Sept. 7, 1954 C. A. HAMMARSTROM 2,688,457

GUTTER HANGER

Filed Aug. 19, 1949

Fig. 1.

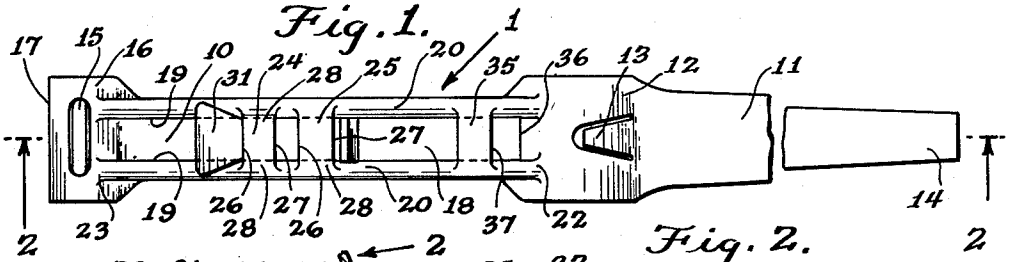


Fig. 2.

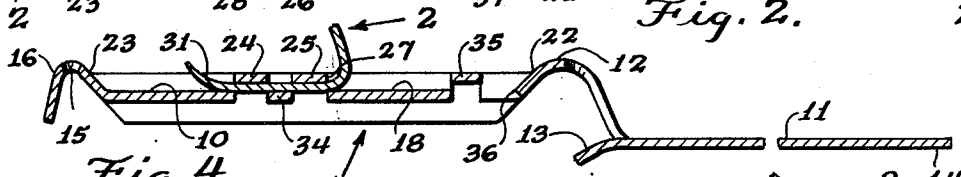


Fig. 4.

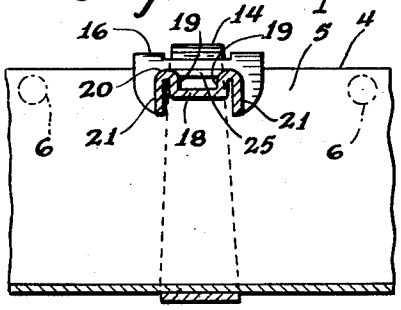


Fig. 5.

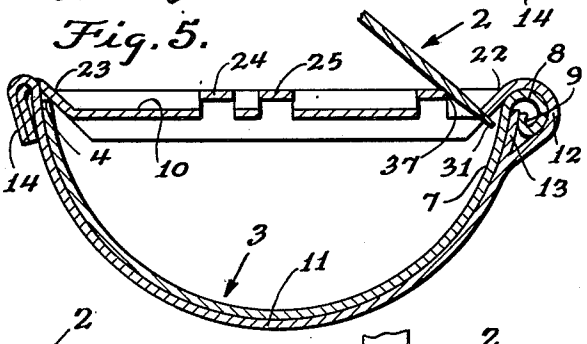


Fig. 3.

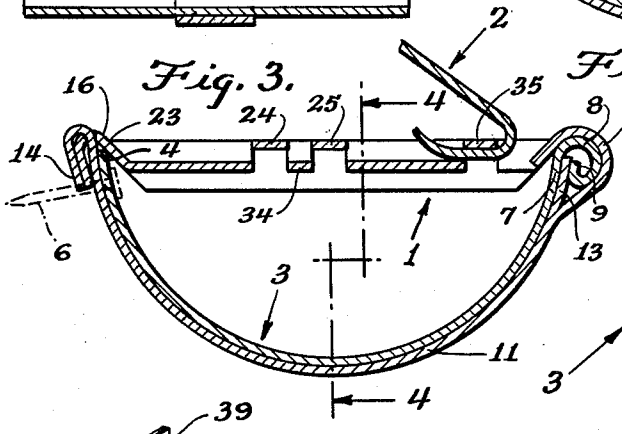


Fig. 6.

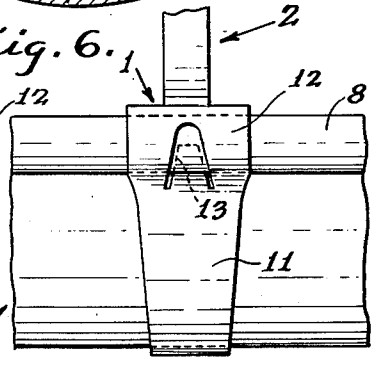


Fig. 8.

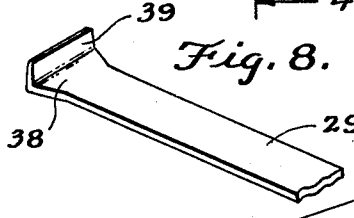


Fig. 7.

