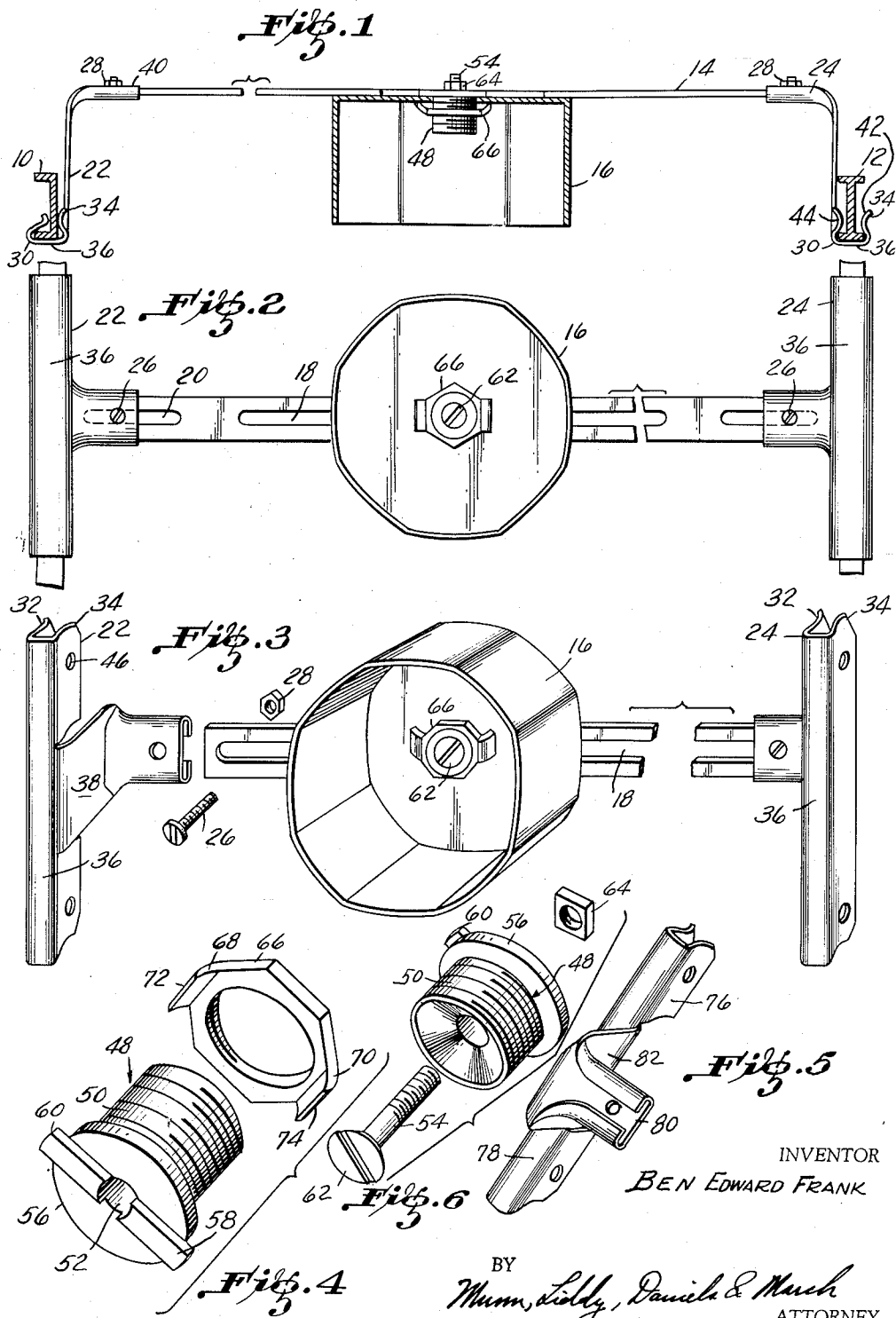


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HANGER BAR SUPPORTING CLIP

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HANGER BAR SUPPORTING CLIP

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This invention relates to means for supporting electrical outlet boxes and particularly to hanger bars for supporting electrical outlet boxes from joists and other frame members forming floors and ceilings in reenforced structures and in particular for use with metal lath wall finishing. The invention further relates to an improved hanger bar and fixture support means for supporting boxes and fixtures.

