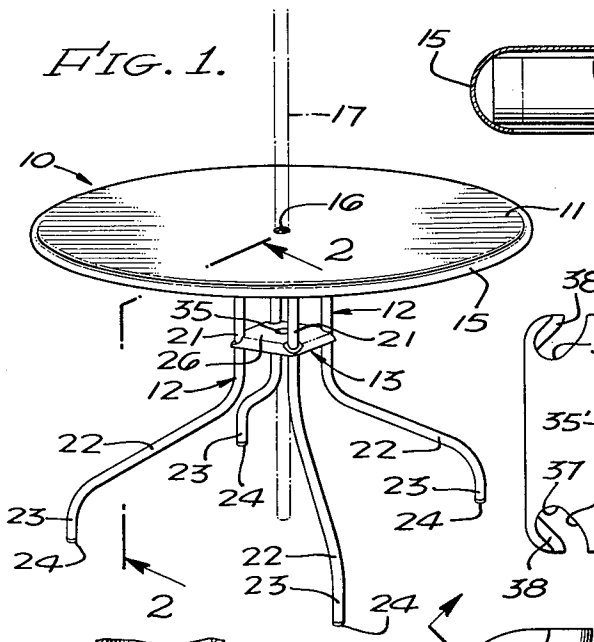
May 1, 1962 T. T. DANCIART ET AL 3,032,380

DEMOUNTABLE TABLE

Filed Feb. 27, 1959

FIG. 1.



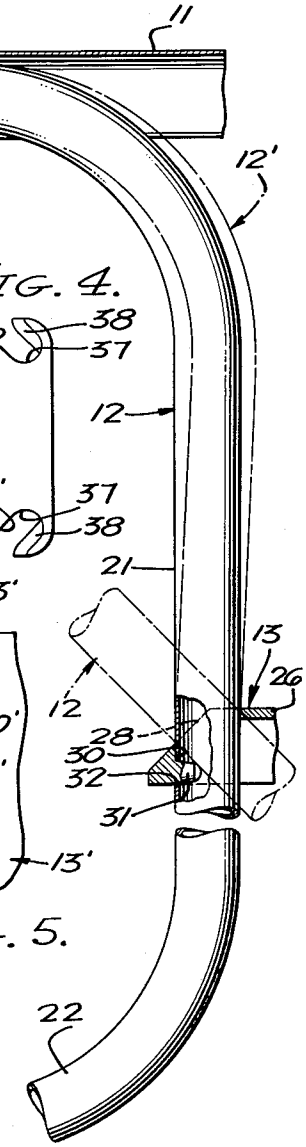
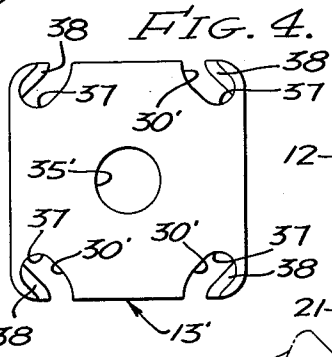


FIG. 2.

FIG. 4.



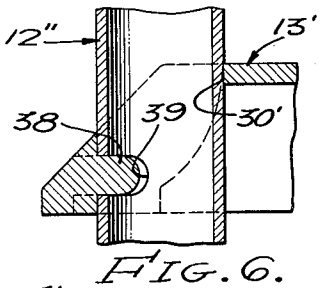


FIG. 6.

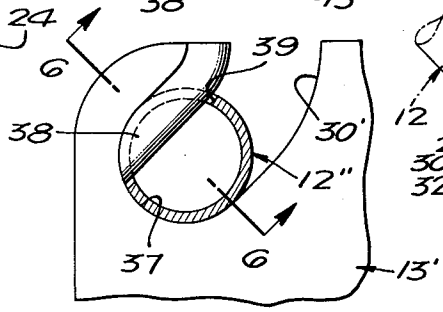


FIG. 5.

