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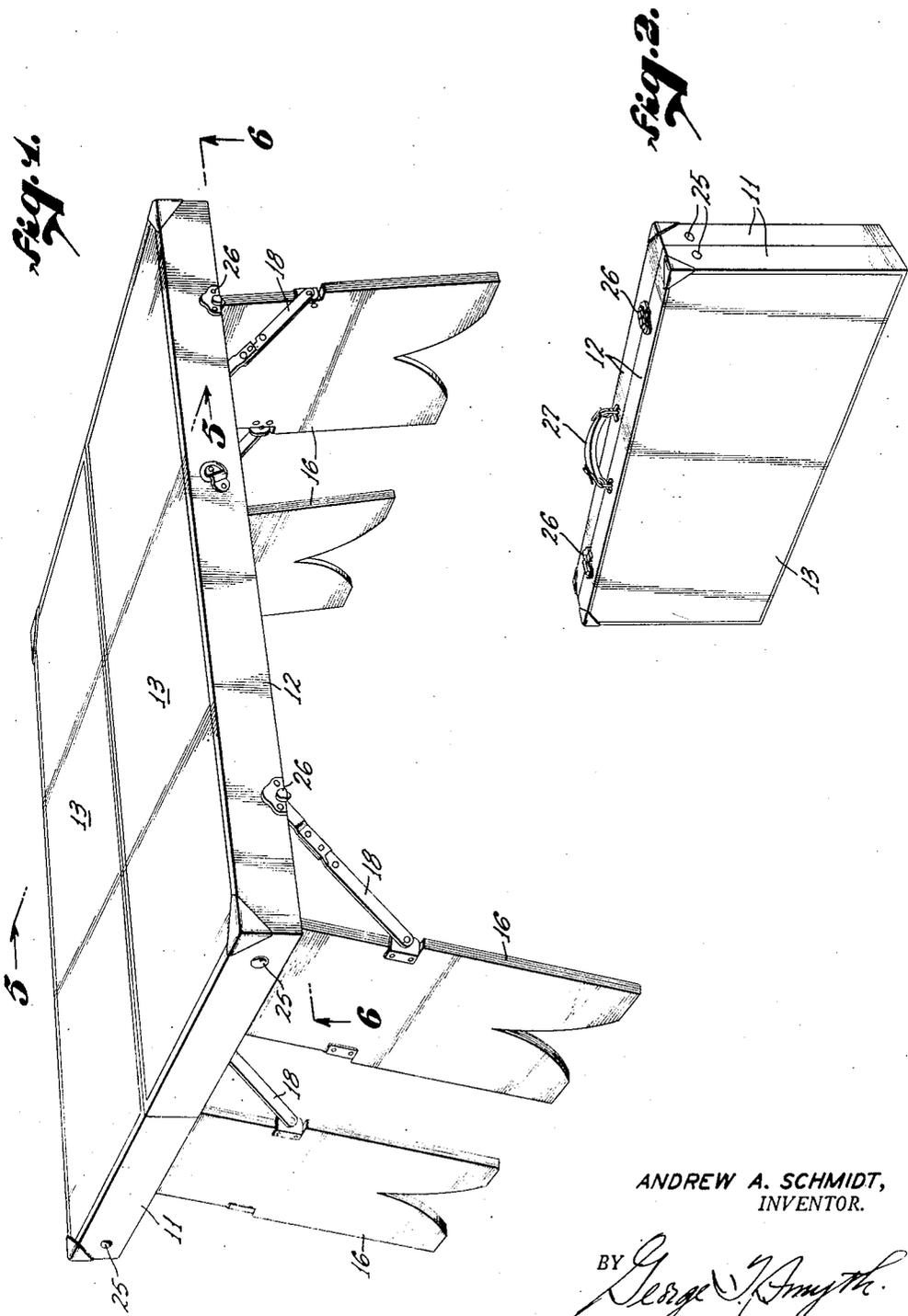
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2,522,642

FOLDABLE TABLE AND SEAT ASSEMBLY.

