H. B. TODD.

EAVES TROUGH HANGER.

APPLICATION FILED OCT. 27, 1910.

1,054,723. Patented Mar. 4, 1913.

Fig. 1.

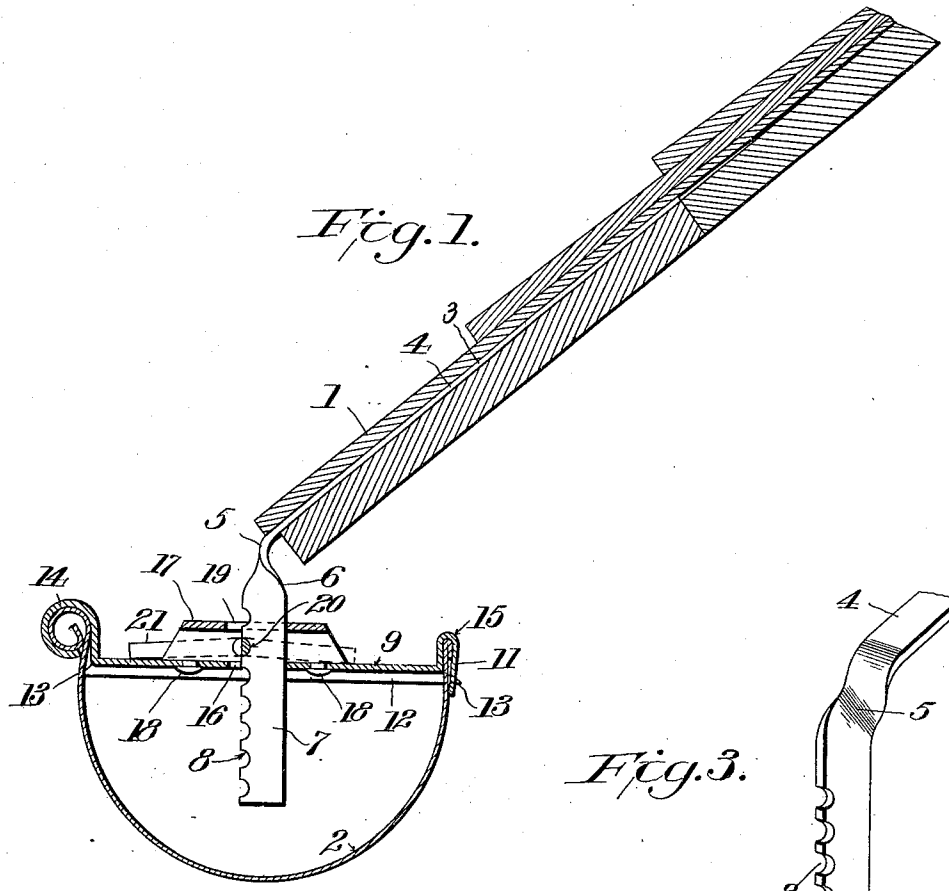
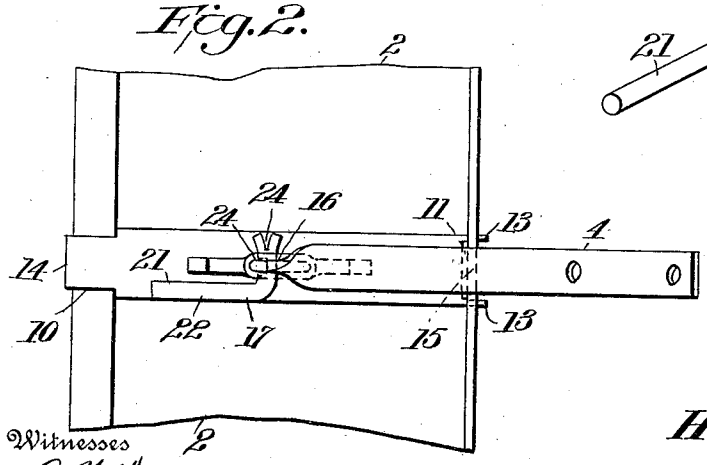


Fig. 3.

Fig. 2.



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EAVES-TROUGH HANGER.

