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2,584,471

TABLE LEG MOUNTING

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FIG. 1.

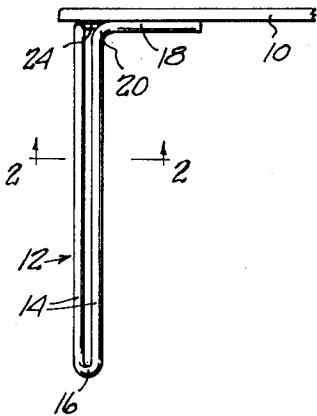


FIG. 2.

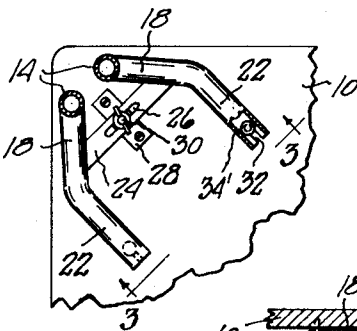


FIG. 3.

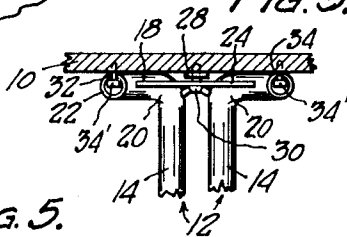


FIG. 4.

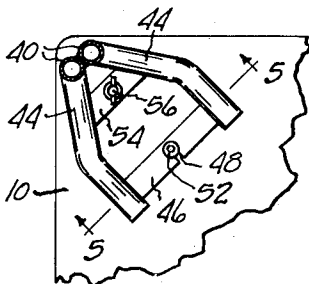


FIG. 5.

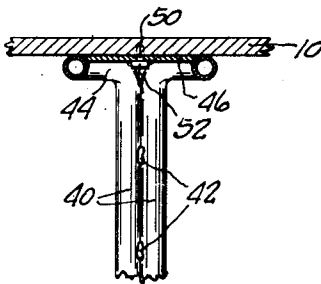


FIG. 6.

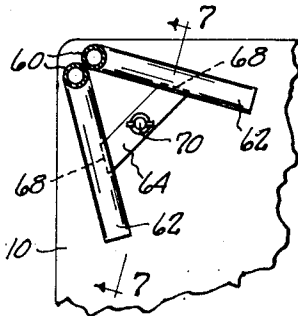


FIG. 8.

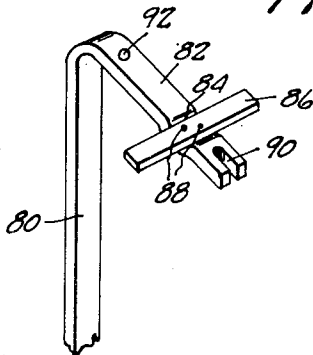
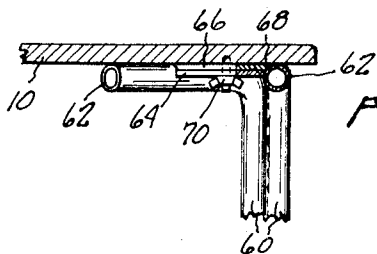


FIG. 7.



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TABLE LEG MOUNTING

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4 Claims. (Cl. 311-110)

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This invention relates to improvements in table leg mountings, and particularly to mountings for tables of the type having a flat table top to which the table legs are secured directly as distinguished from the type of table in which a frame depends from the table top and in which the legs are secured to such depending frame. Tables of this type are commonly shipped in collapsed or disassembled condition in order to conserve shipping space and are erected at their destination, such as a retail store. The assembly of the table is thus completed by inexperienced help as distinguished from factory trained workmen, and it is therefore desirable to provide a table which can be assembled easily, quickly and without requiring special tools.