Filed June 2, 1949

3 Sheets-Sheet 1



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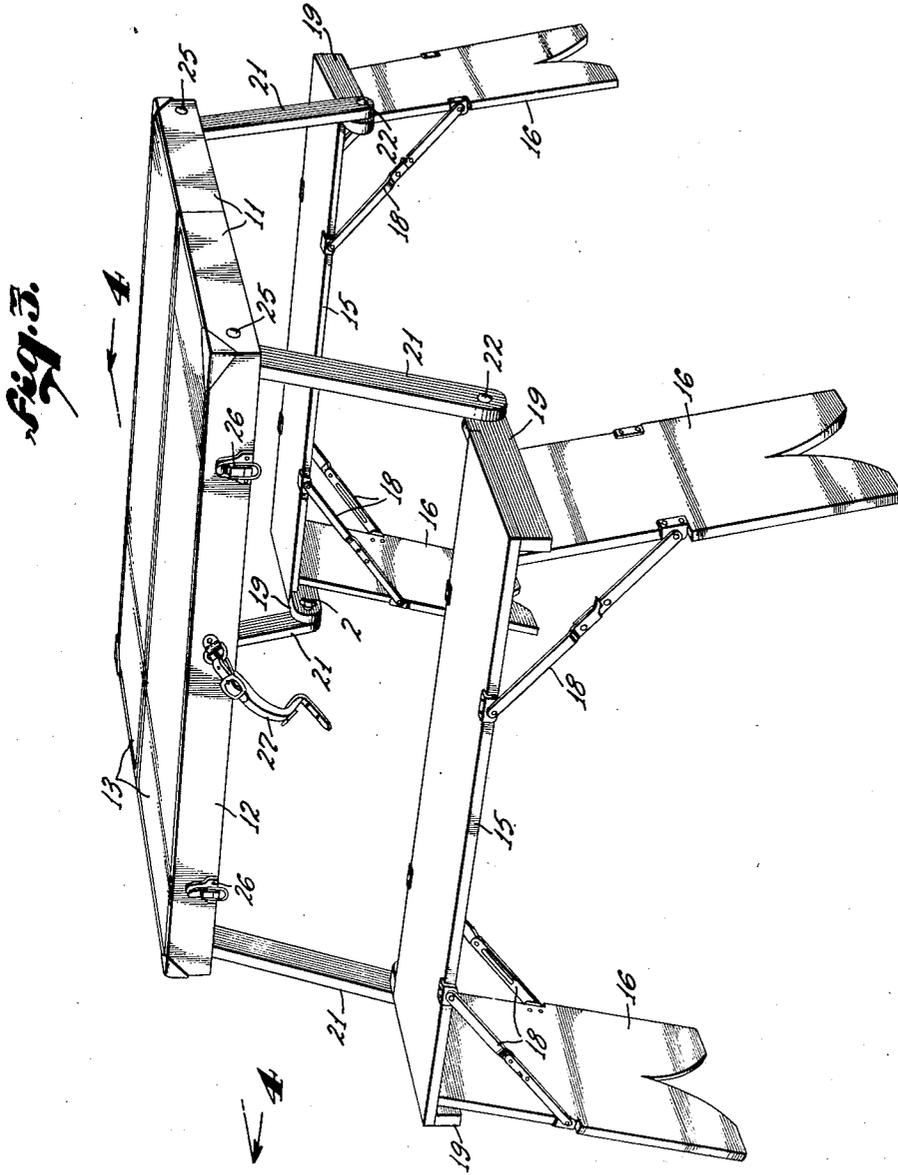
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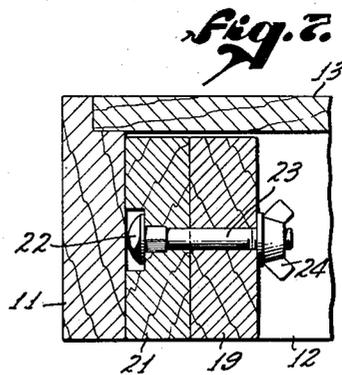
