view of the adjustable legs.

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Fig. 8 is a vertical cross sectional view of one of the adjustable legs.

Referring more in detail to the drawings:

1 designates a combined food serving tray and reading rack constructed in accordance with the present invention and includes a table-like tray top 2, supporting leg members 3 and 4, and a reading rack 5 with holders therefor. The parts of the device are preferably formed of stainless material that may be readily kept in sanitary condition, such as stainless steel, aluminum, or combination of desired metal and wood, or a heat resistant plastic.

The table-like top 2 is formed from a single sheet of metal and has its top recessed as at 6 to prevent the containers of the food from sliding off of the table or spilling onto the patient and bed. The top 2 has its sides turned downwardly forming a peripheral flange 7, a substantial plane surface 8 being formed around the outer portion of the table top 2.

The leg members 3 and 4 are preferably formed of a rod material of circular cross section, and each has a horizontal bar or rod portion 9 and diverging leg portions 10 and 11 joining therewith in laterally turned and rounded curved portions 12 and 13, the leg portions 10 and 11 being of suitable length to carry the tray-like top over the body of a patient when the legs are supported on the bed of the patient.

In order that the device is adaptable for large persons the legs 10 and 11 are preferably provided with extensions 14 preferably formed of tubular material which engage over the rod-like legs 10 and 11. The extensions are provided with elongated slots 15 having a plurality of openings 16 of slightly larger diameter than the slots. The rods of the legs 10 and 11 are provided with a plurality of sockets or recesses 16' adapted to receive a collar 17 on the end of a pin 18 having a head 19. The pin 18 is provided with an enlarged portion or shoulder 20 of substantially the same size as the opening 16' in the extensions 14 of the leg portions. A coil spring 21 is adapted to engage in the opening 16 of the leg and resiliently urge the pin outwardly against the tubular extension, the collar 17 engaging against the inside of the extension to retain the same therein.

The recessed portion 6 of the top and the annular flange 7 around the outside of the top form an annular or channel groove 22 underneath the table top and rigidly secured to the bottom side of the top in the annular groove or channel by screws or the like 23 are brackets 24 having one end rounded and forming bearings 25 for the horizontal members 9 of the legs 10 and 11. I

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have here illustrated four of the brackets, one at substantially each corner of the table and the free inner ends of the brackets at the rear of the table are welded to the lower inclined portion 26 of the recess portion of the table as indicated at 27, the brackets being so located that the outer edges will engage against the laterally curved portions of the legs to prevent lateral movement of the legs with respect to the table top.

Welded or otherwise rigidly secured longitudinally of the lower portion 28 of the bearing member 25 of the brackets are tubular members 29 having one end closed as indicated at 30 and the opposite end open and adapted to receive a plunger 31. A coil spring 32 is provided to engage in the tubular members engaging against the closed ends 30 and against the end 33 of the plunger to provide spring tension on the plunger. The tubular members are provided with a slot 34 through which a threaded shank 35 extends. The shank engages in a threaded socket 36 in the plunger 31, the shank having movement in the slot of the tubular member, the shank having an enlarged end forming a head 37. The plunger extends out of the end 31 of the tubular member a sufficient distance to engage against the laterally turned portion 12 of the leg members as indicated at 38 (Fig. 6) to retain the legs in table supporting position, and to lock the legs when in folded position.

Rack supporting members 39 and 40 are mounted on each end of the plain surface 8 of the table for supporting the rack 5. To secure the brackets 24 and supporting members 39 and 40 to the table top 2 I provide screws 41 which extend through the brackets registering openings in the top of the table and extend through spacing sleeves 42 and engage in threaded sockets 43 in the supporting members 39 and 40 as best illustrated in Fig. 3. While I have here shown two screws for each bracket, any number may be utilized as desired. With this arrangement, it will be obvious that no heads of the screws or bolts appear on the top of the table. It will further be obvious that the supporting members 39 and 40 may be tubular and the screws engage in threaded openings therein. The ends of the members 39 and 40 are centrally bored and closed by rounded or tapered stops on the line as indicated at 44, Fig. 1.

The reading rack is formed of flat sheet material to provide a back 45 having a plurality of openings 46 if desired to lighten the weight of the rack member. The lower edge of the rack is turned laterally as indicated at 47 and upwardly to form a flange 48 to form a trough-like member 49 for retaining books or other articles therein when the tray is in use, thus forming a holder for books or the like at the proper angle. Secured to the lower edge of the trough-like portion of the rack by welding or other suitable means are channel members 50 and 51 having sides 52 and 53, the lower edges of which are bent inwardly to engage the rod supporting members 39 and 40 to retain the same slidably thereon.

