(No Model.)

G. W. HEARTLEY.

EAVES TROUGH HANGER.

No. 472,294. Patented Apr. 5, 1892.

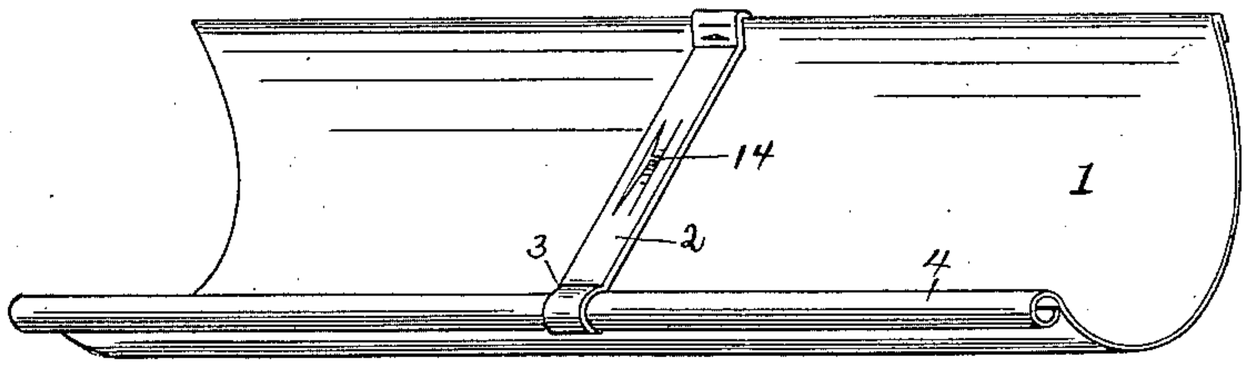

Fig. 1.

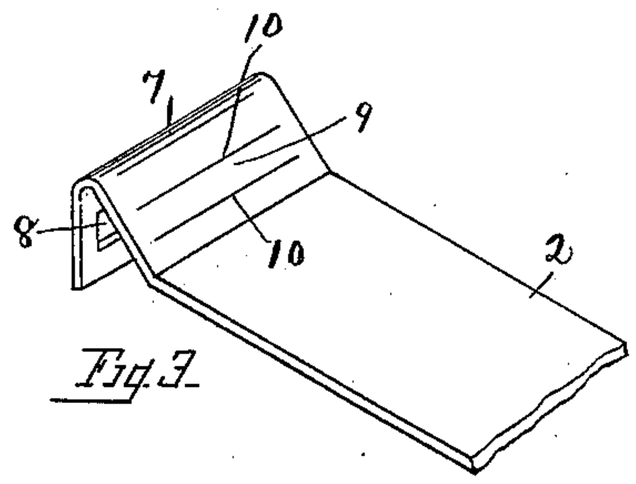

Fig. 3.

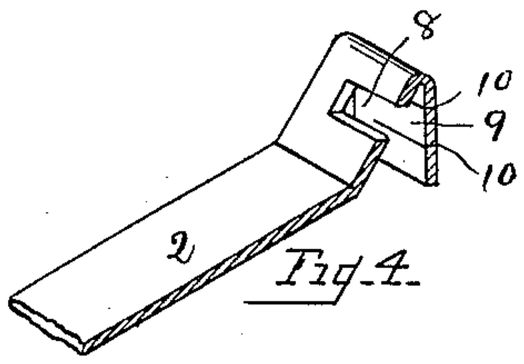

Fig. 4.

