United States Patent [19]

Lake

[11] **3,758,152**

[45] **Sept. 11, 1973**

[54] **CIRCULAR TABLE AND SEAT CONSTRUCTION**

[76] Inventor: **Gary F. Lake,** 487 Short St., Bishop, Calif. 93514

[22] Filed: **Oct. 21, 1971**

[21] Appl. No.: **191,532**

[52] **U.S. Cl.** **297/157,** 108/153

[51] **Int. Cl.** **A47b 3/06**

[58] **Field of Search** 297/157, 423, 135, 297/136, 139, 170, 171, 174; 108/153, 115

[56] **References Cited**

UNITED STATES PATENTS

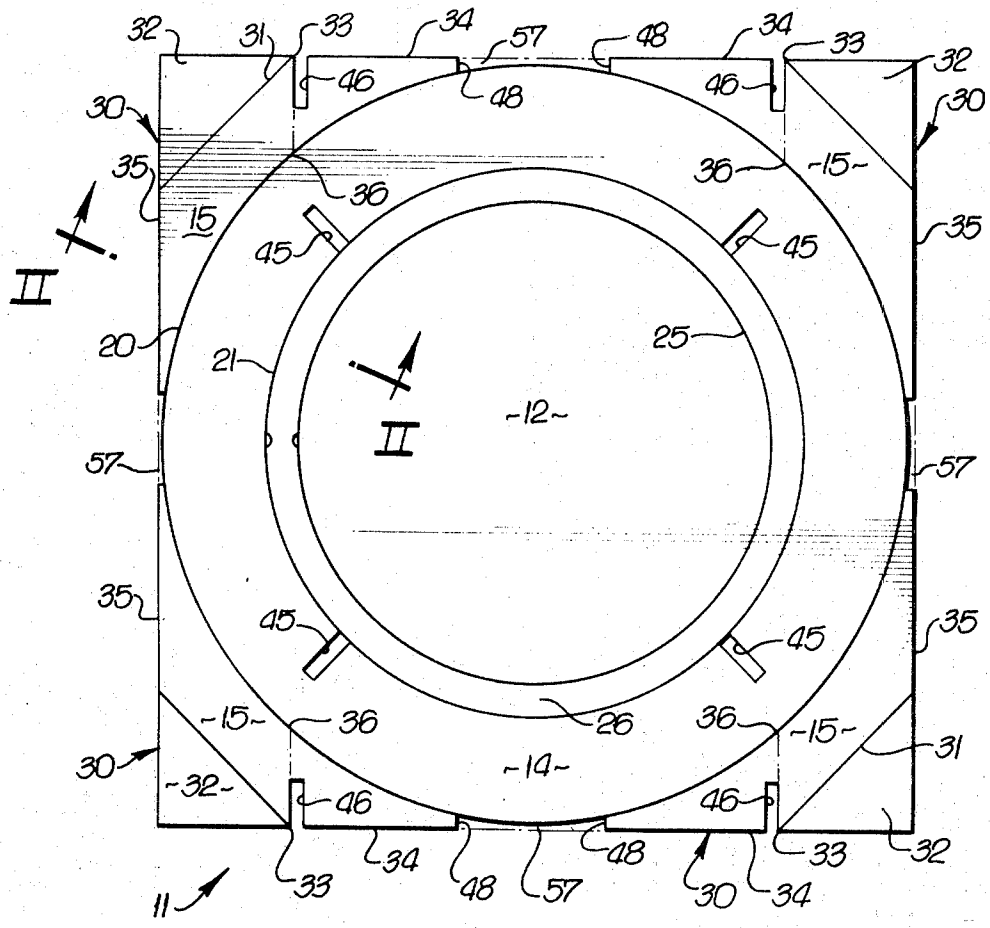
171,751	3/1954	Curtis	297/157 X
2,367,011	1/1945	Demmien	297/157
2,713,889	7/1955	White	297/423 X
3,300,245	1/1967	Rumble	297/157
3,572,824	3/1971	Schupbach	297/157

Primary Examiner—James T. McCall
Attorney—E. F. Jaros et al.

