Dec. 13, 1927. 1,652,695

H. E. BARBER

ATTACHMENT CLAMP FOR BEAMS

Filed Aug. 18, 1922 2 Sheets-Sheet 1

Fig. 2.

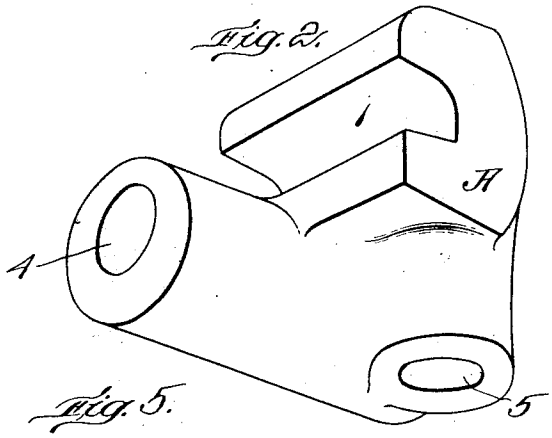


Fig. 3.

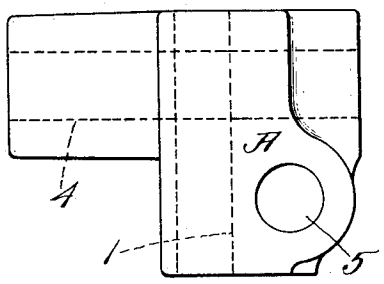
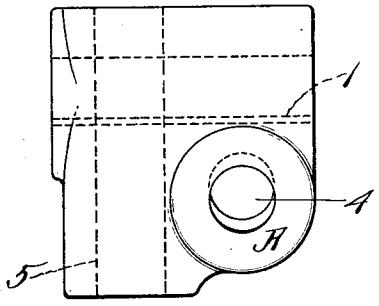


Fig. 5.



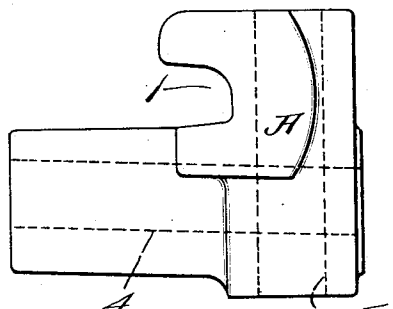


Fig. 4.

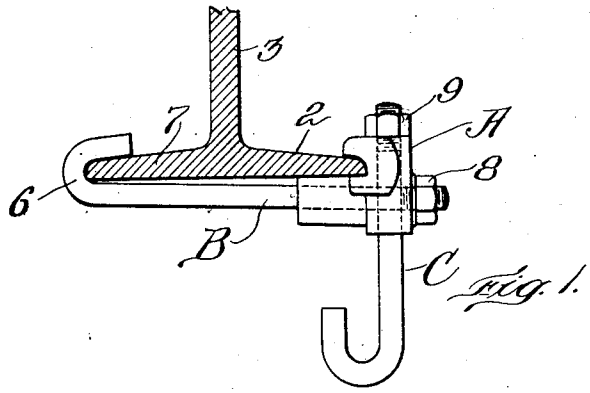


Fig. 1.

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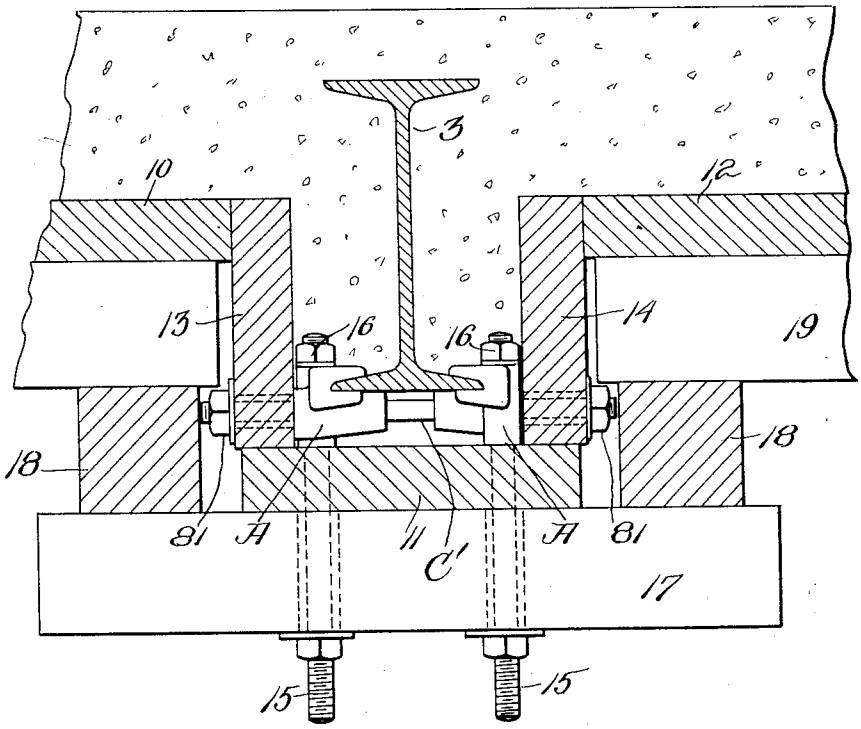


Fig. 6.

Inventor:
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Patented Dec. 13, 1927. 1,652,695

UNITED STATES PATENT OFFICE.

HARRY E. BARBER, OF BOSTON, MASSACHUSETTS.

ATTACHMENT CLAMP FOR BEAMS.

Application filed August 18, 1922. Serial No. 582,616.

