

No. 617,658.

Patented Jan. 10, 1899.

J. H. SCHWONE & E. W. LAMPER.  
EAVES TROUGH.

(Application filed Aug. 19, 1898.)

(No Model.)

FIG. 1.

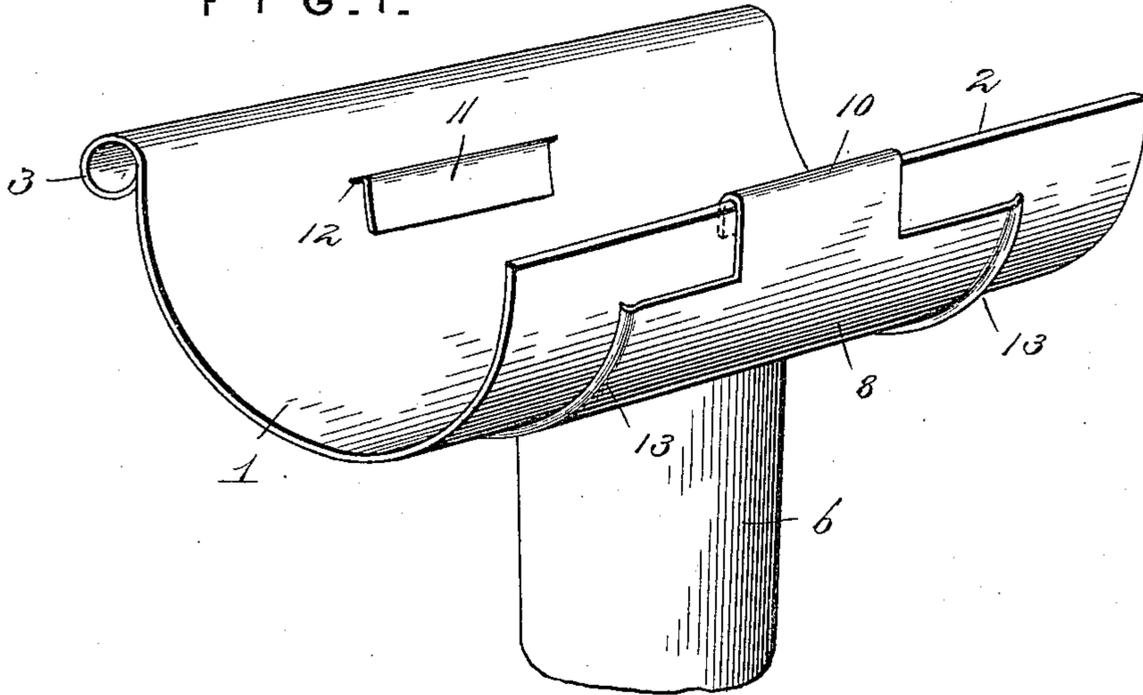


FIG. 2.

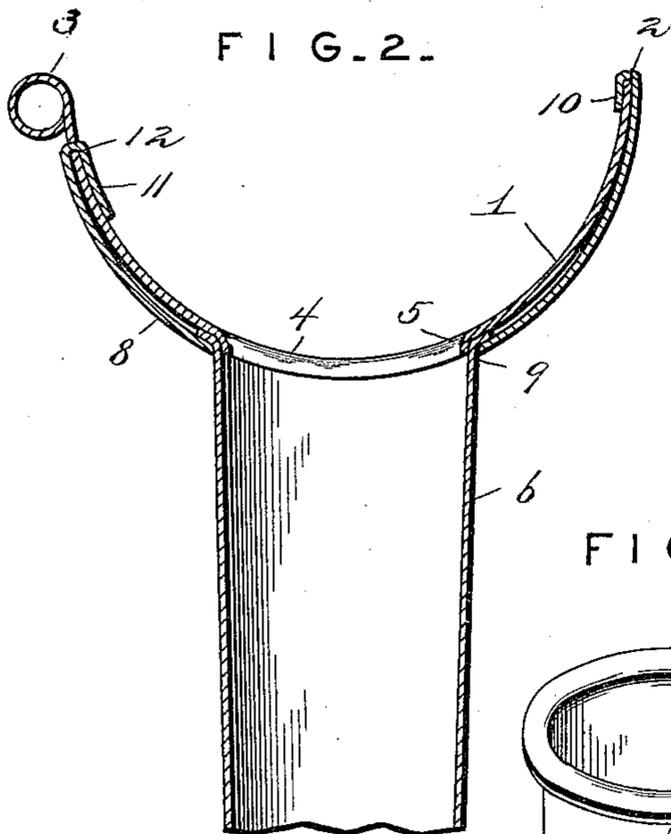


FIG. 3.