[57] **ABSTRACT**

A circular table construction made from a rectangular sheet of material by cutting a minimum number of table parts and with the material waste reduced to a minimum, said table construction having a circular table top and a continuous annular seat member therearound and secured in assembly by a plurality of support means diametrically arranged; the table construction affording virtually unobstructed leg space beneath the table top and being readily relocatable as by rolling on the outer circumferential edge of the annular seat member.

6 Claims, 8 Drawing Figures



PATENTED SEP 11 1973

3,758,152

SHEET 1 OF 2

FIG. 1.

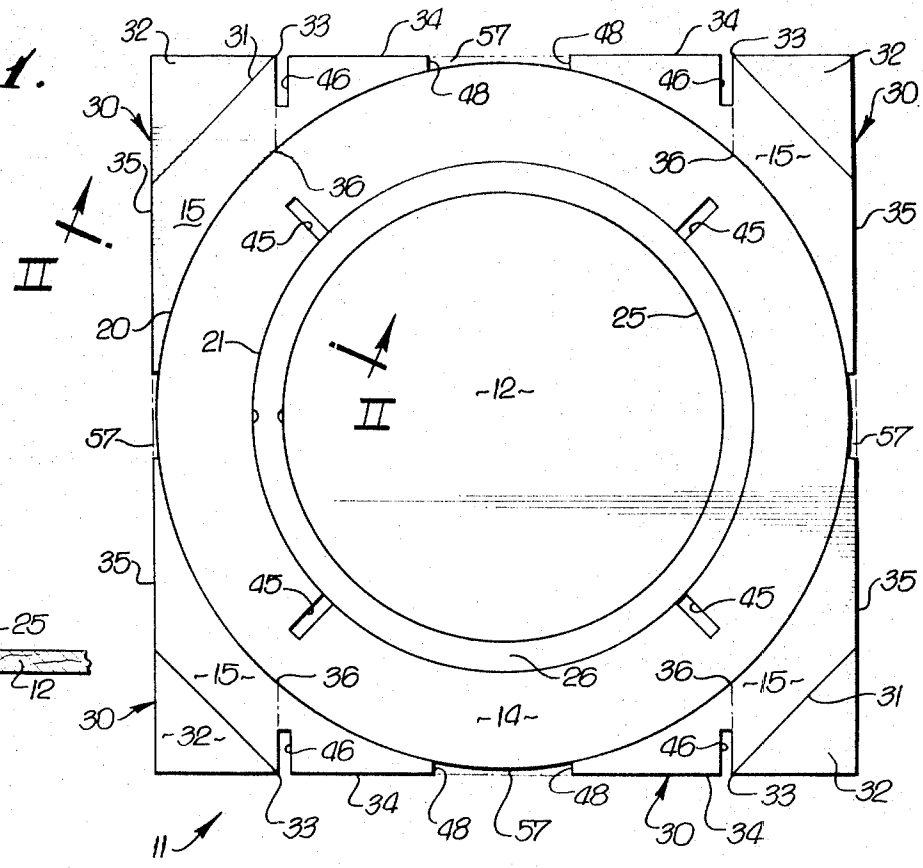


FIG. 2.

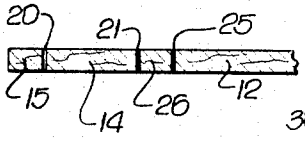


FIG. 3.

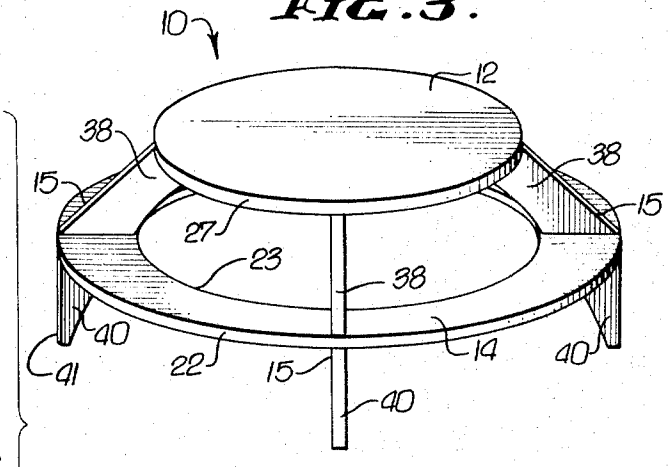
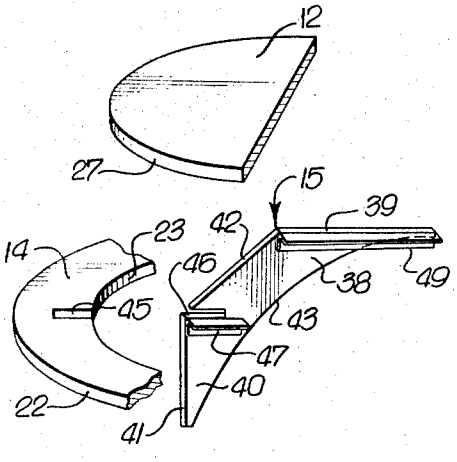


