

Aug. 5, 1958

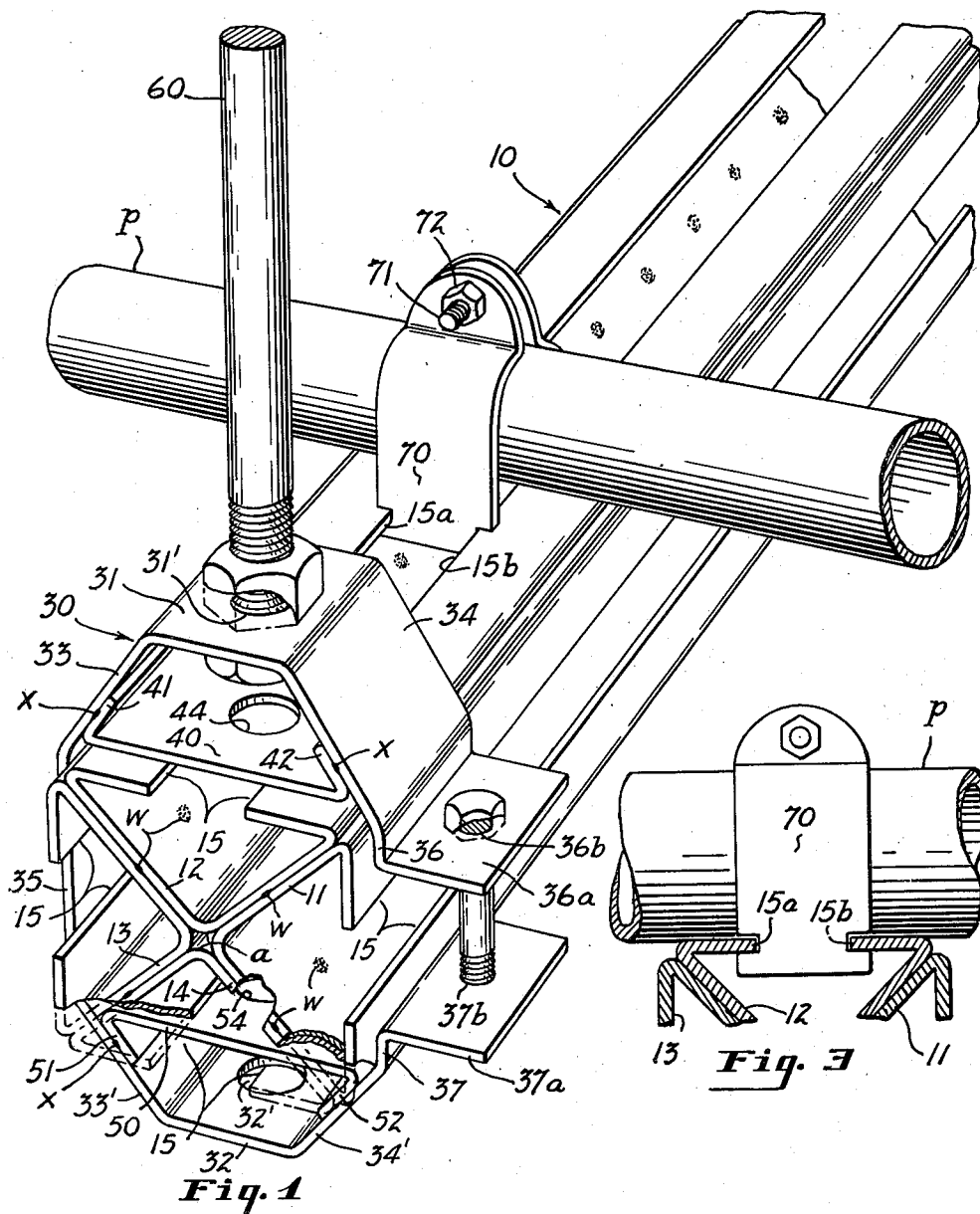
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FOUR-WAY CHANNEL SUPPORT

