July 30, 1957 H. MUTCHNIK 2,801,144

DETACHABLE LEG MOUNTINGS FOR TABLES AND CHAIRS

Filed Jan. 31, 1955

Fig. 1.

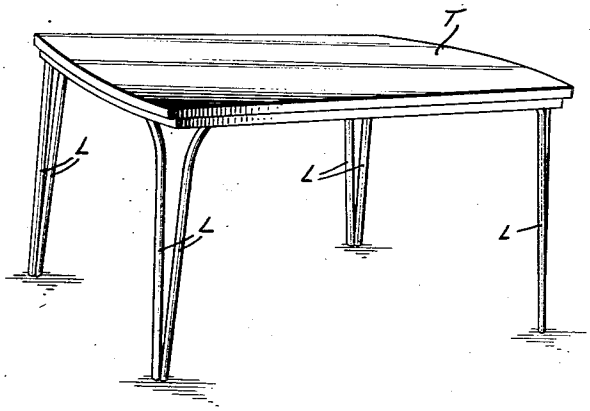


Fig. 4.

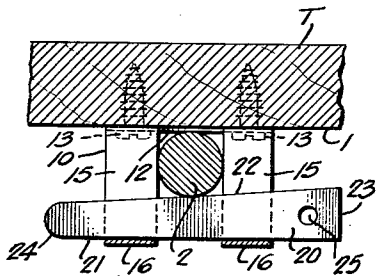


Fig. 2.

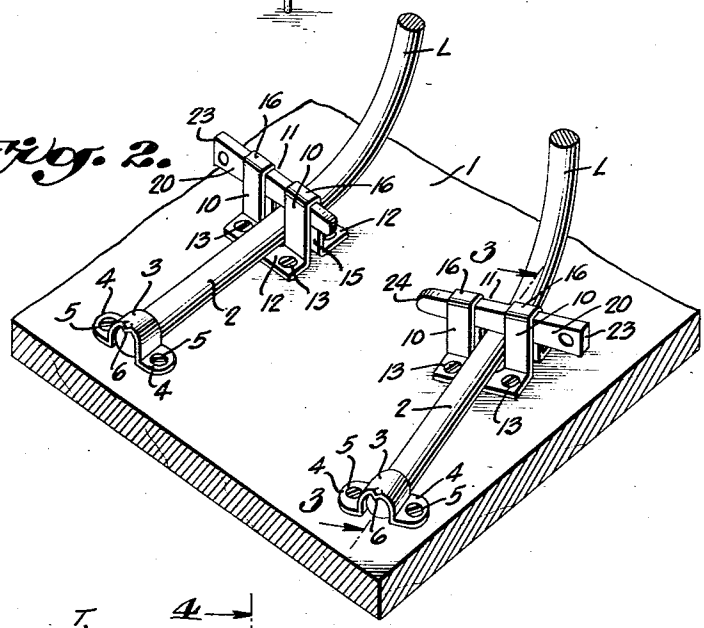
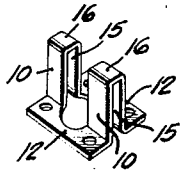


Fig. 5.



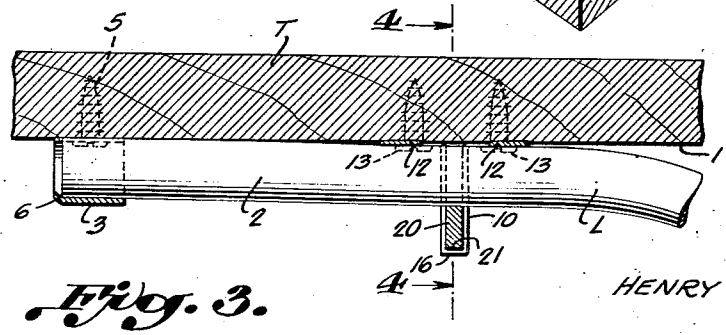


Fig. 3.

INVENTOR
HENRY MUTCHNIK

BY Samuel Helfrich

ATTORNEY

United States Patent Office 2,801,144
Patented July 30, 1957

2,801,144

DETACHABLE LEG MOUNTINGS FOR TABLES AND CHAIRS

Henry Mutchnik, Baltimore, Md.

