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CONDUIT HANGER

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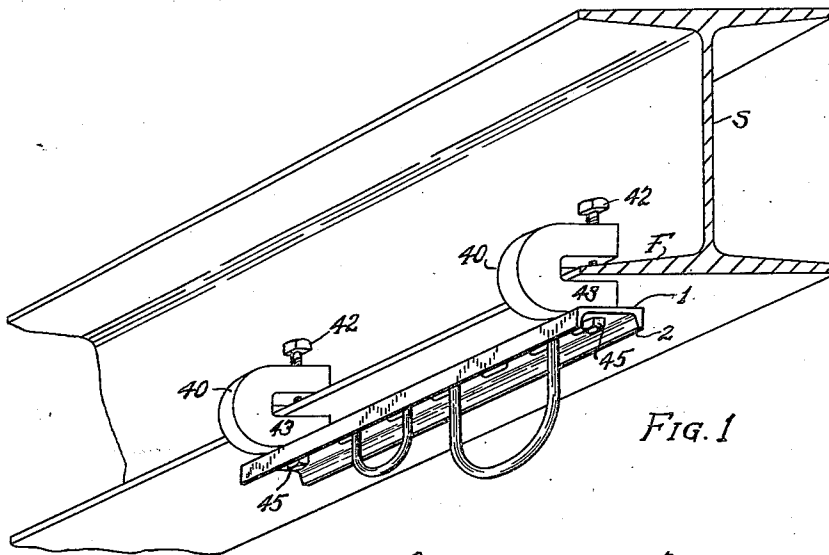


FIG. 1

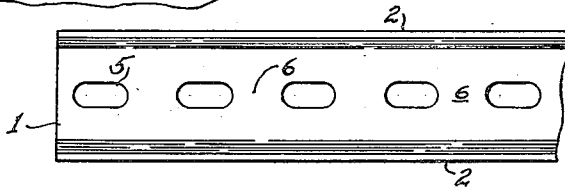


FIG. 2

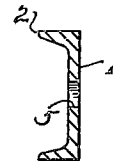


FIG. 3

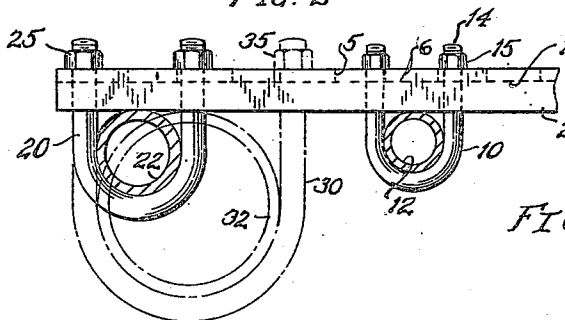


FIG. 4

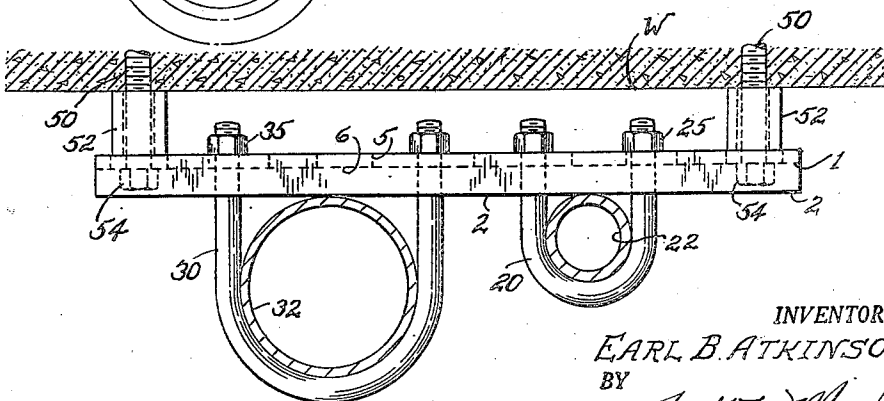


FIG. 5

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CONDUIT HANGER

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3 Claims. (Cl. 248—68)

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This invention relates to a device for supporting pipes or other like conduits overhead or on walls, and its objects include simplicity, cheapness of manufacture, convenience of installation for attachment to supports, and facility of attaching the pipe or conduit thereto, while being capable of supporting one or more conduits in parallel relation and of varying sizes.

A more specific object is to provide a rigid supporting member and a plurality of sizes of U-shaped supporting bolts having a relationship to aligned elongated openings in the support, such that pipes ranging in size, say, from a quarter or half an inch up to two inches may be conveniently attached to the same support.

Heretofore, special supporting bars or attaching devices were needed for each size of pipe or the supports have been drilled for the particular requirements on the job or at the point of installation.

By the present invention I have provided a special supporting bar and a combination of a minimum of selected U-bolts, all of which may have their two ends enter the elongated openings which are so spaced as to require no special drilling.

I have also provided a special and convenient means for carrying the supporting bar on structural beam members, such as angle irons, channel, I-beams, etc.

The means for attaining the above and other objects will become apparent in the following description which relates to the accompanying drawings, in which:

Fig. 1 is a perspective view of my conduit hanger attached to the flange of an overhead I-beam;

Fig. 2 is a plan of the supporting member proper;

Fig. 3 is a transverse section through the same;

Fig. 4 is a side elevation showing the supporting member and U-bolts supporting different sizes of pipes;

Fig. 5 is a view similar to Fig. 4 showing a modified form of a means for attaching the support to a concrete ceiling or wall.

Describing the conduit hanger arrangement of the present invention, as illustrated in the drawings by the use of reference numerals, the supporting member comprises a channel having a web 1 and side flanges, indicated at 2.

Midway between the channel members are elongated openings 5 having their sides in substantially longitudinal alignment and parallel with the sides of the channel.