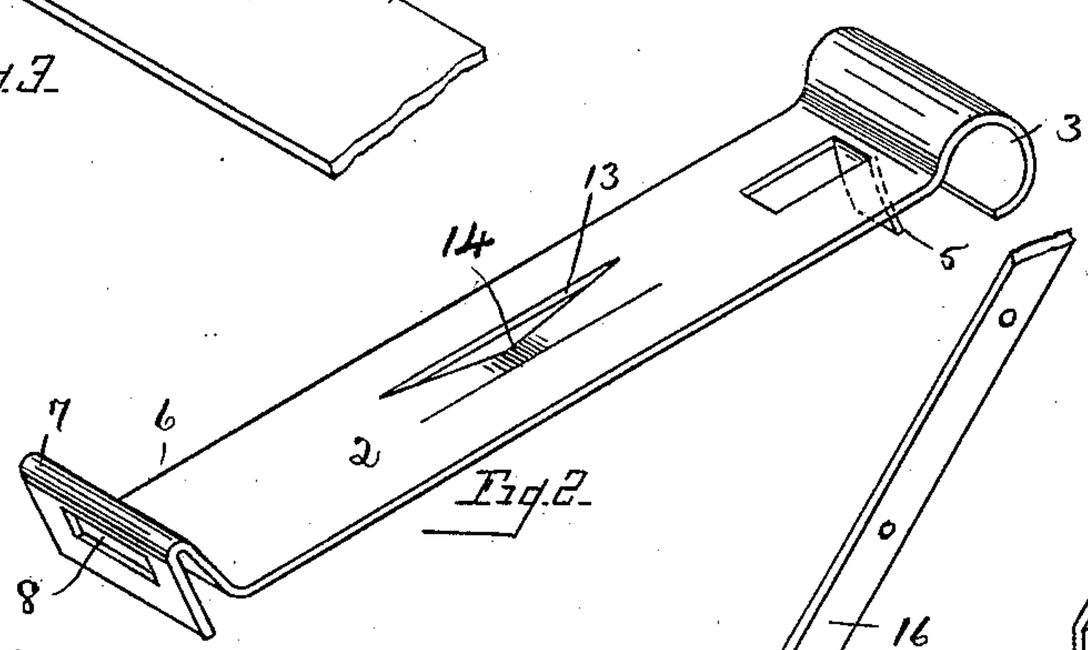

Fig. 2.

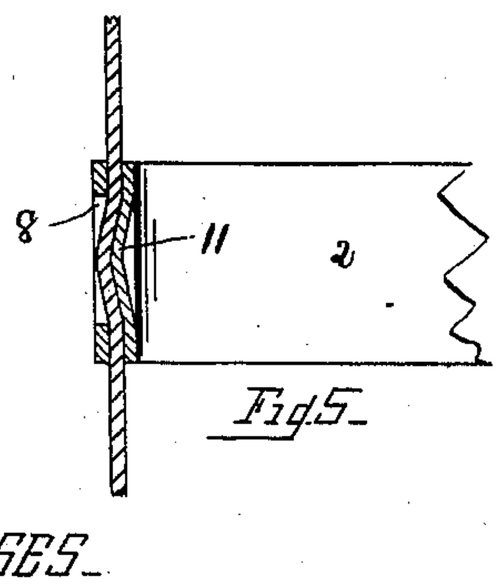

Fig. 5.

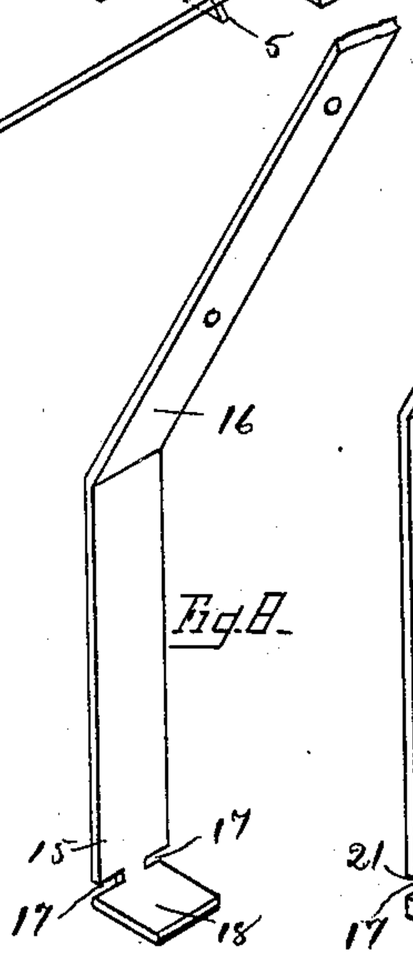

Fig. 8.

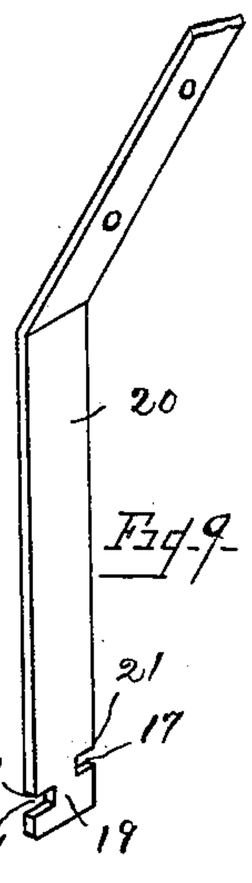

Fig. 9.

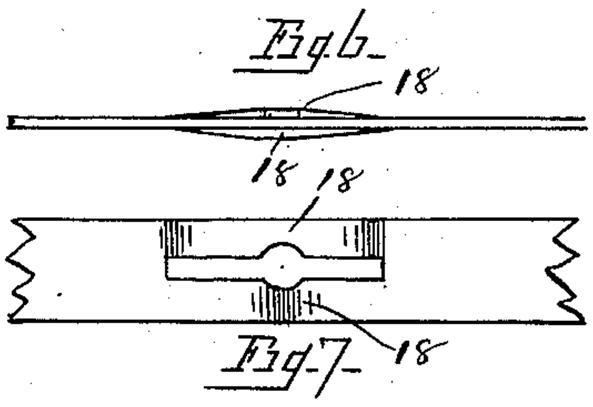

Fig. 6.

Fig. 7.

WITNESSES.

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GEORGE W. HEARTLEY, OF TOLEDO, OHIO.