The primary object of the invention is to provide a simple leg mounting construction of the type and character above mentioned, wherein only a few manipulations are required to assemble the parts and wherein the parts are so constructed as to guide assembly in a manner to avoid the necessity of any special skill or special care.

A further object is to provide a device of this character in which the securing means are located and positioned at the factory so that the assembler is not required to apply securing screws or to perform any operation except the very simplest manipulations.

A further object is to provide a device of this character which is sturdy and is braced in all directions and which is so constructed that there is no danger of damaging the parts by the use of improper securing means.

Other objects will be apparent from the following specification.

In the drawing:

Fig. 1 is a fragmentary side view of a table using one embodiment of my invention.

Fig. 2 is a fragmentary horizontal sectional view taken on line 2-2 of Fig. 1.

Fig. 3 is a fragmentary vertical sectional view taken on line 3-3 of Fig. 2.

Fig. 4 is a view similar to Fig. 2, illustrating a slightly modified embodiment of the invention.

Fig. 5 is a fragmentary vertical sectional view taken on line 5-5 of Fig. 4.

Fig. 6 is a view similar to Fig. 2, illustrating another embodiment of the invention.

Fig. 7 is a vertical sectional view taken on line 7-7 of Fig. 6.

Fig. 8 is a perspective view of a table leg embodying another form of my invention.

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Referring to the drawings, and particularly Figs. 1 to 3, the numeral 10 designates a rigid table top of any suitable construction and preferably constituting a flat panel having a substantially uninterrupted flat bottom surface. The top 10 is adapted to be supported at its corners by table legs 12. As here shown, the table legs 12 each are formed of tubular metal bent in U-shape to provide a pair of substantially parallel vertical runs 14, a semi-circularly bent foot portion 16, and whose upper end portions are bent horizontally to underlie and support the table top 10. As here shown the horizontal upper end portions of the legs 12 constitute diverging horizontal runs 18 formed integrally with and bent at 20 from the leg portions 14. The leg portions 18 preferably terminate in parallel terminal portions 22 adapted to be positioned approximately 45 degrees displaced from the edges of the table top adjacent thereto.

The portions 18 of each leg unit are rigidly connected by a strap or bar 24 which is welded or otherwise suitably secured thereto. This bar 24 is provided with longitudinal slot 26 extended therethrough. The bottom surface of the table top has a plate 28 secured thereto which is provided with a screw-threaded aperture and a screw 30 is passed through the slot 26 and threaded into the aperture of the plate 28 to anchor the crossbar 24 and the leg unit to the table top. The ends of the portions 22 of the legs have longitudinal slots 32 formed therein at the central upper portion thereof, and screws or bolts 34 are secured in the table top with their heads 34' spaced from the bottom surface of the table top 10 a distance to permit a snug sliding fit of the leg slots 32 therearound.

In the manufacture of the table the screws 34 are secured to the table top by the manufacturer, and the plate 28 is secured to the table top. The application of these parts by the manufacturer of the table permits the use of suitable jigs to insure proper location of these parts, and likewise to insure the use of proper screws and parts to avoid the danger of using securing members of excessive length which might pierce the top surface of the table top if driven too far or if not selected of the proper length. Thus the table reaches its destination with the table top and the screws 34 and the plate 28 constituting one unit, and the leg units 12 separate therefrom and constituting other units to be assembled therewith. The user can assemble the table quickly by sliding the slotted ends 22 of the leg portions relative to

the screws 34 so that the ends of the leg units are held securely. Then all that is required of the user additionally is to apply the screw 30 which is threaded into the socket provided in the plate 28. It will be understood, of course, that the securing member 30 may constitute a threaded stud carried by the plate 28 and projecting therefrom in a manner to be received in and to project below the crossbar 24, in which event a wing nut may be applied to this stud to constitute the third point of connection between the leg unit and the table top. It will be observed that when the parts are secured in this simple fashion, the leg units are sturdy, are held positively against play or tilting in any direction, and effectively serve to detachably connect the parts.