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The material of the web between the adjacent ends of the elongated openings 5, indicated at 6, preferably has a length related to the length of the elongated openings such that the different sizes of U-shaped carrying bolts will all fit into either two adjacent openings 5 or into alternate openings 5, as will presently appear.

Referring first to the smallest U-bolt, indicated at 10, shown in Fig. 4 as supporting a small conduit 12, the adjacent openings 5 are close enough together, that is, the intervening portion 6 is short enough to permit the ends of the U-bolt to enter adjacent openings. This size of U-bolt may fit a one-half inch pipe, for example.

In practice, the conduit lies against the edges of the flanges 2, and the threaded ends 14 of the U-bolt projecting above or to the opposite side of the web 1 of the channel receive nuts as at 15 to clamp the conduit securely in the position shown.

The next size U-bolt 20 may fit around and support a larger conduit, say, for example, a three-quarter inch pipe, and the spacing of the legs of this U-bolt is such that when one leg is near one end of an opening 5, the other leg of the U-bolt may extend through the adjacent elongated openings 5 at about the middle of it. Here again, nuts as shown at 25 may effect the clamping and holding of the conduit against the flanges 2, when the nuts are tightened against the back or inner side of the web 1.

For a slightly larger size of pipe, a similar U-bolt may have its leg portions fit closely toward the remote or farthest separated ends of two adjacent openings 5.

For still larger conduit, an appropriate size U-bolt 30 fitting the conduit indicated at 32 may have its legs enter two of the elongated openings while bridging over an intermediate opening.

Here again, the conduit is secured by nuts 35 fitting the threaded ends of the U-bolt. This arrangement in which the U-bolt engages alternate openings 5 is indicated in broken lines in Fig. 4 and in solid lines in Fig. 5.

For a size pipe or conduit slightly smaller than the conduit 32, as shown, a U-bolt fitting such a conduit may have its ends passed through the nearest portions of alternate openings 5. Thus, it will be seen that by the unique arrangement of elongated openings the U-bolts, appropriately shaped to fit standard conduits varying in sizes by quarter or half inches, may all be secured either in adjacent or alternate openings in the main supporting channel member 1.

The channel members, as indicated, may be

secured to overhead construction members, floor beams, ceiling surfaces, etc., by various appropriate means.

In Fig. 1 I have shown an effective special arrangement for securing the supporting channels to flanges of I-beams, angles, or the like, as may occur in the floor construction or side wall supports.

In this figure are shown two C-clamps, designated 40—40, and each having clamping screws 42 shown as engaging the inner or upper sides of the flange F of a structural member S. The bodies of the C-clamps are of substantial thickness and strength, and into the outer or lower sides of the lower reach 43 of each C-clamp I may thread a cap screw or bolt 45, each passing through one of the elongated openings 5, thus securely mounting the supporting channel.

While in Fig. 1 the C-clamps are shown as securing the supporting channel 1 in a position parallel with the structural member S, obviously the outer leg of the C-clamp may be parallel with the channel 1, and one clamp may be attached to one structural member and another C-clamp to an adjacent structural member, while the channel 1 extends transversely of two or more structural beams, such as S.

The convenience of mounting the supporting members in such a way that the bolts may have their nuts 15, 25 or 35 tightened in position, will be noted, the thickness of the members 43 of the C-clamps, allowing room between the flange F and the supporting channel for such purpose.

Carrying out the same principle of convenience of securing the supporting channels by utilizing some of the elongated openings therein and spacing the channels from the surface of the fixed support, I illustrated in Fig. 5 an arrangement in which bolts 50 extend into a wall W, each passing through spacing collars 52 and through an opening 5 in the web 1 of the supporting member. These bolts 50 have suitable angular heads 54 tightened against the outer side of the web 1.

In the structure of Fig. 5, as before described, a large U-bolt 30 may thus support a large size conduit 32, while smaller ones, such as the size indicated at 20, may support its corresponding size conduit 22.

The present invention lends itself to the cheap and efficient production of conduit supports which may be secured to flanges, wall beams, and the like, or to the wall itself, and which permits the convenient and accurate alignment of U-bolt members for carrying and supporting various sizes of conduits.

Having thus described my invention, what I claim is:

1. The combination with a plurality of conduits of different sizes, of supporting means therefore comprising a channel member having a web and parallel side flanges, and having aligned elongated openings of uniform size in the web, a plurality of U-bolts of various sizes each adapted to embrace a corresponding size of conduit, means for securing the channel member to a structural support and spaced outwardly therefrom, nuts for the U-bolts, said spacing permitting placing the nuts and tightening them in position on the U-bolts and said elongated openings being of such length and separated such distances that the smallest U-bolt may embrace any two adjacent openings, and the largest U-bolt may enter the outer portions of alternate openings.

2. A conduit hanger comprising the combination of a plurality of U-bolts of different size for embracing corresponding sizes of conduits, each U-bolt having each end threaded and having clamping nuts therefor, a supporting member comprising a web and flange element having aligned and elongated spaced-apart openings of uniform size for receiving the ends of the U-bolts, the spacing of said openings being such as to receive the smallest U-bolt between adjacent ends of adjacent elongated openings, while intermediate sizes fit intermediately of the length of one or both of two adjacent openings, and the largest of which may fit between the remote ends of two alternate elongated openings, and means for securing said flanged member to a fixed support in a position spaced therefrom to permit access to the nuts for the U-bolts.

3. The structure described in claim 2 in which said means comprises C-clamps adapted to embrace the flange of a fixed structural beam member, and each having an outer reach portion so shaped as to space the supporting member having the elongated openings from said flange, and means for securing said supporting member to the outer reaches of the C-clamps.

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The following references are of record in the file of this patent:

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