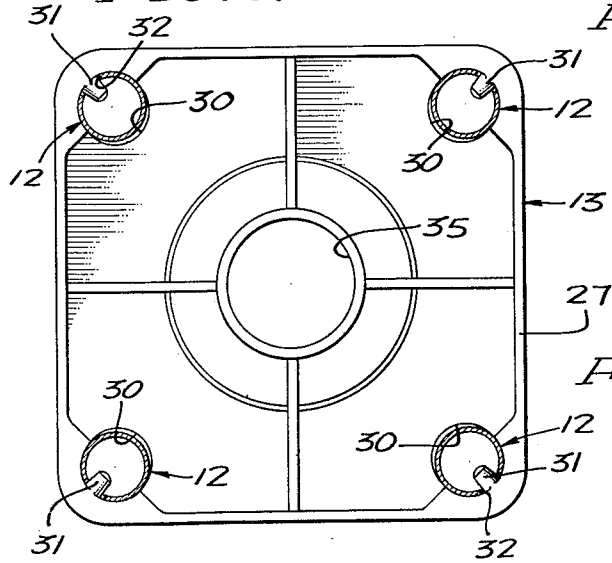


FIG. 3.

INVENTORS
TED T. DANCIART
DAVID DUNDER
BY
ATTORNEY

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DEMOUNTABLE TABLE

Ted T. Danciart, Arcadia, and David Dunder, Glendora, Calif., assignors to Calpatio Co., Monrovia, Calif., a corporation of California

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11 Claims. (Cl. 311—35)

This invention relates to furniture and more particularly to an improved lightweight demountable table construction formed from a minimum number of components adapted to be held in assembled position by interlocking engagement with one another without need for assembly tools or fasteners of any kind.

There has been a long standing need for articles of furniture capable of being packaged compactly during storage and shipment and yet which can be easily assembled in a minimum of time by the average user. This is particularly true as respects articles of furniture used infrequently and especially lawn and patio furniture required to be moved indoors during inclement weather or for winter storage. More particularly there is a need for demountable furniture which can be compactly packaged and which can be assembled with a minimum of difficulty and by the aid of the simplest instructions.

Many attempts have been made to provide furniture fulfilling these needs but these have been only partially successful owing to their many shortcomings. For example, various table designs have been proposed wherein the top is supported by a plurality of separate legs held in a desired supporting relationship by rigid tie means interconnecting their midportions. Such tie means have required various arrangements of fastener devices intended to be tightened in a manner to hold the parts rigidly secured together. Such designs, when properly and accurately assembled by persons skilled in the assembly operation, have provided stable and reliable table assemblies, but are nevertheless subject to many disadvantages sought to be overcome by the present invention. For example, the assembly of these constructions has been time consuming, even in the hands of experienced workmen. The assembled table is too large and bulky for transportation from the vendor to the home of the vendee in conventional vehicles. If sold in disassembled form, the table could be carried in a passenger car but the subsequent assembly of the components is beyond the skill of the average purchaser. Moreover, attempts to assemble the table by the inexperienced often results in damaging if not ruining certain of the parts. Replacement of these is irksome and costly not only for the purchaser, but for the manufacturer and dealer as well.

Accordingly, it is the purpose of this invention to provide an inexpensive demountable table construction formed from a minimum number of easily fabricated components so formed as to have interlocking engagement with one another when properly assembled. The leg elements are formed to interlock with both the table top and a rigid connector member without need for assembly tools or fastener devices of any kind. Preferably, all components are formed of lightweight metal of a non-oxidizing material requiring no paint or other protective finish to safeguard against attack by the elements. The mode of assembly is so simple that even young children can gain in a few minutes all instruction and skill necessary to erect and to disassemble the parts.

Accordingly, it is a primary object of the invention to provide an improved demountable table construction, the components of which are adapted to interlock with one another to form a sturdy structure without need for fastener devices of any character.

Another object of the invention is the providsion of a demountable table formed entirely of lightweight metal components and wherein the leg elements interlock with portions of the table top and a rigid connector member in mutually cooperating, self-supporting relationship.

Another object of the invention is the provision of a demountable table utilizing a single connector member for holding the table legs in properly oriented and assembled relation by means including the resiliency of the legs themselves.

Another object of the invention is the provision of a table so designed and constructed that load forces applied to the opposite ends of the legs are effective to hold the legs in interlocked assembled relation with a common connector member.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawing to which they relate.

Referring now to the drawing in which a preferred embodiment of the invention is illustrated:

FIGURE 1 is a perspective view of a table assembly incorporating the present invention;

FIGURE 2 is a fragmentary sectional view on an enlarged scale taken along the plane indicated by line 2—2 on FIGURE 1;

FIGURE 3 is a bottom plan view of the leg connector member;

FIGURE 4 is a top plan view of a second embodiment of the connector plate;

FIGURE 5 is an enlarged fragmentary sectional view through one corner of the second connector plate showing a table leg in assembled position; and

FIGURE 6 is a fragmentary sectional view taken along line 6—6 on FIGURE 5.