Filed May 18, 1953

2 Sheets-Sheet 1



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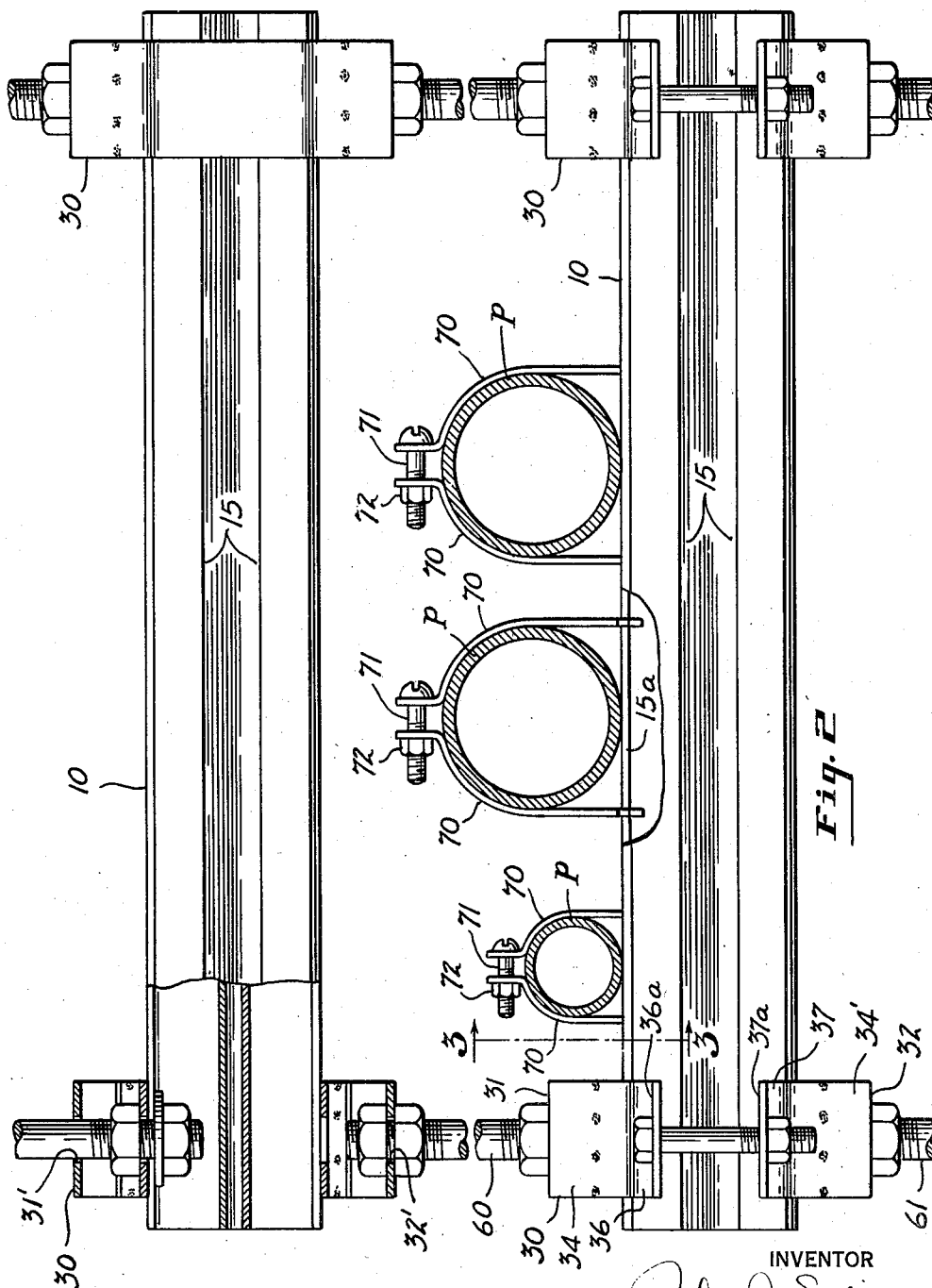
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FOUR-WAY CHANNEL SUPPORT

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Application May 18, 1953, Serial No. 355,451

5 Claims. (Cl. 248—62)

My invention relates to supports and relates more particularly to hangers and supports for pipes, conduits, tubing and the like.