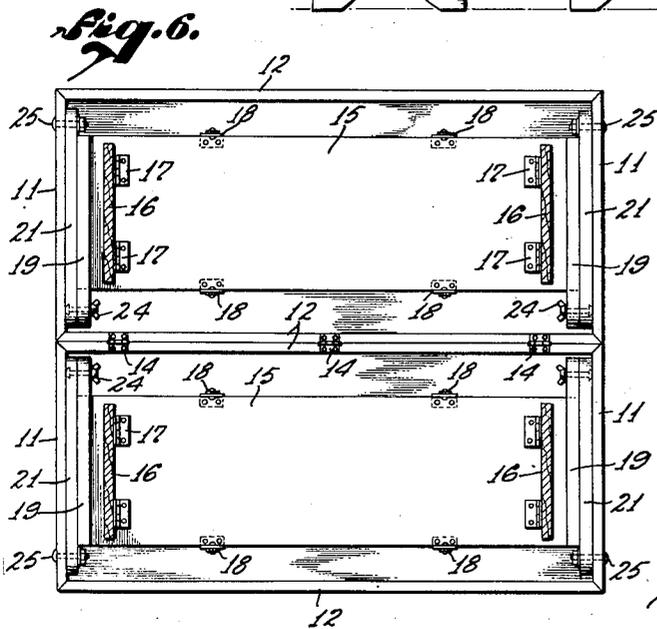
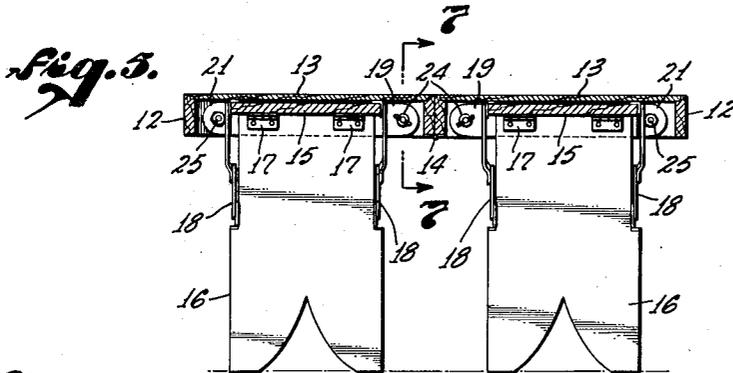
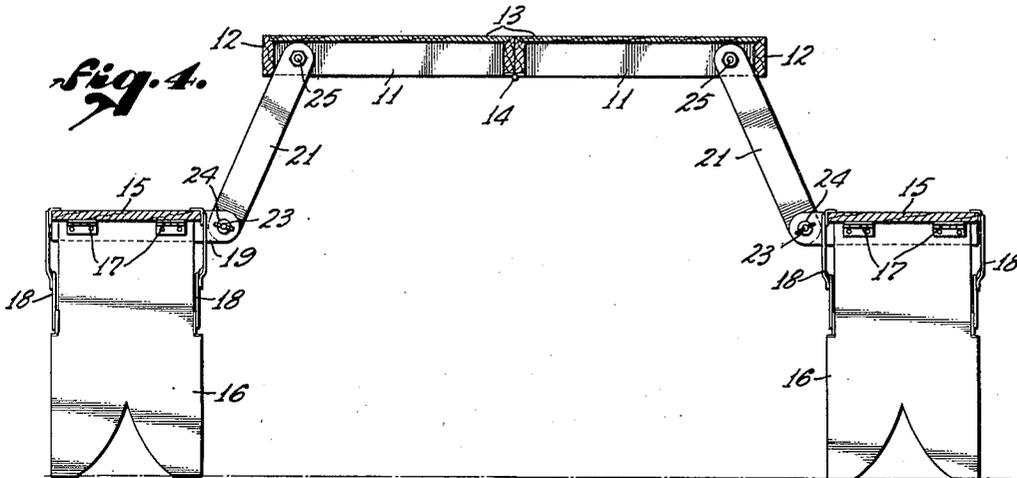
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UNITED STATES PATENT OFFICE

