Sept. 6, 1966 H. H. LIND 3,270,693

FOLDING TABLE

Filed Jan. 28, 1965 2 Sheets-Sheet 1

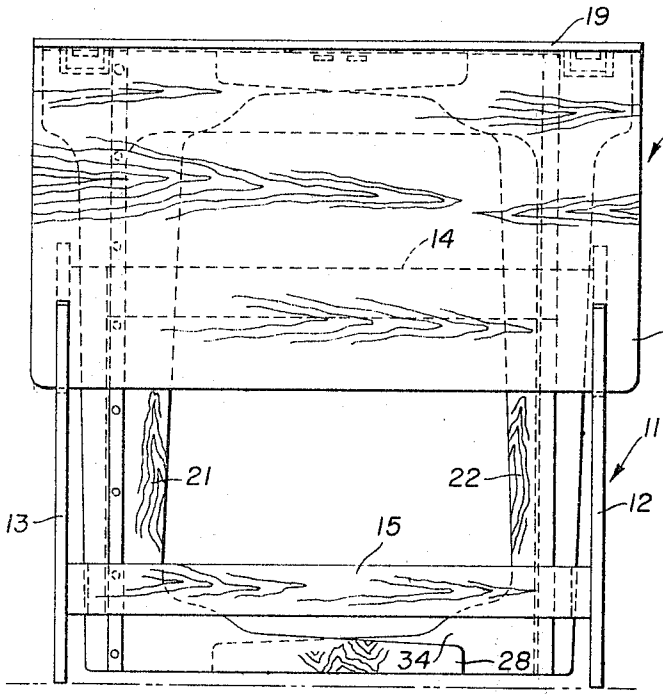


Fig. 1

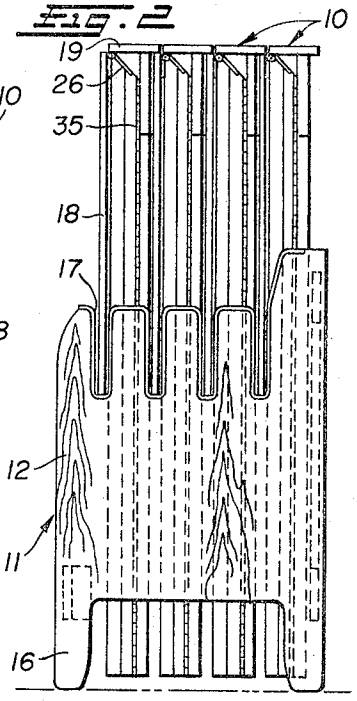


Fig. 2

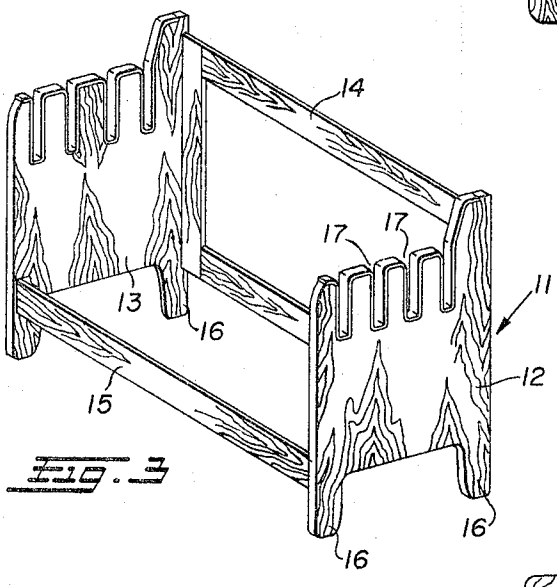


Fig. 3

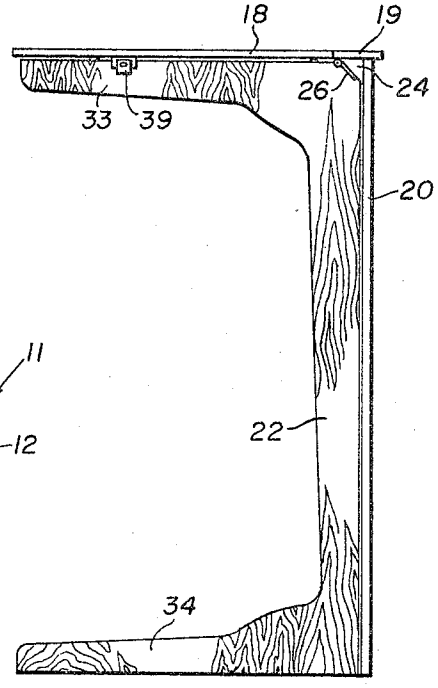


Fig. 4

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FOLDING TABLE

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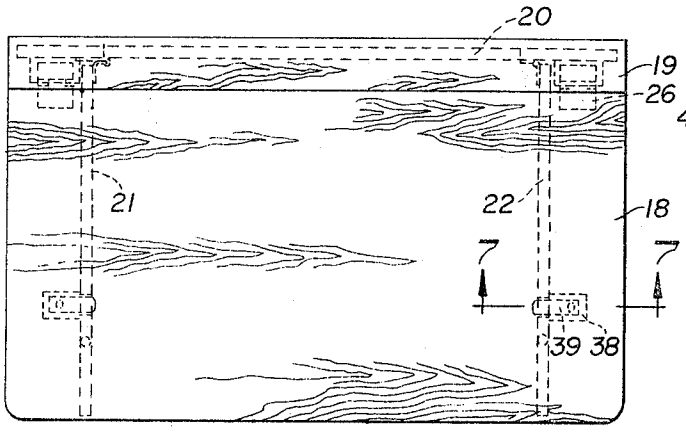


Fig. 6

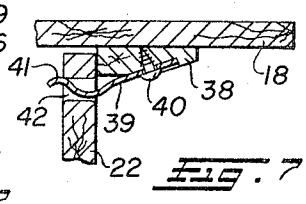


Fig. 7

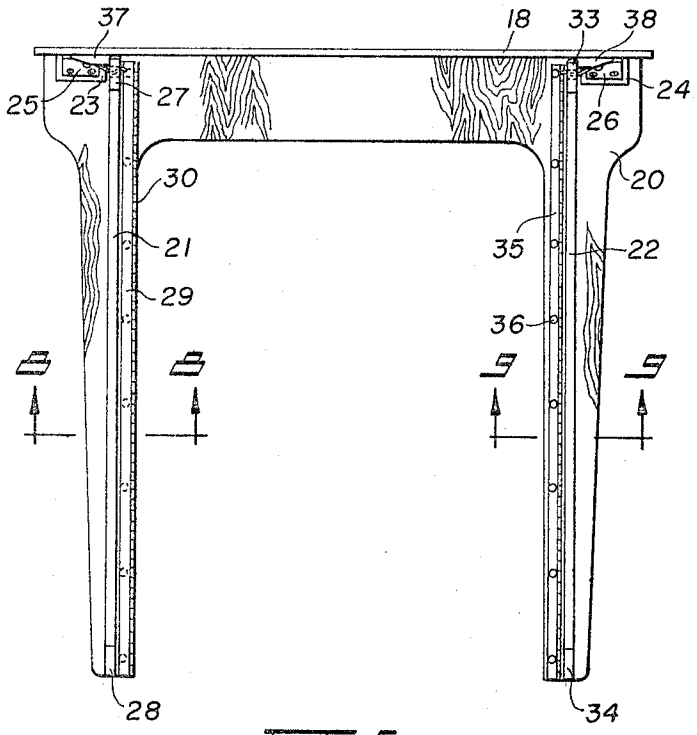


Fig. 5

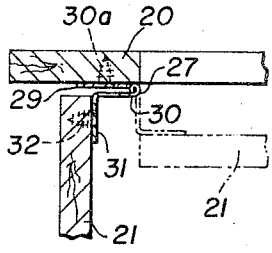


Fig. 8

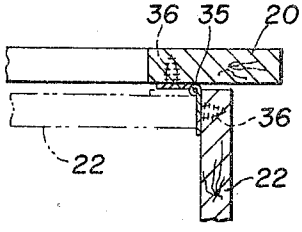


Fig. 9

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3,270,693

FOLDING TABLE

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10 Claims. (Cl. 108—16)

The present invention relates as indicated to a folding table and relates more particularly to a portable, lightweight, folding table designed for numerous uses such as, for example, for support of snacks or beverages, as a writing desk, and for additional uses which will become apparent as the description proceeds.

