W. H. & L. BERGER.

Eaves-Trough Irons.

No. 220,515. Patented Oct. 14, 1879.

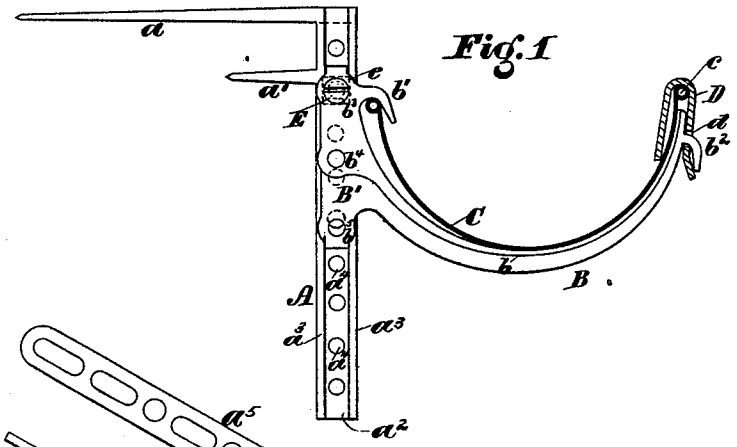


Fig. 1

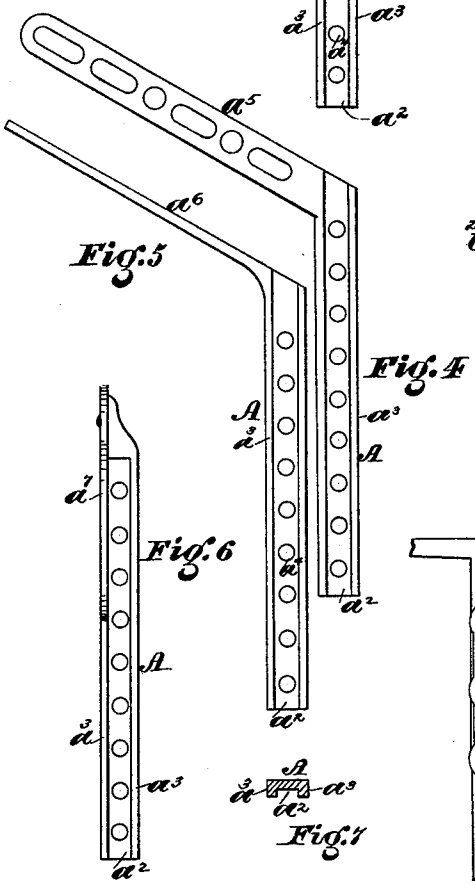


Fig. 5

Fig. 4

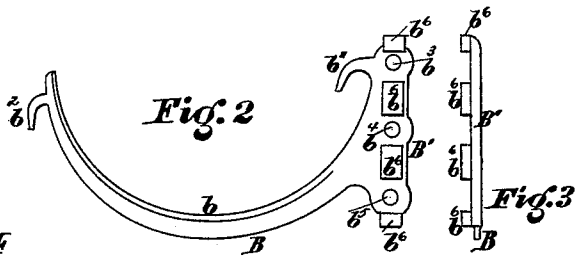


Fig. 2

Fig. 3

Fig. 6

Fig. 7

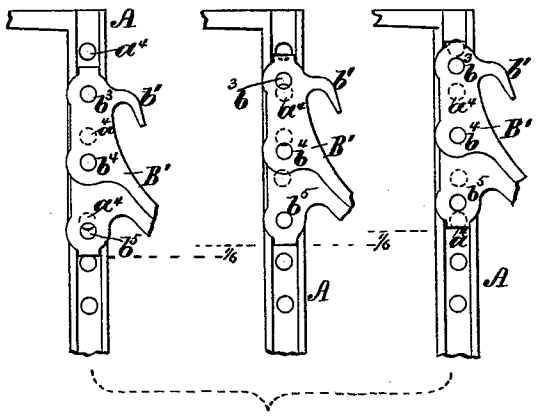


Fig. 8

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UNITED STATES PATENT OFFICE.

WILLIAM H. BERGER AND LEVI BERGER, OF PHILADELPHIA, PA.

IMPROVEMENT IN EAVES-TROUGH IRONS.