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GUTTER HANGER

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8 Claims. (Cl. 248—48.1)

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This invention relates to gutter hangers and is particularly concerned with provisions for simplifying the structure and improving the utility of such hangers.

It has heretofore been the practice in connection with gutter hangers of the type employing hanger straps to provide for the securing of the hanger straps to the gutter bridging members by separate elements such as clamps, rivets or other fastening means and to do so in such a manner that repair or replacement of the strap or fastening means cannot be effected without taking the gutter down. The use of these separate fastening means requires that the installor keep a supply of them on hand; requires that he perform the operation of applying the securing means at some stage in his operations; and often calls for taking the gutter down to reapply the securing means if repairs are called for.

The construction of the instant invention eliminates these and other drawbacks of the prior art practices, and, in addition, takes several steps forward in the art. These advantages are achieved by so forming the gutter bridging member and hanger strap that they may be interengaged in several different positions. These interengagements can be effected for both initial and repair installations without any extraneous fastening elements being required. Nevertheless, the assembly of bridge member and strap, whether for initial or repair installations, is simple, straightforward and foolproof.

It is, accordingly, the principal object of this invention to simplify the application of hanger straps to gutter hangers.

Another object of the invention is to eliminate any extraneous parts in the application of hanger straps to gutter hangers.

Still another object is to provide for the engagement of hanger straps with gutter hangers in a variety of positions without the application of extraneous securing elements.

A further object of the invention is to provide integral interengaging means on the hanger strap and bridge member of gutter hangers.

A still further object is to provide for the interengagement of hanger straps and bridge members of gutter hangers by a simple movement which is obvious from the construction of relative elements.

A more detailed object is to provide for the application of replacement hanger straps to the bridge member of the gutter hanger by a simple sliding movement which can be readily effected while the gutter is still in place.

Further and more detailed objects of the invention will in part be obvious and in part appear

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from the following detailed description of the invention taken in conjunction with the accompanying drawing in which:

Figure 1 is a plan view of the gutter hanger of my invention per se, showing the application of a hanger strap in one of the several possible positions.

Figure 2 is a vertical section taken on line 2—2 of Figure 1.

Figure 3 is a vertical section taken crosswise of a gutter with the gutter hanger of the invention applied thereto and with the hanger strap applied in another one of the possible positions.

Figure 4 is a vertical section taken on line 4—4 of Figure 3 and looking in the direction of the arrows.

Figure 5 is a view similar to Figure 3, but showing another application of the hanger strap.

Figure 6 is an end elevation of the Figure 5 construction looking at the same from the right hand end in Figure 5.

Figure 7 is a perspective view of the preferred form of hanger strap in accordance with the invention, and

Figure 8 is a fragmentary perspective view of a modification thereof.

Referring now more particularly to the drawing, wherein like reference characters will be employed to designate similar parts in the various views, the gutter hanger of my invention will be seen to be made up of a hanger member generally indicated at 1, and a hanger strap generally indicated at 2. The hanger member 1 is applied to a gutter generally indicated at 3, and here illustrated as being of generally semi-circular shape in cross section. The gutter member as shown terminates in a free edge 4 at its inner end. The portion 5 of the gutter adjacent the edge 4 may if desired be secured to the facing board or other wall element just beneath the edge of the roof by some means such as the nails 6 illustrated in Figures 3 and 4. The side 7 of the gutter opposite the portion 5 terminates in a finishing and reinforcing bead 8 here shown as formed by turning the stock of the gutter outwardly and around to terminate in a portion 9 generally lying alongside of the portion 7. This gutter construction is conventional, but is described here so that the application of the hanger member thereto will be more readily understood.

The hanger member 1 of the invention includes a bridging portion 10 which lies across, or bridges, the open top of the gutter and a band 11 which underlies the gutter and supports it with respect to the bridging portion 10. The band 11 commences at a wide, rounded, portion 12 provided with an offset tongue 13 for application to the

bead 8. The portion 12, as best seen in Figures 3, 5, and 6, is formed to lie over and in snug engagement with the bead 8 and to extend downwardly to such a position that when the tongue 13 is projected upwardly in generally the same direction as the portion 7, that tongue will be forced in between the terminating end 9 of the bead 8 and the opposite portion 7 of the gutter. Care should be taken to see that the tongue 13 is not only of sufficient length to extend well up between the end 9 of the portion 7, but that, in applying the hanger member to the gutter the tongue is, in fact, inserted well up behind the bead. For best performance, the hanger member should be securely applied and locked to the gutter, and its tongue, when held well up into the bead, provides one of the principal elements in the security of this relationship.

