Nov. 9, 1971 C. L. BARNES 3,618,176

HANGER CLIP

Filed Oct. 1, 1970

Fig-1

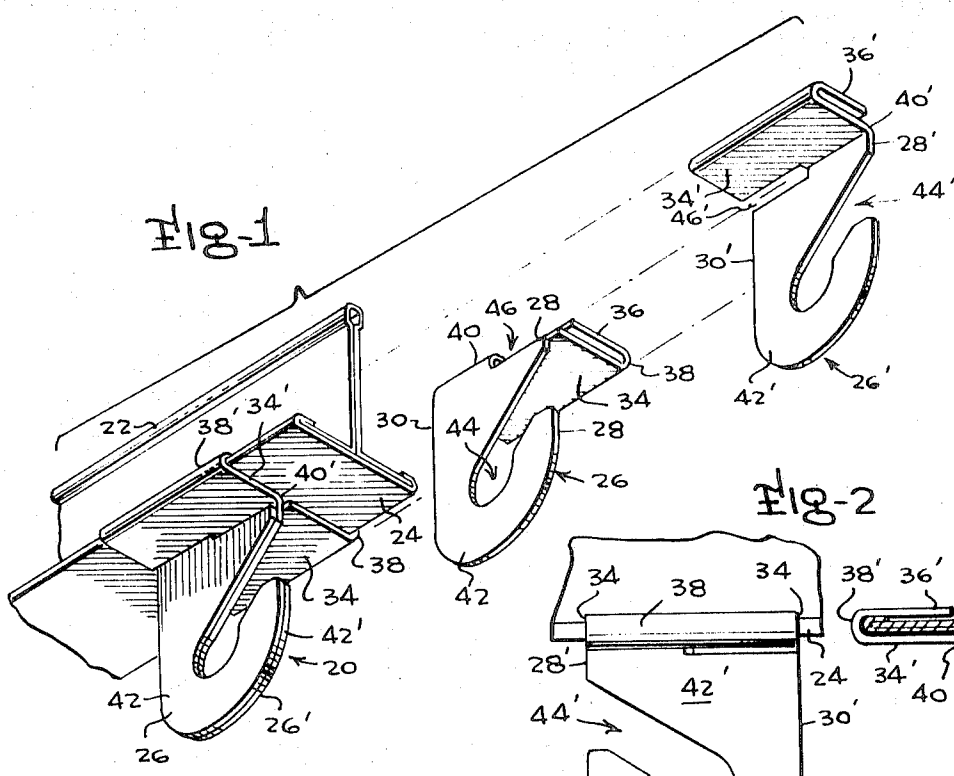
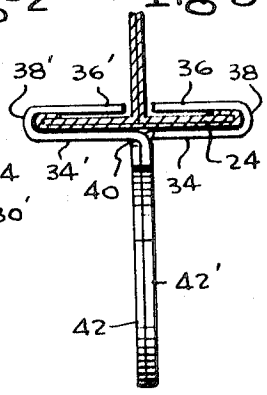


Fig-2

Fig-3



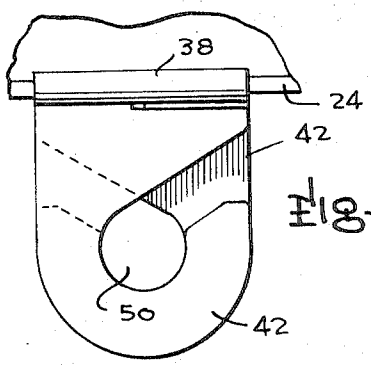


Fig-5

Fig-4

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HANGER CLIP

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ABSTRACT OF THE DISCLOSURE

A hanger clip comprising first and second mating portions having overlapping slot and plate components which are respectively positioned on opposite sides of the lower flange of a beam and axially moved toward each other for abutting frictional engagement to provide a resultant attachment of the clip to the beam purely by manual manipulation with the components being frictionally held in position to be retained on the beam.

This invention is in the field of hanger type support elements and is specifically directed to a hanger type clip of the type connectable to the lower flange of a horizontally extending beam member.

Even more specifically, the subject invention is directed to a device of particular utility in connection to inverted T-section beams of the type normally employed for supporting ceiling type acoustical tiles.

The invention is of particular utility as a commercial display hanger for supporting displayed merchandise.

Previously known fasteners for use with the support beam of a suspended ceiling structure have not proven to be satisfactory for a variety of reasons. Specifically, many of the previously known constructions have been of complex construction which renders them expensive to fabricate and difficult to install. Difficulty of installation is one of the prime probems with many of the previously known devices such as those which have employed portions which must be bent, connected by screws or the like for retention on the supporting beam.

Other known conventional hanger constructions have not provided a reliable connection to the supporting beam and have consequently proven to be unsatisfactory for use in locations in which such features are not integral.

Additionally, a number of the prior known support clip devices have required extensive manual manipulations for attachment to the supporting beam and, in fact, frequently cannot be connected by a single person.