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FOLDABLE TABLE AND SEAT ASSEMBLY

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6 Claims. (Cl. 155—124)

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This invention relates to foldable table and seat assemblies and more particularly to one in which the seats and their supports are so interconnected as to be compactly folded into two hingedly interconnected receptacles which when opened constitute the table top and when closed the enclosure for the seats and their supports.

Although such assemblies have been heretofore proposed, they have not been widely used for several reasons, at least one important reason being that the table formed by the interconnected receptacles was not securely supported in the fully extended position. In these prior assemblies like the one herein shown, the table was supported between and above the seat members by link elements interconnecting the table and the seat members and which permitted the latter to be arcuately moved into the receptacles when the table was folded. The articulated link elements of the assemblies heretofore proposed extended from the central portions of the seats to central points located on opposite sides of the table. Although such construction afforded convenient access to the seats from either of their ends, this construction was inherently poor, for it did not provide adequate support for the table top itself.

In the table and seat assembly of the present invention the seat members are rigidly supported by foldable legs and in turn rigidly support the substantially rectangular table top at the four corners thereof. This support is afforded by a single rigid link arranged at each corner of the table top, the opposite ends of each link being pivotally connected to a corner and one end of a seat member, respectively. As the table top of the present invention is supported at the four corners thereof and not merely at the opposite sides intermediate the corners, the same is far more rigid in use and will take substantially heavier loads than the tables of prior assemblies.

Because of the arrangement used in prior assemblies to provide access to the seats from the opposite ends thereof, the link elements when folded into the receptacles were disposed intermediate the transverse wall of the receptacles and the folded seat members. This obviously required receptacles deep enough to receive the link elements and seat members in superimposed relationship. This necessarily increased the over-all dimensions of the table when folded for transportation or storage.

In the assembly of the present invention, as the links are connected to the ends of the seat

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members the same when folded are disposed intermediate the ends of the seats and the end walls of the receptacles. Thus the receptacles are of less depth than the receptacles of prior assemblies and the assembly of the present invention can therefore be folded into a more compact device.

The particular link arrangement of the present invention not only results in a more compact folded device but provides a feature not to be had with prior assemblies. As the links fold into receptacles to positions intermediate the ends of the seat members and the side walls of the receptacles, the supporting surfaces of the seat members, when the latter are moved with the links into the receptacles, are in facewise engagement with the undersurface of the table top formed by the two receptacles. In this folded position the partially collapsed or folded assembly forms a table supported at a level substantially that of the seat members. The table in this use of the assembly is directly supported by the seat members and their supporting legs and forms a table well adapted to be used at the beach or other recreational area where the users of the table prefer to sit or recline on the ground adjacent the table.

Thus with the table and seat assembly of the present invention the table and seat members may be completely unfolded to provide a table having arranged along opposite sides thereof seat members which through the four links rigidly support the table above and between the seats. With the table and seat members so arranged, seating accommodations are provided such as are had with a conventional picnic table. If the table is to be used where informal seating arrangements are desired, as at a beach, for example, the seat members are merely swung into the receptacles to directly support the table top formed by the receptacle. When the table is to be further folded for transportation and storage, the legs of the seat members are merely folded against the undersurface of the seat members and the two receptacles swung together to form a carrying case.

Other features and advantages of the present invention will be hereinafter apparent from the following detailed description thereof, particularly when taken in connection with the accompanying drawing, in which:

Figure 1 is a perspective view showing the table in its partially open position in which the table top is directly supported by the seat members;

Figure 2 is a perspective view of the table and seat arrangement completely folded for transportation and storage;

Figure 3 is a view somewhat similar to Figure 1 but showing the table and seats in their fully extended position;

Figure 4 is a section taken along line 4—4 of Figure 3;

Figure 5 is a section taken along line 5—5 of Figure 1;

Figure 6 is a section taken along line 6—6 of Figure 1; and

Figure 7 is a fragmentary view in section of the pivotal connection between a seat member and the table top supporting link.