Referring more particularly to FIGURE 1, there is shown a demountable table designated generally **10** incorporating the present invention. This table includes a one-piece sheet metal top **11**, any suitable number of legs **12** and a one-piece rigid connector member or plate **13**. All components are preferably formed from lightweight metal immune to attack by the elements, as for example, aluminum. As here shown, table top **11** has a downturned semi-circular rim **15** conveniently formed by a spinning operation and having the contour best shown in FIGURE 2. If the table is to be used with a sunshade or umbrella, its center is provided with an opening **16** to receive umbrella shaft **17** indicated by dot and dash line in FIG. 1.

The tubular supporting legs **12** may have any desirable configuration, the one shown in FIGURES 1 and 2 being particularly suitable but not essential. As here shown, the legs have an outwardly directed upper end **20**, a vertical midportion **21** and reversely bent lower ends **22**. Foot portion **23** of each leg is substantially vertical and provided with a rounded anti-friction pad **24** having a press fit in the end of the leg.

An important feature of the invention relates to the one-piece rigid connector member **13** having the construction features best shown in FIGURES 2 and 3. As made for four supporting legs, plate **13** is preferably cast square with a flat top **26** and a downturned rim **27** merging with the top surface along an inclined surface **28** best illustrated in FIGURE 2. Each of the suitably reinforced corners of plate **13** is provided with a leg seating opening **30** slightly larger in cross-section than the legs to be seated therein.

Projecting inwardly toward the center of member **13** from outermost portion of the interior side wall of each opening **30** is a detent lug **31** having converging side walls adapted to form a snug frictional fit with a cooperating recess or opening **32** formed in the juxtaposed side wall portion of table leg **12**. Note from FIGURE 2 that the inner edge of leg-seating opening **30** is cut off on the

bias to permit leg 12 to be canted to the angular position indicated by the dot and dash line showing of the leg in FIGURE 2 while the leg is being assembled and disasembled relative to plate 13. Once leg 12 has been properly positioned for seating locking lug 31 in opening 32, the leg is pivoted about the inner edge of opening 30 as locking lug 31 enters opening 32. When tfirmly seated over lug 31, the lower portion of the leg cannot cant in any direction except inwardly toward the center of connector plate 13. Normally it is prevented from pivoting to this latter position by reason of the resilient seating engagement of its upper end 20 within the recess provided behind rolled rim 15 of the table top. To achieve this assembled position of the parts, it is necessary to flex the upper half of leg 12 inwardly toward the center of the table to the position indicated by dot and dash lines 12' sufficiently to bypass the lower rim edge of the table top. The resilient seating of leg end 20 within the annular recess provided by rim 15 maintains the leg under appreciable resilient stress. This stress, taken together with the weight of the table and the resultant reaction forces produced thereby on the lower end of the legs, cooperates to hold the parts rigidly assembled. Additionally, any load supported by the table supplements these forces in holding the table locked in assembled position.

An opening 35 in the center of connector plate 13 is in vertical alignment with opening 16 in the table top and cooperates therewith in seating and supporting staff 17 and the umbrell supported thereon in position over the table.

Referring to FIGURES 4 to 6, there is shown a modified embodiment of the table, the same or corresponding parts of the modified form being designated by the same reference characters as in the first described embodiment but distinguished therefrom by the addition of a prime. Connector plate 13' differs in that the leg seating openings 30' are formed as open ended slots entering through the rim edge of plate 13'. Their inner or closed ends 37 are positioned similarly to openings 30 in the preferred form. The locking lug 38 preferably comprises an elongated rib-like detent 38 extending horizontally along one inner edge of slot opening 30' in the manner clearly illustrated in FIGURES 5 and 6 and seat in a complementally shaped recess 39 extending crosswise of leg 12''. Owing to the described construction, the leg can be assembled laterally through the open end of the leg seating notches 30', care being taken to align locking lug 38 with the complementally shaped recess 39 in the table leg. Slot 30' need be only sufficiently wide at all points as to allow leg 12'' to be pressed therealong into its fully seated position at the inner closed end 37 of the slot. The horizontally-disposed, relatively long locking lug 38 in cooperation with recess 39 prevents tilting of the leg from its desired upright position relative to connector plate 13'.

As is best shown in FIGURE 4, the open ends of the diagonally disposed slots 30', 30' face in opposite directions, a fact which adds considerably to the stability and rigidity of the assembled components.