The band 11 continues from the portion 12 in a curve complementary to the curve of the bottom of the gutter and terminates in a securing end 14 which is projected through a slot 15 in the widened inner end 16 of the bridge section 10 which end overlies the free edge 4 of the gutter. The securing end 14, after passing through the slot 15, is bent outwardly and downwardly to engage the end 16 and extend down to or beyond the end edge 17 of the widened end 16. Thus these ends are interlocked to retain the band 11 in snug engagement with the gutter 3. The securing at the end 16 taken in conjunction with the securing at the bead 8 and the fit of the parts assures that the hanger member will remain in desired position on the gutter under all normal conditions of use.

The construction and positioning of the elements of the bridge section 10 simplify the application and introduce improved results into the art of mounting gutters. In the first place, the bridge section 10 is provided with integral formations to receive and interengage with the hanger strap 2 in a number of different positions and manners. Referring to Figure 4, it will be seen that the bridge section is generally U-shaped in cross section having its center portion 18 depressed. The portion 18 is bordered by side walls 19 which extend straight upward into rounded reversely bent bordering portions 20, and then extend downwardly in skirts 21 of sufficient length to provide the desired strength. Each of the bordering portions 20, as best seen in Figures 2, 3, and 5, engage the ends 12 and 16 of the bridging portion 10 at or just slightly below the crest of the curve of each, as indicated at 22 and 23 respectively.

The bordering portion 20, the sides 19 and the base 18 have their normal contours interrupted at spaced portions throughout their length by transversely extending webs whose sides are severed from the stock of the bridge section. Two of these webs, 24 and 25, are located a little to the left of the center of the bridging portion as viewed in Figures 1 and 2. They are severed at their sides 26—27 from the body of the stock of the bridge section, leaving their ends 28 to make integral connection with the bordering portions 20. The webs 24 and 25 are spaced sufficiently above the plane of the top of depressed portion 18 to provide receiving openings for the shank 29 of the hanger strap 2. This shank 29 is of slightly less width than the distance between the side walls 19 of the bridge section and is slightly thinner than the vertical distance between the top of the base 18 and the bottom of the webs 24 and 25. Thus, the end 30 of the

shank 29 can be directed into the U-shaped channel of the bridge section from the left of the web 24, as seen in Figures 1 and 2, and can be slid through under the webs 24 and 25 so that the majority of the shank extends out past the right edge 27 of the web 25.

The hanger strap will not pass completely through beneath the webs 24 and 25, because its end 31 is flattened and widened to prevent this. In fact, the end 31 is flared out to such a width that its remote corners lie well out on top of the bordering portions 20 (Figures 1 and 2), and thus present a two-fold resistance to the drawing of the strap all the way through beneath the webs. In other words, any force acting to pull the strap 2 through beneath the webs 24 and 25 would first have to draw the end 31 downwardly into the channel between the walls 19 before it could exert a pull along that channel. The upward curve of the end 31 as well as its width would combine to resist such force. Once the strap 2 is applied to the bridging portion and drawn through underneath the webs 24 and 25 until such drawing action is stopped by the end 31, the shank 29 extending outwardly between the end surface 27 and the web 25 would normally be bent upward and backward at a relatively sharp angle. Thus any pull on the shank 29 would largely be dissipated against the web 25 leaving little to be transmitted to the end 31. The portion of the shank 29 adjacent the end 30 may be secured to the roof by fastenings passing through the apertures 32, 33 or by some other suitable securing.

The presence of the two webs 24 and 25 as well as the remaining spacing element 34 therebetween assure that an extremely strong connection is provided between the bridge section and the hanger strap. Nevertheless the strength is all provided by integral portions of the bridge section and the hanger strap itself. It is contemplated that the Figure 1 position of the hanger strap will be the normal positioning of the same for new installations.

Another web 35, like the webs 24 and 25, is severed from the stock of the bridging portion 10 adjacent the end 12 thereof. The web 35, like webs 24 and 25, extends from one bordering portion 20 across to the other in spaced relation with respect to the bottom 18. It is of particular note here that the bridge section 35 is spaced a distance away from the beginning of the end 12 and that the bottom 18 of the bridging portion is removed between the beginning of the end 12 and the near edge of the web 35 to provide an opening 36. This opening is only as wide as the distance between the sides 19. Thus, if on assembling the hanger member with a gutter, it is desired to have the hanger strap extend from the far side of the bridging portion, such can be accomplished by inserting the end 30 of the hanger strap in the opening 36 from beneath the bridge section 10 and drawing the shank 29 upward through that opening. The widened end 31 will prevent the strap from being pulled all the way through the opening 36 inasmuch as it is substantially wider than the length of said opening. The strap 2, when in this location will normally extend in substantially a straight line to the roof and in doing so will normally be supported against the near edge 37 of the web 35. This positioning of the strap 2 would be for another type of initial installation, as obviously it would be difficult to fish the strap up from inside

the gutter once the hanger member was assembled with the gutter.

