Nov. 18, 1941. K. C. WELCH ET AL 2,263,282

SHELF SUPPORT STRIP

Filed Aug. 21, 1939

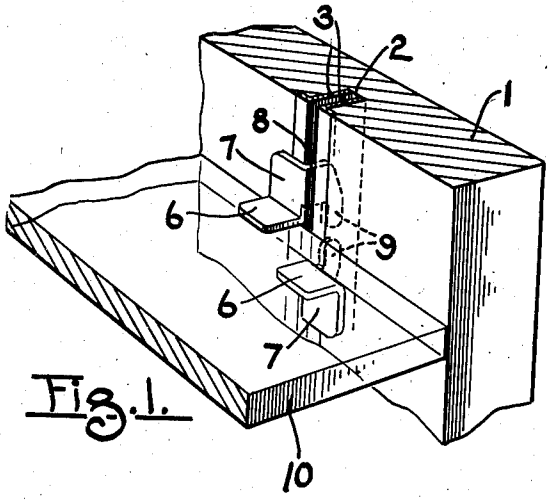


Fig. 1.

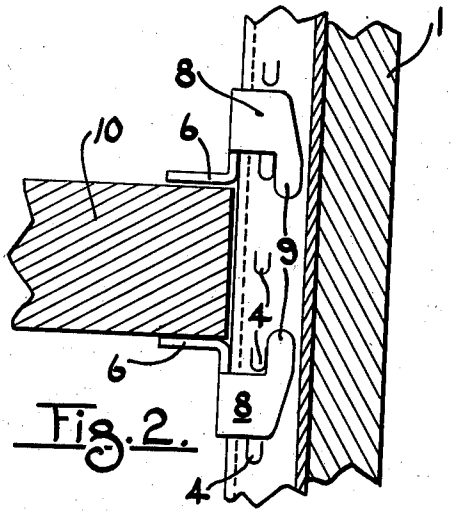


Fig. 2.

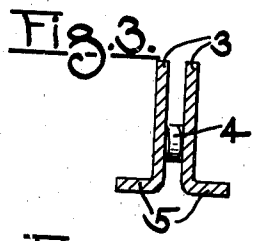


Fig. 3.

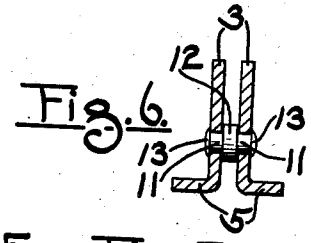


Fig. 6.

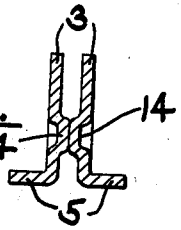


Fig. 9.

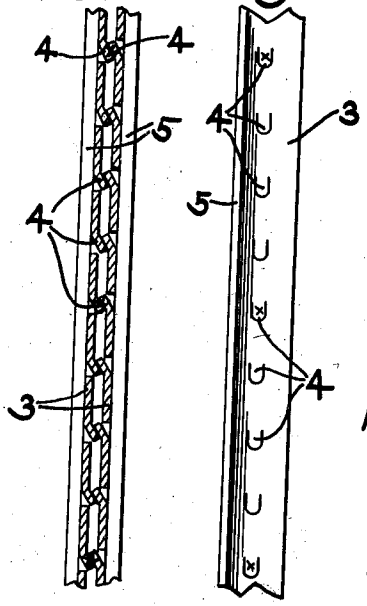


Fig. 4.

Fig. 5.

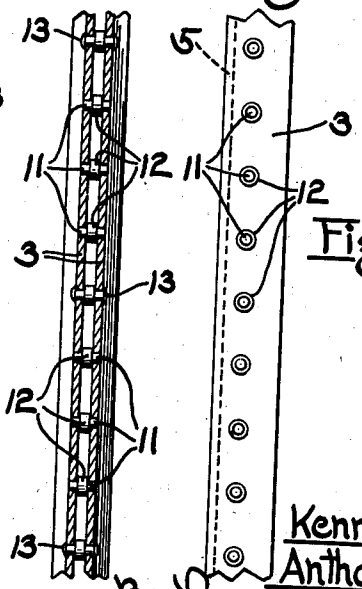


Fig. 7.

Fig. 8.

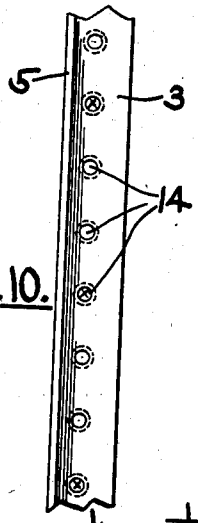


Fig. 10.

