Aug. 29, 1967 H. F. KELLOGG 3,338,541

SHELF BRACKET ASSEMBLY

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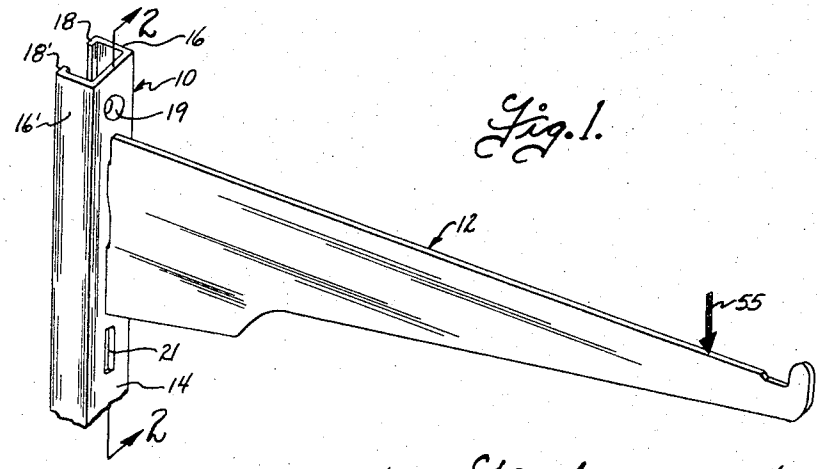


Fig. 1.

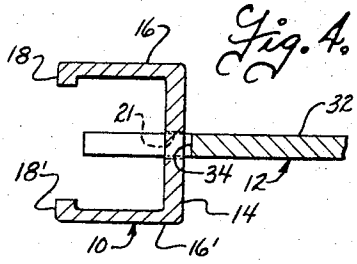


Fig. 4.

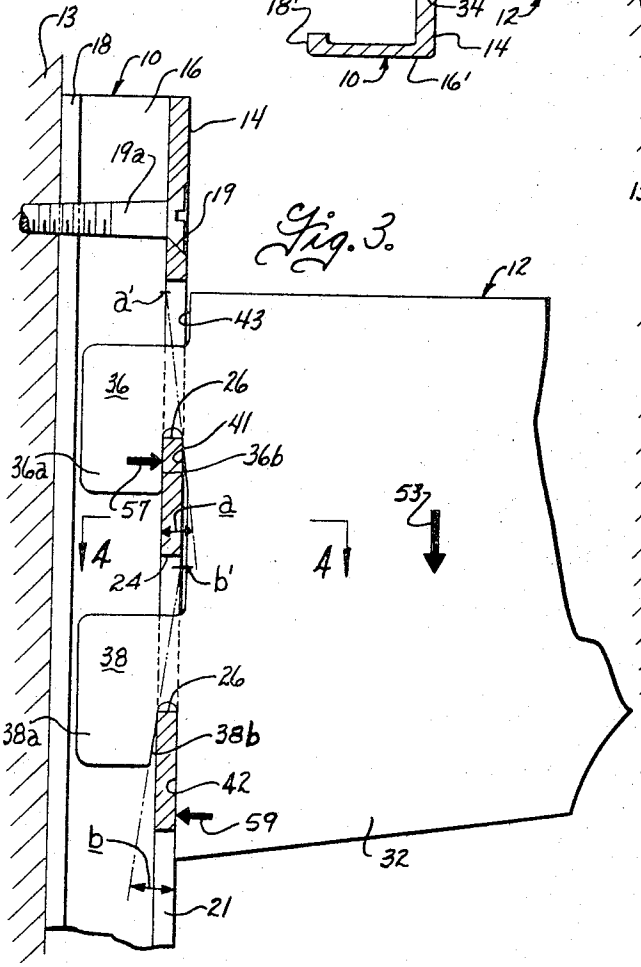


Fig. 3.

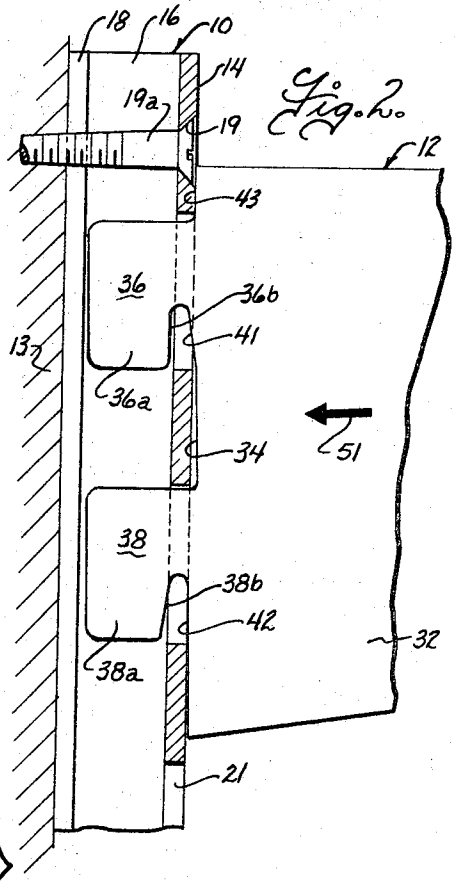


Fig. 2.