If, however, an installation as in Figures 1 or 5 failed or if a Figure 1 type of installation needed reinforcing, the construction of the invention provides for a subsequent installation to be made without taking down the gutter as was required by the prior art constructions. The manners in which a strap is applied for after the gutter and hanger members are in place is illustrated in Figure 3. Here, as in the Figure 2 form, the end **30** of the shank **29** is inserted into the channel between the walls **19**, is slid underneath the web **35** and is pulled through until the enlarged end **31** engages the bordering portions **20** as in the Figure 2 construction. The shank **29** slides up easily over the end **12** since the web **35** lies only slightly below the top of the end **12** and is set a substantial distance away from the end **12**. Once the shank **29** is slid all the way through beneath the web **35**, it may be bent back as indicated at Figure 3 at whatever angle is required for fastening to the roof. Though only one web is provided at this position it would normally have all the strength needed for a proper supporting of the hanger member and the gutter carried by it. If greater strength is desired, the web **35** could, of course, be made wider, being limited in width only by the necessity of allowing a proper working distance from the web **25**.

The modified form of hanger strap shown in Figure 8 has a larger end than the Figure 7 form. In fact, its end consists of two portions, the first portion being widened at **38** in the plane of the shank **29**, and the second portion **39**, being extended from the wider end of the portion **38** at right angles thereto. This formation of the enlarged end of the strap would provide greater resistance to pulling through under the web than would the Figure 7 form, but it would not normally be needed.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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

1. In gutter hanger construction, a bridge member for bridging the open top of a gutter, said bridge member including an elongated element for bridging a gutter and securing elements extending from the ends of said elongated element for securing the latter to a gutter, said elongated element being formed with downwardly extending sides, and a hanger strap receiving portion carried by said elongated element, said hanger strap receiving portion comprising a transverse web element formed integrally with the material of said elongated element, said transverse web element having its end portions engaged with said elongated element and having its intermediate portion spaced from the adjacent body of said elongated element.

2. In gutter hanger construction, a bridge member for bridging the open top of a gutter, said bridge member comprising an elongated element, said elongated element being generally U shaped in cross section and a transverse web element bridging across the open ends of said U to form a hanger strap receiving opening therebeneath, said web element having its ends formed integrally with the stock of said elongated element.

3. In gutter hanger construction, a bridge member and means for securing said bridge member to a gutter, said bridge member formed with a depressed section bordered by raised sections and means formed on said bridge portion to receive a hanger strap, said means including a web extending from one of said raised portions of said bridging member to the other thereof, across said depressed portion and in spaced relation thereto.

4. In gutter hanger construction, a bridge member and means carried by said bridge member to engage a gutter, said bridge member including a depressed center portion bordered by raised portions along the longitudinal edges thereof, hanger strap receiving portions extending transversely of said bridge member, said hanger strap receiving portions comprising webs of material severed from said bridge member at the depressed portion thereof and engaging the same at said raised borders.

5. In gutter hanger construction, a bridge member and means carried by said bridge member to engage a gutter, said bridge member including a depressed center portion bordered by raised portions along the longitudinal edges thereof, an integral web joining said raised portions adjacent, but in spaced relation to, one end of said bridge member, the depressed center portion of said bridge member being removed between said web and the adjacent end of said bridge member.

6. In gutter hanger construction in combination, a hanger member and a supporting strap therefor, said hanger member being longitudinally channelled with an upwardly opening channel, said channel being bordered by beaded rims on either side thereof, a cross member formed on said hanger member, said cross member extending across between said beads and bridging said channel, said supporting strap being formed with a shank dimensioned for reception within said channel and having a wedge shaped laterally widened end thereon, said wedge shaped end widening out into a portion of sufficient width to extend across said channel from one of said beads to the other thereof, said strap being engaged with said hanger member with a portion of the shank of said strap extending within said channel beneath said cross member and with the widened end of said strap bridging said channel and engaging said beads.

7. In gutter hanger construction in combination, a hanger member and a supporting strap therefor, said hanger member being formed as an elongated strip with a depressed section and with an integral web extending over said depressed section to form a restricted opening, said strap being formed with a shank and with an enlarged end, said shank being slidably engaged with said restricted opening and said enlarged end being dimensioned to prevent passage through said restricted opening.

8. In gutter hanger construction, a bridge member for bridging the open top of a gutter, means carried by said bridge member for engaging a gutter, said bridge member comprising an elongated member formed with a longitudinal recess extending throughout substantially the length thereof, and hanger strap engaging means carried by said bridge member, said hanger strap engaging means comprising a web formed integrally from the stock of said bridge member,

said web extending from one longitudinal border of said recess across said recess, in spaced relation thereto, to the opposite longitudinal border of said recess, the stock of said web intermediate said borders being severed from the remainder of the stock of said bridge member.

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