A slightly different embodiment of the invention is illustrated in Figs. 4 and 5, wherein a leg unit is formed of two tubular parts whose upright portions 40 extend parallel and substantially in abutment and may be welded, soldered or otherwise fixedly secured together at 42 at spaced points or continuously along their length. The upper end portions are bent perpendicularly at 44, the portions 44 extending divergently from the upright units. The free ends of the horizontal upper leg portions are rigidly connected by a rigid crossbar or plate 46 which is welded or otherwise secured thereto and is preferably adapted to bear at its upper face against the bottom surface of the table top 10. This bar has a transverse slot 48 formed therein which is adapted to receive the shank of a screw 50 mounted in the table top, said screw having an enlarged head 52 which underlies the bottom surface of the plate 46 with a snug fit. A second crossbar 54 is rigidly secured between the horizontal leg portions 44 in spaced relation to the bar 46 and preferably adjacent to the upright leg portion 40. This bar 54 has an opening therein through which a thumb screw 56 may be inserted to register with a suitable socket in the table top 10. This socket may be formed in a metal plate, such as the plate 28 of the embodiment shown in Figs. 2 and 3. Alternatively, a screw-threaded stud may project from the table top to extend through the opening in the bar 54 and to have threaded thereon a thumb nut, as will be obvious.

In this embodiment of the invention the screw 50 is secured in proper position to the table top at the factory, and the socket for the thumb screw 56 likewise is formed at the factory. The application of the table leg unit to the table top is effected simply, easily and quickly by sliding the leg structure to anchor the strap 56 between the table top and the head 52 of the screw 50 and thereupon shift the parts until the opening in the strap 54 registers with the socket in the table top to receive the anchoring screw 56. This device has the same advantages of preventing lateral play of the parts, of reducing to a minimum the amount of time required and the skill required to mount the table legs, and to eliminate the need for special tools in assembling the table.

Another form of the invention is illustrated in Figs. 6 and 7, wherein the leg unit is shown as being formed of two tubular parts whose upright portion 60 are welded, soldered or otherwise secured together in engagement and whose upper portions 62 are bent horizontally and extend in diverging relation. A single crossbar 64 is welded or otherwise secured to and extends between intermediate portions of the horizontal leg parts 62. A metal plate 66 is secured to the bottom face

of the table top 10 and projects therefrom. The end edges 68 of the plate 66 are so positioned as to engage the leg portions 62 and to hold said portions 62 in desired position when the table top and the leg structure are anchored together by the securing means 70. This securing means has here been illustrated as a screw-threaded stud carried by the plate 66 and the table top and adapted to project through an opening in the plate 64 so that a thumb nut may be screwed thereon to hold the plate 64 in firm face engagement with the plate 66. It will be understood, however, that if desired a wing screw may be used if the plate 66 is provided with a screw-threaded opening to receive it.

It will be noted that this form of the invention requires the use of only one securing screw which is positioned centrally with respect to the upright portion 60 of the legs and the terminal portions of the horizontal arms 62 of the leg units. In other words, as viewed in Fig. 6, the upper part of this leg unit is in the form of the letter A, and the securing member is positioned centrally of the crossbar of that configuration. The securing means 70 serves to hold the part 62 firmly in face engagement with the bottom surface of the table top 10 in a manner to prevent lateral play. The end surfaces 68 of the plate 66 form guide abutments which prevent rotation of the leg structure around the securing means 70 as a center. It will be noted that this form has all the advantages of the other embodiments of the invention.

While the invention has been illustrated herein as applied to leg structures which are formed of metal tubes, it is not limited to use with tubular metal legs but may be used instead with legs which are formed of bar stock. Any of the foregoing embodiments may be made from bar stock instead of tube stock if desired.

