

Oct. 30, 1951

B. B. BRONSTEIN

2,573,304

LEG LOCK CONSTRUCTION FOR METAL TABLES

Filed April 11, 1949

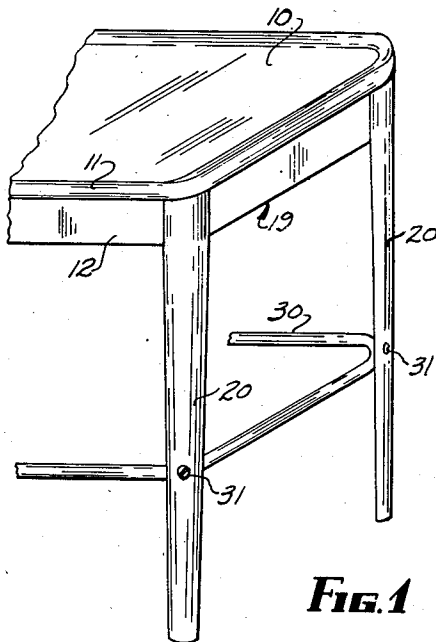


FIG. 1

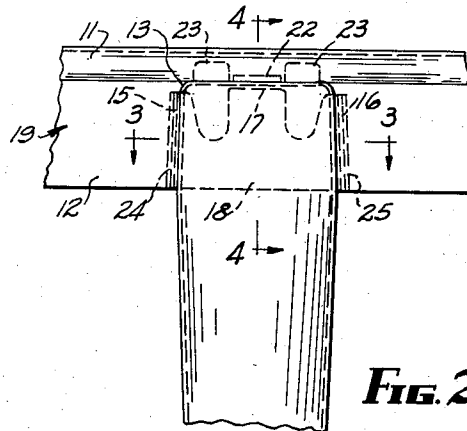


FIG. 2

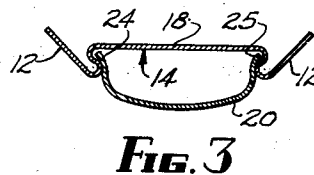


FIG. 3

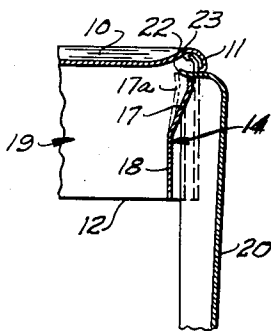


FIG. 4

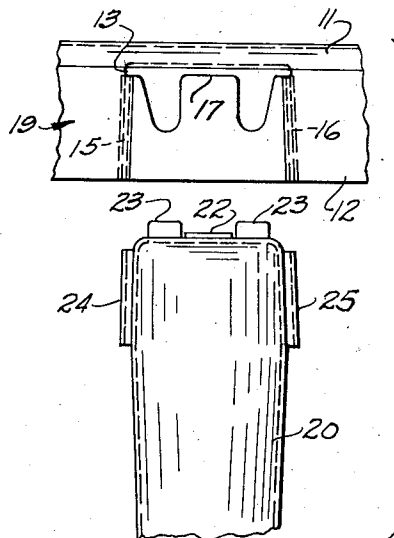


FIG. 5

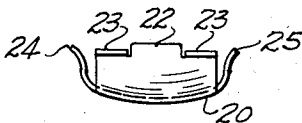


FIG. 6

INVENTOR.
BENJAMIN B. BRONSTEIN

BY
Brockman & Schmuckler

ATTORNEYS

UNITED STATES PATENT OFFICE

2,573,304

LEG LOCK CONSTRUCTION FOR
METAL TABLES

Benjamin B. Bronstein, Shaker Heights, Ohio

Application August 11, 1949, Serial No. 109,662

7 Claims. (Cl. 311-110)

1

This invention relates to improvements in metal furniture and particularly to tables and the like.

The primary object of this invention is to provide a table structure whose top and legs can be readily interlocked by a single sliding motion.

Another object is to provide a table that can be shipped in knocked-down condition in a compact package and which can be readily assembled by the purchaser into a rigid and sturdy structure.

A further object is to provide a device of the type stated that is light in weight, of great strength, attractive in appearance and low in cost of manufacture.

These and other objects and advantages of the invention will become apparent from a reading of the following specification and claims together with the accompanying drawing wherein like parts are referred to and indicated by like reference characters and wherein;

Figure 1 is a perspective view of a portion of a metal table made in accordance with this invention;

Figure 2 is an enlarged front elevation of the table top and leg assembly showing one of the legs in its interlocked position;

Figure 3 is a cross-sectional view through the leg and top taken along the line and in the direction of the arrows 3-3 of Figure 2;

Figure 4 is a vertical sectional view taken along the line and in the direction of the arrows 4-4 of Figure 2;

Figure 5 is an exploded view of the table top and one of the legs in their unassembled condition; and

Figure 6 is a top plan view of one of the leg members.