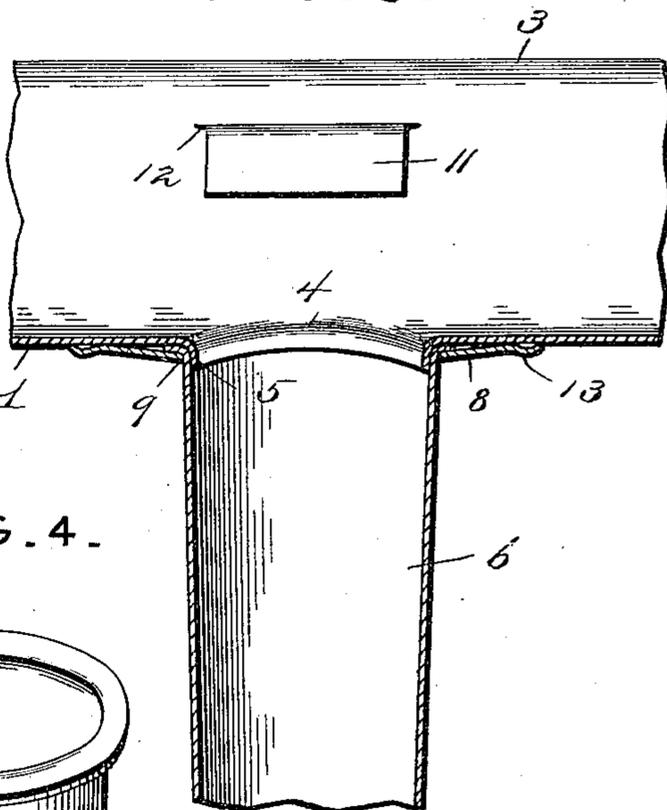


FIG. 4.

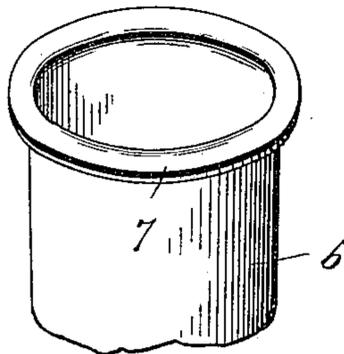
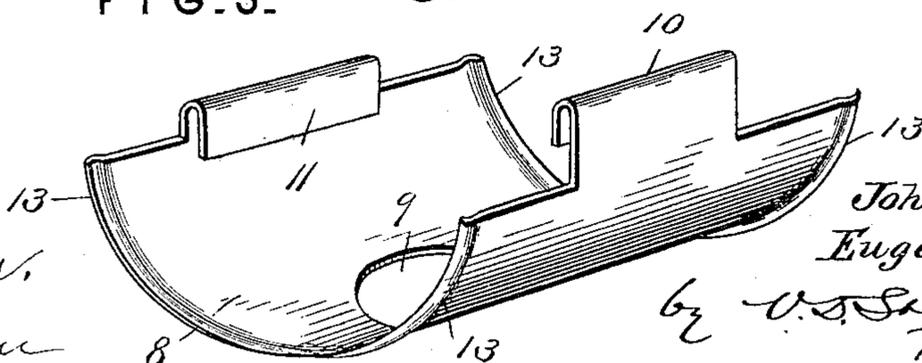


FIG. 5.



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# UNITED STATES PATENT OFFICE.

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## EAVES-TROUGH.

SPECIFICATION forming part of Letters Patent No. 617,658, dated January 10, 1899.

Application filed August 19, 1898. Serial No. 689,028. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN H. SCHWONE and EUGENE W. LAMPER, citizens of the United States, residing at Salamanca, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Eaves-Troughs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to eaves-troughs, and specifically to the connection between the eaves-trough proper and down-spout.

