July 1, 1930. G. W. CLAUSING 1,768,543

HANGER

Filed May 15, 1926

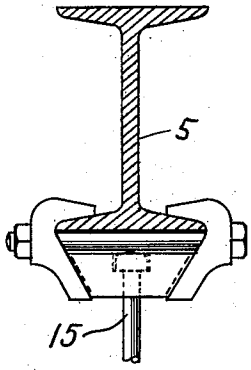


Fig. 2

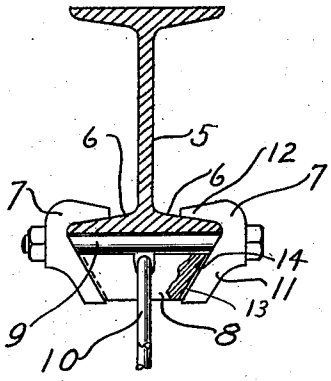


Fig. 1

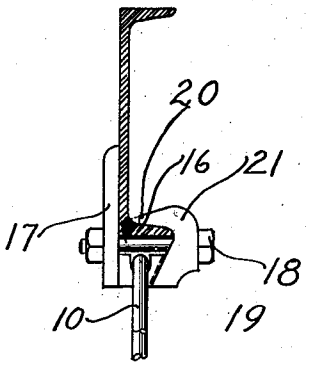


Fig. 3

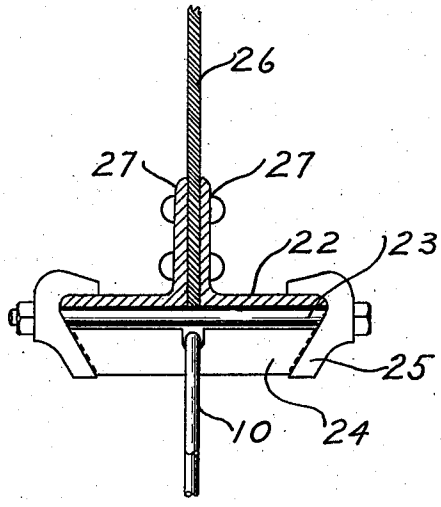


Fig. 4

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UNITED STATES PATENT OFFICE

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HANGER

Application filed May 15, 1926. Serial No. 109,221.

This invention relates to hangers for use with beams having substantially horizontal flanges, such as I-beams or channel irons, mounted with the main or supporting web vertical. One of the objects of the invention is to provide a hanger by means of which heavy weights may be suspended from the beams in such a manner that the hanger will not become displaced by jarring, or springing of the suspended apparatus, or the clamping means will not give way by bending, breaking, or otherwise.

Of the accompanying drawings Fig. 1 is a hanger suspended from an I-beam which embodies the features of my invention, showing a U-bolt for suspending the articles; Fig. 2 is a similar view showing an ordinary machine bolt for suspending the articles from the hanger; Fig. 3 shows a modified form of hanger used with a channel iron or other similar beam having only one flange for the suspension; and Fig. 4 shows a built-up beam with oppositely extending flanges and a hanger clamped thereto.

My improved hanger is adapted to be clamped to the lower flange of an I-beam 5, or other similar beam, where there are flanges 6 projecting nearly horizontally outwardly in opposite directions, and it comprises 2 clamping jaws 7 and a spacer 8 which are bound or clamped to the flanges in any suitable manner, such as by means of a bolt 9. When assembled in this manner, with the bolt clamping the jaws snugly against the outer edges of the flanges, and with the lips 12 extending over the flanges a material distance, substantially all danger of the bending, or breaking, or slipping is eliminated, as indicated. The bolt being positioned immediately under the flanges prevents the jaws from springing apart and thus tending to slip off from the flanges. This tendency normally is increased by the downwardly slanting surface of the flanges, and, as is obvious, a slight springing apart of the jaws would allow them to slip longitudinally along the beam, and, if the springing was very material, one of the jaws might slip off from the flange and thus allow the hanger with the suspended article to fall.

But with the spacer tapering as indicated, and the weight suspended by the U-bolt 10, it will be seen that the tapering contacting surfaces of the spacer and the arms 11 of the clamping jaws not only will prevent the weight from pulling the spacer and bolt downward, but will also tend to turn the lips 12 of the jaws more snugly over the two flanges. The greater the weight the greater the tendency of these lips to hug the upper surfaces of the flanges. Ribs 13 on the surfaces of the arms 11, entering grooves 14 in the spacer ends, prevent side movement of the spacer.

In Fig. 2 the structure is substantially the same as in Fig. 1, but this view shows how an ordinary square headed bolt 15 may be used in place of the U-bolt, if it should be desired.

