

UNITED STATES PATENT OFFICE

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KNOCK-DOWN TABLE

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This invention relates to tables and particularly to tables of the type popularly called "knock-down" tables, that is to say a table having a construction which enables the same to be readily assembled without the use of special tools and the parts of which can be laid compactly together in shipping the same. While the table may be used for any purpose, the invention is especially useful when applied in the construction of tables to be set up out-of-doors in a garden or on a side-walk.

One of the objects of the invention is to provide a table of this type, of simple construction, in which the parts can be readily assembled together; also to provide a table of this type particularly adapted for supporting a central pole to enable an umbrella to be carried above the table if desired.

Further objects of the invention will appear hereinafter.

The invention consists of novel parts and combination of parts to be described hereinafter, all of which contribute to produce an efficient knock-down table.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Figure 1 is a side elevation of a table embodying my invention, certain parts being broken away and shown in section. This view also shows a center pole supported in the table with its upper part broken away.

Figure 2 is a side elevation showing the upper portion of the table construction embodying a modified construction.

Figure 3 is a view similar to Figure 1, but showing another embodiment of the invention, certain parts being broken away and shown in section.

In practicing the invention I provide a table top having socket means on its underside opening toward the central axis of the table. The table frame includes a plurality of legs having upwardly and outwardly disposed extensions for engaging the socket means at their outer ends; and I provide means for connecting the legs together below the top, and for exerting a spreading force

on the legs above the connecting point to hold the ends of the extensions thrust into the socket means. In order to accomplish this I may provide a construction as illustrated in Figures 1 and 3. In both of these embodiments of the invention the table top has an integral flange formed by bending down its periphery. In this case, the table top is preferably made of a metal disc. At a considerable distance below the table top the legs are connected together and at a point above their point of connection, means is provided for exerting an outward thrust on the legs, operating to maintain the upper ends of the legs thrust firmly into the socket means. In this way, the table top may be rigidly secured to the legs and all of the parts cooperate to form a rigid structure.

Referring particularly to Figure 1, the table top 1 consists of a metal plate having its edge turned down to form socket means which is produced by forming a peripheral flange 2 which is of concavo-convex form with the concave face 3 of the flange disposed inwardly.

The table frame includes a plurality of legs 4 which are preferably of arcuate form, as indicated, so that the lower portions of the legs extend outwardly in inclined or curved extensions 5 which form feet for the table. The middle portions of the legs are secured to a spider or center piece 6. This center piece 6 is formed with a plurality of vertical sockets or grooves 7 in its outer side. These grooves receive the middle portions of the legs 4 as illustrated. Means is provided for clamping the legs to the center piece. This means is in the form of a bolt corresponding to each leg and mounted so that when the bolt is tightened up, the legs will be moved outwardly above. In the present instance, this consists of a bolt 8 corresponding to each leg which has a threaded inner end extending through a vertically elongated or enlarged slot 9 in the wall 10 of the center piece, being secured in place by means of a nut 11 attached to the inner end of the bolt. These bolts are disposed with their axes extending radially with respect to the central vertical axis of the table. Above the bolts, spreader means

is provided which is in the form of a projecting lug 12 received in a correspondingly formed socket 13 on the adjacent face on the leg. It will be noted that by reason of the arcuate form of the legs 4, each leg includes an upward and outward curved extension or arm 14, the end 15 of which fits into the concave side of the flange 2. In assembling the table, the legs are set in the sockets with their notches 13 engaging the spreader lugs 12. Then by tightening up the nuts the lower portions of the legs can be drawn toward the bottom of their sockets. As this takes place, a rocking movement occurs on the lugs 12 causing the upper extensions 14 of the legs to move outwardly.

When these extensions are firmly engaged in the socket flange, the parts of the table will be all rigidly connected together. In this embodiment of the invention the table legs 4 are curved about a radius which may be approximately the same as the radius of the table, which is circular, and this enables the legs to be readily stowed on the upper or lower faces of the table in boxing the parts together for shipment.

It is sometimes desired to form an outdoor table of this type with a tile top. This invention is readily adapted to be used in such a construction, in which case I construct the table as illustrated in Figure 2. As illustrated, the table top is formed of a circular metal plate 16 having an upwardly turned flange 17 which enables a filler 18 of any suitable material to be held above the plate and retained by the flange. The upper side of this filler is covered by tiling 19 or any other suitable facing material. In this type of table the socket means is in the form of metal socket members 20 which may be formed with side flanges 21 which may be spot welded to the metal plate 16 of the table top. These socket members 20 open toward the central axis of the table so as to cooperate with the upper ends of the legs 22 in the manner described in connection with Figure 1, it being understood that the complete table would include a center piece embodying the characteristics of the center piece 6 of the table illustrated in Figure 1.