The object of the invention is to provide a solderless connection between an eaves-trough and down-spout, while at the same time securing a strong, reliable, and water-tight joint.

The detailed objects and advantages of the invention will be fully pointed out in the subjoined description.

The invention consists in a down-spout connection for eaves-troughs embodying certain novel features and details of construction and relative disposition of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of an eaves-trough and down-spout, showing the improved connection. Fig. 2 is a vertical transverse section through the connection. Fig. 3 is a vertical section taken at right angles to Fig. 2. Fig. 4 is a detail perspective view of the upper end of the down-spout. Fig. 5 is a similar view of the clamping-strap.

Similar numerals of reference designate corresponding parts in all the views.

In the drawings, 1 designates a section of an eaves-trough of the ordinary construction having the plain inner edge 2 and the rolled outer edge 3. The trough 1 is provided at a suitable point with an opening 4, with which the down-spout communicates, said opening being bounded by a depending annular flange 5, which when the parts are assembled extends down within the down-spout.

The down-spout (indicated at 6) is provided at its upper edge with an annular flange 7, designed to bear flatwise against the bottom of the eaves-trough and to conform in its general outline and curvature thereto.

8 designates a strap of metal, said strap being of any desired width and having an opening 9 of a size sufficient to receive and snugly fit around the upper end of the down-spout, just beneath the top flange thereof. The strap is provided at its opposite ends with tongues 10 and 11, the tongue 10 being bent over and clenched upon the inner edge of the trough and the tongue 11 being passed through a longitudinal slit 12 in the outer portion of the trough adjacent to the roll 3 and clenched upon the inner surface thereof, as shown in the cross-sectional view. The strap 8 is thus caused to adhere closely to the lower surface of the trough 1 and to confine and clamp the flange at the upper end of the down-spout between it and the lower surface of the trough. The strap 8 is further provided along its longitudinal edges with crimps 13, having their convex sides downward and their concave sides upward.

The crimping of the edges of the strap accomplishes two important results—first, the strap as a whole is strengthened and the eaves-trough braced at the point where it is weakened by the formation of the hole for the down-spout, and, secondly, the edges of the strap are caused to bind or adhere closely to the lower surface of the trough, a result which could not be attained in the absence of the crimps.

From the foregoing description it will be seen that we have provided a strong, reliable, and efficient connection between an eaves-trough and down-spout without the aid of solder or rivets. At the same time the joint is rendered practically water-tight by crimping the edges of the strap which clamps the parts together.

We do not desire to limit ourselves to the exact details of construction hereinbefore set forth, and illustrated in the drawings, but reserve to ourselves the right to change, modify, and vary the construction within the scope of this invention.

In the case of a double-beaded trough the tongue 10 can be passed through a longitudinal slit the same as the tongue 11.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with an eaves-trough

having an opening for the down-spout, of a  
 spout having at its upper edge an annular  
 flange bearing flatwise against the lower sur-  
 face of the trough, and a strap extending  
 5 around the lower side of the trough and hav-  
 ing an opening to receive the down-spout,  
 said strap serving to clamp the flange of the  
 spout between it and the trough, substan-  
 tially as described.

10 2. The combination with an eaves-trough  
 having an opening for the down-spout and  
 a depending annular flange bounding said  
 opening, of a down-spout having an annular  
 flange at its upper edge bearing flatwise  
 15 against the lower side of the trough and con-  
 forming in curvature thereto and also em-  
 bracing or encircling the depending flange on  
 the trough, and a strap extending around the  
 lower side of the trough and having its ends  
 20 connected thereto, said strap having an open-

ing to receive the down-spout, the strap serv-  
 ing to confine the flange on the down-spout  
 between it and the trough, substantially as  
 described.

3. The combination with an eaves-trough 25  
 having an opening for the down-spout, of a  
 down-spout having a flange at its upper edge  
 bearing against the lower side of the trough,  
 and a strap extending around the lower side  
 of the trough and having an opening to re- 30  
 ceive the down-spout, the edges of said strap  
 being crimped, substantially in the manner  
 and for the purpose specified.

In testimony whereof we affix our signa-  
 tures in presence of two witnesses.

JOHN H. SCHWONE.  
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Witnesses:

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