March 21, 1961 A. D. FOSTER 2,976,003

END SHELF BRACKET

Filed Oct. 14, 1959 2 Sheets-Sheet 1

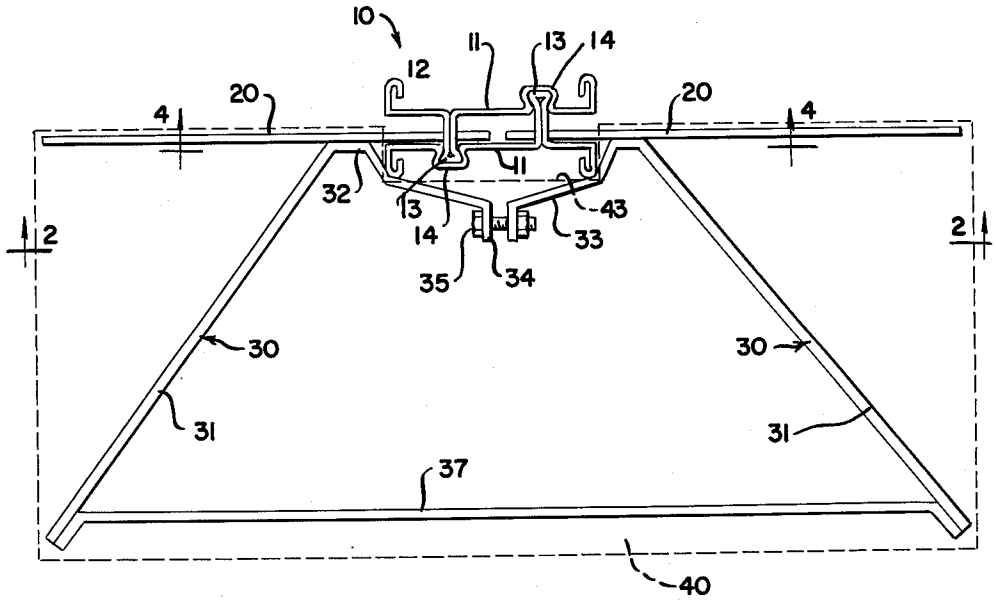


FIG. 1

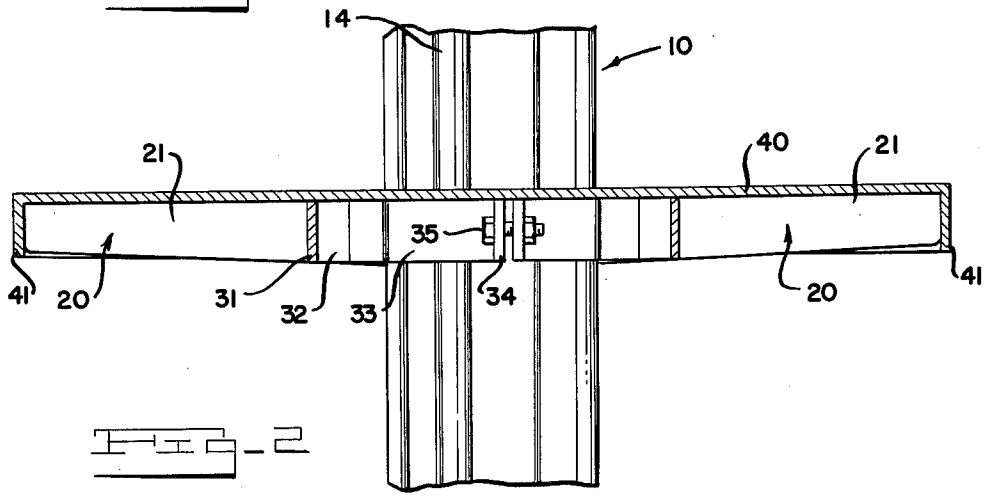


FIG. 2

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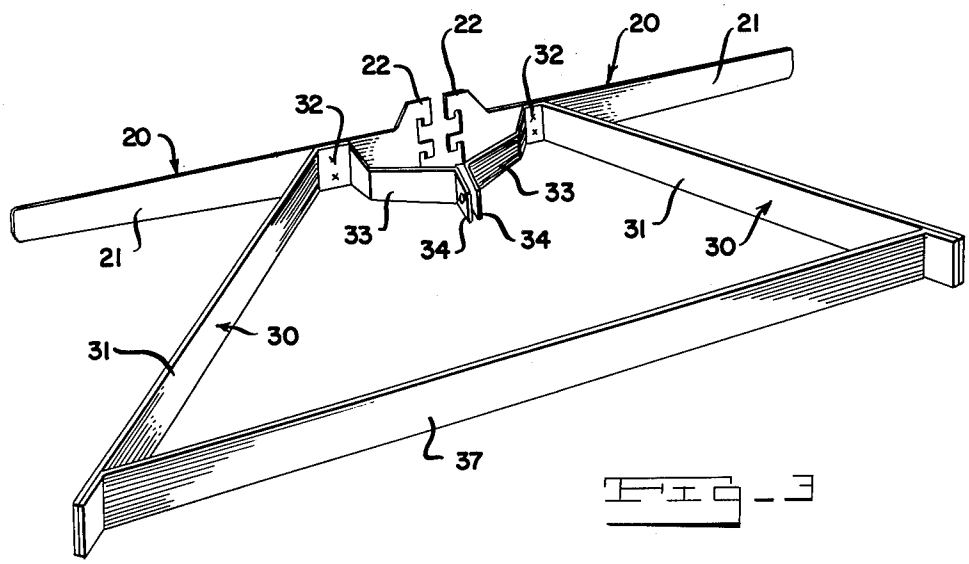


FIG. 3

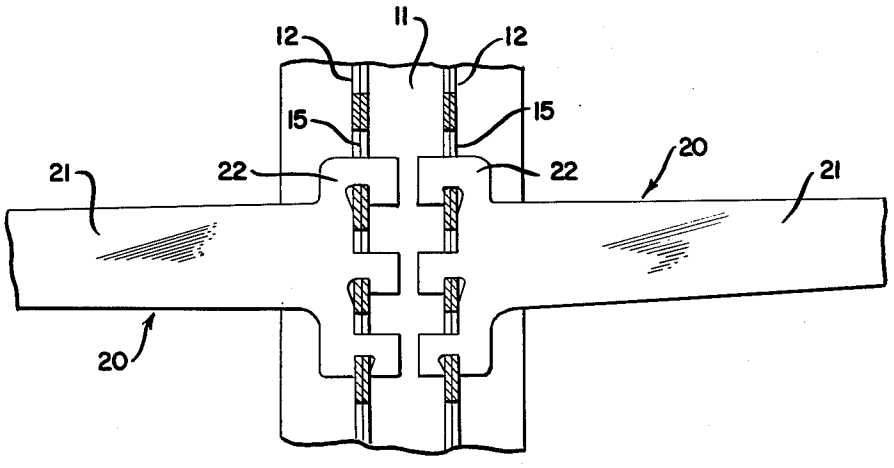


FIG. 4

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2,976,003

END SHELF BRACKET

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6 Claims. (Cl. 248—243)

This invention relates to an end shelf bracket and more particularly, to a bracket adapted to support a shelf or the like upon a single vertical column.

The invention herein generally relates to the type of bracket disclosed in my previously filed application for a Shelf Bracket, Ser. No. 819,894, filed June 12, 1959 whose disclosure is included herein by reference.

The object of this invention is to form a single bracket unit for securely and rigidly supporting a complete shelf upon a single support column and which unit is so formed and so connected to the column that it will not twist or settle to one side even if the supported shelf is loaded off balance. The construction herein is particularly useful in supporting an end shelf on one post where a pair of spaced posts are used and a center shelf is supported between the two posts, as described in my abovementioned earlier filed application, and wherein the end shelf may be located in the same plane as the central shelf.

A further object of this invention is to form an end shelf bracket unit that is inexpensive, easily applied and removed and which is rigid and which supports the weight of a shelf in three generally triangularly shaped segments to give maximum support to the opposite ends and the central portion of the shelf.

Another object of this invention is to form a bracket unit that can be easily and quickly applied and removed simply by applying or removing one bolt and then pushing the bracket out of mounted position.

These and other objects of this invention will become apparent upon reading the following description of which the attached drawings form a part.

In these drawings:

Fig. 1 is a top view of a single support column with the end shelf bracket herein secured thereto and with a shelf shown in dotted lines.

Fig. 2 is a view taken in the direction of arrows 2—2 of Fig. 1 and with the shelf shown in cross-section.

Fig. 3 is a perspective view of the end shelf bracket, per se.

Fig. 4 is an enlarged view taken in the direction of arrows 4—4 of Fig. 1.