There are many hangers made for mill type construction and these are used heretofore on metal lath construction. However, such hangers have to be tied on the face of the studs and channels with wire. This is an awkward and costly procedure. Usually such practice creates a large bulge under the lath which will often show in the finished plaster. Furthermore the webbing in the studs is often many times in such a place that the bars cannot be tied at the proper location for the box. Further, as every electrician has experienced, the wire ties often slip and as a result the work does not stay in the proper location. It is an object of my invention to provide a hanger box construction which overcomes these difficulties.

It is also an object of my invention to provide a snap-on crimp-on hanger bar type outlet box and fixture support including means for securing the outlet boxes to the hanger bar which provide means for rapidly attaching the boxes.

A further object of my invention is to provide a hanger bar for use in metal lath construction which can be readily attached to the studs, etc., which will remain in place, and with which the boxes will not move out of their proper positions.

When a fixture stud is used with heretofore known hangers employed for fastening outlet boxes to studs, girders, etc., such as in metal lath construction, once the box is secured in place on the hanger and the hanger affixed to the studs it is impossible to change the positioning of the box with respect to the hanger. Furthermore a considerable amount of room in the boxes is wasted when a fixture stud is used. With the old type fixture studs the box is bolted directly to the hanger and only two of the four holes in the back of the standard box can be used on a round or octagon box. Ordinarily there are two three-quarter inch holes and two one-half inch holes in the back of an outlet box. Further, it is impossible to get three-quarter inch lock nuts on with the form of studs heretofore used.

Accordingly another object of my invention is to provide a hanger for supporting boxes as set forth above including means for associating the box with the hanger bar which will permit the use of any of the holes on the back of the box and which will also provide room within the box for use of lock nuts of the size desired.

Yet another object of my invention is to provide a snap-on or crimp-on hanger bar fixture stud and outlet box support means which can be snapped over girders or crimped on to girders and which can be used with mill type construction if desired.

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A further object of my invention is to provide snap-on crimp-on hanger bar construction including means for readily adjusting the distance between the hanger snap-on or crimp-on means.

5 Yet a further object of my invention is to provide a hanger bar and fixture stud means for supporting an outlet box which comprise relatively few elements and which can be rapidly assembled with a considerable reduction in the labor heretofore required.

10 These and other objects and advantages will become apparent from the following description and the accompanying drawings in which:

Figure 1 is a sectional elevational view showing a combined hanger bar outlet box and fixture support means constructed in accordance with the invention.

Figure 2 is a bottom plan view.

Figure 3 is a partly exploded perspective view.

Figure 4 is an exploded perspective view of a fixture stud means forming part of the invention,

20 Figure 5 is a perspective view illustrating another form of snap-on and crimp-on clip constructed in accordance with the invention, and,

Figure 6 is an exploded perspective view showing the fixture stud of Fig. 4 from the opposite end.

25 The same reference characters in the several views indicate the same parts.

My labor saving fixture and outlet box support means is adapted to securely locate the outlet boxes in the position in which they must be in the finished wall and yet further provide means for adjusting the outlet box to use any of the cable holes.

Further, according to my invention outlet boxes can be mounted by simply snapping into position and yet the resulting connection is secure and superior to that heretofore possible.

Referring now in particular to the drawings, in Figure 1 there is illustrated a channel beam 10 and I-beam 12. These are part of the usual floor or roof construction of an ordinary reinforced building. Hanger bar 14 bridges these two supports, and outlet box 16 is supported from the hanger bar 14.

The hanger bar has a series of spaced slots 18 and 20 as is usual and outlet box 16 is supported from the hanger bar in such a manner as to be adjustable along one of these slots.

A pair of clips 22 and 24 are connected to the hanger bar by bolts 26 and nuts 28. At least one of these clips is connected to the hanger bar by the bolts 26 and nuts 28 so as to be adjustable along one of the slots 20. This provides for adjustment of the effective length of the hanger bar.

