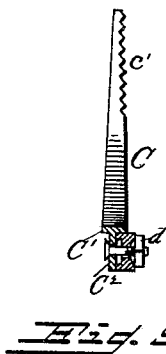
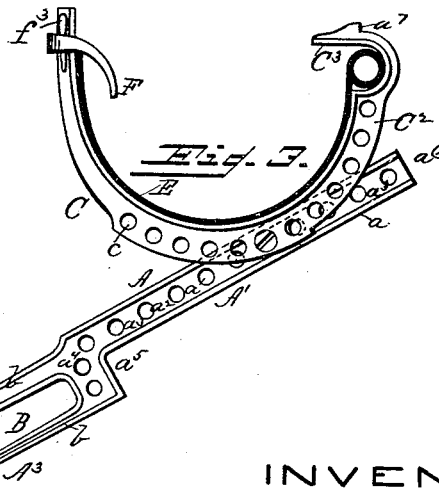
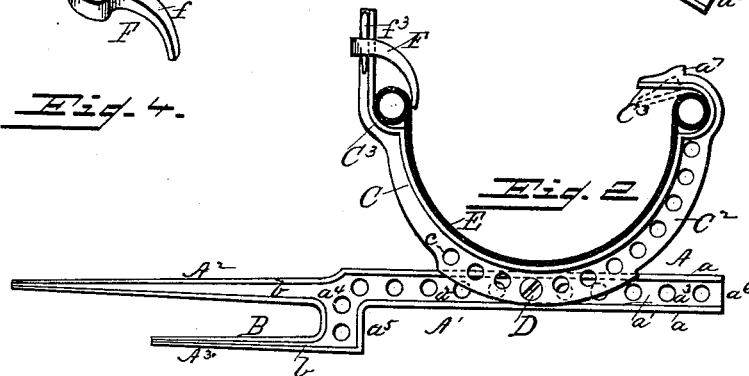
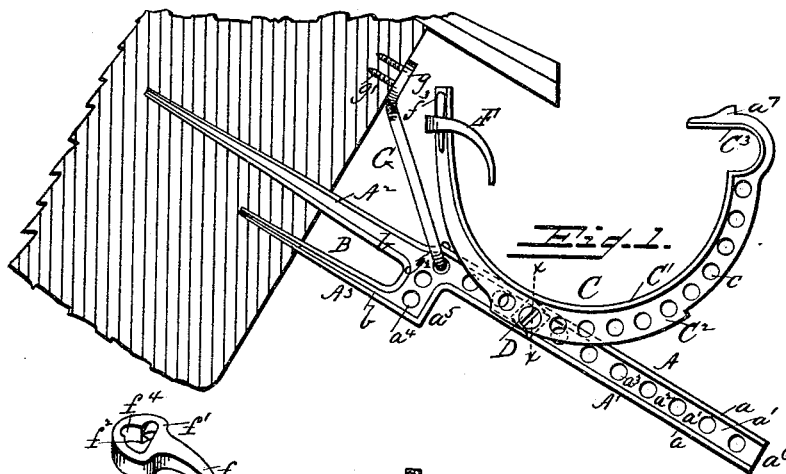


(No Model.)

W. H. BERGER.
EAVES TROUGH HANGER.

No. 344,236.

Patented June 22, 1886.



WITNESSES:
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EAVES-TROUGH HANGER.

SPECIFICATION forming part of Letters Patent No. 344,236, dated June 22, 1886.

Application filed February 17, 1886. Serial No. 192,345. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BERGER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Eaves-Trough Irons; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of iron in position with brace. Fig. 2 is a side elevation of iron with double-bead trough. Fig. 3 is a side elevation of iron with single-bead trough. Fig. 4 is a perspective of adjustable inner hook. Fig. 5 is a vertical transverse section on line *xx* of Fig. 1, showing only drive, circle, and fastening.

My invention has relation to eaves-trough irons or hangers in which the spike or drive and the circle are made in two separate parts and fastened together by a bolt and nut, or equivalent fastening.

My improvements have for their object to provide a construction whereby the spike or drive may be entered to the eaves, cornice, or roof projection at any desired or necessary angle, the circle being set in or adjusted to a horizontal plane, the entire iron or hanger being of durable and economic construction and of such character that it will not form an unsightly projection.

A further object of my improvements is to provide a construction of the drive which will avoid splitting the wood into which it is driven, and which will secure a firm hold or purchase in such wood.

A still further object of my invention is to provide a construction of the drive whereby it may be properly struck at either of its two points to effect its entrance at a proper angle, or to afford means for striking it for driving purposes at either one of two points, where, if it had but one striking-point, it would, under peculiar or varying circumstances, be difficult or impossible to drive it.

A still further object of my invention is to provide a construction of the circle whereby its outer hook may be readily bent to conform to troughs having beads of different diameters.

A still further object of my invention is to provide a construction of drive and circle whereby the fastening for connecting the parts will operate to draw said parts together, rendering them rigid or unyielding relatively to each other.

A still further object of my invention is to provide an adjustable hook for the inner edge or bead of an eaves-trough.

A still further object of my invention is to furnish an eaves-trough hanger with a stay or brace so arranged that it will afford support to the trough and tend to hold the hanger in place, or to secure it in position under weight or downwardly-exerted leverages.

My improvements consist in the peculiar construction and combinations of parts hereinafter fully described and specifically claimed.

