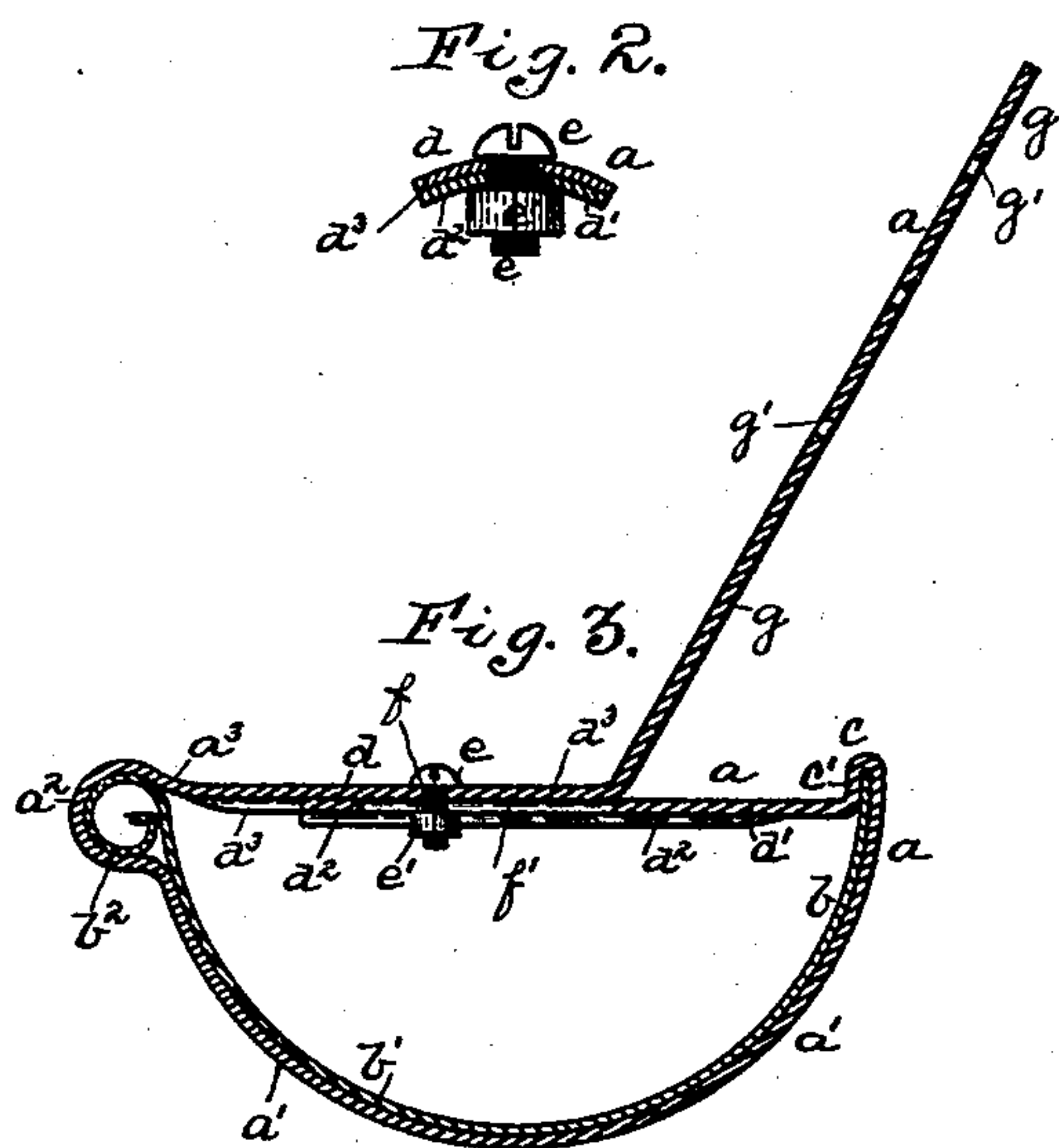
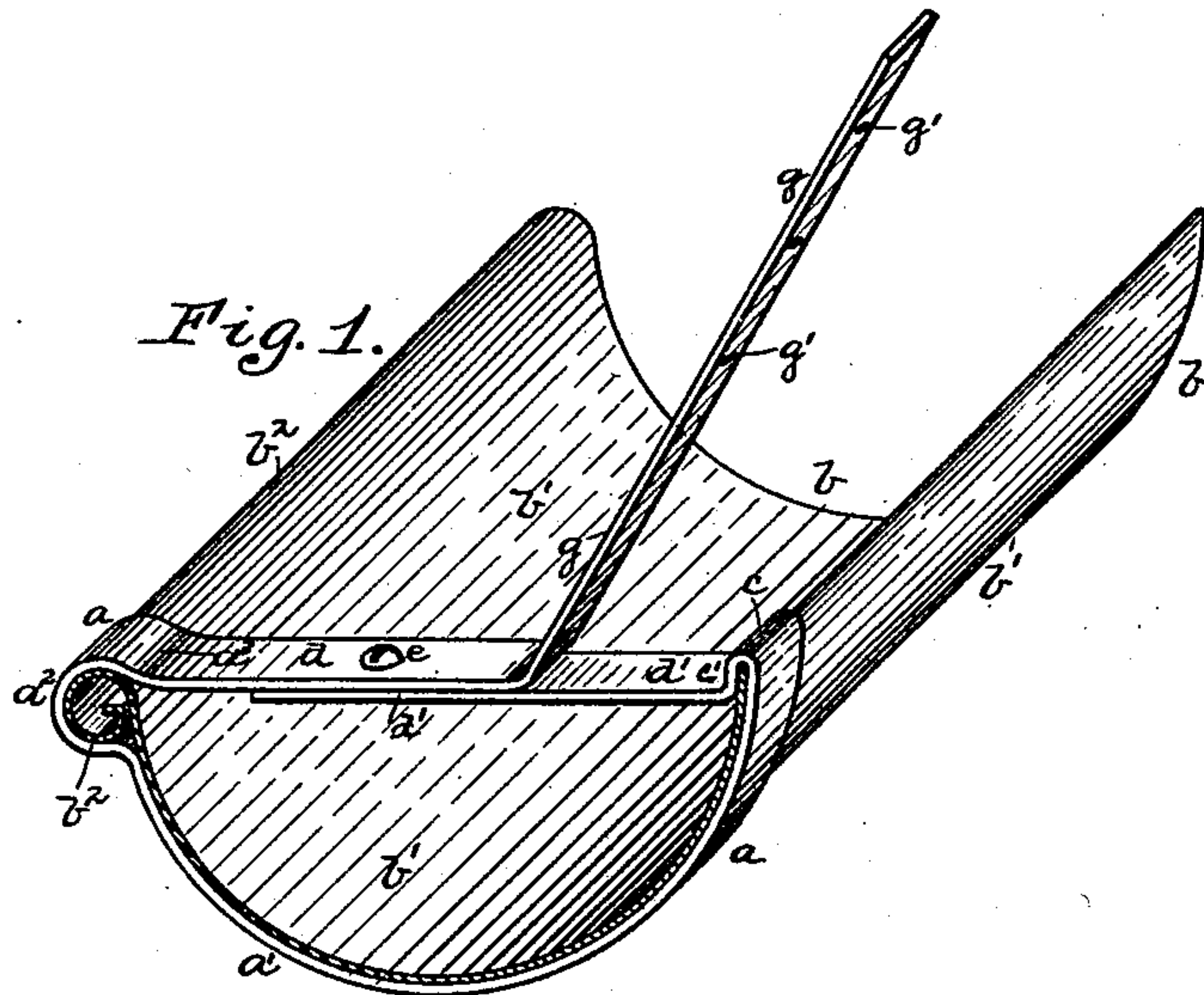


