Dec. 4, 1962 C. O. LARSON 3,066,992

TABLE LEG BRACKET

Filed Jan. 23, 1961 2 Sheets-Sheet 1

FIG. 1

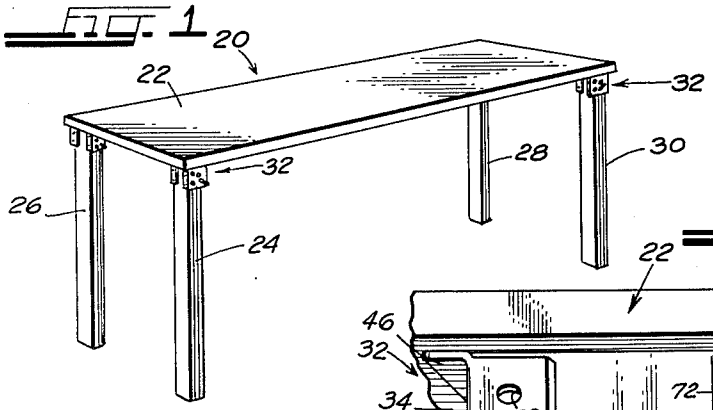


FIG. 2

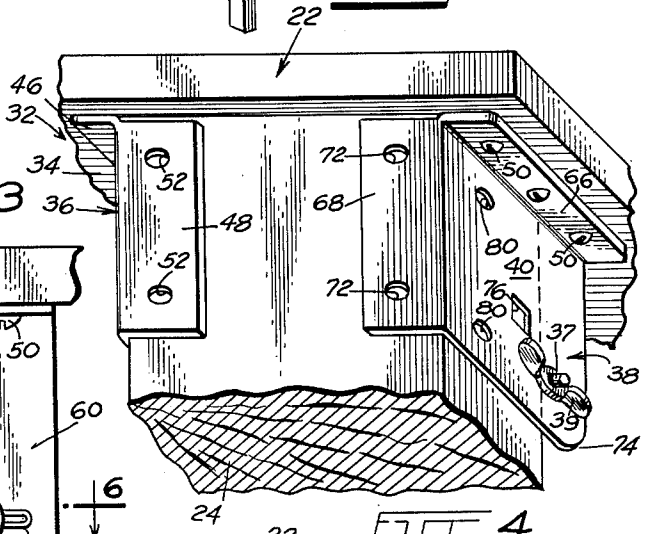


FIG. 3

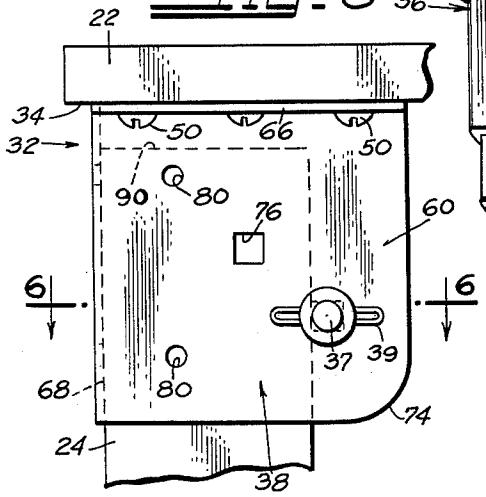


FIG. 4

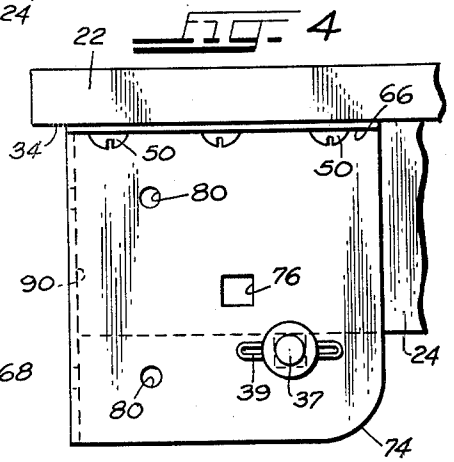
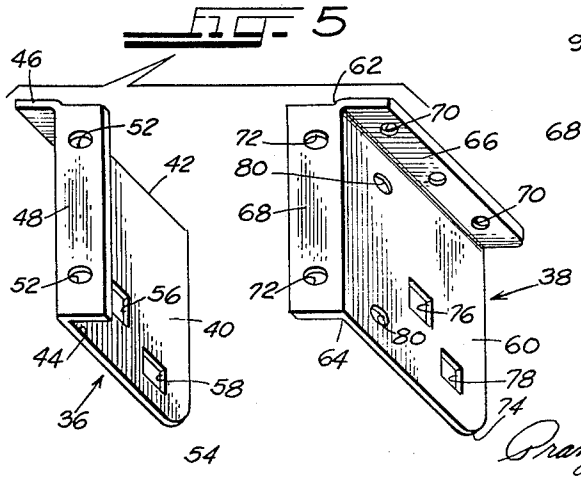


FIG. 5



INVENTOR.
CHARLES O. LARSON
BY
Grangley, Baird, Clayton, Millers & Vogel
ATTYS.