Referring to the accompanying drawings, A designates the drive, consisting of the part A', formed with two tangs, A² A³. The part A' is a straight bar, the upper and lower edges of which are formed with parallel flanges *a*, leaving channels or grooves *a'* *a'* on both sides between said flanges. The metal forming the web *a*² between the flanges has a number of adjusting fastening-holes, *a*¹. The tangs A² A³ are both long, the upper one being just about twice the length of the lower one. The top edge of the upper tang and the bottom edge of the lower tang are parallel, but the inner edges of both tangs are inclined, forming a tapering slot, B, so that when the tangs are driven into the wood they will contract the latter between them, thereby preventing the wood from splitting. Each of the tangs is therefore tapering in shape, and each has a tapering groove, *b*, in each of its sides, which further lessens the liability to split the wood into which the tangs are driven. The upper tang is dropped slightly below the plane of the upper edge of the bar A, so that it will receive more directly the effect of blows on the driving-shoulder *a*³.

C represents the circle, which is a curved or circular bar, C', having a longitudinal flange or rib, C², on its back or underside and slightly to one side of the middle of the bar. This flange has fastening adjusting-holes *c*, through any one of which is passed a screw-bolt, D, said bolt also passing through one of the holes

a^3 in the drive A. The holes a^3 and c do not register exactly, so that when the nut d of the bolt D, which fastens the parts together, is turned on it draws the circle C down on the drive A, as well as laterally against the latter, and binds and fastens said parts very securely together. As the flange C^2 is, as already suggested, slightly to one side of the middle of the bar C' , the latter obtains a good bearing on the bar A.

F represents an adjustable hook or fastening for the inner end of a trough, E. Said fastening is in the form of a curved downwardly-extending hook or finger, f , having a hub or base, f' , with opening f^2 , through which passes the inner extremity of the circle C. Said inner part of the circle has notches c' , with which the edge of the opening f^2 engages, a wedge, pin, or key, f^3 , entering an offset, f^4 , in said opening and securing the hook F in any adjusted position.

The hook or fastening F may be dispensed with or removed where the inner edge of the trough extends up above the roof, and the circle may have an inner recess or offset, C^3 , as shown in Fig. 2, where a double-bead trough is employed.

G represents a brace or stay in the form of a rod, having at its upper end an ear, g , with openings for the reception of nails or screws g' , by which it is fastened to a roof or cornice, its lower end having a hook, g^2 , which engages with one of the holes a^3 or a^4 in the shank.

In lieu of the hook g^2 , an eye may be formed on the lower end of the brace, and a bolt and nut used as a means of connecting it with the hanger.

It will be noted that the brace overhangs the trough-iron proper, and hence downward leverage on the latter tends to force the drive inwardly, whereas if the brace were beneath the drive such leverage would tend to draw the drive out.

In operation the drive is inserted in the wood of the structure to which it is to be attached by blows applied to the shoulder a^3 , or to the end a^6 , either or both, as found convenient or expedient, according to circumstances. It may enter horizontally, as shown in Fig. 2, or inclining upwardly, as shown in Fig. 1, or downwardly, as shown in Fig. 3, or at any other desired or convenient angle. The circle is then applied so as to have both its ends in the same horizontal plane, the screw-bolt D being inserted in the proper holes and its nut d turned on, the flange or rib C^2 being to one side of the drive-bar A' , and the circle-bar C' resting on the top of said drive-bar. The trough E is then placed in position, and the finger F applied and fastened, if its use be desired.

If it be desired to bend the outer hook, C^3 , of the circle over the bead of the trough to confine the latter in place, this may be effected by using a pair of pinchers, one jaw

being inserted in the upper or outermost hole, a^3 , the other jaw being brought to bear against a shoulder, a^7 , formed for the purpose on said hook, the necessary inward or upward leverage being exerted in the pincher-handles to bend the hook downwardly over the trough-bead to assume the position shown in dotted lines in Fig. 2, which is a true curvature. The brace or stay G may then or previously be fastened in place.

What I claim as my invention is—

1. An eaves-trough iron or hanger drive having a shoulder, a^3 , and an end, a^6 , whereby it may be driven by blows applied to either said shoulder or end, substantially as shown and described.

2. An eaves-trough iron or hanger drive having two long tangs, the top edge of the upper tang being below the plane of the top edge of the bar or body of the drive and having a shoulder, a^3 , for driving purposes, substantially as shown and described.

3. The combination, in an eaves-trough iron or hanger, of a drive-bar, A' , having holes a^3 , a circle, C, having flange or rib C^2 , with holes c , and a bolt, D, with nut d , substantially as shown and described.

4. In an eaves-trough iron or hanger, the combination, with a drive-bar, A' , having flanges a and adjusting-holes a^3 , of a circle, C, having flange or rib C^2 and adjusting-holes c , and a bolt, D, with nut d , the rib or flange on said circle being slightly to one side of the middle of the circle-bar, and the holes in said drive-bar and circle not exactly registering, whereby when the nut is turned on the bolt the circle is drawn vertically and laterally against the drive-bar, substantially as shown and described.

5. The combination, with an eaves-trough iron having fastening-holes, of an overhanging brace or stay having a hook for connecting with said holes, substantially as shown and described.

6. The combination, with an eaves-trough iron or hanger circle, of an adjustable inside hook, substantially as shown and described.

7. The combination, with the eaves-trough iron or hanger circle C, having notches c' , of an adjustable hook, F, and a fastening, f^3 , therefor, substantially as shown and described.

8. In an eaves-trough hanger or iron, a circle having a shoulder, a^7 , on its outer hook, C^3 , and an opening, a^3 , for the reception of the jaw of a pair of pinchers, whereby said hook may be curved, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of February, 1886.

WILLIAM H. BERGER.

Witnesses:

M. D. CONNOLLY,

R. DALE SPARHAWK.