FIG. 4.



INVENTOR.
GARY F. LAKE
BY
Miketta, Glenny, Pons & Smith
ATTORNEYS.

FIG. 5.

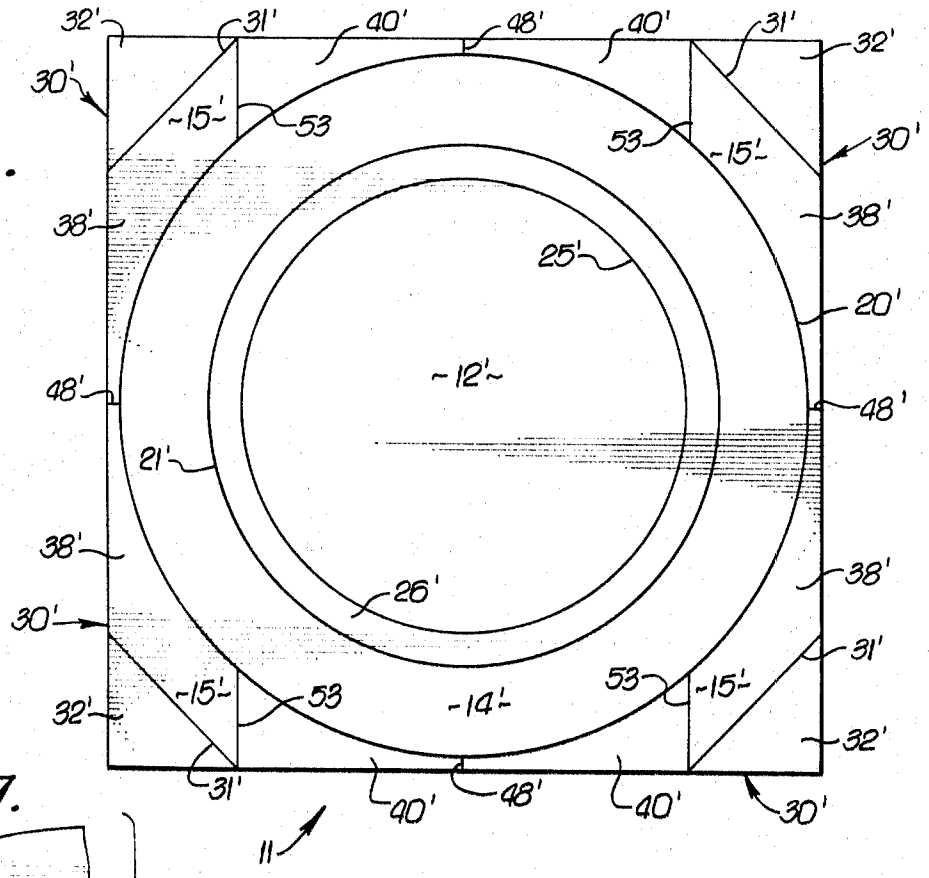


FIG. 7.

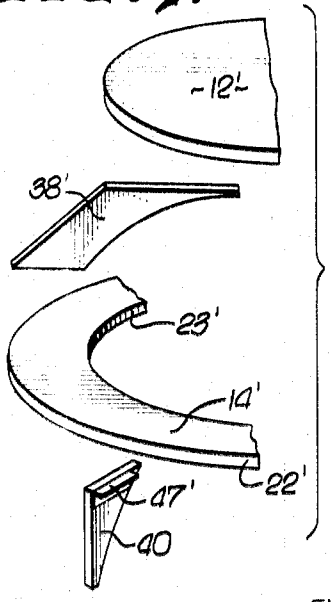


FIG. 6.