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FIG. 6

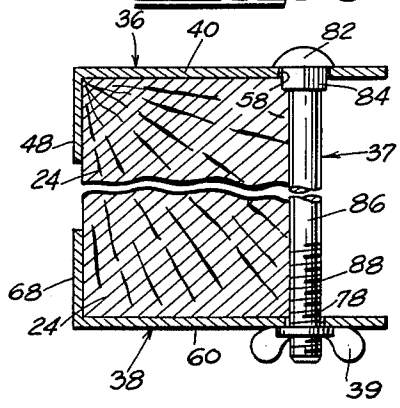


FIG. 7

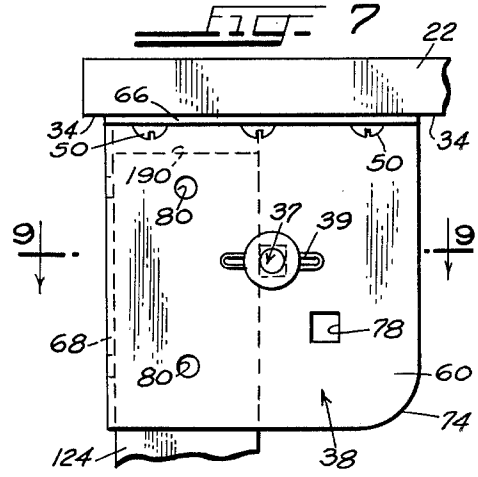


FIG. 8

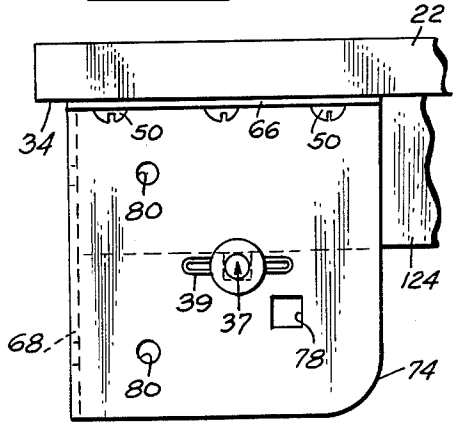
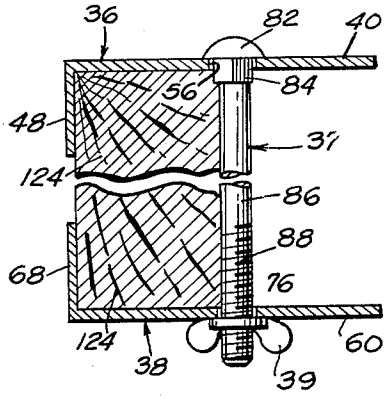


FIG. 9



INVENTOR.

CHARLES O. LARSON

BY

Brangley, Baird, Clayton, Miller & Vogel

Attys.

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TABLE LEG BRACKET

Charles O. Larson, Sterling, Ill., assignor to Chas. O. Larson Co., Sterling, Ill., a corporation of Illinois

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3 Claims. (Cl. 311—110)

This invention relates to bracket assemblies for connecting legs to the undersurface of supports and more particularly to bracket assemblies for connecting legs to the undersurface of a table top to provide a table having legs that can be placed in one arrangement to support the table top and in another arrangement to be folded against the undersurface of the table top for storage.

In certain instances it is desirable to form a table having legs formed from lumber having one dimension such as a thickness of 1⅛ inch or from lumber having another thickness such as 1⅝ inch. Sometimes it is also desirable to be able quickly to disassemble the legs from the table top for convenience in storage and at other times to provide a more permanent mounting of the legs upon the table top.

Accordingly, it is an important object of the present invention to provide an improved bracket assembly for mounting a leg on the undersurface of a table top.

Another object of the invention is to provide an improved bracket assembly of the type set forth which can be used with lumber of different dimensions, whereby to provide greater versatility of use in the bracket assembly.