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SHELF BRACKET ASSEMBLY

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ABSTRACT OF THE DISCLOSURE

A support member having a plurality of equally spaced slots in its front wall and a bracket having projections extending through selected slots.

This invention relates to a shelf bracket assembly.

It is an object of this invention to provide a new and useful shelf bracket assembly including a bracket having improved means for connecting to a support member.

Another object of this invention is to provide a new and useful shelf bracket assembly having a bracket with improved lateral stability without requiring outriggers.

Still another object is to provide a shelf bracket assembly in accordance with the foregoing in which the bracket can support generally heavy loads without becoming loose in its connection to the support member.

Other objects of this invention are to provide an improved shelf bracket assembly which is uncomplicated in structure, easily assembled, and economically manufactured.

Other objects and advantages of this invention will become readily apparent from the following specification when taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of an embodiment of the present invention;

FIG. 2 is a large scale sectional view through the support member taken generally along line 2—2 of FIG. 1 and illustrating the bracket preparatory to movement to assembled position;

FIG. 3 is a sectional view taken generally along line 2—2 of FIG. 1 and illustrating the bracket in assembled relationship with the support member; and

FIG. 4 is a sectional view taken generally along line 4—4 of FIG. 3.

Reference is now made more particularly to the drawings wherein similar reference characters indicate similar parts throughout the several views. The shelf bracket assembly of the present invention includes a support member, generally designated by the numeral **10**, and a bracket, generally designated by the numeral **12**. Support member **10** is adapted for mounting on a supporting surface **13** and, in general, includes a front wall **14** and side walls **16** and **16'**. The side walls each conveniently have a flange, **18** and **18'** respectively, for engaging the supporting surface. A plurality of openings **19** are provided in the support member for passage of fasteners **19***a* to mount the member on the supporting surface. Front wall **14** has a plurality of preferably equally spaced openings in the form of slots **21** for passage of projections of bracket member **12** as hereinafter described. Each slot has an upper and lower end, **24** and **26** respectively as best shown in FIG. 3. It is contemplated that the user may select the slots in which the bracket is to be mounted thereby utilizing the bracket assembly as an adjustable assembly.

Bracket **12** has a generally flat body **32** adapted to be located in the plane of slots **21**. When in assembled position, an end **34** of the body is disposed adjacent support member **10** (see FIG. 4). Preferably, end **34** has two projections **36** and **38** extending therefrom for interfitting

with two adjacent slots **21** in the support member. The upper projection **36** has a downwardly extending hook portion **36***a* providing a face **36***b* for engaging the back side of front wall **14**. When assembled, face **36***b* is parallel to wall **14**. End **34** of the body has a first portion **41** generally opposite face **36***b* for engaging the front side of wall **14** when in assembled relationship. The first portion **41** is inclined downwardly and diverges from face **36***b* at an angle generally designated at *a*. In the embodiment illustrated, angle *a* has a vertex *a'* and the angle is preferably 5°30'. In this manner, when the bracket is moved into the assembled position of FIG. 3, first portion **41** engages the front wall adjacent slot end **26** and tightly wedges face **36***b* against the back of the wall.

In the preferred embodiment illustrated, projection **38** has a downwardly extending hook portion **38***a* and end **34** has a second portion **42** generally opposite the second or lower projection hook **38***a*. Second portion **42** is in a plane generally parallel to the plane of hook face **36***b* and the planes are spaced apart a distance approximating the thickness of wall **14**. The lower projection hook **38***a* has an inclined face **38***b* diverging from second portion **42** at an angle generally designated *b*. In the embodiment illustrated, angle *b* has a vertex *b'* and is conveniently 5°30'. Preferably, the vertexes *a'* and *b'* are spaced apart vertically a distance equal to the vertical spacing of slots **21** of the support member and angles *a* and *b* are generally equal. When in assembled position, inclined face **38***b* engages the back of wall **14** adjacent another slot end **26** and wedges the second portion **42** against the front side of the wall **14**.

To assemble bracket **12** with support member **10**, body **32** is first oriented in the plane of slots **21**. Projections **36** and **38** are then inserted through selected slots by moving the body in the direction indicated by arrow **51** (FIG. 2). For this purpose, obviously, the overall height of each projection **36** and **38** is less than the length of the corresponding slot **21**. Body **32** is moved in the direction of arrow **51** until second portion **42** and a third portion **43** engage front wall **14** as shown in FIG. 2. At this point, face **36***b* is disposed a slight distance behind the back of wall **14**. The bracket is then moved into assembled position of FIG. 3 by movement downward in the direction of arrow **53**. As this movement occurs, first portion **41** engages the front of wall **14** adjacent slot end **26**, camming hook portion **36***a* of the upper hook forwardly until face **36***b* engages the back of wall **14**. In the preferred embodiment, inclined face **38***b* will engage the back of wall **14** simultaneously with this occurrence. Slight additional pressure will wedge face **38***b* tightly against the back side of wall **14** and will wedge second portion **42** adjacent the lower portion of the bracket tightly against the front side of wall **14**.