It is an object of my invention to provide such improved hangers and supports of the type referred to which will be easily assembled and highly efficient in operation.

Another object of my invention is to provide hangers and supports of the type referred to wherein requisite strength will be obtained.

Another object of my invention is to provide hangers and supports of the type referred to which will be integral units to which brackets or clamps may be easily and simply secured.

A still further object of my invention is to provide hangers and supports of the type referred to which will be economical to manufacture, being composed of few parts.

The support of my invention is further a four-way support adapted to support elements on any of its four sides.

Other objects of my invention and the invention itself will become more readily apparent by reference to the drawings as described further in the specification appended hereto.

In the drawings:

Fig. 1 shows the support or hanger of my invention, a bracket being clamped to the same at one end;

Fig. 2 is a front view showing a pair of the improved supports or hangers of my invention suspended from hanger rods and showing different size pipes supported upon the upper face of one of said hangers or supports;

Fig. 3 is a view of a strap device associated with the four-way support element of my invention, the element being both partially shown.

Referring now to the drawings more particularly, in all of which like parts are designated by like reference characters, in Fig. 1 at 10 I show a four-way channel support member, said channel member being composed of four generally triangular members 11, 12, 13 and 14, preferably formed of steel, metal or like material. The apex of each of said members 11, 12, 13, 14 is preferably rounded as shown at "a" and the base of each is provided with an elongated opening or guideway 15.

The said triangular elements are nested together with the apices facing each other as shown in Fig. 1 and the side edges of each element being integrally secured with an opposite side edge of another element as by welding, soldering etc. as shown at "w." A generally square in cross-section member with a generally elongated wide slot 15 disposed on each longitudinally extending face is therefore provided, which is adapted to be used as a support for pipes, conduits, etc. The slots 15 extend longitudinally from one end of each of the said bases of the generally triangular elements to the opposite end thereof for a purpose later described herein.

A substantially C-shaped clamp member 30 preferably made of steel, metal or like material, is provided, as

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shown in Figs. 1 and 2, with a substantially flat upper and lower surface, 31 and 32 respectively, which surfaces are provided with an aperture 31' and 32' respectively. A pair of tapered side surfaces 33, 34 and 33' and 34' are inclined outwardly from said upper and lower surfaces 31 and 32 and a flat lateral surface 35 connects the surfaces 33 and 33' and a substantially flat relatively short lateral surface 36 terminating in a ledge portion 36a disposed at right angles thereto is disposed at an oblique angle to the tapered side 34.

In a similar fashion a substantially flat relatively short lateral surface 37 terminating in a ledge portion 37a disposed at right angles thereto is disposed at an oblique angle to the tapered side 34'. The two ledge portions 36a and 37a are disposed therefor in substantially spaced parallel relation to each other, and are provided with aligned apertures 36b and 37b through which a screw-threaded bolt is threaded to clamp the same about the four-way support member. Secured as by welding or the like indicated at "x" to the tapered sides 33, 34 is an elongated substantially rectangular plate 40 having upstanding inwardly extending tapered flanges 41 and 42 and said plate 40 is provided with a circular aperture 44.

An identically formed plate 50 having upstanding inwardly extending tapered flanges 51 and 52 and provided with a circular aperture 54 is secured as by welding, etc. to the tapered sides 33' and 34'. Thus, the four-way element, when the clamp, having the plates 40 and 50 integrally secured thereto, is fastened thereon by hanger rods 60 (the ends of said hanger rods being screw-threaded within the upper surface 31 of the clamp and, if desired, through the aperture 44 aligned with said aperture 31 and through the slot 15 in the upper face of the four-way element) affords a deep U-recess to receive the hanger rod threadingly disposed therein to accomplish a wide range of adjustment for the support member. Also, a hanger rod 61 may be similarly screw-threaded through openings 32', 54 and slot 15 in the member 50 for the suspension of a lower run four-way support.