Present folding tables of the general type here concerned, which are commonly referred to as television or snack tables, possess certain disadvantages. Initially, such tables are often difficult to manipulate between folded and unfolded positions and often are designed in a two-part arrangement wherein the top of the table must actually be lifted off and then repositioned on the supporting structure when the latter has been moved to an unfolded, use position. Secondly, present tables are often relatively bulky when folded and are accordingly rather inconvenient to store. Still further, the legs, when folded to a support position, are commonly criss-crossed beneath the thus supported top thereby making it difficult or impossible for the user to place his legs comfortably under the table; moreover, even when the table construction is such as to provide an open area under the table top, the leg construction is normally such as not to permit the drawing up of the table to a desirably close position to a person sitting, for example, on a sofa or chair.

With the above in mind, a primary object of the present invention is to provide a folding table in which the legs and top can be quickly moved to a folded or unfolded position, and wherein the table, when folded, is extremely compact to enhance storing thereof.

Another object of the present invention is to provide a table the construction of which permits the top of the table to be drawn relatively close as desired to the user sitting on a sofa, chair or the like, without interference therefrom.

A further object of the present invention is to provide a table which, when unfolded and set up, provides a flat top surface and is exceptionally sturdy and rugged better to accommodate use thereof as a writing table or the like, in addition to its usual function as a supporting table for foods and beverages.

A still fuurther object of the present invention is to provide a table which is simultaneously sturdy and lightweight to facilitate handling thereof, and which can be manufactured at relatively low cost.

These and other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail certain illustrative embodiments of the invention, these benig indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawings:

FIG. 1 is a front elevational view showing a group of individual folding tables constructed in accordance with the present invention stacked or stored in a suitable storage rack;

FIG. 2 is a side elevational view of the folded and stacked tables of FIG. 1;

FIG. 3 is a perspective view of a storage rack constructed and arranged to receive a plurality of folding tables constructed in accordance with the present invention;

FIG. 4 is a side elevational view of a folding table in an unfolded position, ready for use;

FIG. 5 is a front elevational view of the unfolded table of FIG. 4;

FIG. 6 is a top plan view of the unfolded table;

FIG. 7 is a sectional view taken on line 7—7 of FIG. 6, showing more clearly the manner in which the legs are maintained in a support position;

FIG. 8 is a sectional view taken on line 8—8 of FIG. 5, showing the manner of hinging one of the table legs to the support frame, and

FIG. 9 is a sectional view taken on line 9—9 of FIG. 5, showing the hinging of the other table leg to the support frame.

Referring now in more detail to the application drawings, wherein like reference numerals are employed to designate like parts, the folding table of the present invention is generally indicated at **10**, and a group of such tables is shown in FIGS. 1 and 2 in a folded position and stored or stacked in a storage rack generally indicated at **11**. As best shown in FIG. 3, the storage rack **11** comprises side members **12** and **13** which are spaced and interconnected by a rectangular back frame **14** and a front brace member **15**. Each of the sides **12** and **13** is recessed at the bottom thereof thus to provide supporting feet commonly designated at **16**. The side frame members **12** and **13** are formed at the top thereof with a plurality of slots or grooves commonly designated at **17**, each of which is of sufficient width to receive the top **18** of a table **10**, and of a depth to support the bottom of the folded top **18** in such a manner as to space the bottom of the table slightly above the floor or like supporting surface, as clearly shown in FIG. 2. With the tables folded and stacked as shown in such figure, the storage rack **11** can be easily lifted and moved to various locations for use as desired. Although the storage rack illustrated is adapted to receive and support four such folding tables **10**, it will be apparent that the rack could be constructed and arranged to accommodate greater or fewer than that illustrated, if desired. The rack **11** and the tables **10** are in the form shown of wood, of either solid or laminate construction, but may be of sheet metal, fiber glass-reinforced plastic, or the like.