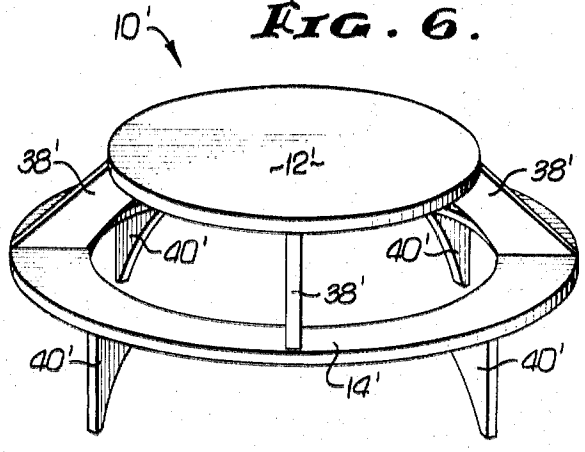
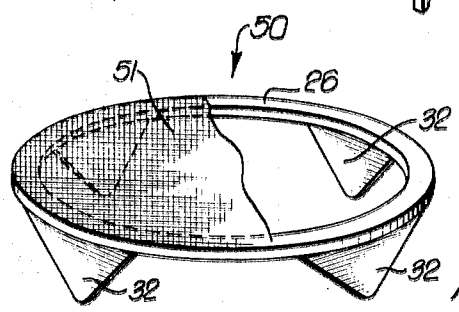


FIG. 8.



INVENTOR.
GARY F. LAKE
BY
Miketta, Glenny, Pome & Smith
ATTORNEYS.

CIRCULAR TABLE AND SEAT CONSTRUCTION

BACKGROUND OF INVENTION

It has been recognized that circular tables are useful and desirable for facilitating social and educational exchanges between persons of a group at the table by which each person may readily view another person. Such group arrangement is particularly useful in schools, especially in elementary grades as well as other grades. Such circular group arrangements are desirable at social gatherings such as on a patio or garden. Such purposes require that a circular table be comfortable, have virtually unobstructed leg space, and be readily relocatable if necessary by one person. Such a circular table should be aesthetically appealing in design and should be capable of manufacture with minimum waste of material and require minimum number of table parts.

Prior proposed circular tables have included center pedestal type tables in which the pedestal obstructed freedom of leg movement. Another prior circular table was first fabricated in quarter sections, the quarter sections being assembled around a centerpost which supported a circular awning (U.S. Pat. No. 2,713,889). Another combined circular table and bench included arcuate benches provided with a center partition forming a support for the table top (U.S. Pat. No. 2,367,011). Another prior proposed table construction fabricated from a single piece of rectangular stock required cutting a large number of pieces from the single piece of stock and assembly thereof in which side benches and end table supports provided a structure which made seating at the end of the bench very awkward and uncomfortable. (U.S. Pat. No. 3,300,245)

SUMMARY OF INVENTION

The present invention contemplates a circular table construction and method of cutting or fabricating the same from a single rectangular sheet of material which results in an aesthetically pleasing, comfortable, and economic table structure in which waste material is substantially reduced to a minimum.

An object of the present invention is to disclose a circular table construction and method of fabricating or cutting same from a single sheet of material in a most efficient and economic manner.

An object of the invention is to disclose a circular table construction having a continuous annular seat member which provides a circular circumferential edge for readily rolling the table construction to a selected location.

Another object of the invention is to disclose a circular table construction wherein a circular table top and a concentrically arranged continuous annular seat member are arranged to facilitate convenient seating at the table.

Another object of the present invention is to disclose a circular table construction in which table support means are arranged with respect to a circular table top and surrounding circular bench so as to provide virtually unobstructed leg space beneath the table top.

A still further object of the present invention is to disclose and provide a circular table construction which may be readily shipped or stored in precut layout arrangement in the form of a single flat sheet of material.

Still another object of the invention is to disclose a method of cutting a single sheet of rectangular material

such as plywood whereby a circular table top, annular seat member, and a plurality of table support means are readily and quickly cut with a minimum of waste material and table parts. The invention also illustrates an exemplary use of such waste material to provide a companion piece of lawn furniture.

Other objects and advantages of this invention will be readily apparent from the following description of the drawings in which exemplary embodiments of the present invention are shown.