The illustrative embodiment of the invention consists of a table structure in which are assembled, and connected together, a top 10, legs 20 and a leg brace 30.

Figure 1 illustrates a portion of a table structure embodying this invention—the missing portion of the table being similar to that shown, to form the conventional table having four legs and a brace or shelf 30 located beneath the top 10 in spaced relation therewith and connecting the lower portion of the legs 20 together.

The table top may take any one of a number of conventional shapes as are well known in the art of such a round, rectangular, square or oval. The preferred form shown is substantially rectangular in outline.

The top 10 is formed of sheet metal shaped

2

to have a peripheral downturned flange 19 having an arcuate outwardly curved upper portion 11 and a dependent straight lower portion 12 of lesser diameter than the arcuate upper portion.

Horizontally extending slots 13 are punched at each corner of the top flange 19 at the intersection of its upper and lower portions 11 and 12 respectively as is shown most clearly in Figure 5.

Inset sockets 14 are formed in the lower portion 12 of the flange 19 integral therewith, immediately below the slots 13 and contiguous thereto. Each socket has facing and spaced substantially vertically extending channels 15 and 16 that are slightly inclined toward one another from their lower to their upper portions. The inset wall 18 of the socket 14 is cut out to form a vertically extending tongue 17 positioned intermediate the channels 15 and 16. The tongue 17 is bent outwardly to normally assume the outset position illustrated in Figure 4. The entire socket structure is displaced outwardly at a slight angle to the vertical so that the free ends of the hereinafter described legs will normally extend slightly outward when positioned in the socket.

The legs 20 preferably are formed of channel-like metallic strips having their extreme upper ends offset inwardly as shown in Figure 6 to form a horizontally extending stop 22 located between two upturned ears 23. Reference characters 24 and 25 indicate laterally extending flanges formed integral with the upper side edge of the leg 20. The leg flanges 24 and 25 are slightly inclined toward one another in a degree matching the inclination of the socket channels 15 and 16 with which they are intended to be slidably interfitted.

The arrangement of the stops, ears and leg flanges is such that when the leg flanges 24 and 25 are slidably inserted in the socket channels 15 and 16 respectively, the ears 23 will project through the slots 13 and bear against the inner concave face 11 of the top flange 19, while at the same time, the under sides of the stops 22 bear against the upper edges of the outset tongues 17 as shown in Figures 2 and 4.

The tongues 17 have sufficient inherent resiliency to flex inward to take the position designated by the reference character 17a as the inner edge of the stops 22 travel over the tongue faces during the time the leg flanges 24 and 25 are being moved vertically of the socket channels 15 and 16. The instant the stop 22 passes beyond the upper edge of the tongue 17, the tongue snaps

3

back to its normal outset position which brings the upper edge of the tongue 17 into contact with the lower face of the stop 22 to lock the leg 20 in place as shown in Figure 4.

The legs are thus prevented from dropping out of the sockets 14 once they are inserted, making it easy for one person to assemble the table structure. The leg cannot be released unless the tongue 17 is manually pressed inward beyond the end of the stop 22 to permit the stop to move downward.

The complementary tapered relationship of the socket channels 14 and 15 and the leg flanges 24 and 25 results in a wedging fit between these elements which adds to the rigidity of the structure.

Reference character 30 indicates a rectangular brace or shelf that is attached to the lower portion of each leg by means of bolts 31. The dimensions of the shelf 30 are such that the legs 20 will be brought under sufficient inward tension to cause them to assume a vertical position when the bolts 31 are drawn up. This straightening of the legs against the outward force produced as a result of the slight outward inclination from the vertical of the sockets 14, as described hereinbefore, puts the entire table top under stress to provide a sturdy structure that will not shake loose even after prolonged rough treatment.

In this preferred form of the invention, the legs 20 have been shown with laterally extending flanges 24 and 25 that slidably engage spaced facing channels 15 and 16 in the sockets 14. However, this condition could be reversed to accomplish the same results.

While the structure used to illustrate my novel method of fastening legs to sheet metal furniture has taken the form of a table, the same construction could be applied to any article of metal furniture having a top member supported by legs, such as a chair or a stool.

It will now be clear that there is provided a device which accomplishes the objectives heretofore set forth. While the invention has been disclosed in its preferred form; it is to be understood that the specific embodiment thereof as described and illustrated herein is not to be considered in a limited sense as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claims.

I claim:

1. A metallic table structure in which is included a top, legs and a leg brace, the said top having a peripheral downturned flange provided with a plurality of spaced inset sockets formed integral therewith including faced channel portions, a horizontal slot extending between the said channels and a tongue positioned intermediate said channels at said slot, the upper end portions of said legs being provided with ears, stops and lateral flanges arranged so that when the flanges are positioned correspondingly in said channels and the undersides of the stops engage the upper ends of said tongues and the ears project through said slots against the interior wall of said flange, thus establishing interlocking connection between the top and legs, and said leg brace being attached to said legs to hold same in interlocking position.