EAVES-TROUGH HANGER.

SPECIFICATION forming part of Letters Patent No. 472,294, dated April 5, 1892.

Application filed February 27, 1891. Serial No. 383,080. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HEARTLEY, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Eaves-Trough Hangers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to an eaves-trough hanger of that character in which a horizontal bar is employed, from which the trough is suspended, the bar being suspended by means of a hanger or bracket.

The object of the invention is to provide a hanger combining simplicity, strength, and economy of construction.

A further object is to provide means for securing the bar to the trough, whereby all danger of the parts becoming detached is avoided.

A further object is to provide a convenient means for attaching the hanger to the bar and also to strengthen the bar at the point of joinder of the hanger by forming a truss of a portion of the same.

The invention consists in the parts and combination of parts hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of an eaves-trough, showing the cross-bar secured thereto. Fig. 2 is a perspective view of the cross-bar. Fig. 3 is a rear view of an end of the cross-bar, showing the formation of a truss-bar for strengthening the same and for impinging against the side of the trough to force the same into a coincidental opening formed in the front depending portion. Fig. 4 is a longitudinal sectional view of the same with the position of the truss and opening transposed, the truss being upon the front depending portion and the opening formed in the rear side. Fig. 5 is a view in horizontal section through the truss and perforation and showing the end portion of the bar with the trough impinged therein. Figs. 6 and 7 are edge and plan views, respectively, of a modified form of bar in which there is formed a duplex truss at the joinder of the hanger. Fig. 8 is an elevation of a hanger adapted to the single form of truss-bar, and Fig. 9 is a like view of a hanger adapted to the double truss-bar.

1 designates the eaves-trough, formed in the usual manner; 2, the cross-bar, formed upon one end with a semicircular bend 3, adapted to embrace the rolled portion 4 of one side of the trough, and with a tongue 5, stamped from the body of the bar and bent downwardly to closely fit against the inner side of the trough, whereby when the semicircular portion 3 is caused to closely embrace the rolled portion 4 of the trough the tongue prevents the same from becoming detached therefrom. The opposite end 6 of the bar is formed with a return-bend 7, adapted to receive the edge of the trough and hold the same when secured therein. In the return-bend is formed upon one of the wings of the bend a perforation 8, preferably rectangular in cross-section, and coincidentally therewith upon the opposite wing a tongue 9, formed by slitting the metal upon each side, as at 10, this tongue being forced into an annular relation with respect to the body of the wing to form a truss 11, Fig. 5, thereby not only crimping the side of the trough sufficiently to force the same into the perforation and thereby preventing displacement of the same, but strengthening the end of the bar by reason of the transverse truss. As is shown, I may form the truss upon either wing and the opening upon the wing opposite.

In order to make a convenient and sure fastening of the hanger with the bar, I form a truss in the center of the bar by slitting the bar longitudinally, as at 13, and pressing the metal between the slits to an angle with respect to the bar, thereby forming a truss 14, composed of an oppositely-inclined tongue portion, and form the end 15 of the hanger 16 with transverse slots 17, of a width equal to the thickness of the bar, and incline a portion 18 to substantially the same inclination of the inversely-inclined portions of the truss, whereby in order to secure the hanger to the bar it is only necessary to insert the inclined end of the hanger into the opening formed by the truss, with the flat side of the hanger in parallel relation with the sides of the opening,

and give the same a one-fourth turn, causing the parallel sides of the bar to enter grooves 17 and the inclined end of the hanger to bear upon the truss, thereby effectually locking the two parts together.

In Figs. 6 and 7 is shown a modified form of bar in which the sides 18 are inclined in opposite directions, thereby making a double truss, into which the end 19 of hanger 20 enters, this end being formed with grooves 17 substantially like those shown in Fig. 8, the only variation being in forming the grooves in the latter out of coincidence, whereby the end can be entered and given a one-fourth turn, as has been described, and the edges 21 of the bar bear upon the truss of each side, thereby locking the same from displacement.

It will be seen that the bar is strengthened at each point of bearing by reason of the truss, and that the hanger may not only be easily inserted, but by bearing with a yielding pressure due to the spring of the truss is always held from movement therein.

What I claim is—

1. In an eaves-trough hanger, a bar formed with end portions to secure the trough thereto, one end being formed with a return-bend, one of the portions of the bend having an opening, the opposite portion having a truss.

2. In an eaves-trough hanger, a bar formed with a central opening, a portion of integral metal struck up from the same and inclined from the body of the bar, and a hanger having grooves to receive the metal of the bar and engage therewith.

3. In an eaves-trough hanger, a hanger formed with an end portion having grooves formed in the edge thereof, in combination with a bar having fastening devices to engage the trough, and an opening to permit the hanger to pass therein to allow the metal of the bar to enter the grooves, and a truss-bar to contact with the end of the bar.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

GEORGE W. HEARTLEY.

Witnesses:

WILLIAM WEBSTER,

CARROLL J. WEBSTER.