From the foregoing it will be recognized that there has been disclosed a demountable, lightweight table construction adapted to be assembled and disassembled in a minimum of time by inexperienced persons without need of tools or fastening devices. Once the parts are assembled, the resiliency of the tubular legs in cooperation with the interlocking relationship of the connector plate with the legs and of the upper ends of the legs with the table top assures that the table cannot become disassembled in use except by the application of deliberately applied forces in the proper areas. Moreover, the table may be readily transported from place to place, as well as turned into any position without danger of the parts becoming loose or disassembled one from the other.

While the particular simplified demountable table construction herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

We claim:

1. A demountable table construction formed from interlocking parts designed to be held in assembled positions without fastener devices, said table being of the type having a top, a plurality of similar separate legs, and a one-piece separate rigid connector member cooperating with said top in holding said legs rigidly assembled to said top in predetermined spaced apart relationship circumferentially of said top, said one-piece rigid connector member and said legs having integral interlocking elements cooperating to hold all components in a desired assembled relation irrespective of the position to which said table is moved while being handled and moved from place to place.

2. A table as defined in claim 1 characterized in that said top is formed in one piece from sheet stock and has a rolled rim forming on its under inner side with a continuous annular seating recess having pressurized frictional engagement with the upper ends of said legs when the upper ends of said legs are forcibly deflected radially inwardly sufficiently to seat within said annular seating recess.

3. A table as defined in claim 1 characterized in that said legs are formed from lightweight tubular stock each having a recess in the side wall thereof and spaced intermediate the opposite ends of said legs.

4. A leg connector for use in holding the tubular legs of a demountable table construction assembled, said connector comprising a one-piece rigid member having therein a plurality of similar leg seating recesses spaced about the peripheral rim area thereof, said recesses each having a lug projecting inwardly toward the axis of a leg when the leg is properly seated therein, said lug being adapted to interlock with a seating recess in the leg and to cooperate therewith in holding the leg disengageably assembled to said connector so long as a load supporting force is applied to one end of the leg.

5. A leg connector for use in holding the legs of a demountable table construction assembled without the aid of fasteners, said connector comprising a rigid plate having a downturned rim, a plurality of leg seating openings therethrough adjacent and inwardly of said rim at spaced points thereabout, said openings having locking lugs projecting inwardly toward the center of said openings, said locking lug being adapted to seat in a complementally shaped recess in the side of a table leg when the latter is assembled in said opening in position to support a table top and cooperable therewith to prevent movement of said connector axially of the leg so long as said lug is seated in said opening, and said opening being so shaped that a table leg can be manipulated in such manner that said locking lug can be seated in the leg recess and retained in this assembly position unless and until reversely manipulated.

6. A leg connector as defined in claim 5 characterized in that said locking lug has opposed sides which converge toward one another from the base end of the lug to form a pilot facilitating the assembly of the same to the complementally shaped recess of a table leg and assuring a snug fit with the latter in the assembled position of the parts.

7. A leg connector as defined in claim 5 characterized in that said leg seating openings comprise arcuate shaped notches opening through one rim edge of said connector plate.

8. A leg connector as defined in claim 7 characterized in that said notches are spaced diametrically of one another and have their respective open ends facing in generally opposed directions.

9. A leg connector as defined in claim 7 characterized

in that said connector plate is generally square and in that said arcuate shaped notches are disposed near the corners of said plates with the open ends thereof at diagonally spaced corners of the plate.

10. A leg connector as defined in claim 9 characterized in that the locking lugs for said legs are elongated members integral with said connector plate and projecting inwardly toward one another from the remotely spaced inner side walls of the closed inner ends of said arcuate notches.

11. In a readily demountable table leg assembly for a plurality of table legs, that improvement which comprises a connector plate for rigidly holding the midpoints of said table legs detachably in assembled position without the aid of fastener devices, said plate comprising a strong rigid member having its rim edge turned downwardly at an angle to the upper surface thereof, said plate having a plurality of table leg seating openings extending through said rim edge at circumferentially spaced points therealong, the remotedly spaced inner side walls of said openings and the juxtaposed portion of a table leg adapted to be inserted lengthwise through said seating openings, said openings and legs being provided with complementally

shaped locking lug and recess means engageable one with the other to lock the leg rigidly assembled in said opening and against movement in either direction longitudinally of the leg, said opening being shaped to permit manipulation of the leg into and out of locked assembled position as the leg is pivoted in a plane generally normal to the surface of said plate and passing close to the center of said plate.

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