2. A metallic table structure, comprising in combination, a generally horizontal sheet-metal top including a peripheral flange having an arcuate upper portion and a downwardly extending lower portion of lesser diameter, the said flange

4

having a plurality of spaced horizontally extending slots at the intersection of the said upper and lower portions and a plurality of inset sockets formed integral therewith and displaced outwardly at a small angle from the vertical, one at each of the said slots, each of the said sockets having facing vertical channel portions and an outset tongue positioned intermediate the said channels with its upper edge at the said slot; a leg for each of the said sockets said leg being formed of sheet-metal and having its upper end offset to provide an inwardly extending stop, upwardly extending spaced ears on either side of said stop, and laterally extending channel engaging flanges, the leg flanges being slidably engageable vertically of said socket channels to cause said ears to project through said slot and bear against the interior of the arcuate portion of the top flange and with the underside of the stop in engagement with the upper edge of the tongue, thus establishing interlocking connection between the top and legs with the legs normally extending slightly outward; and a brace connecting said legs adapted to hold same under inward stress to secure the legs and top firmly in their interlocked connection.

3. A metallic table structure, comprising in combination, a generally horizontal sheet metal top including a peripheral downturned flange provided with a plurality of spaced inset sockets formed integral therewith, each of the said sockets having a pair of vertically extending faced channel portions and a horizontal slot extending between the upper ends of the said channels to define an inset socket wall terminating at the said slot; a leg for each of the said sockets, said leg being formed of sheet metal and having its upper end offset to provide an inwardly extending stop, upwardly extending spaced ears on either side of said stop and laterally extending channel engaging flanges, the leg flange being slidably engageable vertically of said socket channels to cause said ears to project through said slot and bear against the interior of the flange and with the underside of the stop in engagement with the upper edge of the aforesaid socket wall, thus establishing interlocking connection between the top and legs; and a brace connecting said legs adapted to hold same under inward stress to secure the legs and top firmly in their interlocked connection.

4. A metallic table structure or the like, comprising in combination, a generally horizontal sheet metal top including a peripheral flange having an arcuate upper portion and a downwardly extending lower portion, the said flange having a plurality of spaced horizontally extending slots formed therein and a plurality of inset sockets formed integral therewith, one socket being provided below each of the said slots, each of the said sockets including leg edge engaging means and having an exposed upper edge at the said slot; a leg for each of said sockets, said leg being formed of sheet metal and having laterally extending side edges, said legs and said sockets being of complementary wedge shapes, and means being provided on said legs and sockets to engage and prevent withdrawal of said legs after being inserted into said sockets a predetermined distance.

5. A metallic table structure or the like, comprising in combination, a generally horizontal sheet metal top including a peripheral flange having an arcuate upper portion and a downwardly extending lower portion, the said flange having

5

a plurality of spaced horizontally extending slots formed therein and a plurality of sockets formed integral therewith, one socket being provided below each of the said slots, each of the said sockets including leg side edge engaging means and an exposed upper edge at the said slot, a leg for each of said sockets, said leg being formed of sheet metal and having its upper portion offset to provide an inwardly extending stop to contact a portion of said flange adjacent said opening, upwardly extending spaced ears and laterally outwardly extending side edges also being formed on each of said legs at the top thereof, the said legs having sliding engagement up into said sockets, said upper offset portion of said legs being adapted to be sprung by and then bear on the exposed upper edge of the said socket in which such leg is received to limit withdrawal of said leg from its receiving socket.

6. A knockdown type of table or the like comprising a top having a downwardly extending edge flange, a plurality of substantially horizontally directed openings being provided in said table flange, said flange also having a plurality of leg receiving sockets formed therein immediately below said openings with overhanging edge portions being provided in the sockets, a metallic leg engaged with each said socket by laterally outwardly extending marginal portions in slid-

6

ing engagement with said overhanging portions of said sockets, and cooperating means provided on said legs and said socket portions of the table flange to aid in retaining said legs in engagement with said sockets when predetermined telescoping movement of said legs has occurred.

7. A table or the like as in claim 6 wherein said cooperating means include inwardly extending offset upper portions on said legs, said leg receiving sockets having outwardly extending lock means provided thereon and engaging said offset upper portions of said legs to prevent withdrawal of same from said sockets, said lock means and offset upper portions of said legs being relatively movable to spring past each other upon inward sliding movement of said legs into said sockets.

BENJAMIN B. BRONSTEIN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
317,270	Zeigler	May 5, 1885
1,572,003	Fleming	Feb. 9, 1926
1,800,456	Lawrence	Apr. 14, 1931
1,888,208	Ferguson	Nov. 22, 1932