(No Model.)

J. M. DAVIDSON.
EAVES TROUGH HANGER.

No. 465,166.

Patented Dec. 15, 1891.



Witnesses:

J. H. Cooney
Charles Wink.

Inventor
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UNITED STATES PATENT OFFICE.

JOHN M. DAVIDSON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR TO
ARMOUR, MARLIN & CO., OF SAME PLACE.

EAVES-TROUGH HANGER.

SPECIFICATION forming part of Letters Patent No. 465,166, dated December 15, 1891.

Application filed July 17, 1890. Serial No. 359,058. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. DAVIDSON, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Eaves-Trough Hangers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to what are commonly termed "eaves-trough hangers," its object being to provide a hanger simple in construction, being formed of one piece of material, and yet combining the qualities essential for the steady support of the trough for its adjustment to different widths and depths and for preventing said trough from losing its shape or bending on its edges.

My improved eaves-trough hanger is formed of hoop or strap metal, entirely encircling the trough and having a loop fitting around the bead and a loop or return-bend fitting over the rear edge of the trough in order to brace the sides of the trough against any lateral strain tending to draw said sides toward each other or force them apart, the end of the strap meeting between the top edges of the trough, and one end forming the tang, the ends being dished transversely to strengthen and stiffen them, and one end being provided with a slot for the adjustment of the hanger and trough to different widths and lengths.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a cross-section through the screw-bolt and slot, and Fig. 3 is a longitudinal section of the hanger.