The end shelf bracket herein is designed for use with a single vertically arranged column. This column may be one of a pair of columns supporting shelves between them but only one of the pair is used for this shelf bracket.

With reference to Fig. 1, the column which is shown for illustration purposes is generally designated as **10** and is formed of two identical halves **11**, each having a tongue **12** and an enlarged head **13** fitted into a groove **14** formed in the opposite half. The two halves may be assembled by sliding their tongues into their respective grooves to thus form opposing walls (tongues **12**) which are provided with slots **15**. These slots are uniformly spaced apart along the length of the column and

the slots in one of the tongues are in alignment with the slots in the other tongue.

The end shelf bracket is formed of two identical bracket members **20** each formed of a single sheet of thin, rigid, sheet metal, such as thin sheet steel or the like, and with each being arranged in a vertical plane to present a top horizontal edge. Each of these bracket members are formed with a blade portion **21** and with a connection portion **22**. The connection portions are formed of three hooks, spaced one above the other with the top hook being arranged above the height of the top edge of the blade portions and the bottom hook being arranged below the bottom edge of the blade portions.

As can be seen in Fig. 4, each portion **22** is so arranged that its hooks can be slipped through three adjacent slots **15** in its respective tongue or wall **12** and then by being pushed downwardly, its hooks will engage with the bottom edges defining the slots. For removal, the bracket members need only be pressed upwardly to disengage their hooks from the tongues and then by pulling the hooks out through the slots **15** the bracket members are free from the column.

The two bracket members are normally aligned in the same vertical plane and are also horizontally aligned with their connecting portions also being opposed and aligned (see Fig. 3). Their respective connection portions are spaced apart from each other a short distance to accommodate the space between the pair of tongues or walls **12** of the column.

A pair of identical, elongated strips **30** are provided, each having a joist strip extension **31**, a base **32** welded or otherwise permanently secured to the blade **21** of one bracket member, and a fastening extension **33** bent forwardly of one face of the blade **21** and terminating in a flange **34** which is normal to the blade **21**. The two flanges **34** are provided with aligned openings through which a bolt or other suitable fastening means may be fitted and secured (see Fig. 1).

The free ends of the joist strips are connected together by means of a cross member **37** formed of the same material, such as strip metal, as are the strips **30**. The cross member may be formed integral with the two strips **31** by welding or other suitable mechanical or both strips and the cross member can be made out of one, continuous piece of strip material.

The top edges of the blades **21**, joist strips **31** and cross member **37** are all in the same horizontal plane to support a flat shelf **40**. This shelf may be formed of thin sheet metal or the like and is formed to fit over the respective parts of the support bracket with its downwardly depending end flanges **41** fitting over and concealing the support bracket parts. As shown in Fig. 1, a central portion of the shelf may be cut out, as at **43**, in order to fit around the column **10**.

In operation, the support bracket, which comes fabricated as shown in Fig. 3, is arranged adjacent to the single support column and its two connection portions **22** are sprung apart to fit around the opposite sides of the column and their hooks are then moved into the slots **15**. The connection portions **22** may be sprung apart because the bracket, being made of thin metal strip has some inherent springiness in the particular direction required, namely in moving the bracket members **20** towards and away from each other. Once the connecting portions **22** are engaged with the walls **12** of the support column, the fastening extensions **33** will be in front of the column and will engage the sides of the column and part of the front thereof and their flanges **34** will be adjacent one another. Thus, a bolt **35** may be slipped through the openings in the respective flanges **34** and by tightening the bolt, the two flanges **34** are drawn together

and the extensions **33** are tightly engaged against the column. Thus, the entire shelf support will be accurately horizontally aligned relative to the vertical column and will be rigidly connected to the column.

At this point, the shelf may be simply laid on top of the support bracket and be left there for as long as it is needed. When it is desired to remove the shelf, the shelf is lifted upwards from the support bracket and the bolt **35** is disconnected and then the two bracket members **20** are disengaged from the respective slots **15** in the walls **12** of the column.

With the construction shown, the weight of the shelf, which can be very heavy depending upon what types of articles may be loaded upon the shelf, is supported by generally triangular in shape segments. Thus, the two ends of the shelf are supported by a pair of triangles formed by the blades **21** and the joist strips **31**. The central portion of the shelf is supported by the area formed by the two joist strips **31** which area is generally triangular in shape. The portion of the shelf that is closely adjacent to the support column is supported by the generally triangular area formed by the extensions **33**. Hence, the entire shelf is rigidly supported and even though the shelf may be heavily loaded on one side or one end, this off balance loading will not cause the bracket to twist or dip relative to the horizontal and permit the shelf to bend downwardly from its horizontal position.