It has been found that the engagement of face **36***b* and second portion **42** with wall **14**, and the above described wedging action are sufficient to tightly hold bracket **12** so that it is laterally stabilized. The lateral stability is increased when the bracket is loaded. As best seen in FIG. 1, the bracket **12** is ordinarily cantilevered from the support member **10** and any load thereon, as for example a load at arrow **55**, is likewise cantilevered from the support member. Such a cantilever loading will provide a force couple as at arrows **57** and **59** in FIG. 3. It will be noticed that, in the present invention, this force couple is at the points of maximum bearing surface, namely face **36***b* and second portion **42**. In this manner, any loading on bracket **12** urges face **36***b* and second portion **32** against wall **14**, more tightly holding them in place, and more securely laterally stabilizing the bracket.

It is now deemed obvious that the present invention, including a bracket having improved means for connecting to a support member, provides an improved shelf bracket

assembly which is easily assembled and yet provides improved lateral stability of the bracket.

While I have thus described a preferred embodiment of my invention, this has been done by way of illustration and not limitation, and I do not wish to be limited except as required by the appended claims.

I claim:

1. A shelf bracket assembly including a vertically disposed support member having a plurality of spaced slots in a wall thereof and a bracket comprising a generally flat body adapted to be located in the plane of said slots, at least two spaced projections disposed at one end of the body for extending through the spaced slots, the uppermost of said projections having a hook portion extending downwardly to a point beyond an end of its respective slot in an assembled position and describing a face generally parallel to and engaged with the back side of said wall, said one end of the body having an inclined portion generally opposite said face and diverging therefrom for engaging the front side of said wall when said one projection is in said assembled position and holding said face tightly engaged to the back side of said wall, said one end of the body having another portion below said inclined portion and generally parallel to said face and engaged with the front side of said wall in assembled position, and another of said projections having means for engaging the back side of the wall in said assembled position and holding said other portion tightly engaged to the front side of the wall.

2. A shelf bracket assembly including a vertically disposed support member having a plurality of spaced slots in a wall thereof and a bracket comprising a generally flat body adapted to be located in the plane of said slots, at least two vertically spaced projections disposed at one end of the body for extending through the spaced slots and each having a hook portion extending downwardly to a point below its respective slot, said hook portion of the upper projection having a face generally parallel to and engaged with the back side of said wall, said one end of the body having a downwardly extending inclined portion generally opposite said face and diverging therefrom at a first angle for engaging the front side of said wall and wedging said face against the back side of the wall, said one end of the body having a lower portion generally opposite the hook portion of the lower projection and in a plane generally parallel to the plane of said face, and the hook portion of the lower projection having an inclined face diverging from said lower portion at a second angle for engaging the back side of said wall and wedging said lower portion against the front side of the wall.

3. The apparatus of claim 2 wherein said second angle is generally equal to said first angle.

4. The apparatus of claim 2 wherein the plane of said hook face of the upper projection and the plane of said lower portion of the one end of the body are spaced apart a distance approximating the thickness of the wall of the support member.

5. A shelf bracket assembly including a vertically disposed support member having a plurality of generally

equally spaced slots in a wall thereof and a bracket comprising a generally flat body adapted to be located in the plane of said slots, upper and lower projections disposed at one end of the body and spaced a distance generally equal to the spacing of said slots for extending through two adjacent slots, each projection having a hook portion extending downwardly to a point below an end of its respective slot, said upper projection hook portion having a face generally parallel to and engaged with the back side of said wall, said one end of the body having a first portion generally opposite said face and diverging therefrom at a first angle for engaging the front side of said wall and wedging the face against the back side of the wall, said one end of the body having a lower portion generally opposite the lower projection hook in a plane generally parallel to the plane of said upper hook face, said planes spaced apart a distance approximating the thickness of said wall, said lower projection hook having a face diverging from said lower portion at a second angle generally equal to said first angle for engaging the back side of said wall and wedging said lower portion against the front side of the wall, the vertexes of said first and second angles vertically spaced a distance generally equal to the spacing of said slots.

6. A shelf bracket assembly including a vertically disposed support member having a plurality of spaced slots in a wall thereof and a bracket comprising a body adapted to be located in the plane of said slots, at least two spaced projections disposed at one end of the body for extending through the spaced slots, the upper of said projections having a hook portion extending beyond its respective slot in an assembled position and describing a face generally parallel to and engaged with the back side of said wall, said one end of the body having means for engaging the front side of the wall in the assembled position and wedging the face against the back side of the wall, said one end of the body having a portion below said last-mentioned means and generally parallel to said face and engaged with the front side of the wall in assembled position, said portion and said face lying in planes spaced apart a distance approximating the thickness of the wall of the support member, and the lower of said projections having a hook portion extending beyond an end of its respective slot in the assembled position and having means for engaging the back side of the wall and wedging said other portion against the front side of the wall.

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