C. W. CONNER.

CONDUCTOR PIPE HOOK.

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1,160,047. Patented Nov. 9, 1915.

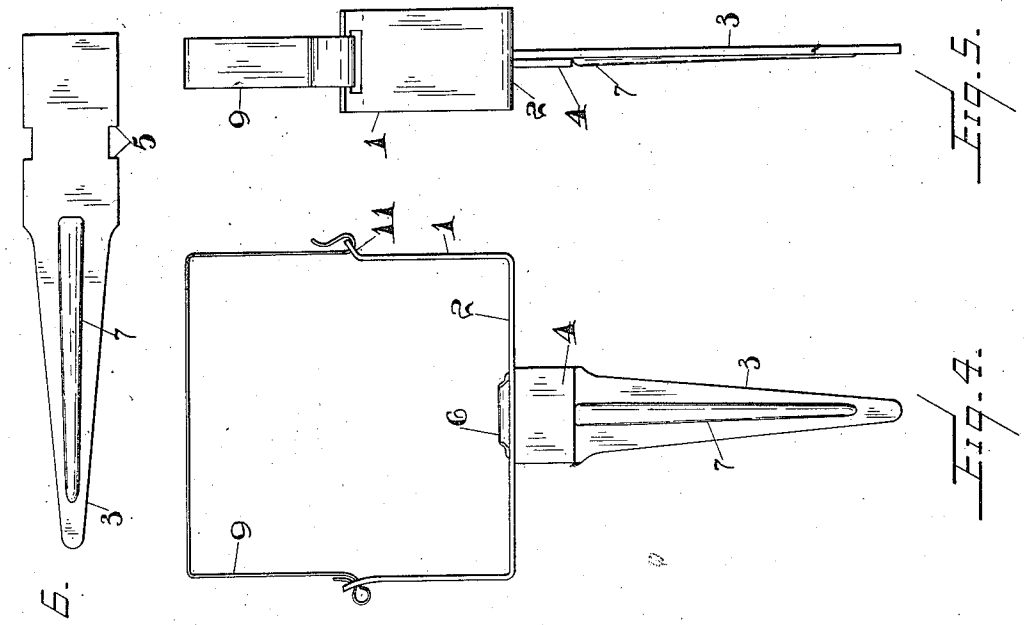


Fig. 5.

Fig. 4.

Fig. 6.

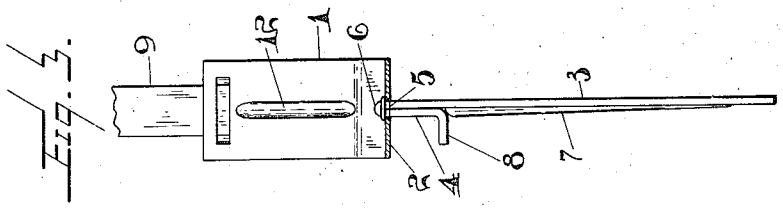


Fig. 3.

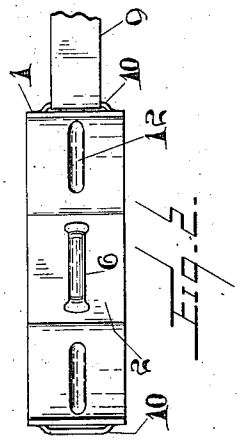


Fig. 2.

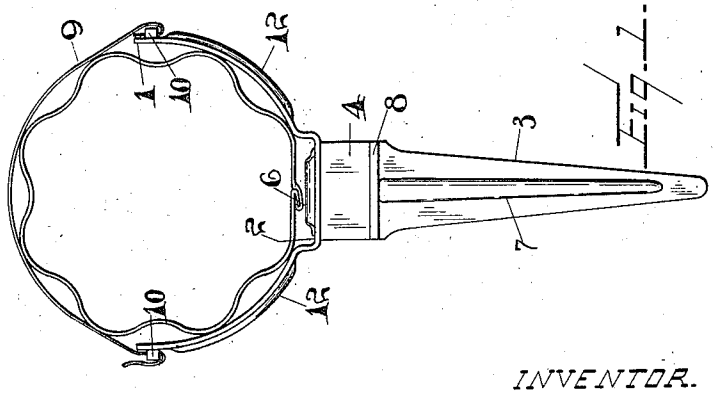


Fig. 1.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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CONDUCTOR-PIPE HOOK.