Still another object of the invention is to provide a bracket assembly of the type set forth which can be assembled with a single bolt to hold an associated leg in a rigid and nonfolding position with respect to the associated table top, the distance beween the upper end of the leg and the undersurface of the table top being adjustable to achieve a leveling action.

Yet another object of the invention is to provide an improved bracket assembly of the type set forth, which in addition to being suitable for holding a leg in a rigid nonfolding and supporting position, can also support a leg in a folded position disposed against and underlying the associated table top.

A further object of the invention is to provide an improved bracket assembly of the type set forth in which the leg can either be mounted for quick disassembly from the table top and the bracket assembly or can be permanently mounted with respect thereto.

These and other objects and advantages of the invention will be better understood from the following description when taken in conjunction with the accompanying drawings. In the drawings, wherein like reference numerals have been utilized to designate like parts throughout:

FIGURE 1 is a perspective view of a table top having four supporting legs mounted thereon by means of the improved bracket assembly of the present invention;

FIG. 2 is a perspective view on an enlarged scale with certain portions broken away of the underside of the table top of FIGURE 1 and showing an improved bracket assembly of the present invention mounted thereon and supporting a table leg in operable position thereunder, all in accordance with and embodying the principles of the present invention;

FIG. 3 is a side elevational view of the bracket assembly illustrated in FIGURE 1, the leg being shown in the supporting position and being illustrated as formed of the thicker lumber;

FIG. 4 is a view similar to FIG. 3 and illustrating the manner in which the improved bracket assembly holds the table leg in the folded or storage position;

FIG. 5 is a perspective view of the two brackets forming a part of the bracket assembly of the present invention;

FIG. 6 is a view in horizontal section through the assembly of FIG. 3 substantially as seen in the direction of the arrows along the line 6—6 thereof;

FIG. 7 is a view similar to FIG. 3 and illustrating the bracket assembly holding a leg formed of the smaller dimension lumber on the table top in the supporting position;

FIG. 8 is a view similar to FIG. 7 and illustrating the bracket assembly holding the table leg in the folded or storage position; and

FIG. 9 is a view in horizontal section through the assembly of FIG. 7 substantially as seen in the direction of the arrows along the line 9—9 thereof.

There is shown in FIG. 1 of the drawings a table generally designated by the numeral 20 including a table top 22 and four legs 24, 26, 28 and 30 which are connected to the table top 22 by means of bracket assemblies generally designated by the numeral 32 and made in accordance with and embodying the principles of the present invention. The table top 22 is a planar support member having an upper flat surface and a lower flat surface 34 (see FIG. 2) on which are mounted the bracket assemblies 32. Each of the bracket assemblies 32 includes a pair of brackets 36 and 38, a carriage bolt 37 and a wing nut 39.

The brackets 36 and 38 are mirror images one of the other and are preferably formed of sheet metal by stamping and bending operations. The bracket 36 includes a side plate 40 having an upper edge 42 and a side edge 44, the upper edge 42 having a top flange 46 formed integral therewith by means of a bendable connection and extending substantially perpendicular thereto and the side edge 44 has a side flange 48 formed integral therewith and disposed substantially perpendicular to the side plate 40 and extending in a direction opposite to the top flange 46. The side plate 40, the top flange 46 and the side flange 48 are disposed in mutually perpendicular planes with the edges 42 and 44 disposed perpendicular to each other. The top flange 46 has a plurality of openings, for example three, therein to receive screws 50 for mounting the bracket 36 upon the undersurface 34 of the table top 22 and the side flange 48 has a pair of spaced apart apertures 52 therein which may be utilized to receive screws therethrough more securely to connect an associated leg to the bracket 36, as will be explained more fully hereinafter. The side plate 40 is formed generally square in shape and has a lower rounded corner 54 disposed away from the flanges 46 and 48 and is provided with two square holes 56 and 58 therein, the hole 56 being disposed from the top edge 52 a distance equal to the distance to the nearest point of the side flange 48; the hole 58 is similarly disposed a distance from the top edge 42 equal to the distance to the side flange 48.

