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TABLE LEG CONSTRUCTION

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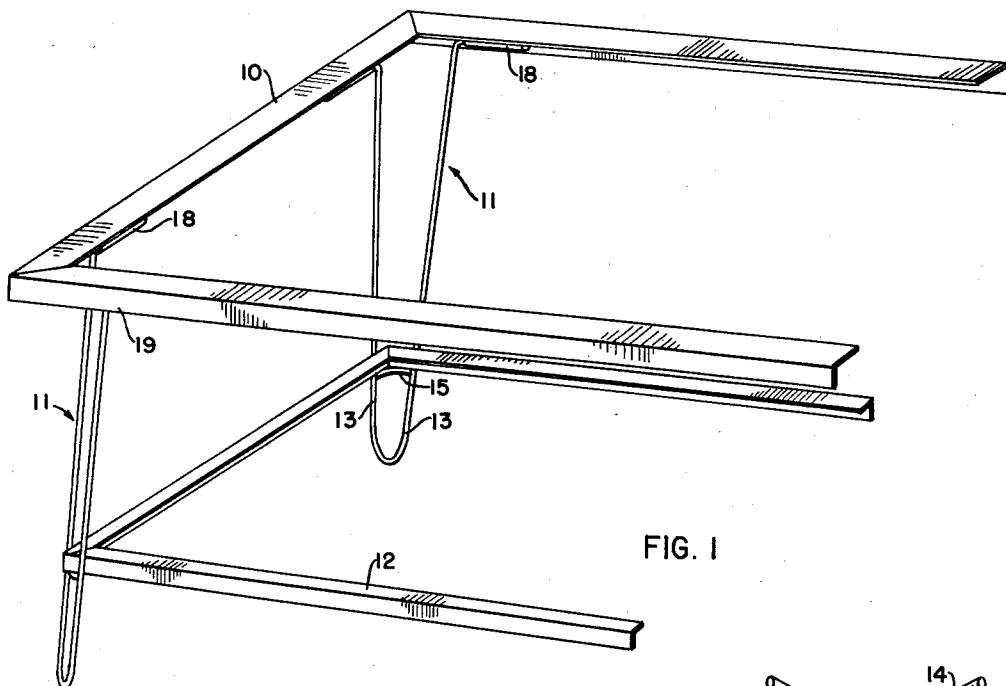


FIG. 1

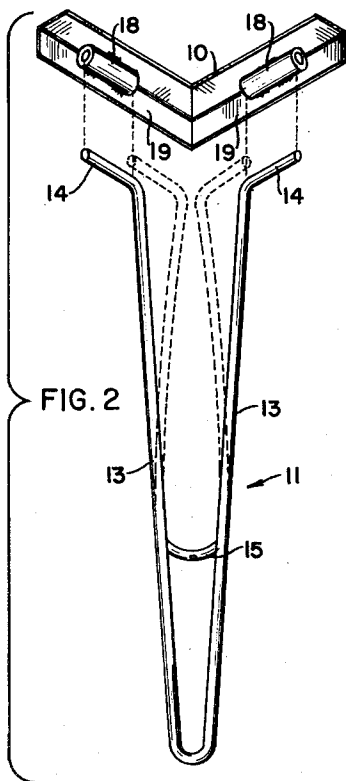


FIG. 2

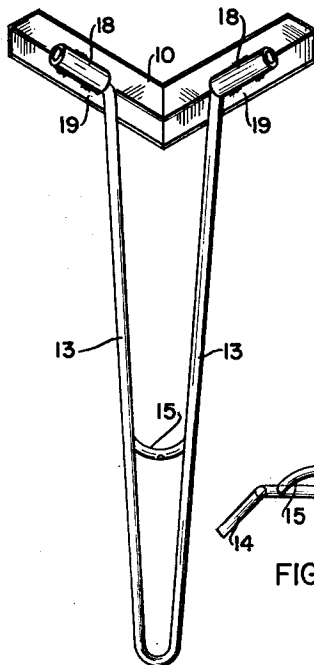


FIG. 3

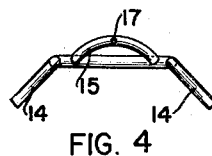


FIG. 4

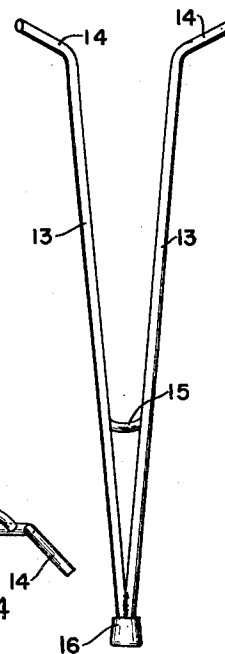


FIG. 5

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TABLE LEG CONSTRUCTION

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4 Claims. (Cl. 311—110)

This invention relates to a novel, readily demountable table leg construction.