The construction of each such table **10** is shown in more detail in FIGS. 4–9. The table comprises the above-noted foldable top section **18**, a stationary frame assembly which includes a fixed top section **19** and a back section **20** attached thereto, and foldable legs **21** and **22**. The stationary top section extends slightly beyond the side edges of the back section, and reinforcing members **23** and **24** are provided to interconnect the top and back sections relatively adjacent the ends thereof for reinforcing the stationary frame. Hinge members **25** and **26** have respective leg portions mounted to the reinforcing members **23** and **24** and the top **18** to hinge the latter for movement between its unfolded, use condition shown, for example, in FIG. 4, to its vertically depending, folded position shown in FIG. 2. When moved to its FIG. 4 position, the surface of the top **18** is coplanar with the top surface of the fixed top section **19** thereby to provide a continuous flat surface.

The leg **21** is generally U-shaped, comprising a top supporting portion **27** and a bottom, floor-engaging foot portion **28**, with the center, connecting portion of the leg being hinged, as best shown in FIG. 8, to the back section **20** by means of a leg **29** of an offset hinge **30**, which in the form shown, extends substantially the entire length of the back section **20** and is mounted thereon by means of fasteners **30***a*. The offset leg portion **31** of the hinge is mounted on the table leg **21** by means of fasteners **32**. As shown in dotted lines in FIG. 8, when the leg **21** is moved to its folded position, the offset leg portion **31** of the hinge spaces the leg **21** from the adjacent surface of the back section **20**, thereby to accommodate therebetween the leg **22**.

The leg **22** is similarly constructed and includes a top supporting portion **33** and a bottom, floor-engaging foot portion **34**, with the central, connecting portion thereof being pivotally connected to the back section **20** by hinge **35**. Referring to FIG. 9, the respective legs of the hinge **35** are mounted to the back section **20** and the leg **22** by fasteners commonly designated at **36**. The leg **22** can thus be folded by means of such hinged connection to the position thereof shown in dotted lines in this figure, in which position the leg **22** lies flat against the back section **20**.

The foldable top **18** overhangs the side edges of the back section **20** and is preferably equal in length to the stationary top section **19** of the frame. The top has mounted thereon relatively adjacent the opposite end thereof supporting blocks **37** and **38**, FIG. 5, each of which, referring to FIG. 7, is adapted to mount a resilient leg retaining member **39** by means of fastener **40**. The flexible free end **41** of the resilient retaining member **39** is generally curved and is adapted to be received by an opening **42** formed in the leg **22**. When the latter is moved to its FIG. 7 position, the free end **41** of the retainer is flexed until the leg **22** is generally normal to the top **18**, at which time the end **41** resiliently engages the edge of the leg defining the opening **42** thereby to retain the leg in a support position. The leg **21** is retained in a support position in a similar manner.

In the use of the table, assuming the same is in its folded position, the table is removed from the rack **11** and the top **18** is pivoted upwardly about the hinges **25** and **26** to a flat, horizontal position. The leg **21** is then folded outwardly to a position generally normal to the back section **20**, with the retainer member **39** retaining the same in such position. The leg **22** is thereafter moved to its support position normal to the back section **20** and similarly retained in place. The table is supported by feet **28** and **34** of the legs to provide an exceptionally sturdy arrangement. The movable top **18** and fixed top section **19** provide a continuous flat surface to permit use of the table as a writing desk, if desired, in addition to its usual function of supporting food, beverage glasses and the like. It will also be noted that the table is completely open below the top **18** and between the legs **21** and **22** to permit freedom of movement of the user's legs under the table during use thereof. Moreover, the feet **28** and **34** of the legs **21** and **22** permit the same to be received under sofas, chairs or the like for adjustably drawing up the table to the user as desired.

To fold the table the reverse procedure is followed. The leg **22** is first folded toward the back section **20** to closely abut the same. The leg **21** is thereafter folded to overlie the leg **22** and, finally, the top **18** is folded downwardly, with the same in such downwardly folded position extending closely adjacent the leg **21**. The table when thus folded is exceptionally compact and can be placed in the storage rack as above described and illustrated in FIGS. 1 and 2. The legs **21** and **22** are received between the sides **12** and **13** of the rack and the top **18** is received by an aligned pair of slots **17**.

