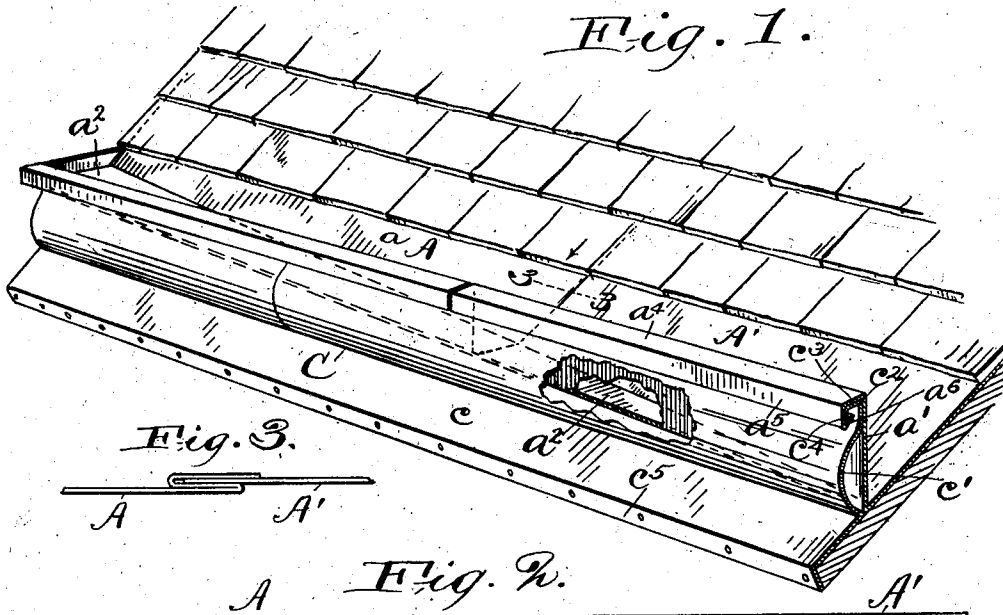
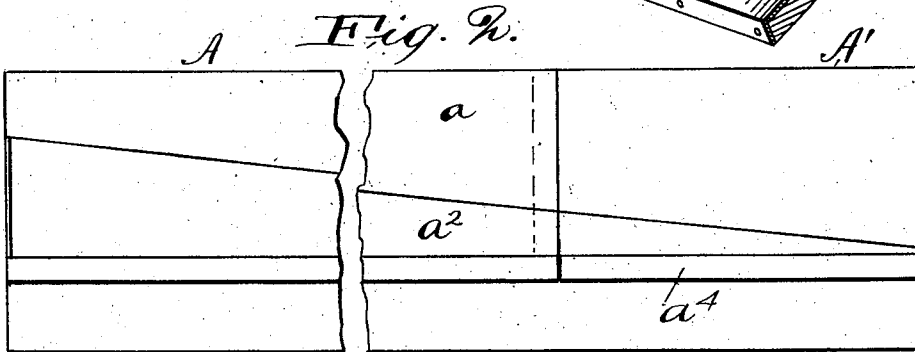
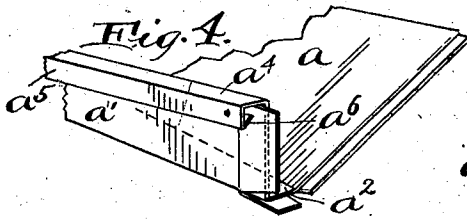
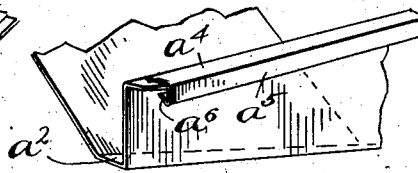
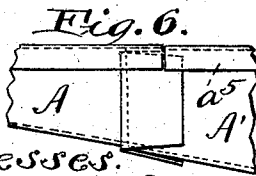
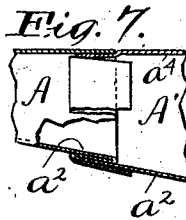


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PATENTED JULY 31, 1906.

E. LOEFFLER & G. L. HAZEL.
SHEET METAL ROOF GUTTER.
APPLICATION FILED JULY 10, 1905.



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UNITED STATES PATENT OFFICE.

ERNST LOEFFLER AND GUY L. HAZEL, OF ELYRIA, OHIO.

SHEET-METAL ROOF-GUTTER.

No. 827,456.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed July 10, 1905. Serial No. 268,948.

To all whom it may concern:

Be it known that we, ERNST LOEFFLER and GUY L. HAZEL, residing at Elyria, in the county of Lorain and State of Ohio, have invented a certain new and useful Improvement in Sheet-Metal Roof-Gutters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of the invention is to provide a metallic roof-gutter made in sections which may be easily secured upon a roof and to each other to form a gutter which will have the necessary pitch from end to end, but will lie at the same distance from the edge of the roof at all points and will ornament rather than disfigure the roof.

The invention consists of a gutter-section formed by bending a metal sheet in the manner hereinafter described, in the construction of the gutter-sections whereby they may be connected to form a gutter having the required pitch from end to end, and in the combination with the gutter of a connected molding-piece, all of which will be hereinafter described, and pointed out definitely in the claims.