IN THE DRAWINGS

FIG. 1 is a top plan view of a rectangular sheet of material marked for cutting to fabricate a circular table construction embodying this invention.

FIG. 2 is a fragmentary sectional view taken in the plane indicated by line II—II of FIG. 1.

FIG. 3 is a perspective view showing a circular table embodying this invention and made from a sheet of material shown in FIG. 1.

FIG. 4 is a fragmentary exploded view of a portion of the table shown in FIG. 3 to illustrate assembly of the table parts.

FIG. 5 is a top plan view of a rectangular sheet of material showing lines for cutting a circular table construction embodying a modification of the invention shown in FIG. 1.

FIG. 6 is a perspective view of a circular table construction assembled from the parts cut from the rectangular sheet shown in FIG. 5.

FIG. 7 is an exploded fragmentary perspective view of parts of the table shown in FIG. 6 to illustrate assembly.

FIG. 8 is a perspective view of a use of portions of the rectangular sheet shown in FIG. 1 or FIG. 5 which are not used in the fabrication of the circular table construction.

In the embodiment of this invention shown in FIGS. 1–4, inclusive, a circular table construction **10** may be fabricated from a single rectangular sheet of material **11** (FIG. 1). Generally speaking the table construction **10** includes a circular table top **12**, a continuous concentrically arranged annular seat member **14** spaced below top **12**, and a plurality of support means **15** which space and support table top **12** from seat member **14** and seat member **14** from a supporting surface such as a floor or the ground.

In fabrication of the table construction **10**, the rectangular sheet of material **11** may be of any suitable rigid material such as plywood of selected thickness. A suitable size for sheet **11** would be an external or weatherproofed sheet of plywood having a thickness of ¾ inch and a square having a dimension of from about 4 feet to 6 feet depending upon the selected use for the table. Thus, when the table is used for small children in a school environment such as kindergarten, the smaller dimension of 4 feet may be desirable. When the table construction is utilized as a patio table for adults, a larger dimension is desirable.

In the method of cutting the rectangular or square sheet of material **11**, in order to effectively utilize such material, a circular cut may first be made along the line **20**, the diameter of line **20** being approximately the same as one of the dimensions of the square. In FIG. 1 it will be noticed that the diameter of the circular line **20** is illustrated as slightly less because in actual fabrication it is difficult to cut line **20** at the tangent formed

by the side edge of the square sheet. In practice this space may amount to a sixteenth or an eighth of an inch.

After cutting along the circular line **20**, a second cut may be made along the circular line **21** which is coaxial with circular line **20** and which is spaced radially inwardly from line **20** a distance sufficient to provide satisfactory or acceptable seat or bench width such as from **6** to **12** inches in width. Thus cutting along lines **20** or **21** provides a continuous annular seat member **14** having an outer circumferential edge **22** and an inner circumferential edge **23**.

Table top **12** may then be cut along circular line **25** which is concentric and coaxial with the circular lines **20** and **21** and which may have a diameter slightly less then the inner diameter of the seat member **14** as defined by the inner circumferential edge **23** or line **21**. Upon cutting along line **25**, a relatively narrow annular member **26** is formed, the width of member **26** being suitably selected so as to facilitate the act of seating at table **10**. When the outer circumferential edge **27** of circular table top member **12** is spaced slightly radially inwardly from the inner circumferential edge **23** of seat member **14**, and the vertical spacing between table top member **12** and seat member **14** is normal or in the order of **7** to **14** inches, it will be apparent that if the circumferential edge **27** was directly above edge **23** it may be awkward for people of certain build to readily seat themselves at the table construction. Providing slight lateral annular space between edge **27** and edge **23** enhances the ease by which a person may readily seat himself at the table construction. Depending upon the use for the table, it will be readily apparent that the width of annular member **26** may be varied.