Like letters indicate like parts.

I construct my improved hanger a of hoop or strap metal, this material affording a better support for the trough than wire or any material circular in section. The hanger a is formed of one piece of material cut to suitable length and bent to form the circular portion a' , said circular portion being of such size that the body b' of the trough b will fit snugly therein.

A loop a^2 is formed on the hanger a just beyond the circular portion a' thereof, which

loop is adapted to encircle closely the ordinary bead b^2 , formed on the outer edge of the trough b . This loop a^2 extends over the bead b^2 a slight distance into the interior of the trough b , just enough to form a slight shoulder a^3 , which abuts against the interior wall of the trough, while it also brings that arm of the hanger extending beyond said shoulder in proper alignment with the horizontal portion extending from the opposite side, as will more fully hereinafter appear. Another loop or return-bend c is formed on the hanger a opposite to the loop a^2 , and this loop engages with the inner edge of the trough. The loop c fits down over the inner edge of the trough b , the space within said loop being only large enough to receive the edge of the inner wall of the trough; but this space may be diminished after the edge of the trough has been inserted therein by hammering upon the inner portion c' of the loop c . In this way a very secure connection is formed between the loop c and the inner edge of the trough, and one which will permit of no movement on the part of the trough. This inner portion c' further serves to brace the inner wall of the trough against any lateral movement, which might tend to force the outer and inner edges of the trough toward each other. It acts in connection with the shoulder a^3 of the loop a^2 to form a very rigid brace between the walls of the trough, preserving thereby the original shape of the trough. The connection between the loop a^2 and the opposite loop or return-bend c is formed by the horizontal arms $d d'$, which extend from their respective loops $a^2 c$. It will be noticed that these arms $d d'$ of the hanger extending across the trough are below the top edges thereof and extend from the bases or lower edges of the loops, and that they therefore form a straight brace across the trough-body. These arms $d d'$ are formed dished or semi-circular in cross-section and are held together by the screw-bolt e and a nut e' , the semi-circular groove d^2 of the arm d' serving to lock the nut e' and prevent its turning, while at the same time the convex face of the lower horizontal arm d' , fitting into the concave face d^3 of the upper arm d , forms a connection which will prevent one arm slipping

out of alignment with the other, and thus serve to stiffen the connection. A bolt-hole *f* is formed in one of these horizontal arms *d* *d'*, and a long slot *f'* in the other arm, in order to adjust the hanger according to the width of the trough. This is of great importance in the practical use of the hanger, as it provides for adjusting the width of the hanger and, through it, of the trough, and enables me to employ the same hanger and trough in positions where only a narrow trough can be introduced, and also provides for the deepening of the trough when contracted in width, so that it can carry off practically the same volume of water. The tang *g*, by which the hanger is to be secured to the eaves of the house, may be formed from that portion of the metal remaining after the other parts have been bent to shape. It may either extend back from the horizontal arm *d*, as shown in the drawings; or, if desired, the portions from which said tang *g* is to be formed may extend back from the horizontal arm *d'*, when the other part *d* will be the portion underneath. The tang *g* may be bent or inclined to any angle desired according to the construction of the eaves from which it is to be suspended, and it is supplied with openings *g'* for the nails or screws to secure it to place.

The chief advantage of my improved hanger lies in the rigidity with which it supports the

trough, the bracing action of the loops to prevent the trough from losing its original shape, and its adjustability to the desired width, as occasion may require. It is also cheap in construction and easy to apply.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An eaves-trough hanger formed of hoop or strap metal extending entirely around the trough and having a loop fitting around the bead and a loop or return-bend fitting over the rear edge of the trough, the horizontal arms connecting the hanger being transversely dished and fitting the one into the other, and connected by a screw-bolt and nut, substantially as and for the purposes set forth.

2. An eaves-trough hanger formed of hoop or strap metal extending entirely around the trough and having a loop or return-bend fitting over the rear edge of the trough, the horizontal arms connecting the hanger being transversely dished and fitting the one within the other, and having a bolt-hole in one arm and a slot in the other arm to adjust the hanger to the required size, substantially as and for the purposes set forth.

In testimony whereof I, the said JOHN M. DAVIDSON, have hereunto set my hand.

JOHN M. DAVIDSON.

Witnesses:

J. N. COOKE,
ROBT. D. TOTTEN.