May 31, 1960 H. MUTCHNIK ET AL 2,938,759

REINFORCED CORNER BRACE AND SUPPORT SOCKET

Filed Oct. 18, 1957

Fig. 1.

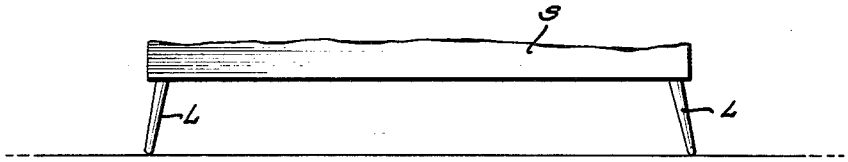


Fig. 2.

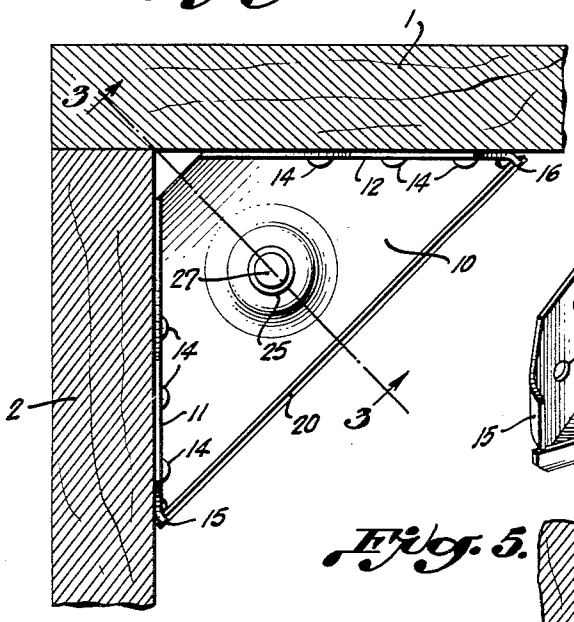


Fig. 4.

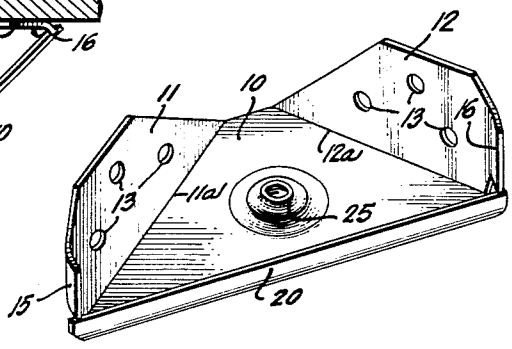


Fig. 5.

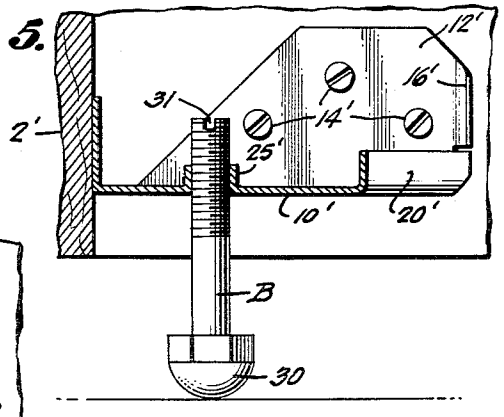
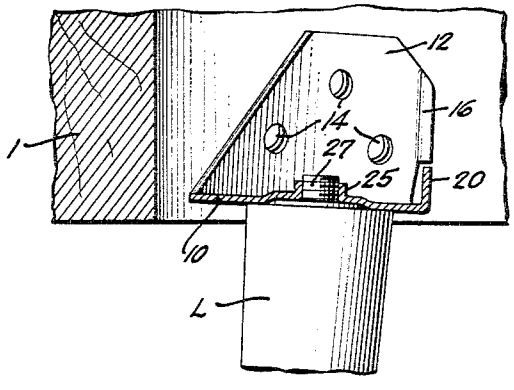


Fig. 3.



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REINFORCED CORNER BRACE AND SUPPORT SOCKET

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2 Claims. (Cl. 311—114)

This invention relates to a combined reenforced corner brace and support socket for the corner walls of structures of all types and particularly corners of furniture units.

It is the object of the present invention to provide a combined corner brace and socket for a leg support formed of an integral piece of sheet metal which is capable of handling increased loadings without deformation of the metal, in order to maintain the integrity of the structural unit.

It is another object of the invention to provide a rugged and economical corner brace and support socket which entails but few structural differences from similar devices of the prior art, but which increases extraordinarily the load-carrying capacities of the corner brace in consequence of the structural changes incorporated therein.

The invention proceeds upon the principle of providing a sheet metal corner brace having attaching flanges forming part thereof extending transversely from the web bridging the corner, wherein is disposed a socket for receiving the supporting element which may be a leg, levelling device, caster or similar unit. When such corner braces are subjected to exceptionally heavy loadings, as for example, by extraordinarily heavy loadings on a sofa, the web tends to yield, thereby throwing the legs of the sofa out of line, leading eventually to a break-down of the furniture unit. This difficulty is also true when simple corner braces are used in conjunction with levelling devices for heavy structural units such as refrigerators, freezers, washing machines, etc.