The table and seat assembly of the present invention, referring now to the drawing and more particularly to Figure 3 thereof, comprises a pair of shallow or tray-like rectangular receptacles 10 of identical construction, size and shape. The receptacles 10 may be formed of any material desired and each comprises end and side walls 11 and 12, respectively, and a transverse wall 13 presenting oppositely facing plane surfaces. The receptacles 10 are interconnected by a plurality of hinge means 14 to permit the two receptacles to be moved or swung together to form the carrying case shown in Figure 2. The hinge means 14 also permits the two receptacles to be swung away from each other to bring the outer planar surfaces of the transverse walls 13 into coplanarity to form a continuous surface or table top, as clearly illustrated in Figures 1 and 3.

The table formed by the two receptacles 10 is supported above and between a pair of seat assemblies each comprising a planar seat element 15 and a pair of supporting legs 16. The legs 16 are hingedly connected to the undersurface of the seat element 15 by hinges indicated by the reference character 17. The legs 16 herein shown as substantially solid panels obviously can take any particular shape desired. Each leg is rigidly braced in its extended position by a pair of brace links 18, each comprising toggle mechanisms the free ends of which are pivotally connected to the seat element 15 and a leg 16, respectively. The brace links 18 are each formed with means for limiting movement of the same as the legs are pivotally moved outwardly from the seat elements, and this means holds the legs in the desired extended position. The hinge members 17 permit the legs to be swung from a position in which the same underlie the seat element 15 to a fully extended supporting position such as shown in Figure 3, in which position the legs are, as above explained, rigidly braced by the links 18.

Each seat element 15 carries at the opposite ends thereof frame members 19 of a length slightly greater than the width of the seat elements 15. The one end of an elongate rigid link 21 is pivotally secured to the projecting end of each frame element 19, the opposite end of each link 21 being pivotally connected to an end wall 11 of the contiguous or adjacent receptacle 10. The pivotal means 22 interconnecting the one end of the link 21 with the frame element 19 may comprise, referring now to Figure 7, a headed pintle member 23 passed through aligned openings formed in the ends of the frame member 19 and link 21. The end of the pintle member 23 opposite to the headed end is threaded and receives a wing nut 24, the purpose of which will be hereinafter more fully explained. The

pivotal connections 25 between the links 21 and the end walls 11 may consist of any conventional pivot means desired.

The hinge connection between the receptacles 10 and the manner in which the seat assemblies are pivotally connected to opposite sides of the table formed by the receptacles, permits the table and seat assembly of the present invention to be compactly folded into the carrying case 10 shown in Figure 2. Any conventional fastening means, such as indicated at 26, may be used to hold the two receptacles in their fully closed position. A handle member 27, one end of which may be permanently secured to one receptacle, is provided at its opposite end with detachable means for removably securing this end to the other receptacle. The handle member 27 obviously forms means for conveniently carrying the case formed by the closed receptacles 10.

When the table is to be used, the fastening means 26 are disengaged, as is also the one end of the handle 27, and the two receptacles are swung apart to a position in which the adjacent side walls 12 are in facewise engagement. In this position the outer planar surfaces formed by the transverse walls 13 will be coplanar, as clearly shown in the drawing. The legs 16 are now swung outwardly from the seat element 15 until the limiting means of the brace links 18 prevent further pivotal movement. The two receptacles can now be inverted to allow the seat elements 15 to pivotally move out of the receptacles and into the position shown in Figure 3.

It will be seen, referring now to Figure 4, that pivotal movement of each of the links 21 is limited by the opposite side walls 12 of the receptacles and the engagement between the upper ends of the links 21 with the side walls tends to hold the table in a rigid supported position. The wing nuts 24 can now be tightened to prevent any relative movement between the lower end of the links 21 and the frame elements 19. The table and seat assembly in this fully extended position affords seating accommodations such as are found with conventional picnic tables for the seat elements form benches arranged along the opposite side of the table. It should be noted that the links 21 are connected to the table top at substantially the four corners thereof and thus will, when the seat assemblies are moved to the position shown in Figures 3 and 4, rigidly support the table above the seat assemblies and the table top will consequently take relatively heavy loads applied even at the corners thereof.

When it is desired to collapse the table and seat assemblies for transportation or storage, the folding operations are reversed to bring the seat assemblies into the receptacles 10 to permit the same to be closed to again form the carrying case shown in Figure 2.