Tables having legs that can be easily attached to and detached from the table top have not, in the past, been altogether satisfactory. Tables of this type are ordinarily extremely shaky or unstable and consequently are unsuitable for most purposes unless, of course, the table legs are elaborately constructed so that they can be securely and rigidly attached to the table top. The elaborate structure necessary to securely attach and to rigidly brace such demountable table legs adds greatly to the difficulty in the manufacture and assembly of the table and to its cost.

I have now devised a unique and relatively simple table construction in which demountable table legs are easily attached to the table top, and when attached are rigidly braced to form a stable table structure. The table of my invention comprises a table top, a plurality of readily demountable legs secured to the underside thereof, and a brace member connected to all of the legs of the table. Each of the table legs comprises a V-shaped leg element formed from two approximately vertically disposed leg members joined together at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element. The upper ends of each of the leg members are provided with horizontally disposed arm members positioned at approximately right angles to each other. A brace support is provided that connects the leg members of the leg element and that is securely attached thereto approximately intermediate the foot and the upper end thereof. Arm member sockets are secured to the underside of the table top and are adapted to receive the horizontally disposed arm members of each leg element. Outer limit stops are also secured to the underside of the table tops adjacent the arm member sockets and are adapted to prevent outward movement of the leg element the arm members of which are received in the said adjacent arm member sockets. The brace member of the table assembly is supported by the brace supports of each leg element and is adapted to prevent inward movement of the leg elements, the outer limit stops and the brace member thereby rigidly bracing the legs of the table against relative inward and outward movement.

My invention will be better understood from the following description, in conjunction with the accompanying drawing of which:

Fig. 1 is a fragmentary perspective view of a table embodying the table leg construction of my invention;

Fig. 2 is a perspective view of my table leg just prior to being attached to the table top;

Fig. 3 is a perspective view showing the table leg of Fig. 2 as attached to the table top;

Fig. 4 is a top view showing the relative position of the horizontal arms of my table leg; and

Fig. 5 is a view showing a modified form of the leg element of my table leg structure.

The table leg construction I have devised can be used in connection with a wide variety of tables and table

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tops, the term table top as employed herein including planar tops of conventional design, cabinets, stands for such articles as television receivers, out-doors grills, aquariums, and the like. Accordingly, no specific type of table top is shown in the drawing, the table top being indicated by a rectangular top frame 10 fabricated from angle iron. In practice, this top frame is secured without significant modification to the underside of a table top, or the top frame is replaced by a table top specifically adapted to receive the table legs of my invention.

My table leg construction comprises a plurality of V-shaped leg elements 11 secured to the underside of the top frame 10 (or table top, as the case may be) and braced by a brace member 12. Each leg element 11 is formed from two leg members 13 joined at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element. The leg members 13 are disposed approximately vertically (actually at a slight angle with respect to true vertical as shown in Fig. 1) and are provided with horizontally disposed arms 14 positioned at approximately right angles to each other. The leg element 11 is further provided with a brace support 15 connecting the two leg members 13 of the leg element at a point between the foot and the upper end thereof, as clearly shown in the drawing.

The leg element is advantageously fabricated in one piece from a metal rod or tube that is bent into the V-shaped form shown in Figs. 2 and 3 of the drawing. The metal rod must be of heavy enough stock to impart to the table leg sufficient rigidity and stiffness so that the table will not lack stability on this account. On the other hand, the rod from which the table leg is formed should possess sufficient resiliency so that, after being formed as shown, the upper ends of the V-shaped leg element can be pressed together manually or mechanically into the position indicated by the dotted lines in Fig. 2, and so that, when released, the leg members 13 will spring back to their initial position shown by the solid lines in the drawing. As shown in Fig. 5, the V-shaped leg element can be fabricated from two separate leg members 13 that are joined together, (as by welding) at the foot thereof. In such case the foot of the leg element can be provided with a rubber or metal ferrule or caster 16.