In accordance with the invention, the brace is reenforced by providing a flange at the free end of the web remote from the corner, to reenforce the web at this point, and this diagonal flange cooperates with stops preventing the transverse movement of the reenforcing flange and web, which stops are formed by wings bent angularly from the attaching flanges extending transversely from the web. The bottom edges of these wings, which are offset from the plane of the web, serve to arrest any tendency for movement of the web and the reenforcing flange at the end thereof. This arresting movement is supplemental to the reenforcement and stiffening of the entire assembly by the transverse bending of the reenforcing flange from the web and the arresting wings from the attaching flanges.

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 front elevation of the bottom of a seat or sofa to which the present invention is applicable;

Fig. 2 is a horizontal sectional view of the sofa at one of its corners showing in top elevation the combined corner brace and support socket in accordance with the invention;

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

Fig. 4 is a perspective view of the piece of hardware

constituting the improved combined corner brace and support socket; and

Fig. 5 is a vertical sectional view of a corner of a heavy portable structure which includes as a part thereof a levelling device supported by the combined corner brace and socket therefor in accordance with the invention.

In the drawings is shown a sofa or seat S supported by legs L at the corners of the furniture frame composed of structural wood members 1 and 2. The combined corner brace and leg support is formed of an integral stamped sheet metal member having a web 10 from which extends upwardly attaching flanges 11 and 12 disposed rectangularly to each other if the corner brace is designed for a 90° angle corner. The invention is as well adaptable to the bracing of corners other than 90°.

Openings 13 are provided in attaching flanges 11 and 12 for accommodating fastening screws or bolts 14 to affix the brace to the frame members 1 and 2. In the case of metal furniture, the attaching flanges may be affixed to the corner by means of bolts and nuts, rivets, spot welding, resistance welding or any other way known in the art.

A socket for a supporting leg L is formed in the web 10 and as illustrated in the drawing this socket may assume the form of an internally threaded cylindrical flange 25 capable of accommodating a threaded bolt 27 extending from the main leg element L. The socket may assume different forms; for example, the same may be of the special construction disclosed in application Serial No. 653,687, filed April 18, 1957, which requires a combined translating and rotating movement of the leg to effect a seating thereof within the socket.

The essential features of the invention are concerned with the strengthening of the brace in order that it may withstand heavy loadings thereon without deformation of the supporting web or the weakening of the hold effected by the fasteners applied to the affixing flanges 11 and 12. For this purpose, the web is notched at the ends of the junction lines 11*a* and 12*a* between it and its attaching flanges 11 and 12, respectively, which are remote from the corner so that wings 15 and 16 may be bent inwardly from the respective planes 11 and 12. In addition, the edge of the web 10 remote from the corner is bent upwardly into reenforcing flange 20 which stiffens the web at this point and is disposed in the gap below the lower edges of the wings so that any upward movement of the flange 20 is arrested by the wings 15 and 16 lying directly above the end portions of the flange 20. Thereby, not only are the web and attaching flanges strengthened by the transverse bending from the planes thereof of flange 20 and wings 15 and 16, but any tendency toward movement of flange 20 from its normal position is immediately arrested by the full length of the wings 15 and 16 disposed thereover.

No additional material is utilized in attaining the additional load bearing capacity of the improved combined brace and support socket.

Fig. 5 illustrates the invention applied to a levelling device for a cabinet or case C, wherein corresponding parts of the corner and brace are designated by the same reference characters, which are primed.

The supporting socket in this case is internally threaded for accommodating a threaded bolt B having a rounded rest 30 at the base thereof and a kerf 31 at the top thereof for the purpose of accommodating a screw driver to conveniently rotate the bolt to effect a variation in level of the corner.

While we have described our invention as embodied in a specific form and as operating in a specific manner for purposes of illustration, it should be understood that we do not limit our invention thereto, since various modifications will suggest themselves to those skilled in the

art without departing from the spirit of our invention, the scope of which is set forth in the annexed claims.

We claim:

1. A combined corner brace and support socket for the corner walls of a structure comprising a sheet metal member having a web with a socket therein for receiving a supporting element, a pair of attaching flanges extending transversely to said web for affixation to the corner walls, wings bent angularly from the flanges at the ends thereof remote from the corner with the edges of said wings adjacent to said web displaced therefrom by a gap, and a flange extending transversely from the edge of the web remote from the corner and accommodated in said gap so that the ends of said last-mentioned flange intersect the planes of said wings.

2. An integral combined corner brace and leg support for the corner walls of a furniture unit comprising a sheet metal member having a web with a socket therein for receiving a leg element, a pair of rectangularly disposed attaching flanges extending upwardly from said web for affixation to the corner walls of the furniture unit, wings of shorter length than said flanges bent angularly therefrom at the ends thereof remote from the corner with the bottom edges of said wings adjacent to said web displaced therefrom by a gap, and a flange extending upwardly from the edge of the web remote from the corner and accommodated in said gap so that the ends of said last-mentioned flange are disposed below said wings which act as stops for preventing upward movement of said web and leg element in consequence of heavy loadings thereon.

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