

July 14, 1964

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3,140,848

TOP BEAM CLAMP

Filed Jan. 30, 1962

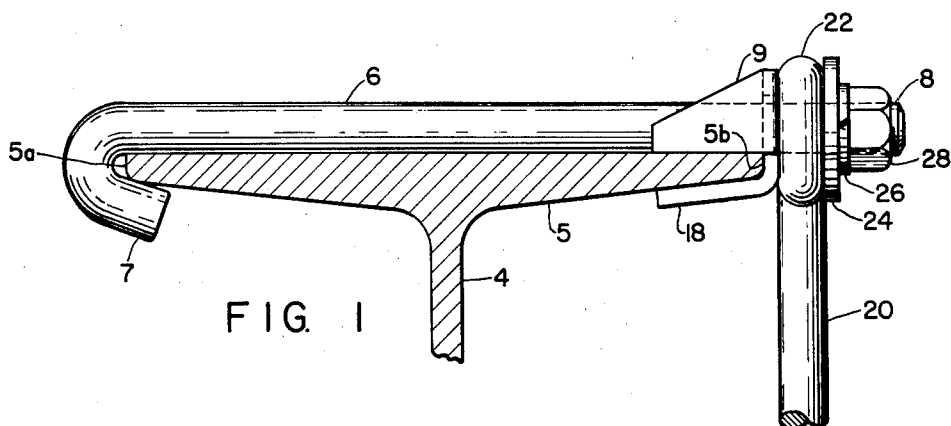


FIG. 1

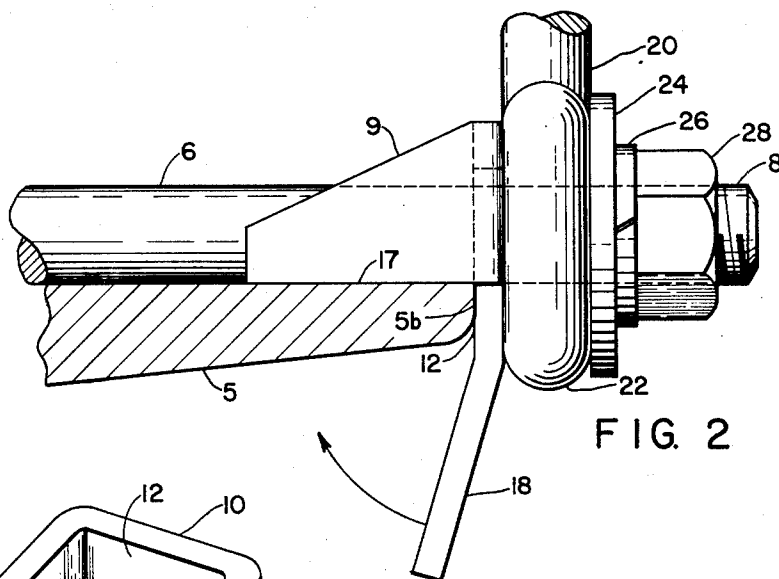


FIG. 2

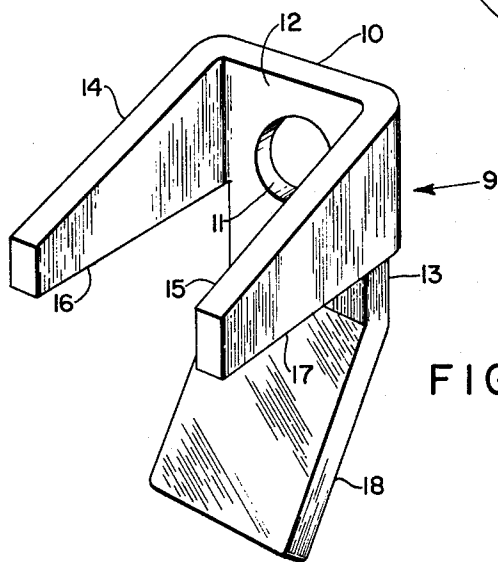


FIG. 3

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3,140,848

TOP BEAM CLAMP

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2 Claims. (Cl. 248—72)

This invention relates to pipe hangers and more specifically, it concerns a pipe hanger support component known as a top beam clamp.

It is common knowledge that very often piping and related conduits are suspended directly from ceiling or roof beams. Whether the hanger is fastened to the top of the beams or the bottom of the beams depends on such factors as headroom, size and location of the beam and piping, and the weight to be supported. My device is particularly suited for fastening a support to the top flange of an I-beam, wherein said support does not carry more than a recommended load of 150 pounds. This normally occurs when the pipe to be supported is $\frac{3}{4}$ " to 2" in diameter.

With conditions as described above, it has been found that the normal range of flange thickness of standard I-beams and wide flange beams in which my invention is particularly suited extends from less than .26" to approximately .81".