This invention may be further developed within the scope of the following attached claims. Accordingly, it is desired that the foregoing description be read as being merely illustrative of an operative embodiment of this invention and not in a strictly limiting sense.

I now claim:

1. A shelf bracket unit comprising a pair of substantially identical bracket members each formed of a thin elongated, rigid strip, with the two brackets being aligned in end to end relationship in the same vertical plane and with their facing ends each being provided with means for connecting said ends to the opposite sides of a single support column; each of the bracket members having an elongated joist strip secured to it at a point close to its respective end conection means and extending outwardly therefrom at an acute angle, with the top edges of the joist strips and the bracket means all being in the same plane for supporting a flat shelf, and a pair of connection strips, each having an end secured to one of the brackets at said point and each having an opposite end bent outwardly of the brackets a sufficient distance to pass around the support column and each converging towards the opposite end of the other connection strip and terminating in an integral securement flange, with the two flanges being adjacent one another, and means for securing the two flanges together with the connection strip being arranged to embrace the support columns when the flanges are secured together.

2. A construction as defined in claim 1 and wherein the outer, free ends of the joist strips are connected together by a cross-member having a top edge arranged in the same plane as the top edges of the joint strips.

3. A shelf bracket unit comprising a pair of substantially identical bracket members, each formed of a thin, elongated, rigid strip, with the two brackets being aligned end to end in the same vertical plane and with their facing ends each being provided with means for connecting said ends to the opposite sides of a single support column; a pair of elongated, thin rigid strips each permanently connected between its ends to one of the bracket members at a point closely adjacent to its respective connecting means and each having one end extending outwardly of its respective bracket at an acute angle thereto to form a pair of joint strips, which strips are rigidly connected together by a cross-member, and each strip having its opposite end extending outwardly of its respective bracket member a short distance sufficient for it to pass around the edges of the sides of the support column and then being bent to converge towards each other and then each terminating in means for connecting said two opposite ends together, and said bracket members, pair of strips, and the cross-member all being arranged with their elongated top edges in the same plane.

4. A construction as defined in claim 3 and wherein said bracket member connecting means are formed of downwardly opening hooks arranged to fit into slots formed in the sides of the support column and to thereby engage with the support column sides, and with portions of the said opposite ends of said pair of strips being spaced apart a sufficient distance to contact and press against the support column sides when these opposite ends are connected together.

5. A construction as defined in claim 4 and wherein at least said cross-member and said pair of strips are formed of a springy metal material whereby the two facing bracket ends may be moved towards and away from each other a limited distance for connection to said support column.

6. A shelf bracket unit comprising a pair of substantially identical bracket members, each formed of a thin, elongated, rigid strip, with the two brackets being aligned in end to end relationship in the same vertical plane and with their facing ends each being provided with means for connecting said ends to the opposite sides of a single support column and each bracket being of a length to extend a considerable distance beyond the respective column side to which its respective facing end is adapted to be connected; each of the bracket members having an elongated joist strip secured to it at a point close to its respective end connection means and extending outwardly therefrom at an acute angle, with each joist strip and its respective bracket member forming a triangular shape wherein the joist strip forms one wall of the triangle and its bracket member forms a second wall of the triangular shape, and with the apex of the triangle, that is, the place where the joist strip and bracket member are secured together, being adjacent the said facing end of that bracket member, and with the two joist strips forming the sloping side walls of a truncated triangular shape having its small base at the facing ends of the bracket members, and with the top edges of the joist strips and the bracket members all being in the same plane for supporting a flat shelf placed on top of said edges, and including means for connecting the two joists strips together, said means for connecting the joist strips together including a cross-member in the form of a thin, elongated strip, which is rigid in its transverse direction but resiliently bendable in its length direction, arranged substantially parallel to and spaced a considerable distance from the pair of bracket members and having its top edge arranged co-planar with the top edges of the joist strips and the bracket members, and with each of its opposite ends being rigidly connected to one of the joist strips, to thus form a large base for said truncated triangular shape; the cross-member, joist strips, and brackets forming a single, permanent unit, and the facing ends of the brackets being movable towards and away from each other, for connection to a support column, against the resilient resistance of the cross-member.

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