Each of the clips comprises a clip base 30. The latter is bifurcated to form a pair of legs 32, 34 and the web 36. A spacing web or leg 38 is connected to the clip base at one end and a hanger bar sleeve 40 is connected to its opposite end. Preferably the clips are formed of a single piece of spring steel deformed to provide the shape illustrated in the drawing.

The leg 34 of the clip is formed in two sections, with each section being longitudinally in alignment with the other section. The spacing web or leg 38 is connected to the web 36 of the clip base 30 and extends substantially laterally upwardly from the web and intermediate the two segments of the leg 34. The hanger bar sleeve extends outwardly laterally of the spacing leg 38 and is substantially parallel to the clip base web 36.

The bifurcated legs 32, 34 have outwardly turned outer edges 42 and facing reversely curved portions 44. This provides a spring clip construction at the clip base. As illustrated in the drawings, when these clips are snapped over the flanges of the channels or I-beams they will securely grasp the beams. On the right in Figure 1 is

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illustrated the clip as simply snapped over the edges of the flanges, whereas on the left of Figure 2 the leg 32 is seen to be deformed by pliers or other suitable means to crimp the clip base over the flange of the channel, which may be preferred in some instances. The legs of the spring bases are pierced as indicated at 46 so that these bases may be used with mill type supports and nails driven through the bases.

The outlet box and fixture support means for connecting the box to the hanger bar to support the fixture and box comprises a stud 48. The latter has a cylindrical base portion 50 which is exteriorly threaded. The stud also has a central bore 52 of a size adapted to loosely receive a screw 54. The stud is provided with a cylindrical plate 56 having its periphery formed complementary to the usual central opening in the outlet boxes and adapted to be rotatably received in the latter.

A pair of flanges 58 and 60 are connected to plate 56 on the side opposite base portion 50. These flanges are formed complementary to the slots 18 and 20 and are adapted to be received therein. Screw 54 has a head 62 which is adapted to seat against a mating surface in the stud 48. The flanges 58 and 60 are adapted to be received in the slots 18 and 20 with plate 56 bearing against one side of the bar, and the screw 54 extending upwardly between the flanges to the other side of the hanger bar. A nut 64 is attached to secure the fixture stud to the bar.

Once the nut 64 is tightened the fixture stud is connected to the hanger bar. The box is then inserted over the plate 56 and a nut 66 is used to hold the box associated with the stud 48. The nut 66 comprises an element formed generally in the shape of an octagon nut. However, two opposing sides are provided with extended downwardly inturned flanges 68 and 70. The latter terminate in sharpened edges 72 and 74 which extend parallel to the axis of the nut.

When the nut 66 is loosely connected the box can be rotated upon the cylindrical plate 56. This makes it possible to rotate any of the cut-outs on the back of the box away from the hanger bar. Such feature coupled with the small size of the stud makes it possible to use any of the cut-outs. However, when the nut is more securely tightened the sharpened edges will cut into the base of the box and a fixed mounting will be obtained.

Figure 5 illustrates another form of clip 76. The latter is seen to have a clip base 78 and a sleeve 80 formed similarly to their counter parts 24 and 40, respectively. However, the spacing web or leg 82 extends in the op-

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posite direction with respect to clip base 78 from that in which leg 38 extends with respect to clip base 30.

While I have shown and described the preferred form of my invention it will be understood by those skilled in the art that many changes in form and details of construction can be made within the scope of the appended claims, and I claim an exclusive right to all changes, modifications, and forms coming within the scope of the appended claims.

I claim:

1. A hanger bar supporting clip comprising a sleeve section, a gripping section for gripping a supporting structure, and a spacing web section joining said sleeve section to said gripping section, said sleeve section having a portion of its lateral edges folded over toward each other so as to form a sleeve for reception of the end of a hanger bar, an opening in said sleeve section for the reception of a threaded fastening means which is adapted to pass through a registering slot in the hanger bar, said spacing web section being joined to one end of said sleeve section at substantially right angles thereto, said gripping section consisting of at least two spaced apart legs, said legs facing each other and extending at substantially right angles to said sleeve section.

2. The structure of claim 1 wherein at least one of said legs has an aperture extending laterally therethrough for receipt of a fastening means adapted to secure said clip to a support received within said clip.

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