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SHELF SUPPORT STRIP

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Application August 21, 1939, Serial No. 291,221

13 Claims. (Cl. 248—243)

This invention relates generally to shelving supports and is particularly directed to a metallic strip adapted to receive and hold supporting members between the spaced apart sides thereof, the supporting members adapted to support a shelf thereon.

It is the principle object of this invention to provide an elongated strip comprising spaced apart substantially parallel side portions having therebetween a plurality of spaced apart supporting members, some of which are adapted to hold together the spaced sides of the strip.

A still further object of the invention is to provide a shelf support strip whereby a plurality of shelves may be adjustably mounted thereon and held in any position to which adjusted.

Another object of the invention is to provide means extending between the spaced apart sides of the elongated member either integral therewith or secured thereto, which means, in turn, are secured together whereby the spaced apart sides of the elongated member are held together.

Other objects and purposes of the invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and following description set forth in detail certain means and a few of the modes for carrying out my invention said means constituting, however, but a few of the various ways in which the principle of my invention may be employed.

In said annexed drawing, wherein like reference numerals refer to like parts throughout the various views:

Fig. 1 is a fragmentary sectional perspective view showing the shelving support of our invention used with a horizontally located shelf, and also showing the manner in which the shelf is held against vertical movement.

Fig. 2 is a fragmentary vertical section of one end of a shelf and the vertical supporting member which carries it, the shelf supporting means being shown in elevation.

Fig. 3 is a horizontal section through the shelf supporting strip shown in Fig. 2.

Fig. 4 is a fragmentary vertical section through the strip of Figs. 2 and 3.

Fig. 5 is a fragmentary side elevational view of the strip of Fig. 4.

Figs. 6, 7 and 8 are respectively a horizontal section, a fragmentary vertical section and a fragmentary side elevational view of one of the strips showing a modification of our invention, and

Figs. 9 and 10 are respectively a horizontal section and a fragmentary side elevational view of the strip showing a still further modification.

In practice, brackets are used which have ears thereon adapted to be inserted between the sides of the vertically positioned strip and held against the supporting means therein for the purpose of supporting a shelf thereon. If it is desired, a similar bracket member may be inserted immediately above the shelf in an inverted position to prevent its upward movement. The supporting strip itself is adapted to be inserted within a slot in the vertical side members of a shelving structure.

Referring now more particularly to the drawing, a vertical supporting member 1 is located at each side of the completed structure which has a plurality of vertical slots 2 therein which are spaced from the front to the rear of the side member 1. This side member is adapted to have bottom and top supporting members secured between the two sides to make the completed shelving structure.

The supporting strip of our invention comprises two spaced apart elongated members 3. In the form shown in Figs. 1 to 5 each of these members has a plurality of vertically spaced apart tongues 4 struck inwardly therefrom and the opposing tongues are adapted to overlap each other as shown in Fig. 4. It has been the practice formerly in strips of this character to form the entire strip of a single unitary piece bent at the center thereof to form a substantially U-shaped member, but it has been found in certain instances that the outer flanges 5 are not always in the same vertical plane and for this reason we have chosen to form the strip of two separate pieces.

In order to secure the two side portions 3 together, some of the contacting tongues 4 are secured together such as by welding or any other desired means, which produces a unitary structure having the outer flanges 5 thereof in the same horizontal plane when installed within the recess 2 of the side members 1.

In conjunction with the supporting means 4 extending between the spaced apart side members 3 are used the brackets shown in Figs. 1 and 2 which include a horizontal supporting portion 6, an integral vertical portion 7 which in turn has integral therewith and extending at right angles thereto another portion 8 which has a finger 9 extending upwardly therefrom if the brack-

et is to be used below the shelf, or downwardly therefrom if the bracket is to be used above the shelf. In inserting the lower bracket between the sides 3 of the vertical supporting member, the finger 9 is inserted first between two of the spaced apart supporting means extending between the sides 3. The finger 9 is then inserted behind one of the supporting means which prevents its removal outwardly. The next lowermost supporting means 4 supports the lower edge of the portion 8 thereby preventing any downward movement thereof. The portion 7 of the bracket will then lie flush against the side member 1 and the portion 6 thereof extends outwardly therefrom in a horizontal plane whereupon the shelf 10 may be placed thereon and held in position. It must be remembered that between the front and rear edges of each of the side members 1 are at least two of these brackets in the same horizontal plane.

If it is then desired further to insure the shelf against being lifted upwardly, a similar bracket may be placed thereabove as shown in Figs. 1 and 2 and held in position in a similar manner to that described with respect to the lower bracket.