The brace support 15 connecting the two leg members 13 of each leg element 11 can be fabricated from the same rod or tube stock as the leg element as shown in Figs. 2 and 3, or advantageously it can be fabricated from a flat plate or sheet of metal as shown in Fig. 4. In any case, it is permanently secured to the leg elements as shown, advantageously by welding or brazing. Moreover the brace support 15 can be provided with a drilled hole 17, as shown in Fig. 4, adapted to receive a bolt or pin by means of which the brace member 12 can be fastened thereto as more fully described hereinafter.

Arm member receiving sockets 18 positioned to receive the two arm members 14 of each leg element 11 (and consequently disposed at approximately right angles to each other) are secured to the underside of the table top frame 10. The sockets 18 are advantageously formed of a metal tube the inside diameter of which is slightly greater than the outside diameter of the rod stock from which the leg element 11 is formed. The metal tube 18 is secured to the underside of the angle iron top frame 10 by any appropriate means, for example as by welding as shown in Figs. 2 and 3 of the drawing. Outer limit stops 19 disposed adjacent the arm receiving opening of each arm member socket 18 are also provided on the underside of the top frame 10. When the arm members 14 are received in the associated arm member sockets 18, the outer limit stops 19 prevent outward

movement of the leg elements 11 beyond a predetermined outer limit with respect to the top frame 10.

The outer limit stops 19 shown in the drawing are formed from the downwardly depending skirt portion of the angle iron from which the top frame 10 is made. However, in the absence of a top frame 10 made of angle iron as shown, the outer limit stops 19 can be formed from appropriately fashioned metal elements secured to the underside of the table top adjacent the arm receiving openings of the associated arm member sockets 18. Moreover, in the absence of a top frame, the arm member sockets 18 are secured directly to the underside of the table top in position to receive the arm members 14 of each leg element 11. Alternatively, in place of a complete rectangular top frame 10 such as that shown in Fig. 1, the top frame can comprise merely the corners of a rectangle or other polygon as shown in Figs. 2 and 3.

Each of the leg elements 11 is attached to the top frame 10 by compressing the upper ends of the two leg members 13 together as indicated by the dotted lines shown in Fig. 2, by placing the ends of the arm members 14 in the arm receiving openings of the associated arm member sockets 18, and by releasing the compression of the leg members 13 so that the arm members 14 return to their normal position and thus become fully inserted in the arm member sockets 18 as shown in Fig. 3. When thus attached to the top frame 10, the leg elements 11 are positioned approximately normal thereto and tend to be maintained firmly in this position. That is to say, the leg elements 11 resist movement with respect to the top frame 10 when the arm members 14 of each leg element 11 are received in the arm member sockets 18 because the horizontally disposed arm members 14 are approximately normal to the approximately vertically disposed leg members 13, and because the arm members 14 are at approximately right angles to each other.

To insure the necessary rigidity of the legs of my table, I provide the outer limit stops 19 and the brace member 12. The outer limit stops 19, as hereinbefore described, prevent outward movement of the leg elements 11 beyond a predetermined outer limit. This result is achieved by the pressure of the stops 19 against the leg members 13 when the leg elements 11 reach the aforesaid outer limit of movement with respect to the top frame 10.

Inward movement of the leg elements 11 with respect to the top frame is prevented by means of the brace member 12. As shown in Fig. 1, the brace member 12 comprises a rectangular frame of angle iron adapted to fit between and to connect all of the leg elements 11 of my table structure. Each of the corners of the brace member 12 extends between the vertically disposed leg members 13 of one of the leg elements 11 and rests upon the brace support 15 of this leg element. If desired, the brace member 12 can be firmly secured to the brace supports 15 on which it rests by means of bolts or pins that extend through holes 17 in the brace supports as hereinbefore mentioned. The brace member 12 is dimensioned so that, when in position with each corner resting on the brace support 15 of one of the leg elements 11, all of the leg elements 11 and rests upon the brace support 15 of this leg element. Thus, further outward movement of each leg element 11 is prevented by the said associated outer limit stops 19, and inward movement of the leg element is prevented by the brace member 12.