1,054,723. Specification of Letters Patent. Patented Mar. 4, 1913.

Application filed October 27, 1910. Serial No. 589,473.

To all whom it may concern:

Be it known that I, HENRY B. TODD, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Eaves-Trough Hangers, of which the following is a specification.

My invention relates to new and useful improvements in eave trough hangers.

The objects of my invention are to provide an eave trough hanger which is efficient, durable and economical and easy of application to the ordinary eave trough, and readily and securely adjustable to the eaves of the supporting roof. And further objects are to provide a trough hanger which is provided with a suspension bar having a longitudinal slot therein, obviating the use of the cross slot, which weakens the bar, and in addition to this longitudinal slot the hanger is further strengthened by a brace extending along the bar, producing a bar that will not bend or sway under the weight of excessive rain or accumulated ice or snow. I accomplish these objects by the device illustrated in the acompanying drawings, in which,

Figure 1 is a transverse sectional view of my device joined to a water trough, showing the method of attachment to a roof. Fig. 2, is a plan view. Fig. 3 is a detail view of the lever locker and hanger bar dissembled, showing their relation to each other.

Similar figures of reference refer to similar parts throughout the several views.

Referring specifically to the drawings, 1 is the eave of a roof and 2 a short or broken section of an ordinary eave trough.

3 is a metallic bar or plate with a straight portion, 4, to be fastened to the roof boards or shingles of a building. This bar is bent at a slight drop angle, as at 5, to be suitably adjustable to the supporting roof and wall slant, where it is twisted or turned half around, producing the lower portion 7, in a plane at right angles to the face or flat of the upper portion 4. The lower portion is thus turned so that it may be inserted in the longitudinal slots as herein described, and is provided with a series of semi-circular notches, 8, on its front or outer edge, which are thus provided to permit the elevating or lowering of the trough to a desired position by means of the lever locker, operating in the said notches, as hereinafter detailed.

9 is a suspension bar of convenient length to correspond with the width of a trough. The ends of this bar are clipped or cut out, cutting away a narrow rectangular strip, forming these extreme ends slightly narrower than the main body, as at 10 and 11, while the outer uncut edge is turned at right angles, as at 12, thereby forming a strengthening flange to the main body. The ends of this downwardly turned edge are formed into projecting spurs, 13, for the purpose of engaging and penetrating the water trough, giving stability thereto, and preventing the device from slipping or allowing the trough to give or spring. The outer end of suspension bar 9 is formed into substantially a circular bend or roll, 14, adapted to fit the bead or roll side of the eave trough and engage the same in firm grip, while the other end is formed into a curve or neck 15, adapted to engage the raw or inner edge of the trough. These two elements or curves, hold the trough firmly coacting with the spurs which penetrate the upper edges of the trough, as above stated.

Approximately central in suspension bar 9 is provided a longitudinal slot, 16, of sufficient length to receive the lower end or portion 7 of hanger bar 4. On the upper surface, or the side opposite from the turned-down edges of suspension bar 9, and immediately over this slot 16 is provided a brace or keeper, 17, riveted, as at 18, thereto, or it may be brazed or formed directly with the bar for the sake of economy. Transversely through the center of this brace or keeper, 17, is provided a slot 19, communicating with and directly over the slot 16 in suspension bar 9, and similar in dimensions, and for the purpose of the insertion of the hanger bar 4, which in the use of the device passes downwardly through both the keeper slot 19 and the suspension bar slot 16. An opening 20 is provided passing horizontally through the brace or keeper 17 for the purpose of the insertion of the lever locker 21, in the use and assembling of the device.

21 is a lever locker formed of a metallic rod of suitable dimensions and of elbow shape, with a long arm, 22, as a handle, and a short arm 23, adapted to pass through the opening 20 in the keeper 17. It is so constructed that it extends beyond the slot open-