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To all whom it may concern:

Be it known that I, CARLTON W. CONNER, of the city of Toronto, in the county of York, Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Conductor-Pipe Hooks, of which the following is a specification.

This invention relates to the hooks for supporting the pipes used for conveying water from eavestroughs. Such hooks are commonly made of wrought or malleable cast iron.

My object is to devise a form of hook which can be readily constructed of sheet steel or iron and more particularly of the scrap sheet metal which is largely wasted or sold at a low price by manufacturers of sheet metal products.

I attain my object by forming the curved jaws of the hook separate from the shank, which is connected with the jaws, both being formed of sheet metal stamped to shape and secured together as hereinafter described without the use of separate fastening means. The conductor pipe is held in the jaws by means of a tie strip formed of sheet metal passed through slots formed in the ends of the jaws and suitably bent to secure it in place. The whole is constructed in detail substantially as hereinafter more specifically described and illustrated in the accompanying drawings in which—

Figure 1 is a plan view of a conductor hook constructed in accordance with my invention; Fig. 2 a front elevation of the same with the tie strip open; Fig. 3 a side elevation partly in section; Fig. 4 a plan view of a form of hook adapted for square pipe, showing also a slight change in the connections for the tie strip; Fig. 5 a side elevation of Fig. 4; and Fig. 6 a plan view of the shank before it is bent.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a strip of heavy gage metal bent to form jaws to embrace conductor pipe. The shape to which this strip is bent depends on the shape of the conductor pipe with which the hook is to be used, and may be either part of an octagon, as shown in Fig. 1, part of a square as illustrated in Fig. 4, or of any other desired shape. Preferably midway between its ends the bent strip 1 is provided with a flattened portion 2. 3 is a shank also stamped or otherwise suitably formed from sheet metal. In plan view this shank is tapered as shown, terminating in a blunt point. This tapered shank is secured to the back of the flattened portion 2 of the strip 1, the flat of the shank being in a plane substantially parallel to the planes in which lie the edges of the jaws so that when the jaws are engaged with a substantially vertical conductor pipe, the shank is adapted to enter between two courses of brick.

A preferred method of connecting the shank 3 with the strip 1 is as follows: The broad end of the shank is doubled upon itself, the part 4 being flattened down upon the shank, as shown more particularly in Fig. 5. The shank at the bend is reduced in width, as shown more particularly in Fig. 6, to form the shoulders 5. When the shank is formed up, this forms a riveting projection 6 in length less than the width of the shank. A suitable slot is formed in the flattened portion 2 of the strip 1, through which this riveting projection is passed and subsequently upset to secure the shank to the strip. In practice it is sufficient to upset the end only of the riveting projection, as shown particularly in Figs. 1 and 2.

The connection just described is very strong and rigid, the doubling of the metal of the shank giving broad shoulders against which the back of the flattened portion 2 abuts, thus giving ample bearing surface against which the strip 1 is secured by the action of upsetting the projection 6. The shoulders are of sufficient breadth to accurately hold the strip 1 at right angles to the surface of the shank, insuring a satisfactory appearance to the finished article. The riveting projection 6 also forms the striking surface when the conductor hook is being driven, so that in driving no strain whatever is sustained by the jaws. This makes the device exceedingly strong, more particularly as the blows of the hammer tend to further upset the projection and thus increase the security of the connection of the shank to the jaws.