As illustrated, the rack and tables are made of wood and the various parts or sections thereof can be economically patterned from a laminated sheet of plywood, e.g., to thus provide a table and rack assembly which is relatively lightweight and economical to manufacture, in addition to possessing the advantages noted above.

As best shown in FIG. 2, when the folded tables are supported on my rack **11**, the adjacent top sections **19** are not only co-planar but also in side-by-side contact with each other to present a substantially continuous upper surface so that the assemblage of stored tables may itself be employed as a side table or the like. The overhang of section **19** is sufficient to overlie the upper edge of the adjacent folded-down top **18**, so that the stored tables interfit, with no waste space therebetween or gap in the upper surface jointly presented. The slots **17** may desirably be padded with felt or similar material to avoid marring of the table tops. A table of convenient size and dimensions may be cut from a single piece of standard 4 foot by 8 foot plywood, with consequent convenience and economy in manufacture. By employing long piano hinges to attach the folding legs to the back section **20**, a very strong and rigid support is provided for the table top in use, the planes of the legs being normal to such back section in this position.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims or the equivalent of such be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A folding table comprising a stationary frame assembly, a pair of legs hingedly connected to said stationary frame assembly adjacent opposite sides thereof, each of said legs being generally U-shaped and comprising a top section for supporting the top of the table and a bottom section adapted to engage the surface supporting the table, with one of said legs when folded lying flat against said stationary frame assembly and the other of said legs when folded lying flat against said one leg, a top member hingedly connected to said stationary frame assembly, said top member when unfolded being generally horizontally disposed and supported by said unfolded leg members, said table top when folded hanging downwardly over said other leg when folded thereby to provide a compact folded table, means for retaining each of said legs in their unfolded position supporting said top, said retaining means comprising a pair of flexible retaining members mounted on said top, with each of said legs being provided with an opening through which a curved leading end portion of a respective retainer member extends when said legs are moved to a support position generally normal to said stationary frame assembly and said top, said curved leading end portions of said resilient retaining members retaining said legs in such position.

2. A folding table comprising a stationary frame assembly, said stationary frame assembly comprising a generally inverted U-shaped back section and a flat horizontal top section attached thereto, a pair of legs respectively hingedly connected to said back section of said stationary frame assembly adjacent opposite sides thereof, each of said legs being of general horizontal U-shaped configuration and comprising a top section for supporting the top of the table and a bottom section adapted to engage the surface supporting the table, with one of said legs when folded lying flat against said back section of said stationary frame assembly and the other of said legs when folded lying flat against said one leg, and a movable table top member hingedly connected to said stationary frame assembly, said top member when unfolded being generally horizontally disposed and forming a continuous, flat top surface with said top section of said frame assembly, and said movable top member when in such unfolded position being supported by said unfolded leg members,

said movable table top when folded hanging downwardly over said other leg thereby to provide a compact folded table.

3. The table of claim 2, further including means for retaining each of said legs in their unfolded position supporting said top, said top section of said frame assembly projecting beyond said back section at the side thereof opposite to said top member a distance generally equal to the thickness of said top member, whereby one said table in folded condition may interfit with an adjacent similar table jointly to provide a substantially continuous upper surface.

4. A table assembly comprising a storage rack and a plurality of individual folding tables adapted to be received in said storage rack, said storage rack being generally box-shaped and comprising spaced side walls each of which is formed with a plurality of spaced slots, with respective slots in the opposed sides being aligned to receive and support a folding table, each of said folding tables comprising a stationary frame assembly and foldable leg means hinged thereto, said stationary frame assembly including a flat, top section, a movable top member carried by said stationary frame assembly for movement between a substantially vertical, non-use position and a substantially horizontal, use position co-planar with said flat, top section of said stationary frame, said table when said movable top is in its substantially vertical, non-use position being supported on said rack by engagement of the bottom edge of said movable top with the bottoms of a pair of aligned slots, with the legs of said table when the latter is so positioned in said rack being elevated from the surface supporting said rack.

5. The combination of claim 4 wherein said flat, top section of said stationary frame of said table projects beyond the back portion of said frame a distance generally equal to the thickness of said movable top, with the spacing of said slots in said rack being such that adjacent tables when positioned in said rack interfit to provide a substantially continuous upper surface.