The C-shaped clamp member 30 described herein is thus adapted for use as a hanger rod connection to afford a suspension at either end for a pair of four-way elements or a multiple thereof, as illustrated in Fig. 2, wherein one four-way element is spaced in parallel relation with another said element.

As further illustrated in said Figure 2, pipes "p" are secured to the supports 10 by means of straps 70 which are of different dimensions to clamp cable, tubing, pipes, etc. of different diameters, as shown. The strap elements 70 are preferably formed of a pair of bowed strap members preferably of metal, steel, etc. and said pairs are bolted together as by a screw threaded bolt and nut 71 and 72 respectively. Each bowed member is further provided with a notched recess on either side of its lower end portion adapted to receive adjacently disposed inwardly extending elongated flat base portions 15a and 15b of the uppermost base of the four-way element.

As described herein and as shown, the pipes, conduits, etc. are supported upon the upper face of the so-called four-way element. It will be obvious that pipes may be carried on any or all of the faces of said element, however, and that the support is not essentially a pipe support but might be employed in various ways, as for example, as a brace, a vertical run, a horizontal run, a ceiling run etc.

Therefore, although I have described my invention in connection with a preferred embodiment thereof, it will be obvious that numerous and extensive departures may be made therefrom, as in dimensions, uses, etc., without however departing from the spirit of my invention or the scope of the appended claims.

I claim:

1. A support member of the type described comprising a plurality of elongated support elements identically formed of sheet metal of uniform thickness and each being substantially triangular in cross-section, a pair of sides of each of said support elements intersecting to form an apex, each side of said pair of sides being integrally secured to a side of a different support element, the apices of each element being directed to a common center, an outer side of each of said support elements being provided with an elongated slot from end-to-end, whereby said outer side is provided with a pair of oppositely disposed elongated substantially flat portions disposed in spaced parallel relation to each other, said portions forming a base for the disposition of supportable units thereon.

2. Support means of the type described comprising a plurality of elongated support elements identically formed and substantially triangular in cross section a pair of sides of each of said support elements intersecting to form an apex, each side of said pair of sides being integrally secured to a side of a different support element, the apices of each element being directed to a common center, an outer side of each of said support elements being provided medially with an elongated slot from end-to-end whereby said side is provided with a pair of elongated portions disposed in spaced parallel relation to each other, clamp means engaged with the said outer side of at least one of said elongated support elements and adapted to be associated with supportable units.

3. Support means of the type claimed in claim 2 having a clamp member clamped thereto, an opening in said clamp disposed in alignment with one of said elongated slots, hanger means seated in said opening in the said clamp member and said slot whereby said support is rigidly secured to said hanger means.

4. Support means of the type described comprising four elongated support elements, said elements each being

of substantially triangular form a pair of sides of each of said support elements intersecting to form an apex, each side of said pair of sides being integrally secured to a side of a different support element with the apices of each element being directed to a common center to form a four-way support whereby each of the four elements is reinforced by the other three elements, a third side of each said triangular element being provided with an elongated slot, supportable elements mounted across a slot of one of said triangular elements, clamp means associated with said slot to securely mount said supportable elements thereon.

5. Support means of the type claimed in claim 4 having a generally C-shaped bracket member securely clamped about one end of said four-way support and being apertured at the uppermost and lowermost portions thereof, hanger rods projecting through said apertures in said clamp and secured therein, a pair of apertured plate means being disposed adjacent the uppermost and the lowermost portion of said bracket and integrally secured thereto, each one of said apertures of said plate means being disposed in alignment with one of said apertures of said clamps and one of said slots in a third side of one of said elements wherefor a hanger rod may be threaded through both of said apertures and said slot to permit adjustment thereof.

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