A. L. JOHNSON.

SECURING CLIP FOR ROOF AND WALL STRUCTURES.

APPLICATION FILED SEPT. 29, 1911.

1,029,612.

Patented June 18, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

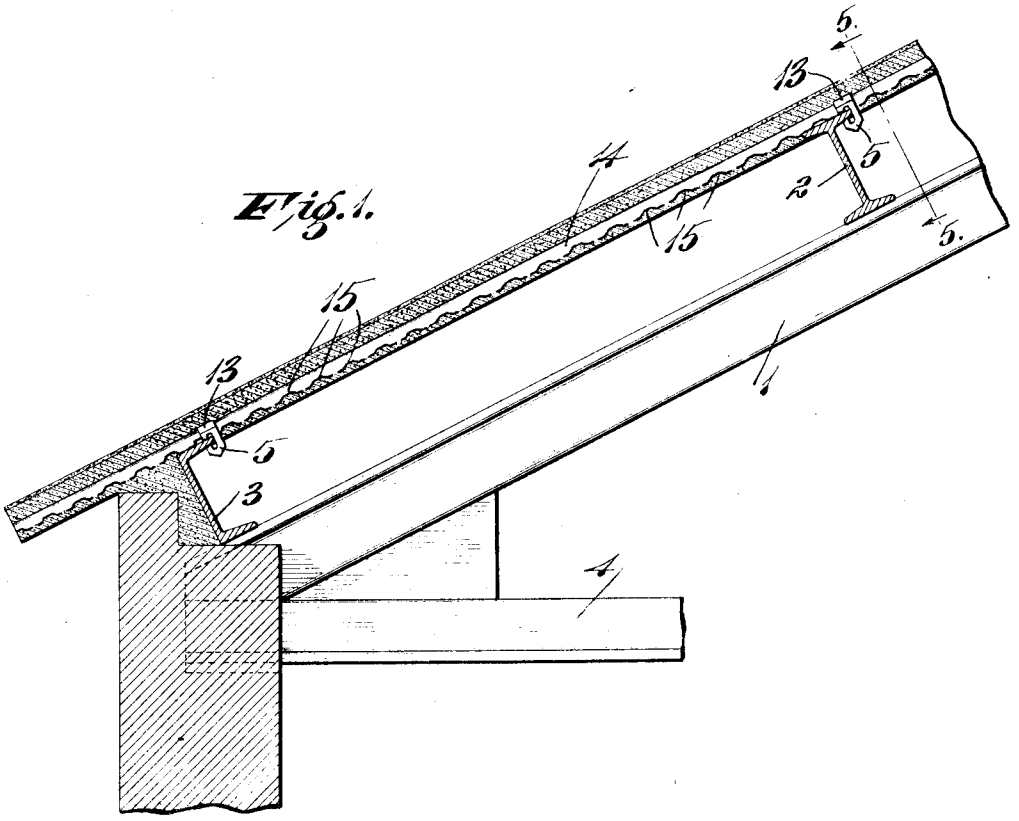


Fig. 2.

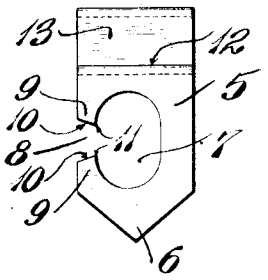


Fig. 3.

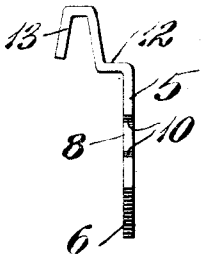
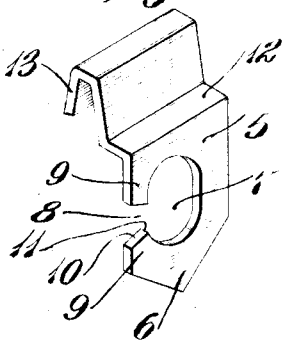


Fig. 4.



Witnesses:

Edgar T. Farmer.

G. A. Pennington.

Inventor:

Albert L. Johnson

By Church & Church

his Attys.

A. L. JOHNSON.

SECURING CLIP FOR ROOF AND WALL STRUCTURES.

APPLICATION FILED SEPT. 29, 1911.

1,029,612.

Patented June 18, 1912.

2 SHEETS—SHEET 2.

Fig. 5.