Support means **15** are provided by each corner portion **30** of the sheet of material **11**. In this example each corner portion **30** may be cut along diagonal line **31** to form support means **15** and a right angle corner section **32**. Preferably the diagonal cut along line **31** is located so that the vertex **33** of the angle formed by a side edge **34** of corner portion **30** and line **31** is located so that the distance along a line parallel to the other side **35** of corner portion **30** from the line **20**, as indicated at point **36**, to vertex **33** has a length approximately equivalent to the width of seat member **14**. Thus, when each support means **15** is assembled with seat member **14** and table top **20**, it will be readily apparent that top portion **38** includes a top edge **39** (corner side edge **35**) which serves as a bearing or support surface for the bottom surface of table **12**. Each support means **15** also includes a side portion **40** having a side edge **41** (corresponds to side edge **34** of corner portion **30**). Side portion **40** extends below seat member **14** and acts as a leg with contact with the floor or supporting surface. Top portion **38** also includes diagonal edge **42** which corresponds to the diagonal cut at **31** and which extends from the outer circumferential edge **22** of seat member **14** to the outer circumferential edge **27** of the table top **12**. Support means **15** also includes an arcuate or curved inner edge **43** which is formed by the cut along the circular line **20**.

Means for securing said support means **15** to table top **12** and to seat member **14** may include in the latter instance a plurality of slots **45** provided in 90° spaced relationship in the seat member **14** and having an open end at the inner circumference **23** of the seat member. Slot **45** may extend approximately one-half the width of seat member **14**. Each support means **15** includes a slot **46** extending approximately one-half the width of side portion **14** and at a location as previously described with respect to FIG. **1**. When seat member **14** and each support means **15** are assembled, the respective slots **45** and **46** embrace and receive the remaining portion of the support means **15** and seat member **14** as shown in FIG. **3**. Beneath seat member **14** and on opposite sides of support means **15** may be also provided angle brackets **47** secured as by screws or bolts in well-known manner to both seat member **14** and support means **15**.

Similarly, top portion **38** of support means **15** which provides a top edge **39** upon which table top **12** may rest may be secured in assembly by angle brackets **49** attached to the support means **15** and the table top **12** by screws or bolts in well-known manner. It will be understood, of course, that various other types of securement means may be employed to securely hold the table top **12**, seat member **14** and support means **15** in assembly.

As best noted in FIG. **3**, the assembled table construction **10** provides virtually unobstructed leg space beneath table top **12**, such leg space being defined by the inner curved edges **43** of support means **15** which generally form a segment of a spheroid. Thus, a person sitting on seat member **14** between support means **15** has virtually complete freedom of leg movement beneath table top **12**.

Again referring to FIG. **3**, it will be noted that the side edges **41** of side portions **40** generally lie on or within a cylindrical surface generated by passing a line parallel to the axis of the table along line **20** which defines the circumferential edge of seat member **14**. Thus, when it is desired to move table construction **10** from one location to another without completely lifting or raising the table from the supporting surface or ground, the table construction **10** may be tilted so that the seat member **14** lies in a vertical plane and simply rolled to the new location on the circumferential edge **22**. Thus, one person may readily relocate the table.

Referring again to FIG. **1**, it should be noted that when the single sheet **11** of material has been cut into the pieces as described above, shipment of said table in precut condition may be readily made by reassembling the cut pieces in the pattern as shown in FIG. **1** upon a thin sheet of plywood or other shipping material and then placing a similar sheet of shipping material over the precut assembly and securing the same by suitable steel or plastic strapping. The entire table construction **10** may thus be shipped as a flat article of the same rectangular size and of only slightly increased depth. Obviously such flat articles are readily stacked and handled for shipping on pallets or the like in the same manner as if the packaged table construction was a large sheet of plywood.

In the example of the invention described above, edge **42** of the upper portion **38** of the table support means **15** is illustrated as a straight line and extends virtually from the circumferential edge **22** of seat member **14** to the circumferential edge **27** of table top **12**. Thus, in this example a support means **15** provides an aesthetically pleasing yet simple construction. It will be understood from a consideration of FIG. **3** and the cut **31** of FIG. **1** which defines the edge **42** that edge **42** may be suitably configured as desired in order to produce a different aesthetic appearance.