The brace member 12 is advantageously in the form of a rectangular frame fashioned of angle iron as shown in Fig. 1. Alternatively, the brace member can be fashioned from other materials such as wood or metal shelving, or from plywood, to form a shelf below the level of the table top. Moreover, the brace member can have a shape other than rectangular as, for example

an X- or an H-shaped frame. The essential consideration is that, when in position between the leg elements 11, the brace member 12 contacts all of the leg elements and maintains them all firmly against the outer limit stops associated therewith.

From the foregoing description of my invention, it will be seen that I have devised a novel table leg construction comprising demountable leg elements that are readily attached to and detached from a table top, and when attached pursuant to my invention are rigidly braced against undesirable inward and outward movement with respect to the table top. Although described specifically in connection with a rectangular table top, it is apparent that my invention is equally applicable to all tables irrespective of the shape of the table top. Accordingly my novel table leg construction constitutes an important and valuable contribution to the art to which it relates.

I claim:

1. A table comprising a table top, a plurality of legs secured to the underside thereof and a brace member connected to all of the legs of the table, each of said table legs comprising a V-shaped leg element formed from two approximately vertically disposed leg members joined together at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element, the upper end of each of said leg members being provided with horizontally disposed arm members positioned approximately at right angles to each other, each of said leg elements being further provided with a brace support connecting the leg members of said leg element approximately intermediate the foot and the upper end thereof, arm member sockets secured to the underside of the table top and adapted to receive the horizontally disposed arm members of each leg element, and outer limit stops secured to the underside of the table top adjacent the arm member sockets and adapted to prevent outward movement of the leg element the arm members of which are received in said arm member sockets, said brace member being supported by the brace supports of each leg element and adapted to prevent inward movement of the leg elements, whereby the legs of said table are rigidly braced against relative inward and outward movement.

2. A table comprising a table top, a plurality of demountable legs secured to the underside thereof and a brace member connected to all of the legs of the table, each of said table legs comprising a V-shaped leg element formed from two approximately vertically disposed leg members joined together at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element, the upper end of each of said leg members being provided with horizontally disposed arm members positioned approximately at right angles to each other, each of said leg elements being further provided with a brace support connecting the leg members of said leg element approximately intermediate the foot and the upper end thereof, arm member sockets secured to the underside of the table top, said arm member sockets having arm member receiving openings adapted to receive the horizontally disposed arm members of each leg element, and outer limit stops secured to the underside of the table top adjacent the arm member receiving openings of each of said arm member socket, said outer limit stops being adapted to prevent movement of the leg element the arm members of which are received in said arm member sockets outwardly beyond a predetermined outer limit of travel with respect to the table top, said brace member extending between the two leg members of each leg element and being supported by the brace supports thereof, said brace member forcing all of said leg elements against said outer limit stops and preventing inward movement of the leg elements, whereby the legs of said table are rigidly braced against inward and outward movement relative to the table top.

3. A table comprising a table top, a plurality of legs

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secured to the underside thereof and a brace member connected to all of the legs of the table, each of said table legs comprising a V-shaped leg element formed from a unitary piece of resilient metal and having two approximately vertically disposed leg members joined together at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element, the upper end of each of said leg members being provided with horizontally disposed arm members positioned approximately at right angles to each other, each of said leg elements being further provided with a brace support connecting the leg members of said leg element approximately intermediate the foot and the upper end thereof, pairs of arm member sockets secured to the underside of the table top, said arm member sockets being formed from lengths of metal tubing adapted to receive the horizontally disposed arm members of each leg element, the arm members of said leg elements being disposed in said arm member sockets, and outer limit stops secured to the underside of the table top adjacent each of said arm member sockets, said outer limit stops being adapted to prevent outward movement of the leg element beyond a predetermined outer limit relative to said table top, said brace member extending between the two leg members of each leg element and being supported by the brace supports thereof, said brace member forcing each of said leg elements against the associated outer limit stops and being adapted

to prevent inward movement of the leg elements, whereby the legs of said table are rigidly braced against inward and outward movement relative to the table top.

4. A table leg comprising a V-shaped leg element formed from two approximately vertically disposed leg members joined together at the foot of the leg element and spaced an appreciable distance apart at the upper end of the leg element, the upper end of each of said leg members being provided with horizontally disposed arm members positioned approximately at right angles to each other, said V-shaped leg element being further provided with a support brace connecting the leg members of said leg element approximately intermediate the foot and upper end thereof.

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