A rib 7 is preferably struck up longitudinally of the shank. This not only increases the strength and stiffness of the shank, but gives it the tapered form in a plane at right angles to its breadth which is best adapted to give it a secure hold in

the mortar into which it is driven. It is also preferable to so form this rib that at the end adjacent the jaws it forms an abutment for the edge of the doubled over end 4 of the shank. This gives the doubled over end an abutment which tends to prevent its being forced farther back under the influence of the blows of the hammer used in driving the shank into place. Any such displacement would tend to weaken the connection between the shank and the jaws, which it is desirable to avoid. The end of the bent over portion also forms a shoulder which tends to set the limit to which the shank is to be driven, giving the conductor pipe the proper spacing from the wall. This shoulder may be accentuated by turning up the end of the doubled over portion 4 to form the lip 8, (see Fig. 3). This lip may stand up sufficiently to enable it to engage the edge of one of the courses of brick between which the conductor hook is being driven.

The conductor pipe is secured within the jaws by means of the tie strip 9, which is preferably formed of sheet metal possessing greater flexibility than that of which the jaws and shank are formed. The preferred method of connecting the tie strip to the jaws is illustrated in Figs. 1, 2 and 3. A loop 10 is stamped up out of the metal of the strip 1 at each end, thus forming two transverse slots. The strip 9 is passed through these slots around the loops 10 and doubled upon itself, thus securely holding it in place.

As a variation a single slot may be employed as shown in Figs. 4 and 5. To conveniently secure one end of the tie strip in place after the conductor pipe has been placed within the jaws, it is necessary to bend one end 11 of the jaws outwardly as shown in Fig. 4, and hence I prefer the construction shown in Fig. 1. A slight variation in the method of connecting the one end of the tie strip is shown at the upper side of Fig. 4, the tie strip being doubled on itself before being passed through the slot so that both parts pass through the slot and the tie is held in place owing to the impossibility of drawing the loop of sheet metal through the narrow slot. Other variations are possible in the method of securing the ends of the sheet metal tie strip to the ends of the jaws by means of the slots shown and any such would fall within the scope of my invention.

For different sizes of pipe different sizes of jaws must be provided, but the same size shank will serve for all, which is a point of importance in keeping down the cost of manufacture.

The jaws are preferably stiffened by stamping the ribs 12 therein at each side.

From the above description it will be seen that I have devised a very simple and effective conductor pipe hook which may be readily formed up of sheet metal with a minimum of parts.

What I claim as my invention is:—

1. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws and having a slot formed therein at a suitable position for the shank; a sheet metal shank having the end adjacent the said strip bent double and reduced in width at said end to form shoulders with a double riveting projection between them adapted to pass through the aforesaid slot, the said projection being suitably upset to secure it in place; and a longitudinal strengthening rib stamped up out of the shank with one end abutting the doubled over portion of the shank.

2. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws; a sheet metal shank having the end adjacent the said strip bent double and secured at the bend to said strip; and a longitudinal strengthening rib stamped up out of the shank with one end abutting the doubled over portion of the shank.

3. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws; a sheet metal shank having the end adjacent the said strip bent double and secured at the bend to said strip, the end of the bent over portion of the shank being turned up to form a lip; and a longitudinal strengthening rib stamped up out of the shank with one end abutting the doubled over portion of the shank.

4. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws, having two slots formed adjacent the end of each jaw parallel to the edge of said end and the metal between the slots offset outwardly to form loops; a metal shank secured to the back of said strip intermediate its ends; and a flexible metal tie strip adapted to pass through said slots and to be secured in place by being bent upon itself around the loops between the slots.

5. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws having a longitudinal stiffening rib formed therein at each side and also having two slots formed adjacent the end of each jaw parallel to the edge of said end and the metal between the slots offset outwardly to form loops; a metal shank secured to the back of said strip intermediate its ends; and a flexible metal tie strip adapted to pass through said slots and to be secured in place by being bent upon itself around the loops between the slots.

6. In a conductor pipe hook, the combination of a bent sheet metal strip forming jaws having a longitudinal stiffening rib formed therein at each side and having slots formed

adjacent the ends of the jaws parallel to the edges of said ends; a sheet metal shank secured to the back of said strip intermediate its ends; and a flexible metal tie strip adapted to pass through said slots and to be secured in place by being bent upon itself.

Signed at Toronto, Canada, this 4th day of February, 1915, in the presence of the two undersigned witnesses.

CARLTON W. CONNER.

Witnesses:
GEO. P. MACKIE,
F. M. LEWIS.