In the drawings, Figure 1 is a perspective view of the lower part of a roof whereon is secured a gutter containing the present invention. Fig. 2 is a plan view of the gutter shown in Fig. 1. Fig. 3 is a sectional view in the plane indicated by line 3 3 of Fig. 1 looking in the direction of the arrow. Fig. 4 is a perspective view of the lower end of one gutter-section. Fig. 5 is a perspective view of the upper end of an adjacent section. Fig. 6 is a front elevation of an adjacent part of two gutter-sections, showing the manner in which they are connected. Fig. 7 is a similar view to Fig. 6 except that the lower part of said view is sectioned to show in what manner the bottoms of the two sections are connected, and the outwardly extended flange is also sectioned to show how one flange passes beneath the other when two gutter-sections are joined.

The gutter is composed of a number of similar sheet-metal sections, of which two sections A A' are shown in Fig. 1. Each section has an inclined rear side whose inclination corresponds with the inclination of the roof upon which it is to be secured. Each gutter-section has also a vertical front side a' and a bottom a^2 , which is intermediate of the vertical front side and the inclined rear side

and is integral with both. The bottom a^2 is substantially flat and is of decreasing width from the left to the right end, as shown, of the gutter, and the pitch of this bottom is gradually downward from the left to the right end. For convenience that end of the gutter-section from which the water flows because of the described construction will be called the "upper" end, and the other end of said gutter-section will be called the "lower" end.

The top edge of the vertical front side when the gutter is secured upon the roof is substantially horizontal, and consequently the same distance above the roof, and said front side is in a vertical plane parallel with the front edge of the roof, which facts are due to the described construction—viz., that this front side is of increasing width from the upper to the lower end of the gutter-section, the lower edge of said side being of decreasing distance above the roof. On the upper edge of this vertical front side is a portion a^4 , which is turned out into horizontal position, and the outer part of this portion is turned down in vertical position, as at a^5 , and the extreme edge is bent upward and rearward at an angle, as at a^6 .

C represents a sheet-metal molding having an inclined front portion c , which is intended to be secured upon the roof below the gutter-section. Integral with and extended up from this inclined portion c is an upright portion c' , which may be bent into any ornamental configuration. The upper edge c^2 of this upright portion is bent outward horizontally, as at c^3 , and the extreme edge c^4 of this horizontal portion is bent downward, as shown. The parts c^2 and c^3 are of such width that they fit in the space formed by bending the upper edge of the front side of the gutter-section in the manner described. The lower edge c^5 of this molding-section is bent down so as to engage with the edge of the roof-board, and the nails which fasten this section to the roof preferably go through this bent-down portion c^5 .

In applying the described gutter to a roof the molding part may be first secured to the roof in the manner stated, then the bent top edge of the front side of the gutter portion is caused to interlock in the manner shown with the bent upper edge of the molding portion, and then the gutter is swung down to bring its inclined side down upon the roof to which it is secured. The upright parts of

the gutter-section and the molding-section are thereby interlocked so that they respectively brace each other and nothing can be seen of the described construction except the molding-section and the bent-over top edge of the gutter-section.

As first stated, a gutter may be composed of several sections, if necessary. The lower end of one gutter-section corresponds in dimensions with the upper end of the next gutter-section. The lower end of the gutter-section, or rather of the two sides and the bottom of said gutter-section, are slitted at the connecting-bends, and the tongues so formed are fan-folded under to form the lap-joint, such as shown in Fig. 4. The upper raw edge of the next section is then slipped into the described folds, as shown in Figs. 3, 6, and 7. The portions a^5 and a^6 and the edge of the horizontal portion a^4 are cut away so as to permit the parts a^4 at the upper end of the lower section to slip under the corresponding part of the upper section and to permit the ends of the portions a^5 and a^6 to substantially abut, as shown in Fig. 1.

When water flows down a gutter formed of the sections connected as above described, such water flows over the described joint and has no tendency to flow into said joint between said sections. It is thought that even if the joint of these gutter-sections were not closed by soldering no water would be likely to flow through this joint onto the roof to which the gutter is secured.

Having described our invention, we claim—

1. A sheet-metal roof-gutter section having an inclined rear side a , a bottom a^2 which inclines downward and is of decreasing width from the upper to the lower end of the gutter-section, and a vertical front side which is of increasing width measured from top to bottom, from the upper to the lower end of the

gutter-section and whose top edge is horizontal and is bent outward and downward and then rearward and upward at an inclination, combined with a molding-section having an inclined lower portion, and an upright portion whose upper edge is bent outward and then downward, and is caused to interlock with the bent upper edge of the front side of the gutter-section.

2. A sheet-metal roof-gutter comprising at least two gutter-sections A A' which are alike in that each has a rearwardly-inclined rear side a , a bottom a^2 which inclines downward and is of decreasing width from the upper to the lower end of the gutter-section, and a vertical front side a' which is of increasing height from the upper to the lower end of the gutter-section, and whose top edge is horizontal and is bent outward to form the flange a^4 , then downward to form the portion a^5 , and then upward and rearward at an inclination to form the portion a^6 , the upper section A having the lower edge of its parts a , a' , a^2 fan-folded under, thereby forming grooves which receive the upper ends of the corresponding parts of the next lower section A', said lower section having the outer upper corner of its flange a^4 and the adjacent ends of the parts a^5 , a^6 , cut away, combined with molding-sections having an inclined lower portion and a substantially upright portion whose upper edge is bent outward and then downward and is caused to interlock with the bent upper edges of the front sides of the gutter-sections.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

ERNST LOEFFLER.

GUY L. HAZEL.

Witnesses:

GEO. R. ALLEN,
W. S. GRISWOEL.