In the embodiment of the invention illustrated in Figure 3 the table frame includes a plurality of legs 23, preferably four in number. The lower ends of these legs may be bent inwardly to form curved feet 24. In this type of table the legs 23 have upwardly and outwardly projecting extensions 24, the lower portions of which may be for ornamental purposes formed with twists 25. The upper portions of these extensions constitute horizontal arms 26 that lie under and substantially against the under side of the metal top 27. This top is formed of a peripheral flange 28 into which the ends of the arms 26 are jammed. The legs 23 are connected to-

gether at a distance below the top 27 by a center piece 29 which may be in the form of a light ring to which the legs may be attached by bolts 30 having threaded inner ends receiving nuts 31. These bolts are disposed with their axes extending radially with respect to the central vertical axis of the table. The spreader means for exerting thrust on the upper portions of the legs to force the arms 26 outwardly is preferably in the form of a ring 32 attached to two aligning pivot bolts such as the pivot pin 33.

In assembling the table the arms 26 are put in place in engagement with the inner side of the flange 28 and with the ring 32 disposed in an inclined position. The ring is then rotated on the pivot pins 33 into a horizontal plane, causing the sides 34 of the ring to engage the inner faces of the two intermediate side legs.

In this way these legs are spread apart so as to force them out into the flange. By reason of the resiliency of the ring 32 the reaction of these legs causes the other two legs that carry the pivot pins 33 to be spread outwardly, the result of which is that all of the arms 26 will be engaged forcibly into the flange 28.

If desired, means may be provided for holding the ring 32 in its horizontal locking position. For this purpose the ring may be provided at two diametrically opposite points with rudimentary sockets or openings 35 to cooperate with lugs 36 formed on the inner faces of the legs by punching the material inwardly.

The table illustrated in Figure 3 can readily be taken apart and the parts positioned together for shipment.

In the type of table shown in Figure 3 the twist 25 increases the resiliency and spring effect of the legs, insuring that the parts will remain firmly held together when the table has been set up.

In the embodiment shown in Figure 1 the legs, by reason of their curved form, and because they are metal, act as springs and stay in tight engagement with the table top continuously after the table has been set up.

It is understood that the embodiment of the invention described herein is only one of the many embodiments this invention may take, and I do not wish to be limited in the practice of the invention, nor in the claims, to the particular embodiment set forth.

What I claim is:

1. In a knock-down table, the combination of a table top, a plurality of legs, a center piece coaxial with the table top disposed between the legs, clamping means corresponding to each leg for drawing the legs individually inwardly against the center piece, and means on the center piece above the clamping means for engaging the inner faces of the legs and operating when the clamping means is

tightened up, to force the upper ends of the legs outwardly, and socket-means on the table top for engaging the upper ends of the legs to resist their outward movement, and cooperating with the clamping means to connect the legs and table top rigidly together.

2. In a knock-down table, the combination of a center piece, a plurality of legs attached to the center piece, having upwardly and outwardly disposed extensions above the center piece, a table top coaxial with the center piece and having socket-means for engaging the ends of said extensions, and a removable ring for engaging the inner sides of the said extensions for holding the same in engagement with the socket-means, said ring and said legs having interlocking means for yieldingly holding the ring against moving up or down between the said extensions.

3. In a knock-down table, the combination of a table top having a downwardly extending flange at its periphery, a center piece in the form of a block coaxial with the table top, a plurality of legs, bolts with their axes disposed radially with respect to the central axis of the table for attaching the legs to the center piece, said legs having upwardly and outwardly disposed extensions for engaging the flange, said center piece having means projecting outwardly above the bolts for engaging the inner sides of the legs and operating when the bolts are tightened up, to force the said extensions of the legs outwardly to engage the flange and secure the top rigidly thereto.

4. In a knock-down table, the combination of a center piece in the form of a ring, a plurality of legs extending upwardly past the center piece, radially disposed bolts securing the legs individually to the center piece, said legs having outward extensions at their upper ends, said table having a flange for engaging the ends of said outward extensions, a ring located above the first named ring, and engaging the upper portions of the legs, said last named ring, and said legs having yielding interlocking means, said last named ring operating to spread the upper extensions of the legs to force the same outwardly into engagement with the flange.

Signed at Los Angeles, California, this 6th day of December, 1929.

JOHN P. MEEHAN.