Another embodiment of the invention which is suited to manufacture from either tube stock or bar stock is illustrated in Fig. 8. The upright leg portion 80 has a horizontal upper portion 82 bent therefrom and is preferably slightly offset at 84 to receive a rigid crossbar 86 which is welded, soldered or otherwise rigidly secured thereto at 88. The crossbar 86 projects laterally from both sides of the part 82. The end of the horizontal part 82 is provided with a central longitudinal slot 90 and an aperture 92 extends through the part 82 intermediate the upright leg portion 80 and the crossbar 86 and preferably adjacent to the upright as illustrated. The same arrangement and construction of the table top which is shown in Fig. 4 may be used with this form of legs. In other words, diagonally related securing means 50 and 56 of the table top will anchor this leg structure with the slot 90 fitting around the shank 50 of the inner screw whose head 52 underlies the inner end of the leg part 82 and securing means 56 passing through the opening 92 in the leg to anchor it to the table top. It will be observed that the rigid mounting of the crossbar 86 provides a firm abutment of the table leg with the table top to prevent tilting or play of the same, and the securing means 50 and 56 hold the leg structure against sliding movement.

All embodiments of the invention possess the same advantages, namely, ease and simplicity of manipulation to secure the legs to the top 10, pre-formed and pre-positioned anchoring means secured to the table top at the factory to guarantee accurate location and reduction in the number of parts which the assembler must handle,

in the number of tools which he requires, and in the amount of time which is consumed to properly anchor the legs. All of the leg structures have a firm non-tilting and non-shifting anchorage to the table top which is effective for its purpose.

While the preferred embodiments of the invention have been illustrated herein, it will be understood that any other structure falling within the scope of the appended claims is deemed to be included within the spirit and scope of this invention.

I claim:

1. In a table of the knock-down type, a table top having a substantially uninterrupted flat bottom surface, a rigid metal leg unit having an upright portion and a horizontal portion, said horizontal portion comprising a plurality of fixedly connected angularly related rigid parts, at least two of said angularly related parts bearing longitudinally in face engagement against the bottom surface of said table top, and means for securing said horizontal portion to said table top, said means including at least two parts adapted for threaded connection of which one depends fixedly from and forms a part of said table top when said table is disassembled and means carried by and depending from said top in spaced relation to said first means for engaging and positioning said leg unit.

2. In a table of the knock-down type, a table top having a continuous flat bottom surface, a rigid metal leg unit having an upright portion and a horizontal portion, said horizontal portion comprising a plurality of fixedly connected angularly related rigid parts, at least two of said angularly related parts bearing longitudinally in face engagement against the bottom surface of said table top, and a plurality of spaced securing means for anchoring said horizontal portion to said table top, one of said securing means including a part secured to the table top and a part manually applicable to said first part when the table is erected, and at least one other securing means being a headed member permanently secured to said table top spaced from said first named securing part with its head spaced below the bottom surface of said top, one part of said horizontal portion having a slot fitting snugly around said member between its head and said top.

3. In a table of the knock-down type, a table top having a continuous flat bottom surface, a rigid metal leg unit having an upright portion and

a horizontal upper portion, said upper portion including a pair of elongated parts diverging from said upright and bearing against said top along their length and a rigid cross brace fixedly secured to and connecting intermediate portions of said diverging parts, multi-part detachable means securing an intermediate portion of said brace to said top, and an abutment depending from said top spaced from said first means, a part of said upper portion spaced from said securing means bearing against said abutment.

4. In a table of the knock-down type, a table top having an uninterrupted flat bottom surface, a rigid metal leg unit having an upright portion and a horizontal upper portion, said upper portion including a pair of elongated parts diverging from said upright and bearing against said top along their length and a rigid cross brace rigidly secured to and connecting intermediate portions of said diverging parts, detachable means for securing an intermediate portion of said brace to said top, and an abutment depending from said top, a part of said upper portion spaced from said securing means bearing against said abutment, said abutment having a lateral projection spaced below said top and having interlocking engagement with the adjacent part of said leg unit.

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