Referring now more particularly to Figs. 6, 7 and 8 wherein a modification of the supporting means between the spaced apart members 3 is shown, instead of the tongues 4 being struck inwardly and overlapping each other to form the supporting means for the brackets, a plurality of opposing holes are placed in each of the spaced side members 3 adapted to receive the ends 11 of the supporting lugs. These lugs include the smaller circular ends 11, and the enlarged central portion 12 which determines the distance apart of the spaced side members 3. In assembling this particular modification, the supporting lugs each have one end 11 thereof inserted in the openings in one of the side members 3, whereupon the other side member is placed over the first one and receives the opposite ends 11 in the openings thereof. Some of these supporting means are longer than others so that when the strip has been assembled, the outer longer ends of some of the means are hammered down and flattened to form the outer ends 13 thereby holding the spaced side members 3 against movement away from each other. In this modification the brackets which support the shelves are inserted in the same manner above described with respect to Figs. 3, 4 and 5.

Referring now more particularly to Figs. 9 and 10, which is a still further modification of our invention, each of the strips 3 have a plurality of spaced apart inwardly extending portions 14 at diametrically opposed points throughout the length thereof adapted to bear against each other in the assembled position. These inwardly extending portions 14 determine the distance apart which the side members are to be spaced and some of these portions are secured together such as by welding in order to hold the side members together.

In each of these modifications the welding of the portions 4 or 14 takes place approximately every third or fourth one to insure a sufficiently rigid construction. Also those supporting members 11 which are provided with especially long ends for flattening purposes are about every third or fourth one.

It is to be noted that in each of these modifications also some means is provided between the spaced apart side member 3 of the supporting strip whereby the supporting brackets may be inserted and held in any position vertically to which they are placed. Each modification operates on the same principle.

It will therefore be seen that we have constructed a shelf supporting strip which is not only efficient in actual operation but also is extremely economical to manufacture and insures the outer flanges of the spaced apart side members being in the same vertical plane.

Other modes of applying the principles of our invention may be used instead of the ones here explained change being made as regards the elements herein disclosed provided, however, that the means stated by any of the following claims or the equivalent of such stated means be employed.

We claim:

1. A shelf support strip comprising, an elongated member having spaced apart substantially parallel portions, a plurality of supporting means spaced apart along the length of said member and between said portions, some of said means holding said portions together, and a flange on the outer edge of each of said portions extending away from the space therebetween.

2. A shelf support strip comprising, an elongated member having spaced apart substantially parallel portions open at its front and rear sides, and a plurality of opposed spaced apart supporting means extending inwardly from each of said portions in the space therebetween, some of said opposing means being secured together.

3. A shelf support strip comprising, two separate spaced apart vertical members, a plurality of vertically spaced tongues extending inwardly from each of said members at substantially opposed points, and means to secure some of said opposed tongues together, to thereby secure said members together.

4. A shelf support strip comprising, an elongated member having spaced apart substantially parallel portions, a plurality of spaced apart opposed openings in said portions, lugs provided with enlarged central portions having the ends thereof received in opposed openings, and means to secure some of said lugs to said parallel portions, for the purposes specified.

5. The combination of elements defined in claim 4, said means including elongated ends on some of said lugs adapted to be flattened, as specified.

6. A shelf support strip comprising, an elongated member having spaced apart substantially parallel portions, a plurality of spaced apart inwardly extending offset portions on each of said parallel portions at opposed points along the length thereof, the inner surfaces of opposing offset portions contacting each other to form supporting members, and means to secure some of said contacting portions together to hold the parallel portions against relative movement.

7. The combination with a support having a vertical slot therein, of a shelf support strip located within said slot comprising, an elongated member having spaced apart substantially parallel portions open at its front and rear sides, and a plurality of supporting means spaced apart along the length of said member and between said portions, some of said means holding said portions together.

8. The combination of elements defined in claim 7, wherein each of said portions has an outwardly extending flange flush with the surface of said support.

9. The combination of elements defined in claim 7, said supporting means extending inwardly from each of said portions in the space therebetween, and some of said means being secured together.

10. The combination of elements defined in claim 7, said supporting means including tongues extending inwardly from each of said members at substantially opposed points, and means to secure some of said tongues together.

11. The combination of elements defined in claim 7, wherein each of said portions has an outwardly extending flange flush with the surface of said support, and said supporting means extending inwardly from each of said portions in the space therebetween, some of said means being secured together.

12. A construction of the class described comprising, two spaced apart vertical side members, vertically spaced lugs extending between said members, some of said lugs serving to hold said members together, and a flange on the outer front edge of each of said side members extending away from the space therebetween.

13. The combination of elements defined in claim 12, said lugs having end portions of smaller diameter than the center thereof and receivable in opposed openings in said side members.

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