The prior art device used generally until the production of the present invention consisted of a malleable iron casting having two straight jaws for engaging a beam flange. Because of the range of thickness of such flanges it was necessary to produce the same clamp with six different jaw sizes. Thus the requirement for maintaining a suitable range of sizes in stock placed a heavy burden on the person maintaining the inventory. With the present invention it is now possible to use one clamp member to cover the entire range of flange thickness previously requiring six different clamp constructions.

An object of this invention is to provide a beam clamp in a pipe hanger assembly which is suitable for use with beams having a wide range of flange thicknesses.

Another object is to provide a beam clamp in a pipe hanger assembly which is comparable in working strength to prior art clamping devices but is lighter in weight.

Still another object is to provide a beam clamp in a pipe hanger assembly which will permit the hook rod of the hanger assembly to lie flat on the top of the beam to which the hanger is fastened.

A further object is to provide a beam clamp in a pipe hanger assembly which is easier and cheaper to produce than prior art devices.

Other objects will become apparent as the following specification is read in conjunction with the attached drawing in which:

FIGURE 1 is an elevational view of a complete hanger assembly containing the novel clamp on a top portion of a cross-sectioned I-beam.

FIGURE 2 is an enlarged detail elevation of the portion of the hanger assembly of FIG. 1, containing the novel clamp in an intermediate step of installation.

FIGURE 3 is a perspective view of the novel clamp prior to installation.

Referring more particularly to the drawing, in FIG. 1, an I-beam 4 is shown having a top flange 5 in cross-section.

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This top flange has two running edges 5a and 5b. Lying across the top of the flange in continuous contact therewith is a hook rod 6 with a hook 7 at one end and screw threads 8 at the other end. The novel clamp member 9 is positioned on the threaded end 8 of the hook rod.

This clamp member 9 is preferably made of a steel stamping and has a wall 10 with a hole 11 therethrough. The wall has two parallel planar surfaces 12 and 13. Two wing walls 14 and 15 extend, one from each side of the wall 10, at right angles to the plane of surface 12. The bottom edges 16 and 17 respectively of wing walls 14 extend perpendicularly to the plane surface 12 at the same level as or a very little higher than the bottom portion of hole 11. If desired, the tops of the wing walls may be sloped as shown in the drawing, to lighten the structure without affecting its strength to any noticeable degree. Depending from the bottom of the wall 10 is a flat bendable tongue 18.

The entire hanger assembly will be more clearly presented by the following description of its erection.

The hook rod 6 is first placed on the top of flange 5 with the hook 7 engaging the upper and lower surfaces of one edge, 5a, of the flange. The clamp member 9 is then slipped over the end of the hook rod so that the planar surface 12 abuts the other edge, 5b, of the top flange and the edges 16 and 17 of the wing walls engage the top surface of the flange. A pipe support rod 20 having a round eye 22 is then mounted on hook rod 6 with the eye encompassing the hook rod and abutting the planar surface 13 of the clamp member. A flat washer 24 is then slipped over the hook rod into abutting relation with the eye 22. A lock washer 26 is then passed over the hook rod 6 to be in contact with the flat washer 24. Finally a nut 28 is threaded on the threaded portion 8 to draw the previously described parts into contact with each other.

When all of the parts have been assembled, the support rod 20 is turned upwardly, as shown in FIG. 2, and the tongue 18 is then hammered into firm contact with the undersurface of flange 5. The support rod 20 is then restored to its proper vertical position so that the pipe (not shown) may be fastened thereto and the nut 28 is then finally tightened into a locked position.

Having thus described the invention, I claim:

1. In a pipe hanger having a hook rod lying on the top of the top flange of a flanged beam member with one end having a hook engaging one of two running edges of said flange and the other end being threaded and extending beyond the other edge of said flange, a pipe support rod, washer means, and a nut fastened on said threaded other end; a clamp member mounted on said hook rod between said washer means and said beam member comprising:

(a) a flat substantially vertical wall having two side edges, a top and a bottom portion,

(b) two substantially similar and parallel wing walls extending together one from each of said side edges perpendicular to said flat wall,

(1) each of said walls having a straight lower edge resting on the top of said top flange perpendicular to said flat wall,

(c) a hole through said vertical wall slightly larger than said hook rod through which said hook rod extends,

- (1) the lower periphery of said hole being substantially in line with the lower edges of said wing walls, whereby said hook rod is assured of firm contact with the top of the top flange,
- (d) a flat tongue depending from the bottom portion of said flat wall, 5
- (1) said tongue being bendable under an imposed sharp blow to engage the bottom surface of said top flange.
2. In a pipe hanger according to claim 1, in which each said wing wall has a sloping upper edge which slopes downwardly from the top of said vertical wall to the end of said wing wall. 10

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,140,848

July 14, 1964

Philip C. Sherburne

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 58, before "walls" insert -- wing --.

Signed and sealed this 24th day of August 1965.

(SEAL)

Attest:

ERNEST W. SWIDER
Attesting Officer

EDWARD J. BRENNER
Commissioner of Patents