The bracket 38 includes a side plate 60 having a top edge 62 and a side edge 64, the upper edge 62 being formed integral with a top flange 66 which is disposed perpendicular to the side plate 60 and is connected thereto by a bendable connection to permit flexing between the side plate 60 and the top flange 66. The side edge 64 has a side flange 68 formed thereon and disposed substantially perpendicular to the side plate 60 and extending therefrom in a direction opposite to the top flange 66. More specifically, the side plate 60, the top flange 66 and the side flange 68 are disposed in mutually perpendicular planes and the edges 62 and 64 are disposed perpendicular to each other. The top flange 66 has a plurality of openings 70 therein, three of the openings 70 having been shown for purposes of illustration, to receive therethrough screws 50 to mount the bracket 38 upon the undersurface

34 of the table top 22. The side flange 68 is provided with two apertures 72 therein to receive fasteners therethrough more firmly to mount the associated leg upon the bracket 38, as will be explained more fully hereinafter. The side plate 60 is generally square in shape and has a rounded corner 74. Two square holes 76 and 78 are provided in the side plate 60, the hole 76 being positioned equidistant from the top edge 62 and the side flange 68 and the hole 78 likewise being positioned equidistant from the top edge 62 and the side flange 63. There also is provided a pair of apertures 80 in the side plate 60 to receive fasteners more firmly to mount an associated leg under certain conditions as will be more fully described hereinafter.

In assembling the brackets 36 and 38 upon the table top 22, the side plates 40 and 60, respectively, are disposed parallel to each other and the facing surfaces thereof are spaced apart a distance equal to the width of the associated leg such as the leg 24 in FIGS. 2, 3 and 4. The top flanges 46 and 66 are disposed against the undersurface 34 of the table top 22 and the side flanges 48 and 68 are disposed so that the surfaces thereof lie in the same planes. After the brackets 36 and 38 are thus positioned, the screws 50 are inserted through the openings in the top flanges 46 and 66 firmly and rigidly to secure the brackets 36 and 38 to the table top 22.

When assembling a leg 24 having the larger dimensions to the table top 22 by means of the bracket assembly 32, the carriage bolt 37 is inserted through the aligned set of holes 58 and 78 in the brackets 36 and 38, respectively. Referring more particularly to FIG. 6 of the drawings, it will be seen that the carriage bolt 37 includes a head 82 which has formed adjacent thereto a square shank portion 84 adapted to be disposed in one of the square holes 56, 58, 76 or 78, and formed integral with the square shank portion 84 is the usual cylindrical shank portion 86 terminating in a threaded portion 88 adapted to extend through one of the aligned holes and to receive on the outer end thereof the wing nut 39. In one preferred form of the invention, the distance between the adjacent edges of the holes 58 and 78 and the associated top edges and the side flanges is 1⅝ inch to receive a leg 24 having a thickness of 1⅝ inch and a width, for example of 3½ inches. When such a leg 24 is assembled with the brackets 36 and 38 as illustrated in FIG. 6 of the drawings, the bolt 37 disposed in the openings 58 and 78 will urge the leg 24 against the side flanges 48 and 68. By tightening the wing nut 39 against the side plate 60, the head 82 of the bolt 37 is pressed against the side plate 40 and the side plates 40 and 60 by virtue of the bendable connections thereof with the top flanges 46 and 66, respectively, can be firmly urged against the sides of the leg 24, whereby firmly to clamp the leg 24 with respect to the brackets 36 and 38 in the position illustrated in FIG. 3. It has been found that by means of the improved bracket assembly 32 of the present invention, the leg 24 can be held in this position without the use of any additional fasteners interconnecting the brackets 36 and 38 and the leg 24. It further has been found that the leg 24 need not have the upper end 90 thereof disposed against the undersurface 34 of the table top 22 and that the leg 24 can be held in any adjusted position such as is illustrated by dashed lines in FIG. 3 whereby the leg 24 can be used to level the table top 22, the brackets 36 and 38 being urged into firm clamping engagement with the sides of the leg 24 by means of the carriage bolt 37 and the cooperating wing nut 39.

The leg 24 can be quickly and readily disassembled from the bracket assembly 32 by simply loosening the wing nut 39, whereupon the leg 24 can be bodily dropped from the bracket assembly 32. It is also convenient to store the leg 24 in a condition flat against the undersurface 34 of the table top 22 and to this end the leg 24 can be positioned as illustrated in FIG. 4 of the drawings with the upper end 90 disposed against the side flanges 48 and 68, the parts being held in this position by tightening the wing nut 39 upon the carriage bolt 37 thereby firmly to clamp the side plates 40 and 60 against the side surfaces of the leg 24.

In those cases in which it is desired more securely to mount the table top leg 24 with respect to the brackets 36 and 38, suitable fasteners such as wood screws can be inserted through the apertures 52, 72 and 80 thereby positively to mount the leg 24 with respect to the brackets 36 and 38.