Fig. 3 illustrates a clamping means having a jaw 21, for passing over the flange 16, and a second clamping jaw 17, by means of which, and the bolt 18, the jaw 21 may be firmly pressed against the outer edge of the flange. By the use of the tapered filler 19 the weight will tend to throw the lip 20 more snugly over the flange, and the greater the weight the greater this tendency will be. In this case also, with the bolt 18 immediately under the surface of the flange, the tendency of the jaws to separate is substantially eliminated.

In case of Fig. 4 the support comprises a plate 26 suspended in any suitable manner to a ceiling or other support, and having a pair of L-beams 27 fixed thereto. In this case the flanges 22 are shown materially longer than the flanges of the I-beam, but otherwise the hanger and clamping means are substantially the same. The bolt 23 is positioned immediately below the surface of the beams, and the spacer 24 has tapering ends which are in contact with the slanting surfaces of the arms 25 as indicated, so that the greater the weight the greater the tendency of the jaws to grip the flanges.

From this it will be seen that a hanger is provided which can be very firmly and dependably clamped to any support of the general nature shown by the drawings, and it will be obvious that the distance between the

outer edges of the oppositely extending flanges is not very material. In fact the flanges might be supported by two spaced webs or supports of any kind and the hanger suspended therefrom, and other modifications might be made in the hanger by those skilled in the art without departing from the spirit of my invention, as disclosed by the following claims.

I claim as my invention:

1. A hanger for suspending articles and adapted to be clamped to a beam having two substantially horizontal flanges extending in opposite directions, said hanger comprising a pair of similar clampng jaws having lips adapted to extend over each of said flanges, each of said jaws having a downwardly and inwardly projecting arm the inner surface of which is uniformly and continuously inclined downwardly and inwardly, a spacer between said arms, the outer ends of said spacer converging downwardly, means for clamping said jaws and arms firmly against the outer edges of said flanges and the ends of said spacer, and suspending means supported by said spacer.

2. A hanger for suspending articles and adapted to be clamped to a beam having two substantially horizontal flanges extending in opposite directions, said hanger comprising a pair of clamping jaws having lips adapted to extend over each of said flanges, each of said jaws having a downwardly and inwardly projecting arm, a spacer between said arms, the outer ends of said spacer converging downwardly, means for clamping said jaws and arms firmly against the outer edges of said flanges and the ends of said spacer, suspending means supported by said spacer, said spacer being wedge-shaped vertically and the inclined surfaces in contact with similiary inclined surfaces on the arms of said jaws, and in which coacting downwardly extending ribs and grooves are formed on the respective pairs of inclined surfaces.

3. A hanger comprising an angularly shaped member having an inwardly extending lip adapted to hang over a horizontal support, and a downwardly extending arm, the inner surface of said arm being continuously and uniformly inclined inwardly under said lip, a second member having an upwardly and a downwardly extending arm, a spacer positioned between said downwardly extending arms with its ends shaped to correspond with the inner surfaces of said arms, and with the ends in contact with the respective surfaces of said arms, and means for clamping said downwardly extending arms and spacer together.

4. A hanger for suspending articles and adapted to be clamped to a beam having oppositely extending side flanges, said hanger comprising a pair of clamping jaws having lips adapted to extend over said flanges, each of said jaws having a downwardly and inwardly projecting arm integral therewith, a spacer between the said arms, the outer ends of said spacer each having a large wedge surface extending substantially from the top of said spacer to the bottom of said arms and inclining downwardly and inwardly in conformity with the shape of said arms, means for limiting outward relative movement of said jaws, and suspending means supported by said spacer, said spacer being substantially wedge shaped vertically so the greater the weight supported by said spacer, the more firmly the various parts will be wedged together.

5. A hanger for supporting articles and adapted to be clamped to a beam having oppositely extending side flanges, said hanger comprising a pair of clamping jaws having lips adapted to extend over said flanges, each of said jaws having a downwardly and inwardly projecting arm integral therewith, a spacer between the said arms, the outer ends of said spacer each having a large wedge surface extending substantially from the top of said spacer to the bottom of said arms and inclining downwardly and inwardly in conformity with the shape of said arms, means extending from one of said jaws to the other for holding said jaws together, means for limiting relative movement between said spacer and said jaws in the direction of said beam and a loop shaped suspending means held by its bight portion over the center of said spacer, said spacer being substantially wedge shaped vertically so that an increase in the weight supported by said spacer causes a more firm wedging action of the beam flanges, jaws and spacer.

In testimony whereof, I hereunto set my hand.

GEORGE WALTER CLAUSING.