ing, opposite to the side of insertion, and is there fastened by the convenient method of splitting and expanding the metal, as at 24. This short arm 23 is provided with a transverse slot, 25, of similar dimensions to the edge of the hanger bar 4, and permits the lower end thereof, 7, to pass downwardly through the slots 16 and 19, in lowering or elevating or rigidly supporting the suspension bar 9 and the trough supported thereby. If the bar 7 is to be moved up or down the slot in arm 23 is turned in such position that the edge of the said bar will enter the same, thus permitting the movement of the bar, and if the bar is to be locked or held firmly in position the locker handle is turned the opposite direction, bringing the round or unslotted portion of the arm 23 into engagement with one of the notches 8 in the bar 7, thus retaining it rigidly in position. In this way the trough may be lowered, elevated, or completely removed from the hanger and the eaves. This novel construction of the suspension bar 9 and its turned edges 12 and longitudinal slot 16 surmounted with the brace or keeper 17, and provided with end spurs 13, produce one of the strongest combinations of a hanger and one that will not yield or give under the weight of rain, ice or snow. In fact the tendency is for the weight of these accumulations to draw the trough and the various parts more closely together, and in firmer union.

It will be noted that the body of the suspension bar 9 is formed of a strip of uniform width; that the lateral edges 12 are turned to form reinforcing flanges; that the slot 16 is arranged longitudinally of the said body portion, and therefore effects a minimum of weakening thereof; that the brace 17 as arranged longitudinally along the central portion of the bar serves as a reinforcement of the said middle portion, and particularly offsets any weakening effect of the said slot 16; that the slot 19 in the brace or reinforcement 17 coöperates with the slot 16 in the bar to form an effective elongated slot and serves to position the lower end 7 of the supporting strip or hanger bar 4 relatively to the suspension bar 9, in coöperation with the locking lever 21; that the 90 degree twist in the supporting strip A permits the lower end 7 thereof to engage with the said longitudinal slot 16, 19, in the suspension bar 9 and the upper end thereof to engage with the roof flat-wise, in the usual manner; and furthermore, that the semicircular notches 8 in the edge of the supporting strip 4 engage with the cylindrical body portion of the short arm 23 and on one side of the center or axis thereof, wherefore the tendency of the weight supported thereby is to turn the short arm 23 on its axis, and that the radial long arm or handle portion 22 operates as a crank engaging with the body portion of the suspension bar 9, and serves normally to prevent such turning movement. A positive movement of the handle must be made to release the suspension bar from the suspension strip.

Having described my invention what I claim and desire to secure by Letters Patent is as follows:—

1. In an eave trough hanger comprising a suspension bar and a supporting strip, the said bar provided with a slot, the said strip receivable in the said slot and provided with a series of notches, a locking lever having two arms at right angles, one of the said arms being pivotally mounted adjacent the said slot, having on one side a body portion suitable for engaging with the said notches and on the other side a recess permitting free movement of the said strip in the said slot, and the said other arm operative as a crank to turn the said first arm, and the said crank arm positioned so as to engage with the body portion of the said suspension bar in the two extreme positions involving locking the said strip in one position and permitting free movement thereof in the other position.

2. In an eave trough hanger a suspension bar and a supporting strip and means for securing the same together comprising a locking member pivotally mounted having means for engaging with the said strip in one position and permitting free movement thereof in another position, the said suspension bar provided with bearings for the said locking member, and the said locking member comprising a piece of round wire bent at right angles to form two arms, one of the said arms engaged with the said bearings, and having a portion suitable for engaging with and disengaging the said strip, and positioned in the said bearings by means of the said crank arm at one end thereof and adjacent one of the said bearings and at the other end by having the said other end split and spread outside of the other of the said bearings.

3. In an eave trough hanger, a suspension bar and a supporting strip, the said supporting strip comprising a strip of sheet metal of appreciable width, having the upper end suitable for engaging with the roof of a house and the lower end provided with a series of notches, the said suspension bar comprising a strip of sheet material having the ends suitable for engaging with an eave trough and provided at the middle portion with a slot extending in the direction of the said ends, a brace secured along the said middle portion of the said suspension bar and serving as a reinforcement thereof and provided with a slot in registration with the said first slot to form therewith an extended slot, the said lower end fitting in the said extended slot and receivable therein, bearings

provided in the said brace, one on each side of the said slot, and a locking member having a branch arm suitable for engaging with the said bearings and while engaged with the said bearings having means for engaging with the said notches and serving thereby to secure the said suspension bar and supporting strip.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY B. TODD.

Witnesses:
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