The aforementioned difficulties of the prior known hanger clip constructions has consequently resulted in the use of many makeshift devices employing wire, cords or the like tied or bent to the supporting flanges of the ceiling tile for providing display support of items such as lamps or the like in merchandising areas. Resort to such makeshift arrangements is resultant from the many inadequacies, high cost and the like of the presently known hanger constructions.

Therefore, there has been a continuing need for a new and improved hanger member construction which would be economical to fabricate, easy to install and maintain, reliable in use and requiring no tools or special components for installation. This invention meets these needs.

Therefore, it is the primary object of this invention to provide a new and improved hanger construction for use with the horizontal flanges of support beams.

The manner in which the subject invention obtains the object of this invention will be better understood when the following written description is read in conjunction with the attached drawings in which:

FIG. 1 is an exploded perspective view of the preferred embodiment as employed in one mode of operation;

FIG. 2 is a side elevational view of the preferred embodiment of FIG. 1;

FIG. 3 is an end elevational view of the preferred embodiment as viewed from the left in FIG. 2;

FIG. 4 is an exploded perspective view of another mode of operation of the preferred embodiment; and

FIG. 5 is a side elevational view of the embodiment of FIG. 4 as assembled in FIG. 4.

Attention is initially invited to FIG. 1 which illustrates the preferred embodiment **20** of the invention associated with a horizontal beam **22** of the type normally employed for supporting acoustical ceiling tile on its lower flange **24**. The lower flange **24** forming the base portion of the T-shaped cross section of flange **24** provides support for the hanger clip **20** in a manner to be made obvious hereinafter.

Hanger clip **20** is formed of a righthand clip component **26** and a lefthand clip component **26'** each of which cooperates with the other to provide the resultant clip member **20**.

Righthand clip component **26** has a forward edge **28** and a rearward edge **30** which define the width dimension of the component in the manner illustrated in FIG. 1. The width dimension is parallel to the axis of the beam **22** on which the components are connected for support.

Connection of the righthand clip component **26** to the beam is enabled by means of a horizontal lower flange abutting plate **34** and an upper flange abutting plate **36** which are connected by a bent outer edge connector portion **38** as shown in FIG. 1. Consequently, the horizontal lower flange abutting plate **34**, the upper flange abuting plate **36** and the bent outer edge connector portion **38** embracingly engage the right side of the lower flange **24** of beam **22** as shown in FIG. 3.

The edge of the horizontal lower flange abutting plate **34** opposite the bent outer edge connector portion **38** is connected by means of an inner connector portion **40** to a downwardly extending vertical hanger plate **42**. The vertical hanger plate **42** is provided with an object receiving hanging recess opening **44** extending inwardly from the forward edge **28**.

It should be noted that the inner connector portion **40** extends inwardly from the rearward edge **30** and terminates approximately midway of the width dimension **34** of the clip component **26** so as to define a slot **46** extending inwardly from the forward edge **28** as best shown in FIGS. 1 and 4.

The lefthand clip component **26'** illustrated in FIG. 1 is identical to the righthand clip component **26** in most respects and the corresponding portions of the lefthand clip component corresponding with similar portions or elements of the righthand clip component have been given the same designators which have been primed. Therefore, the lefthand clip component includes a forward edge **28'**, a rearward edge **30'** and a horizontal lower flange abutting plate **34'**. Similarly, an upper flange abutting plate **36'** is connected to the lower flange abutting plate **34'** by means of a bent outer edge connector portion **38'**. A vertical hanger plate **42'** extends downwardly by means of an inner connector portion **40'** and is provided with a slot **46'** in a manner analogous to the construction of the righthand clip component **26** as discussed previously.

However, it should be noted that the lefthand clip component includes a slot **46'** which extends inwardly from the rearward edge **30'** of the clip component rather than from the forward edge **28'** in the manner of the righthand clip component **26**. Consequently, the inner

connector portion 40' of the lefthand clip component 26' extends inwardly from the forward edge 28 of the lefthand clip component and terminates at a point closely adjacent the middle portion of the width dimension 34 as shown.

The righthand clip component and lefthand clip component are connected to the flange 22 by initially positioning the components in the axially spaced manner shown in FIG. 1 and then moving the components toward each other so that the inner connector portion 40 of the righthand clip component 26 is received within the slot 46' of the lefthand clip component 26'. Similarly, the inner connector portion 40' of the lefthand component 26' is received within the slot 46 of the righthand clip component 26. Consequently, the vertical hanger plate 42 of the righthand clip component 26 is positioned to the left of the vertical hanger plate 42' of the lefthand clip component 26' when the two component parts are moved to the assembled position of FIGS. 1 and 3.

This inventive construction results in frictional engagement between the vertical hanger plates which is all the more enhanced upon a supported item being inserted in the slots 44 and 44' which are in alignment as shown.

It should be noted that the flange engaging component 36, 34 also provides for frictional retention of the parts in their assembled positions. When assembled in the manner shown in FIGS. 1 and 3, the parts provide a clear hanging opening comprised of aligned openings 44 and 44' into which any items such as lamps, signs or practically any other item can be supported by a vertical cord of wire or other suitable flexible or rigid support member.