As the seating elements 15 are of a length slightly less than the length of the receptacles 10, the seat assemblies, when the same are swung inwardly about the pivotal connections 25 and 22, are movable to a position, referring now to Figure 5, in which the upper surface of the seat elements 15 are in facewise engagement with the undersurface of the transverse walls 13 of each receptacle. In this position the links 21 lie closely adjacent to the end walls 11 of the receptacle, as clearly shown in Figure 6. The frame members 19, in this folded position of the assembly, are arranged substantially parallel to the links 21.

If the legs 16 are allowed to remain in their fully extended position, a table is had, referring now to Figure 1, which is rigidly supported directly by the seat assemblies a distance above the supporting surface substantially equal to the length of the extended legs 16. The table top formed by the two receptacles 10 will, it is quite clear, be very rigidly supported, for as above explained, the particular link arrangement permits the supporting surface of the seat elements 15 to be moved into facewise engagement with the undersurface of the transverse walls 13. The table in the adjusted position shown in Figure 1 is particularly adapted to be used at a beach or other recreational area where informal seating arrangements are desired.

Although the now preferred embodiment of the present invention has been shown and illustrated herein, it is to be understood that the invention is not to be limited thereto, for it is susceptible to changes in form and detail within the scope of the appended claims.

I claim:

1. A table and seat assembly comprising a pair of shallow receptacles; means for hingedly interconnecting said receptacles whereby said receptacles form, when folded, a carrying case and when opened a table top; a pair of seat members; each seat member being of a length slightly less than the length of said receptacle; a plurality of legs for supporting each seat member; means for foldably connecting said legs to said seat members for movement between a folded position lying against the undersurface of said seat members to an operative extended position; link means pivotally interconnecting each of the opposite ends of said seat members to each of the opposite ends of said receptacles; said link means supporting said table top from said seat members in a position substantially higher than said seat members; releasable means for holding said link means against pivotal movement relative to said seat members to rigidly hold said table top in said higher position; said seat members and said link means being movable to position the upper face of each of said seat members in facewise engagement with the undersurface of said receptacles and to position said link means intermediate the opposite ends of said seat members and the adjacent end walls of said receptacle, whereby said table top is rigidly supported by said seat members and the supporting legs thereof at a level substantially that of said seat members.

2. In a device of the type described, a pair of benches, each including an elongated top portion having planar faces, foldable legs at the ends of the top portion and sectional foldable braces connecting portions of the legs to the top portion; a table top formed of a pair of receptacles each including a transverse wall and end and side walls; means for pivotally interconnecting adjacent side walls of said receptacles to permit the two receptacles to be folded to form a case and to be pivotally moved to a position in which the transverse walls of each receptacle are coplanar; an elongate, rigid link pivotally interconnecting each end of the benches to the corner of said table top adjacent each bench, said links, when said benches are arranged at opposite sides of said table top, supporting said top in an elevated position above said benches; releasable means for holding said links against pivotal movement relative to said benches to rigidly hold said table top in said elevated position; said benches being arcuately movable from the said

positions at the opposite sides of said table top to positions in which the planar surfaces thereof are facewisely engaging the undersurface of said receptacles, whereby said table top is directly supported by said seat members; said links pivotally moving during the aforesaid arcuate movement of said benches to positions intermediate the ends of said benches and the end walls of said receptacles.

3. In a device of the type described, a pair of benches, each including an elongated top portion having planar faces, foldable legs at the ends of the top portion and sectional foldable braces connecting portions of the legs to the top portion; a table top formed of a pair of receptacles each including a rectangular transverse wall, end and side walls circumscribing said transverse wall; means for pivotally interconnecting adjacent side walls of said receptacles to permit the two receptacles to be folded to form a case and to be pivotally moved to a position in which the transverse walls of each receptacle are coplanar; said table top adapted to be arranged intermediate said benches; an elongate, rigid link pivotally interconnecting each of the opposite ends of the benches to an end wall of the adjacent receptacle adjacent each corner of said table top and movable into a limit position in engagement with the side wall of the receptacle to which it is connected, said links in said limit position supporting said top from said benches in an elevated position relative thereto; said benches being arcuately movable from the said positions at the opposite sides of said table top to positions in which the planar surfaces thereof are facewisely engaging the undersurface of said receptacles, whereby said table top is directly supported by said seat members; said links pivotally moving during the aforesaid arcuate movement of said benches to nested positions intermediate the ends of said benches and the end walls of said receptacles.