Application January 31, 1955, Serial No. 485,016

3 Claims. (Cl. 311—110)

This invention relates to fastening devices for attaching supporting legs to overlying surfaces and more particularly to readily detachable fastening arrangements for the legs of tables or chairs.

It is the object of the present invention to provide a rugged and reliable fastener assembly for interconnecting the supporting legs of tables or chairs to the main bodies, which is economical in construction and which may be prepared at the manufacturing plant for shipment in knockdown condition and for convenient assembly at the ultimate point of utilization.

It is another object of the invention to provide a fastener assembly for tubular metallic legs which may be assembled quickly or disassembled, and which may be adjusted from time to time to take up wear in the parts so that a stable mounting for the legs is attained over extended periods of time.

The invention proceeds upon the principle of providing for the rigid attachment of the legs of tables or chairs, parts of which are disposed adjacent to the overlying surfaces of such furniture, to the latter, and to obtain a clamping of the leg portions at displaced points to impart rigidity and stability to the mounting. Parts of the fastening assembly may be affixed to the table or chair units at the factory so that the interconnection of the table legs therewith at the point of ultimate use may be executed rapidly and effectively, without need of any special skill or tools. The invention utilizes diverse types of clamps at displaced points at the end of the leg adjacent to the bottom of the table or chair surface, which clamps are automatically self-aligning to enable the assembly of the legs with the table or chair to be executed by the ultimate user as effectively as if the same were done at the factory.

The invention utilizes a guiding and clamping arrangement for the end of the leg portion and an additional clamping arrangement afforded by an integral pair of sheet metal loops spaced from each other and through which space extends transversely the portion of the leg which is clamped effectively to the overlying surface by means of a flat sheet metal wedge which is moved within the aligned passages of the sheet metal loops to tightly clamp the leg against the overlying surface.

Other objects and purposes will appear from the detailed description of the invention following hereinafter, taken in conjunction with the accompanying drawing, wherein

Fig. 1 is a perspective view of the table and leg assembly incorporating the fastening devices in accordance with the invention;

Fig. 2 is an obverse view showing the detachable connection of one of the corner leg units applied to the bottom surface of the table top;

Fig. 3 is a vertical sectional view along line 3—3 of Fig. 2;

Fig. 4 is a vertical sectional view along line 4—4 of Fig. 3; and

Fig. 5 is a perspective view of one of the integral U-shaped sheet metal loop devices for interconnecting the table top with the legs.

In the drawing is shown the preferred embodiment of the invention which seeks to obtain a secure detachable mounting for divergent corner leg assemblies L to the underside of a supporting surface exemplified by a table top T, which may alternatively be a chair.

The invention is concerned with obtaining a secure attachment of the leg units L to the underlying surface even when such assemblies are shipped in knocked-down condition from the factory to the retailer or ultimate consumer for assembly at the point of utilization. Stability of the corner mountings inures from the divergent directions which the horizontal ends 2 of the tubular legs L assume at their portions in contact with the bottom surface 1 of the table top. The tight fastening of each one of the tubular legs results in a tight interconnection between the parts which may be effected easily by the ultimate consumer and which may be adjusted from time to time by taking up the wear between the parts as the piece of furniture is used.

In Figs. 2 to 5 the legs are illustrated as being formed of solid wrought iron, but cylindrical legs of other material could be used and such legs may be of hollow or tubular metal as is generally used in the art of modern furniture. The end of each leg 2 is clamped to the table top by means of a U-shaped clamp 3 having flanges 4 which are affixed to the underside 1 of the table by means of screws 5, rivets or other mode of fastening. A detent 6 in the far edge of the clamp 3 serves to limit the outward movement of the end of the leg 2 so that a fitting of the end of the leg 2 within the clamp 3 fixes the end mounting of the leg portion 2.

A wedge fastener assembly, consisting of a pair of aligned sheet metal loops 10 stamped upwardly from integral flanges 12 are displaced from the clamp 3, and the space 11 between the sheet metal loops is sufficiently large to receive the leg portion 2 therebetween. The sheet metal loops may be affixed to the bottom of the table surface by means of screws 13 or rivets at the factory, or holes may be provided therefor, as may be the case with the fastening of clamp 3. When the clamps 3 and sheet metal loops 10 are affixed to the furniture unit at the factory, it is only necessary to place the leg portion 2 between the loop units 10 and to fix the end of the leg portion 2 within the clamp 3 adjacent to the detent 6, which assembling operation is completed by the passage of a flat sheet metal wedge unit 20 through the passages formed in the loop units 10. The flat sheet metal wedge 20 is of a small thickness corresponding to the small spacing 15 between the opposite side walls of the spaced loops 10. The opposed edges 21 and 22 are inclined relative to each other so that a driving movement of the wedge, imparted by a hammer blow on the large end 23 in the direction of its small end 24, serves to transform this movement to a force exerted in a transverse direction between the distal edges 16 of the loops 10 and the leg 2, which is disposed adjacent to the proximal portions of the loops and the passages 15 between the opposite walls thereof.