In another mode of assembly, two identical clip components, either identical righthand components or identical lefthand components, can be assembled in the manner shown in FIGS. 4 and 5 so that the slots 44 extending inwardly are not in complete alignment with each other. Consequently, only the inner circular open portions 50 are in alignment and a circular support opening is consequently provided. This circular support opening is of particular value in receiving and supporting rod members such as curtain rods or the like.

The subject invention is extremely versatile and it can be used for supporting practically any type object. Moreover, the invention is easily connected to the supporting beam by a simple manual manipulation requiring absolutely no tools. Numerous modifications of the invention will occur to those skilled in the art and it should be understood that the spirit and scope of the invention should be limited solely by the appended claims.

I claim:

1. A hanger clip for attachment to the lower horizontal flange of a beam member, said clip comprising a righthand clip component and a lefthand clip component, each of said clip components having a forward edge and a rearward edge defining a width dimension parallel to the axis of the beam member, a vertically extending hanger plate extending downwardly from a horizontal lower flange abutting plate and having an upper termination and a lower termination, said horizontal lower flange abutting plate extending outwardly in a generally perpendicular direction from one side of the upper termination of said hanger plate and terminating at an outer edge in a bent outer edge connector portion, an upper flange abutting plate extending inwardly from said bent edge connector portion in a plane substantially parallel to said lower flange abutting plate with said upper flange abutting plate being spaced from said lower flange abutting plate a distance substantially equal to the thickness of the horizontal flange of the beam to which the hanger clip is attached, an inner connector portion extending from the forward edge of said righthand clip component for a substantial distance and connecting the vertically extending hanger plate of said righthand clip component to the lower flange abutting plate of said righthand clip component but terminating forwardly of the rearward edge of the hanger plate of said righthand clip component whereby a slot is defined between the lower flange abutting plate and the vertical hanger plate of said righthand clip component for the rearward portion of the width of said component at the upper edge of said vertical hanger plate, an inner connector portion extending from the rearward edge of said lefthand clip component for a substantial distance and connecting the vertically extending hanger plate of said lefthand clip component to the lower flange abutting plate of said lefthand clip component but terminating rearwardly of the forward edge of the hanger plate of said lefthand clip component whereby a slot is defined between the lower flange abutting plate and the vertical hanger plate of said lefthand clip component for the forward portion of the width of said lefthand clip component at the upper edge of said vertical hanger plate of said lefthand clip component whereby said righthand clip component and said lefthand clip component can be positioned in axially spaced relationship adjacent each other on the horizontal flange of said beam and moved toward each other so that the inner connector portion of said righthand clip component is received in the slot of said lefthand clip component and the inner connector portion of said lefthand clip component and said hanger plates frictionally engage each other to provide a resultant fixed attachment of said hanger clip to said horizontal flange of the beam and cooperating recess means in said hanger plates for receiving an object to be hung from said hanger clip.

2. The invention of claim 1 wherein said clip components are formed of a unitary metal plate construction.

3. The invention of claim 2 wherein said cooperating recess means in said vertically extending hanger plates defines a hook portion having an inner edge defined by an aperture extending inwardly from said forward edge of said hanger plates.

4. The invention of claim 3 wherein two of said righthand clip components or two of said lefthand clip components can be clipped together so that the inwardly extending openings from the forward edge of said hanger plates are not in alignment and the innermost extent of said openings are in alignment to define a generally circular opening through which a rod can be suspended.

5. The invention of claim 1 wherein said cooperating recess means in said vertically extending hanger plates defines a hook portion having an inner edge defined by an aperture extending inwardly from said forward edge of said hanger plates.

6. The invention of claim 5 wherein two of said righthand clip components or two of said lefthand clip components can be clipped together so that the inwardly extending openings from the forward edge of said hanger plates are not in alignment and the innermost extent of said openings are in alignment to define a generally circular opening through which a rod or the like can be suspended.

7. A hanger clip comprising a plate member having a forward edge and a rearward edge defining a width dimension, a horizontally extending lower flange abutting plate adapted to engage the lower surface of a horizontal flange of a supporting beam member, an upper flange abutting plate connected unitarily by a bent edge portion to said lower flange abutting plate for engaging the upper surface of a portion of the horizontal flange of said beam, a vertically extending hanger plate having an object receiving hanging recess opening and extending downwardly from the edge of said lower flange abutting plate opposite the bent edge connector portion in a plane substantially perpendicular to said lower flange abutting plate with said vertically extending hanger plate being connected to said edge of said lower flange abutting plate by an inner connector portion extending from the forward edge of said clip a substantial distance but terminating forwardly of the rearward edge to define a slot between the rearmost portion of the upper edge of said hanger plate and said lower flange abutting plate whereby two

of said clip components can be mated otgether with their respective inner connector portions being received in the slot of the other clip component with said hanging recess openings in said hanger plates cooperating to define a closed supporting aperture in which a rod or other supported member can be inserted.

8. The invention of claim 7 wherein said plate member is of metal construction.

9. The invention of claim 8 wherein said object receiving hanging recess opening defines a hook portion having an inner edge defined by an aperture extending inwardly from the forward edge of said hanger plate.

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