4. A structure of the character described, comprising: two substantially rectangular receptacles, each having a transverse wall presenting oppositely facing plane surfaces, a pair of end walls, and a pair of side walls; hinge means interconnecting adjacent side walls to permit said receptacles to be moved together to form an inclosure, said receptacles adapted when opened to form a table top; a pair of seat members to be arranged at opposite sides of said table top; legs foldably connected to said seat members for supporting the same; four rigid links; means carried by the opposite ends of each link for pivotally interconnecting the opposite ends of each seat member to the outer ends of the end walls of the adjacent receptacle for supporting the table top in one position of use thereof between and above said seat members; releasable means for holding said links against pivotal movement relative to said seat members to rigidly hold said table top in said position above said seat members; said links arcuately movable with said seat members into positions within said receptacles in which the supporting surfaces of said seat members are in facewise engagement with the underneath plane surfaces of the transverse walls of said receptacles and said links are disposed intermediate the ends of said seat members and the end walls of said receptacles whereby the table top formed by the outer plane surfaces of said receptacles is supported in a second position of use thereof at a relatively lower level than in said first named position of use.

5. A device of the character described, comprising: a pair of seat members; supporting legs for said members; means hinging said legs to the seat members to fold thereagainst; a table top having a length slightly greater than the length of said seat members; said table top adapted to be arranged intermediate said seat members and comprising two aligned receptacles each having a transverse wall and side and end walls; means hingedly interconnecting adjacent side walls of said receptacles; said receptacles being movable from an extended position in which said transverse walls are coplanar to a folded position in which side and end walls are edge-to-edge to form an enclosure; and a single elongate, rigid link of a length substantially equal to the width of said receptacles pivotally interconnecting each end of said seat members to the outer end of the end walls of the receptacle adjacent to each member for supporting the table top formed by said receptacles in said extended position at the four corners thereof in an elevated position above said members; releasable means for holding said links against pivotal movement relative to said seat members to rigidly hold said table top in said elevated position; said links being pivotally movable about the connection between the same and said end walls to arcuately guide said seat members to positions in which each seat member is facewisely engaging the undersurface of the transverse wall of the receptacle to which it is pivotally connected and is directly supporting the engaged receptacle whereby said table top is supported at a relatively low level; each of said links in said last named position of said table top being disposed within said receptacles intermediate the end walls thereof and the opposite ends of the seat member disposed therein.

6. A device of the character described, comprising: a pair of seat members; supporting legs for said members; means hinging said legs to the seat members to fold thereagainst; a table top having a length slightly greater than the length of said seat members; said table top adapted to be arranged intermediate said seat members and

comprising two aligned substantially rectangular receptacles each having a transverse wall and side and end walls; means hingedly interconnecting adjacent side walls of said receptacles; said receptacles being movable from an extended position in which said transverse walls are coplanar to a folded position in which side and end walls are edge-to-edge to form an enclosure; a single elongate, rigid link of a length substantially equal to the width of said receptacles pivotally interconnecting each end of said seat members to the adjacent outer end of the end walls of the receptacle adjacent each member, said seat members being movable to positions in which said links support the table top formed by said receptacles in said extended position at the four corners thereof in an elevated position above said members; and releasable means for holding said links against pivotal movement relative to said seat members to rigidly hold said table top in said elevated position; said links being pivotally movable about the connection between the same and said end walls, upon release of said holding means, to arcuately guide said seat members to positions in which each seat member is facewisely engaging the undersurface of the transverse wall of the receptacle to which it is pivotally connected and is directly supporting the engaged receptacle whereby said top is supported at a relatively low level; each of said links in said last named position of said table top being disposed within said receptacles intermediate the end walls thereof and the opposite ends of the seat member disposed therein.

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