My invention relates to attachment clamps for I-beams and the like and it has for its object to provide an improved device of this class.

In the case of buildings constructed with steel frames, or at least with floors or roofs supported by I-beams, it is frequently necessary to fasten different things to such beams so that they will be supported by the latter. For example, when installing concrete floors and the like it is usually the practice to attach the molding forms to the horizontal I-beams of the building frame; when installing shafting it is often desirable and sometimes necessary to attach the shaft hangers to said beams, and also when installing steam, water or sprinkler pipe lines it is often desirable, and sometimes necessary, to attach the pipe hangers to said beams. My invention aims to provide an attachment clamp for application to I-beams and the like which, in its best form, may be used for several different purposes including those just referred to. To this end I have provided an attachment clamp comprising a one-piece jaw member made with a horizontal groove or socket for engaging the flange of an I-beam or the like, and two bolt holes that are relatively off-set and also off-set with relation to said socket, one of said holes being disposed horizontally and the other vertically. To fasten the jaw member in position against the flange of the I-beam a clamping bolt is provided that occupies the horizontal bolt hole and engages the side of the beam opposite to that to which the jaw member is applied.

In the accompanying drawings,

Figure 1 shows in cross-section a portion of an I-beam having applied thereto an attachment clamp constructed in accordance with my invention.

Figure 2 is a perspective view of the jaw member of the clamp shown in Fig. 1.

Figure 3 is a top plan view of the jaw member.

Figures 4 and 5 are side elevations of the jaw member.

Figure 6 illustrates another form of my invention.

My new attachment clamp for beams as illustrated in Figs. 1 to 5, inclusive, comprises a one-piece jaw member A and a clamping bolt B. The jaw member A is preferably a block of malleable cast iron that is made with a horizontal transverse V-shaped socket 1 adapted to receive within it the edge portion of the flange 2 of an I-beam 3 as shown in Fig. 1. Below socket 1 the jaw member A is made with a horizontal bolt hole 4 to receive the shank of the attaching bolt B. Relatively off-set with respect to the horizontal flange socket 1 and the horizontal bolt hole 4, also, is a vertical bolt hole 5 to receive the bolt or other device by which the hanger, or other thing that is to be supported by the hanger, is connected with the latter. Thus a distinguishing feature of my new attachment clamp is the peculiar construction of the jaw member A which is characterized by the provision of two bolt holes 4 and 5 disposed at right angles, or substantially right angles, to each other and at right angles to the horizontal flange socket 1, this peculiar construction giving to the device a range of utility greater than devices of this class as heretofore constructed.

When my attachment clamp is employed as means for connecting to beam 3 a pipe hanger or other single and permanent supporting device such as the hook C shown in Fig. 1, the bolt B is preferably shaped with a hook 6 that is engaged with the flange 7 at the opposite side of the beam from that to which the jaw member is applied, and by tightening up upon the nut 8 of bolt B the attachment is securely and immovably clamped to the beam. The straight threaded shank of hook C is passed upwardly through bolt hole 5 and has applied to its upper end a nut 9 by which it is held in place.

By applying to the beam a pair of attachment clamps constructed as above described with their jaw members A at opposite sides of beam 3, a shaft hanger of ordinary construction may be securely fastened to the beam by means of ordinary straight bolts placed in the vertical bolt holes 5 of the two jaw members. It will also be clear that by applying a plurality of my attachment clamps to the floor beams of a building the molding form for concrete flooring may be securely and detachably fastened in position by means of ordinary bolts occupying the vertical bolt holes 5 of the jaw members A. In such cases the bolts used in holes 5 would preferably be provided with removable nuts at both ends so that by removing the lower nuts after the concrete has set the molding form can be removed after which said bolts can be removed by unscrew-

ing the same from their upper nuts which remain embedded within the concrete. Since the attachment clamps are located within the molding form they are, of course, embedded and hidden within the concrete except that the lower ends of the holes 5 are flush with the bottom of the concrete and open for the reception of bolts by means of which various sorts of hangers may be secured to the attachment clamps.

In Fig. 6 I have illustrated an attachment clamp comprising two jaw members A, A which are applied to opposite sides of the beam 3 as shown, and held in place by a single bolt C′ provided with nuts, 81, 81 at the opposite ends thereof, said bolt C′ occupying the horizontal holes 4 of the two jaw members. In this figure I have shown the parts of a molding form for concrete supported by the attachment clamp, the bottom walls of said form being indicated at 10, 11 and 12, and two of the side walls thereof at 13 and 14. The two side walls 13 and 14 are formed with apertures through which the attaching bolt C′ extends, the nuts 81 being outside said walls and serving to clamp the latter against the jaw members A and said members against the opposite flanges of the beam. Bolts 15, each having nuts 16 at the opposite ends thereof, are arranged within the vertical holes 5 and serve to support a key block 17 on which floor board 11 rests and by which the floor boards 10 and 12, strips 18 and spanners 19 are also supported. After the concrete within the mold has set it is, of course, necessary to remove the molding form and this may be done by removing the outside nuts. The bolts 15 may then be removed by unscrewing them from their upper nuts which are permanently embedded within the concrete and remain in position to be used again should it later be desired to connect a pipe or shaft hanger to the attachment clamp. After removing the molding form a shorter bolt C′ may be substituted for the original bolt if desired.

What I claim is:

As a new article of manufacture a one-pieced metal casting made with two bolt holes and an open groove, each laterally offset and approximately at right angles with relation to the other two and being disposed alongside of and close to said other two.

In testimony whereof I have affixed my signature.

HARRY E. BARBER.