6. The combination comprising a storage rack and a plurality of individual folding tables adapted to be received in said storage rack, said storage rack being generally box-shaped and comprising spaced side walls each of which is formed with a plurality of spaced slots, with respective slots in the opposed sides being aligned to receive and support a folding table having fixed and movable top sections, each such table when so supported being elevated above the surface supporting said rack, the spacing of said aligned slots in said rack being such that when said plurality of tables are so positioned in said rack, said tables interfit in such a manner that the fixed top sections of said tables provide a substantially continuous upper surface.

7. A table assembly comprising a floor rack adapted to receive and hold a plurality of folded tables in closely juxtaposed side-by-side relationship, and a plurality of folding tables held thereby, said tables each comprising a narrow flat horizontal table top member, a stationary supporting frame rigidly secured to the underside thereof and having two spaced leg portions extending downwardly from adjacent the respective ends of said top member, leg members vertically pivotally secured to said respective leg portions and having horizontally extending foot portions adapted to engage the floor and support said table and corresponding horizontally extending brace portions at their upper ends adapted to engage and support the underside of a principal wide table top member when said leg members are pivoted to bring said foot and brace portions generally at right angles to the long dimension of said narrow table top member, a principal wide table top member horizontally pivotally mounted for swinging movement between a horizontal position where it affords a continuation of the top surface of said narrow top member and a vertical folded position where it lies closely against said leg members when the latter have been pivoted to bring their aforesaid foot and brace portions generally parallel to the long dimension of said narrow table top member, the lower portions of said wide table top members in such vertical positions being supported and firmly but removably held in said rack with said foot portions spaced upwardly from the bottom of said rack, and longitudinal edge portions of said narrow top members overlying adjacent upper edges of said vertically disposed wide table top members of next adjacent tables to afford a substantially continuous horizontal composite top surface of said assembly.

8. A table assembly comprising a floor rack adapted to receive and hold a plurality of folded tables in closely juxtaposed side-by-side relationship, and a plurality of folding tables held thereby, said tables each having a narrow flat horizontal table top member, supporting legs, and a wide flat top member horizontally pivotally mounted for swinging movement between a horizontal position where it affords a continuation of the top surface of said narrow top member and a vertical folded position, the lower portions of said wide table top members in such vertical folded positions being supported and firmly but removably held in said rack with the lower ends of said legs spaced upwardly from the bottom of said rack and said narrow top members of adjacent folded tables in said rack affording a substantially continuous horizontal composite top surface of said assembly.

9. The combination comprising a storage rack and a plurality of individual folding tables adapted to be received in said storage rack, said storage rack being generally box-shaped and comprising spaced side walls each of which is formed with a plurality of spaced slots, with respective slots in the opposed sides being aligned to receive and support the top portion of a folding table, each of said folding tables comprising a stationary frame assembly including a horizontal top section, a pair of legs hingedly connected to said stationary frame assembly at generally opposite sides thereof, each of said legs being generally U-shaped and hinged to said stationary frame assembly along the connecting portion thereof, each of said legs when unfolded thereby providing a top section for supporting the top of the table and a bottom section adapted to engage the surface supporting the table, with one of said legs when folded lying flat against said stationary frame assembly and the other of said legs lying against said one leg, a top member hingedly connected to said stationary frame assembly and adapted when unfolded to be moved to a generally horizontal position to be supported by said leg members, said table top when folded hanging downwardly and dispose outwardly of sai other leg thereby to provide a compact folded table, with the tables when folded and mounted in said storage rack thereby providing a substantially continuous, flat top surface.

10. A folding table comprising a horizontal cross member forming a stationary top section of said table, thin flat leg portions extending rigidly downwardly from respective ends of said cross member, said leg portions being in the same plane with each other, thin flat leg members respectively vertically pivotally secured to said leg portions for swinging movement between positions normal to the latter and parallel to the latter, a table top horizontally pivotally connected with said stationary top section for swinging movement between a substantially horizontal operative position in the same plane as said top section, and a substantially vertical inoperative position on the same side as said leg members, foot portions on the lower ends of said respective leg members extending away from said leg portions when said leg members are swung normal thereto, and corresponding top supporting portions on the upper ends of said leg members.

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