Specification forming part of Letters Patent No. **220,515**, dated October 14, 1879; application filed March 3, 1879.

To all whom it may concern:

Be it known that we, WILLIAM H. BERGER and LEVI BERGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Eaves-Trough Irons; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of our improvements. Figs. 2 and 3 are, respectively, a reverse side elevation and end view of the circle-iron. Figs. 4, 5, and 6 are side elevations of modified forms of shooks for the shank-irons. Fig. 7 is a transverse section of the shank; and Fig. 8 shows broken side elevations, illustrating the method of obtaining three adjustments of the circle on the shank within the space of one-half of an inch.

Our improvement consists of an iron composed of two parts—viz., the shank or bracket and circle or bearing-arm.

For convenience of designation we shall hereinafter refer to said parts as the shank and circle, respectively.

The shank is that part of the iron which is fastened to the roof, eave, or rafter, and the circle is the part on which the eave-trough rests and by which it is supported. The circle is adjustable on the shank, so as to hang the trough at any required altitude and give it whatever pitch or inclination may be desired.

The shank may be fastened in position in a variety of ways, as hereinafter mentioned. In Fig. 1 we have shown it as formed with two spikes, a and a^1, which are driven into the wood. The shank itself (shown at A) is grooved or channeled at a^2, thus forming two flanges, a^3 a^3, and is provided with a series of adjusting-holes, a^4 a^4, which are equal distances apart.

The circle B consists of a curved arm, b, having an internal hook, b^1, and external hook, b^2.

To show the method of fastening, an eave-trough is represented at C. It rests, as shown, upon the arm b, the hook b^1 overhanging its inner edge. D represents a short section of hoop-iron, formed with an eye, d, which is slipped on the hook b^2 and bent over the outer rounded edge or bead, c, of the trough C.

The circle is provided or formed with a lug, B′, having three adjusting-holes, b^3 b^4 b^5, and on its opposite side four straight-sided studs, b^6. The method of fastening is to bring the lug B′ against the shank A, the studs b^6 entering the channel a^2 between the flanges a^3 a^3, a bolt, E, being then passed through one of the holes b^3, b^4, or b^5, and through whichever one of the holes a^4 in the shank A registers therewith. The holes a^4 a^4 are equal distances apart; but the holes b^3 b^4 b^5 are twice the distance farther apart than are said holes a^4 a^4. For example, in practice we make the holes a^4 a^4 one-quarter of an inch apart, while the holes b^3 b^4 b^5 are one-half an inch apart. The result of this is we can get three adjustments within the space of one-half of an inch, whereas if the holes b^3 b^4 b^5 were the same distance apart as are the holes a^4, we could get but one adjustment within the same space. For example, if the hole b^3 be in registry with one of the holes a^4, the holes b^4 b^5 will be out of registry with the other holes a^4 a^4. Now, if the lug B′ be moved downwardly the distance of one-sixth of an inch, the hole b^4 will be brought into registry with a hole, a^4, the holes b^3 and b^5 being then out of registry. On moving said lug another one-sixth of an inch downwardly the hole b^5 will be brought into registry with a hole, a^4, the holes b^3 and b^4 being then out of registry. When the desired adjustment has been secured the bolt is made fast by means of a nut, e.

In lieu of the spikes a a^1, the shank may have a plate, a^5, as in Fig. 4, to nail against a rafter, or a plate, a^6, as shown in Fig. 5, which is passed beneath the shingles or slate on the roof and fastened by nails or screw; or it may be riveted to a plate, a^7, as in Fig. 6, which is nailed to the face of the building.

What we claim as our invention is—

1. The shank A, channeled at a^2 to form flanges a^3 a^3, having holes a^4 a^4, and provided with means for fastening it to a house or roof, substantially as set forth.

2. The circle B, having arm b, with hooks b^1

b^2, lug B′, with studs b^6 and adjusting-holes b^3 b^4 b^5, substantially as shown and set forth.

3. The combination of flanged shank A, having holes a^4, with circle B, having lug B′, with studs b^6 and adjusting-holes, and with bolt E, substantially as set forth.

4. In eaves-trough irons, the plates A B′, having respectively adjusting-holes at different distances apart, substantially as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands this 27th day of February, 1879.

WILLIAM H. BERGER.
LEVI BERGER.

Witnesses:
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