It will also be noted by those skilled in the art that waste material from the rectangular sheet **11** has been reduced to a minimum and by reference to FIG. **1** such waste material may be considered the extreme right angle corner sections **32,** the intermediate annular ring **26,** and the material necessarily removed from areas at **57** to facilitate cutting along line **20** and to provide bearing surfaces **48** of adequate area for supporting the table construction and when used as lawn furniture for reducing penetration or sinking into a soil surface. If desired, suitable pads may be placed beneath the bearing areas at **48.**

Although the corner sections **32** and annulus **26** have been mentioned above as waste material, FIG. **8** illustrates one use of such material to provide a circular sun deck generally indicated at **50** in which the annulus **26** is supported from triangular corner sections **32** having their base secured to the bottom surface of annulus **26** and arranged in spaced 90° relationship. Across said annulus **26** is stretched and secured a suitable fabric **51** such as canvas. It will be generally understood that many other uses may be made of the annulus **26** and corner sections **32.**

In the embodiment of the invention shown in FIGS. **5–7** inclusive, a table construction generally indicated at **10'** may be made from a single rectangular sheet of material **11'** by cutting along similar lines as indicated in FIG. **1** and as identified in FIG. **5** by similar reference numerals with a prime sign.

The embodiment of the invention shown in FIGS. **5–7** inclusive, differs from that shown in FIGS. **1–4** inclusive in that the table support means **15'** is cut in two pieces **38'** and **40'** along line **53.** Thus, the side portions **40'** as separated from the top portions **38'** may be located in 90° spaced relationship and secured by suitable means such as the brackets **47'** to seat member **14'.** Table top **12'** may be supported from seat member **14'** by the top portions **38'** spaced in 90° relation to each other and located in 45° spaced relation to the adjacent side portions **34'.** Thus a slightly different style and appearance of table construction **10** and **10'** is achieved while still employing the cutting plan of FIG. **1.**

In this example of the invention, it may be noted that the circular cut **20'** is spaced inwardly from the edges of the rectangular sheet of material **11'** so that waste material previously indicated at **57** is avoided.

The advantages described above with respect to table construction **10** are similarly inherent in the table construction **10'** shown in FIGS. **5–7** inclusive.

It will be understood that various changes and modifications may be made in the embodiments of the invention described above and which come within the spirit of this invention and all such changes and modifications coming within the scope of dependent claims are embraced thereby.

I claim:

1. A circular table and continuous seat construction fabricated from a single sheet of rectangular material having virtually unobstructed leg space beneath its table top and adapted to be readily relocatable without lifting and carrying, the combination of:

a circular table top member;

an annular continuous table seat member having an inner diameter at least not less than the diameter of said table top member; and

a plurality of support means for spacing said top member from said seat member and said seat member from a supporting surface;

each support means including an inner arcuate edge having a radius approximately the radius of the outer circumferential edge of said annular seat member, each support means including

a top support portion having a top straight edge provided by a portion of one side edge of said rectangular sheet and lying in a horizontal plane in supporting contact with table top member,

and a side bottom portion extending between said seat member and said supporting surface and having a side edge lying within a cylinder generated by a line parallel to the axis of the table top member and passing along the outer circumferential edge of said seat member;

said side edge being provided by a portion of an adjacent side edge of said rectangular sheet;

and means securing said support means to said table top member and said seat member; whereby said outer circumferential edge of said seat member provides a circular edge for rolling said table along said supporting surface and whereby said inner arcuate edges of said support means define a spheroidal segment within which lies unobstructed leg space.

2. In a table construction as stated in claim **1** wherein the top portion and side porion of each supporting means lies in the same radial plane.

3. A table construction as stated in claim **1** wherein said top portion and side portion of each supporting means lie in spaced radial planes.

4. In a table construction as stated in claim **1** wherein said seat member has an inner circumferential edge spaced radially outwardly from the outer circumferential edge of said table top member.

5. In a table construction as stated in claim **1** wherein said securing means for said support means includes interlocking slot means on said support means and said seat member.

6. In a circular table construction adapted to be fabricated from a single rectangular sheet of material, the combination of:

an annular seat member having an outer diameter virtually equivalent to one dimension of the rectangular sheet of material;

a circular table top member having a diameter less than the inner diameter of the annular seat member;

and a plurality of support means provided by diagonally opposite corner portions of said rectangular sheet lying outwardly of said annular seat member and having contiguous right angle edges provided by right angle edges of said sheet;

part of one of the edges of each corner portion of the rectangular sheet material having supporting contact with said table top member

and part of the other edge of each corner portion extending from the annular seat member to a supporting surface,

each corner portion providing an arcuate interior edge extending from said seat member to said top member and to said supporting surface,

said arcuate edge having a radius corresponding to the outer radius of the annular seat member.

* * * * *