It will be obvious that the rack is removable over the ends of the supporting members and to store the rack underneath the table when not in use, I provide a pair of brackets 54 and 55 adjacent the front legs of the table and secured over the brackets 25 by the screws 41 which hold brackets 25 to the table top. The brackets 54 and 55 have inwardly extending arms 56 and 57 provided with lateral extensions 58 and 59 turned slightly outwardly as indicated at 60 (Fig. 4) to

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provide cam surfaces 61 for the reception of the side edges 62 and 63 of the rack.

When the device constructed as described is not in use the reading rack may be removed by sliding the channel members 50 and 51 over the ends of the supporting rod members 39 and 40 and stored underneath the table top by engaging the edges of the table in the brackets 54 and 55 just above described. The leg members 3 and 4 may be folded to lie flat against the bottom of the table by movement of the plunger 31 in the tubular member 29 through movement of the head 37 of the bolt 35 in the slot 34 of the tubular member, disengaging the end 38 of the plunger member from contact with the leg members.

When the device is to be used as a tray for serving food to the patient, the reading rack may be left in stored position and the leg members 3 and 4 moved to set-up or tray supporting position on movement of the plunger the same as when collapsing the leg members as the end of the plungers will also lock the leg members closed. If desired the dishes in which the food is served may be placed directly in the recess 6 of the table top or a serving tray may be received within the recessed portion, the side wall 64 of the recess preventing the dishes or tray from sliding therefrom and spilled food from getting on the patient or the bed.

When the device is to be used for reading or the like the rack 5 is readily withdrawn from the brackets by merely withdrawing the rack outwardly or outwardly and then sideways so that it clears the brackets 54 and 55. The channel members 50 and 51 are then slid over the ends of the supporting members 39 and 40 to any desired position at an angle to or from the patient.

If no longer legs are required, the leg extensions 14 may be moved downwardly on the rod 10 of the leg members by inward pressure on the head 19 of the pin 18 against the tension of the spring 21 to disengage the shoulder 20 from the opening 16 in the sleeved extensions 14; and when the desired height of the leg is acquired, the spring 21 will cause the collar to again engage in the openings 16 to retain the legs in desired position.

If desired, non-skid members 56 such as rubber or the like may be engaged over the lower ends of the extension members 14 to prevent sliding of the device or tearing of the bed clothes.

It will be noted that the recessed bottom and surrounding ledge portion of the tray provide downwardly opening channels along two opposite sides of the recessed bottom and that the angle formed between the under face of the ledge portion and sides of the recessed bottom contain the rod portions of the leg members when they are journaled in the bearing members so that the lateral portions have bearing contact with the under side of the ledge portion when the leg members are in tray supporting position and that the opposite side of the lateral portions contact the sides of the recessed bottom portion when the leg members are in folded position. It is also obvious that the sliding plungers of the latches engage the sides opposite the contacting portions to retain the leg members substantially immovable in both positions thereof.

From the foregoing it is obvious that I have provided a combined tray and reading rack which is of simple and compact construction and well adapted to use of the patient, and when not in use may be conveniently stored. It is also obvious that the unit is composed of relatively

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few parts and folding of the leg members is conveniently and easily accomplished as well as removal of the rack for storage. This device can also be used for efficient deluxe hotel room service, or private home use.

What I claim and desire to secure by Letters Patent is:

A tray having a bottom portion recessed below a surrounding ledge portion which ledge portion has a downwardly extending flange spaced outwardly from sides of said recessed bottom portion to form downwardly opening channels along two opposite sides of said recessed bottom portion, leg members for supporting said tray and each having a horizontal rod portion contained within said downwardly opening channels and positioned within angles formed between under faces of said ledge portions and the sides of the recessed bottom, said leg members having lateral portions at ends thereof terminating in legs offset from the rod portions a distance substantially corresponding to the depth of the recessed bottom, bearings carried in said channels and journalling the ends of the horizontal rod portions of the leg members for movement of the leg members from tray supporting position with said lateral portions in bearing contact with the under face of said ledge portion to a folded position with the lateral portions in contact with the sides of the recessed bottom portion and with the legs in substantially parallel contact with the under side of the recessed bottom portion, and a latch carried by a bearing

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member for each leg member, said latches having sliding plungers supported in position by said bearing members for movement across under sides of the adjacent lateral portions to retain the lateral portions in said bearing contact with the under face of the ledge portion when the leg members are in tray supporting position and for movement of the plungers across opposite sides of the lateral portions to retain the lateral portions in said contact with the sides of the recessed bottom when the legs are in said folded position whereby the leg members are substantially immovable in said respective positions.

LENA EMMA DUBACH.

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