As fully described in my companion applications, to which reference is made hereinafter, the substantial areas of contact between the loops 16 with the edge 21 of the wedge 20 prevents any cutting or wearing of the wedge parts so that any wear between the parts may be taken up effectively from time to time by driving the wedge 20 further through the loops 16. The loops and the mounting flanges therefor may be made integrally in one piece as shown, or of two parts as fully disclosed in my companion applications, and more particularly, applica-

tion Serial No. 481,933 filed January 14, 1955, entitled "Fastener Assemblies."

In the embodiment shown in Figs. 1 to 5, the distal edges **16** on both loops **10** are shown disposed along a line parallel to the table surface **1**. Thus, the inclination of the edge **21**, acting along this continuous straight line defined by the distal edges **16**, relative to the edge **22** in contact with the table leg **2** results in a point of contact between edge **22** and the table leg at a point which is displaced from the line perpendicular to the table surface. Nevertheless, the clamping action of the table leg **2** against the surface **1** is effective even though the pressing force is applied at a point slightly displaced from the vertical diameter of the table leg.

An opening **25** is provided in the sheet metal wedge **20** adjacent to its large end **23** in order to permit the engagement of a tool therewith to facilitate the withdrawal of the wedge therefrom.

This application is a continuation in part of my application Serial No. 371,505, filed July 31, 1953, now abandoned.

While I have described my invention as embodied in a preferred embodiment and as operating in a specific manner for purposes of illustration, it should be understood that I do not limit my invention thereto, since various modifications will suggest themselves to those skilled in the art without departing from the spirit of my invention, the scope of which is set forth in the annexed claims.

I claim:

1. A device for attaching a supporting cylindrical leg to an overlying surface wherein a portion of said leg is disposed closely adjacent to said surface for attachment thereto, comprising means at the end of said leg portion for affixing said end to said surface, means inwardly of said end for affixing to said surface another part of said leg, said last-mentioned means comprising a pair of aligned spaced elongated U-shaped sheet metal loops having thin sheet metal apertured flanges extending transversely therefrom for affixation to said surface

at the proximal parts of said loops and defining together with their distal parts and the opposite side walls of said loops a pair of substantially rectangular passages with a space therebetween, the spacing between the side walls of each loop being a fractional part of the length of said loops, and the distal parts of said loops being continuous of each other along a straight line, said last-mentioned part of said leg disposed contiguous to said surface and extending transversely to said aligned loops through the space therebetween, and a flat sheet metal wedge having the opposite edges thereof straight and inclined towards each other and of a thickness to enable rectilinear movement in said rectangular passages whereby a reciprocating movement of said wedge in the direction of its smaller end is translated into a clamping movement of said cylindrical leg in a transverse direction against said overlying surface.

2. A device as set forth in claim 1 wherein said first-mentioned means comprises a U-shaped clamp embracing the end of said leg portion and provided with flanges for connection to said overlying surface and a detent at the remote edge of said clamp for limiting the outward movement of the end of the leg.

3. A device as set forth in claim 1 wherein the distal parts of the spaced loop are in parallel to the overlying surface and the point of engagement between the leg portion and sheet metal wedge is displaced from a line perpendicular to the overlying surface.

References Cited in the file of this patent

UNITED STATES PATENTS

307,040	Hammel	Oct. 21, 1884
566,544	Smith	Aug. 25, 1896
1,076,838	Okun	Oct. 28, 1913
1,095,636	Hummer	May 5, 1914
1,378,267	Newton	Mar. 17, 1921
1,378,770	Downey et al.	Mar. 17, 1921
1,719,921	Bosco	July 9, 1929
2,533,313	Flicker	Dec. 12, 1950
2,584,471	Kohen	Feb. 5, 1952