M. L. HUNKER.

OUTLET CONNECTION FOR EAVES TROUGHS.

APPLICATION FILED MAY 6, 1916.

1,201,587. Patented Oct. 17, 1916.

Fig. 1

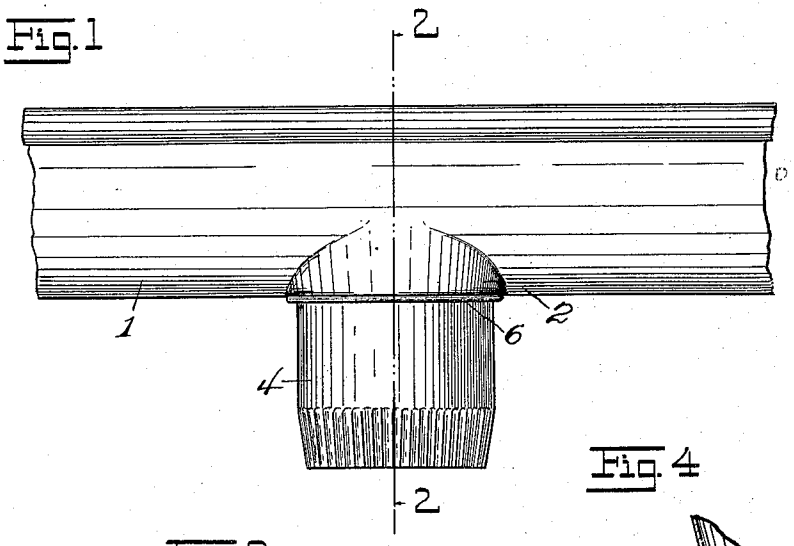


Fig. 2

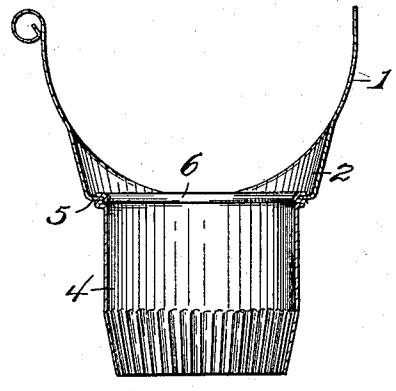


Fig. 3

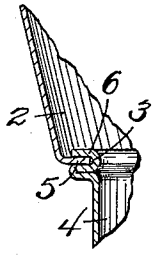


Fig. 4

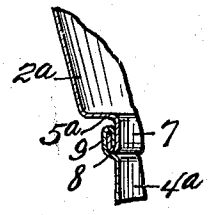
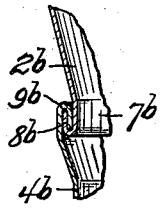


Fig. 5



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OUTLET CONNECTION FOR EAVES-TROUGHS.

1,201,587. Specification of Letters Patent. Patented Oct. 17, 1916.

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To all whom it may concern:

Be it known that I, MARTIN L. HUNKER, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Outlet Connections for Eaves-Troughs, of which the following is a specification.

This invention relates to means for joining outlet pipes to eaves troughs, and it has for its primary object to provide a sheet-metal eaves-trough outlet of a simplified form which dispenses with the use of the various different sized sets of blanking dies, perforating dies and seaming-in dies heretofore required in connection with various sizes of eaves troughs.

A further object is to provide a joint for outlets which obviates the employment of the usual dies for forming a sinuous edge on the outlet-pipe blank heretofore required to shape the pipe end to conform to the curvature of the eaves trough.

With these and other objects in view, the invention resides in the features of construction which will hereinafter be exemplified, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the invention; Fig. 2 is a section on line 2—2, Fig. 1; Fig. 3 is an enlarged detail section showing the preferred manner in which the outlet section is connected to the trough; and Figs. 4 and 5 are similar detail sections illustrating modified forms of seams.

Referring to said drawings, in which like designating characters distinguish like parts throughout the several views 1 indicates the body of an eaves trough of a common form. Formed in said trough at the desired point by means of an embossing die is a downwardly pressed embossment 2 of inverted frusto-conical form, the lower end or bottom of which, as shown in the preferred embodiment illustrated in Figs. 1, 2 and 3, is flat and located substantially tangential to said trough—that is, in substantially the plane of the lowermost part of the trough. A central circular opening or aperture 3 of less diameter than the bottom of said embossment is provided in said bottom for receiving the end of an outlet pipe 4. An internal horizontal flange 5 defines said opening 3 and is adapted to have the end of said outlet pipe seamed thereon in the usual manner, as shown at 6.

In the modification illustrated in Fig. 4, the inner edge of the horizontal flange 5^a is pressed downward to form a vertical wall 7 and the lower edge of said wall is turned outward and upward, forming a seaming flange or hook 8 designed to interlock with a similar hook 9 formed on the upper edge of the outlet pipe 4^a.

In the modified form shown in Fig. 5, no horizontal flange is provided at the lower end of the embossment 2^b, the vertical wall 7^b constituting a substantially direct continuation of the frusto-conical wall and being shaped to provide a hook 8^b for interlocking with the hook 9^b of the outlet pipe 4^b.

Due to the fact that the lower end of the embossed portion of the trough lies in a horizontal plane, the outlet pipe has its end disposed at a right angle to its axis. Thus, the necessity for providing an outlet pipe having its attaching end shaped to correspond with the curvature of the trough is obviated. Further, it will be noted that a single set of embossing dies, perforating dies, and seaming-in dies will suffice for all the various sizes of conductor troughs.

What is claimed is—

1. A sheet-metal eaves trough having an inverted frusto-conical embossment formed therein, the lower end of said embossment being located in a horizontal plane and being apertured for receiving an outlet pipe therein.

2. A sheet-metal eaves trough having an inverted frusto-conical embossment formed therein, said embossment having its axis intersecting the axis of the trough and having its lower end disposed in a horizontal plane, said lower end being open and adapted for having attached thereto an end of an outlet pipe.

3. A sheet-metal eaves trough having an inverted frusto-conical embossment formed therein, said embossment having its axis intersecting the axis of the trough and having its lower end disposed in a horizontal plane, said lower end being open, and an outlet pipe having its end received in said open end, said end of the pipe lying in a plane

disposed at a right angle to the axis of said pipe.

4. A sheet-metal eaves trough having a frusto-conical socket pressed therein, the bottom of said socket being flat and substantially tangential to said trough, said bottom being concentrically apertured and presenting a circular inwardly directed horizontal flange, and an outlet pipe rigidly attached to said flange.

5. A sheet-metal eaves trough having a frusto-conical socket pressed therein, the bottom of said socket being flat and substantially tangential to said trough, said bottom being concentrically apertured and presenting a circular flange, and an outlet pipe seamed on said flange.

6. A sheet-metal eaves trough having a socket embossed therein to form a flat surface substantially tangential to the curvature thereof, said surface being apertured for the reception of the end of an outlet pipe and presenting a flange, and an outlet pipe having its end seamed on said flange.

In testimony whereof, I affix my signature in presence of a subscribing witness.

MARTIN L. HUNKER.

Witness:
W. F. KEEFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."