There is illustrated in FIGS. 7 through 9 of the drawings the manner in which the bracket assembly 32 of the present invention can be used conveniently to mount a leg 124 upon the table top 22, the leg 124 having a smaller thickness dimension than the leg 24 and having a thickness of only 1⅛ inch. When mounting the leg 124 using the bracket assembly 32, the carriage bolt 37 is disposed in the holes 56 and 76 so that the edge of the carriage bolt 37 disposed toward the side flanges 48 and 68 is spaced therefrom a distance substantially equal to the thickness of the leg 124 whereby the carriage bolt 37 serves to position the leg 124 against the side flanges 48 and 68. By tightening the wing nut 39 upon the carriage bolt 37, the side plates 40 and 60 can be urged into clamping engagement with the contacting surfaces of the leg 124 thereby to mount the leg 124 in a supporting position as illustrated in FIG. 7 of the drawings. The upper end 190 of the leg 124 can also be spaced from the undersurface 34 of the table top 122 whereby the leg 124 may be used to achieve leveling of the completed table 20.

The leg 124 can also be held in a non-supporting or stored position as illustrated in FIG. 8 wherein the leg 124 is disposed against the undersurface 34 of the table top 22 and is clamped in this position by tightening of the wing nut 39 upon the carriage bolt 37 thereby to urge the side plates 40 and 60 into clamping engagement with the adjacent surfaces of the leg 124.

It will be seen that there has been provided an improved bracket assembly which fulfills all the objects and advantages of the present invention. More specifically, an improved bracket assembly has been provided which can securely clamp an associated leg in a supporting position or in a folded non-supporting position, the leg in the supporting position being adjustable with respect to the associated table top to provide a leveling action. No bolt holes are required in the leg, yet a firm clamping of the leg in the adjusted position is achieved. If desired, a more permanent mounting of the leg on the associated brackets can be obtained by placing fasteners through the apertures provided in the side plates and in the side flanges.

Although one preferred form of the present invention has been shown and described for purposes of illustration, it is to be understood that various changes and modifications can be made therein without departing from the spirit and scope of the invention and it is intended to cover by the appended claims all such changes and modifications thereof.

What is claimed is:

1. A bracket assembly for interconnecting a support member having a substantially planar undersurface thereon and a leg wherein the lumber forming the leg may be of a first lesser thickness and a second greater thickness, said assembly comprising a pair of spaced apart side plates, a top flange integral on the top edge of each of said side plates and extending substantially perpendicular thereto and away from the other side plate, means for rigidly securing said top flanges on the undersurface of the support member with said side plates extending normally thereto and substantially parallel to each other, a bendable connection interconnecting each of said top flanges and the associated side plate for facilitating movement of said side plates toward and away from each other when said top flanges are rigidly secured to said undersurface, a side flange integral on the adjacent side edge of each of said side plates and extending substantially

perpendicular thereto and toward the other side plate, said side flanges lying substantially in the same plane and disposed substantially perpendicular to said top flanges, said side plates having a first set of holes therein spaced from both said top edge and said side flanges a distance substantially equal to the first lesser thickness, said side plates having a second set of holes therein separate and distinct from said first set of holes and spaced from both said top edge and said side flanges a distance substantially equal to the second greater thickness, a bolt having dimensions complementary to those of said holes and extending through said first set of holes when the leg is of the first lesser thickness to bear against the adjacent side thereof and to hold the leg against said side flanges and extending through said second set of holes when the leg is of the second greater thickness to bear against the adjacent side thereof and to hold the leg against said side flanges, and a fastener engaging said bolt for urging said side plates toward each other and against the associated leg therebetween to clamp and to hold said leg in a first supporting position perpendicular to the undersurface of the support member and in a second storage position parallel to and against the undersurface of the support member without the use of additional fasteners, the distance between the upper end of the leg and the undersurface of the support member

being adjustable for accomplishing leveling thereof, said bolt and said fastener cooperating with said side plates to hold the leg in the adjusted position thereof.

2. The bracket assembly set forth in claim 1, wherein said holes are formed square and said bolt is a carriage bolt having a square shank portion to engage in one of said holes and a threaded shank portion extending through the hole aligned with said one hole and receiving thereon a wing nut to clamp said side plates against the associated leg.

3. The bracket assembly set forth in claim 1, wherein said side plates and said side flanges have openings therein for the reception of fastening members.

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