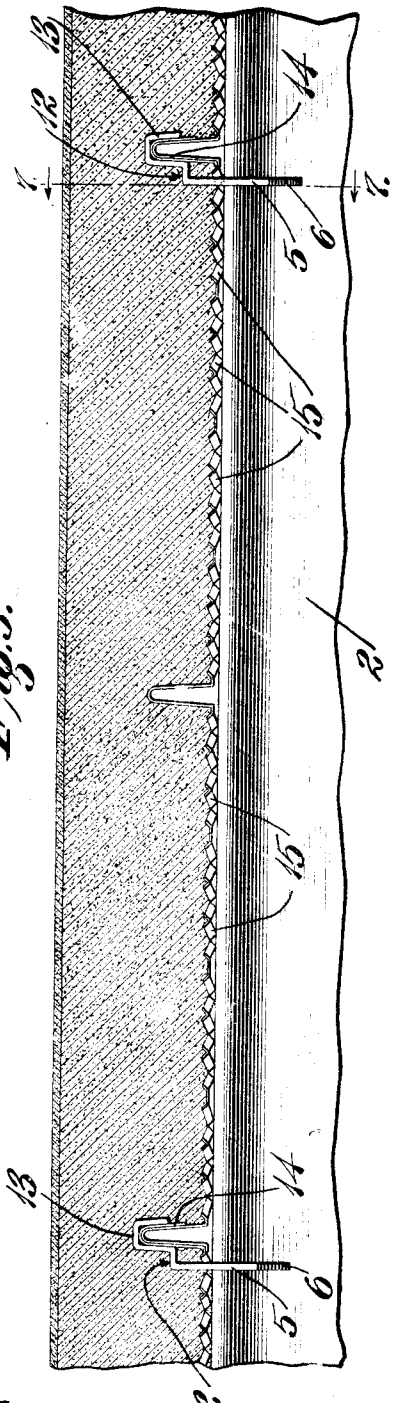


Fig. 7.

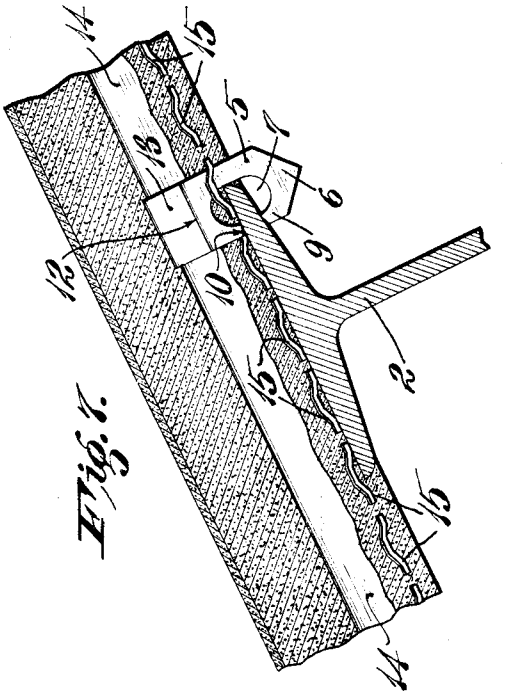
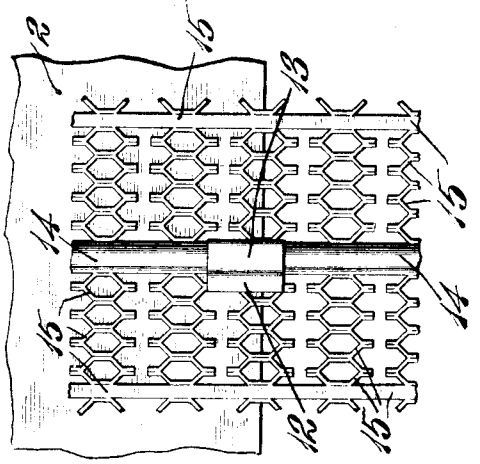


Fig. 6.



Witnesses:
Edgar T. Farmer.
G. A. Pennington

Inventor:
Albert L. Johnson,
By Church & Church,
his Attys.

UNITED STATES PATENT OFFICE.

ALBERT L. JOHNSON, OF HAMBURG, NEW YORK, ASSIGNOR TO CORRUGATED BAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

SECURING-CLIP FOR ROOF AND WALL STRUCTURES.

1,029,612. Specification of Letters Patent. Patented June 18, 1912.

Application filed September 29, 1911. Serial No. 652,015.

To all whom it may concern:

Be it known that I, ALBERT L. JOHNSON, a citizen of the United States, and a resident of Hamburg, in the county of Erie and State of New York, have invented a certain new and useful Improvement in Securing-Clips for Roof and Wall Structures, of which the following is a specification.

This invention relates to clips and more particularly to clips for securing supporting or reinforcing sheets of expanded metal and the like to the rafters, beams or girders comprising a roof framing, although they are also applicable to side wall and ceiling structures. The invention has for its principal objects to produce a securing clip which can be readily applied and fastened to the rafter or girder without the aid of additional securing means, and to attain certain advantages hereinafter more fully appearing.

The invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings which form part of this specification and wherein like symbols refer to like parts wherever they occur, Figure 1 is a fragmentary vertical section through a portion of gable roof structure adjacent to the eaves, showing an adaptation of my invention; Figs. 2, 3 and 4 are detail views of the securing clip, on an enlarged scale; Fig. 5 is a fragmentary view in section on the line 5—5 of Fig. 1, on an enlarged scale; Fig. 6 is a fragmentary top plan view; and Fig. 7 is a section on the line 7—7 of Fig. 5.

In the roof structure shown in the drawings, the rafters 1 comprise angle irons, while the purlins 2 are I-beams. The side plates 3 are channels whose flanges are turned inwardly. The tie-bars or tension bars 4 comprise angles. However, the exact form and arrangement of beams and girders in the structures constitutes no part of the present invention; and only so much of the roof structure as will give a clear understanding of the application of the clip is illustrated.

The clips are designed more particularly for use in connection with sheets of expanded metal having grooved ribs and seams; that is, sheets whose marginal portions are rebent to provide grooved ribs adapted to interfit with the marginal ribs of adjoining sheets. The sheets may be also ribbed at intervals intermediate their margins.

The clips 5 may be stamped and formed up from sheet metal blanks or made as malleable castings, as desirable. They comprise a flat plate portion having a pointed end 6 and a longitudinally elongated interior slot or perforation 7 into which opens a lateral marginal slot or mouth 8. The portions 9 of the metal on opposite sides of the mouth 8 are beveled as at 10, to provide a biting edge 11. The portion of the clip at the side of the slot 7 opposite to the pointed end 6 is turned at substantially right angles, as at 12, and then rebent, as at 13, to provide an offset hood portion whose side walls are preferably inclined or flared apart as shown.

The cap or hood portion 13 is adapted to straddle the rib or marginal seam 14 of the expanded metal roof sheets 15 and the slotted body portion of the clip is adapted to be driven onto the flange of the roof frame member. In practice, the width of the mouth or slot 8 is made normally narrower than the thickness of the flange to which the clip is to be attached so that, in driving the clip onto the flange, the jaws 9 are sprung apart and the sharp edges 11 take into or bite against the flange so as to securely hold the clip in place. To apply the clip the pointed portion 6 is inserted through the open mesh of the expanded metal sheet adjacent to the marginal seam or an intermediate rib, as the case may be, until the hood portion straddles the seam or rib. Then the clip is driven edgewise upon the flange of the roof girder or rafter.

While the clip is specially adapted for roof structures, obviously it may be applied to wall and ceiling structures. It can be secured on the flanges of all well known commercial metal sections such as angles, channels, I-beams, Z-bars and T-irons, and also flat bars or plates. So, too, the clip may be modified without departing from my invention. Therefore, I do not wish to be limited to the exact device shown.

What I claim is:

1. A clip comprising a flat body portion having one end rebent to form a hood, the body portion having a hole therethrough and a slot in a side margin communicating with said hole said hood being open at its bottom and ends and offset laterally from

the body portion, whereby said hood can be made to engage a rib by the endwise movement of the clip and when so engaged the clip can be slid along the rib without becoming disengaged.

2. A clip comprising a body portion pointed at one end and having a hood at its opposite end, the body portion having a hole therethrough and a slot in a side margin communicating with said hole said hood being open at its bottom and ends and offset laterally from the body portion, whereby said hood can be made to engage a rib by the endwise movement of the clip and when so engaged the clip can be slid along the rib without becoming disengaged.

3. A clip comprising a body portion having one end offset and rebent to constitute a hood, the body having a longitudinally elongated hole therethrough and an outwardly widening slot in a side margin communicating with said hole said hood being open at its bottom and ends and offset laterally from the body portion, whereby said hood can be made to engage a rib by the endwise movement of the clip and when so engaged the clip can be slid along the rib without becoming disengaged.

4. A clip comprising a flat metal member one of whose end portions is pointed and the other offset and rebent to form a tapered hood, the body having a hole therethrough and a slot in a side margin communicating with said hole said hood being open at its bottom and ends and offset laterally from the body portion, whereby said hood can be made to engage a rib by the endwise movement of the clip and when so engaged the clip can be slid along the rib without becoming disengaged.

Signed at St. Louis, Missouri, this 27th day of September, 1911.

ALBERT L. JOHNSON.

Witnesses:

EDGAR T. FARMER,

G. A. PENNINGTON.