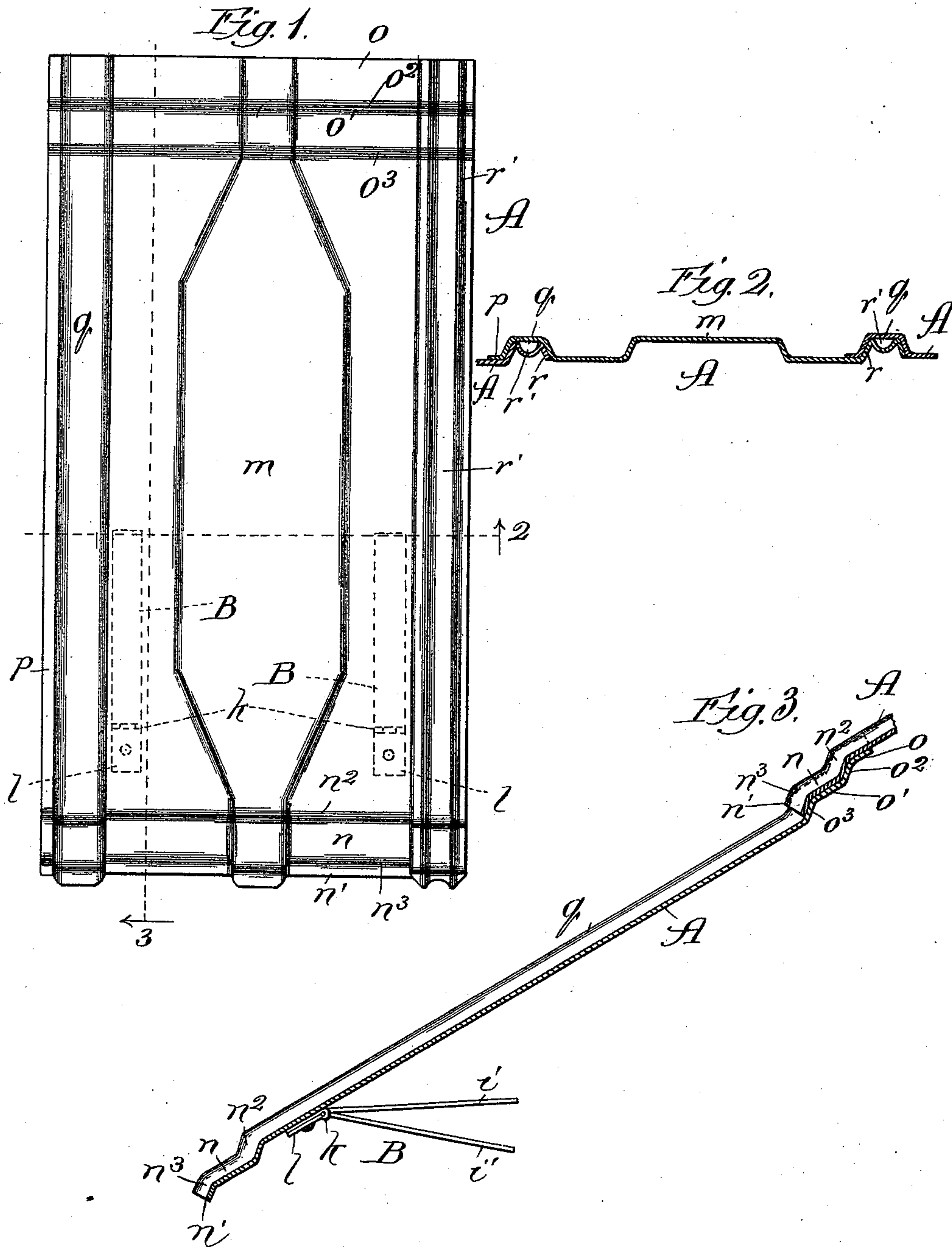


(No Model.)

R. FRIEDEL.
METAL ROOFING PLATE.

No. 525,098.

Patented Aug. 28, 1894.



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UNITED STATES PATENT OFFICE.

ROBERT FRIEDEL, OF CHICAGO, ILLINOIS.

METAL ROOFING-PLATE.

SPECIFICATION forming part of Letters Patent No. 525,098, dated August 28, 1894.

Application filed March 13, 1894. Serial No. 503,480. (No model.)

To all whom it may concern:

Be it known that I, ROBERT FRIEDEL, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Metal Roofing-Plates, of which the following is a specification.

My invention relates to an improvement in the construction of sheet-metal plates adapted for roofing-purposes by beading their lateral edge-portions to permit them to overlap and forming them with offsets at opposite ends for the same mutual overlapping purpose, to the end of affording weather-proof joints; and the construction of roofing-plate referred to also has permanently provided upon it straps of flexible sheet-metal adapted to be bent about the roof-timbers as convenient means for tightly securing the plate in position.

The object of my invention is to afford an improved construction of the plate itself; and also of the fastening straps, which, as hitherto provided, have been formed, each, of a single strip of the metal, fastened at one end, by riveting, to the under side of the plate to one side of its longitudinal center near the end used as the lower one in roofing, and two such straps are provided on each plate, at opposite sides of its longitudinal center, where they are adapted to be bent in one direction about a roof-timber in applying them to their plate-fastening function. The rigid connection of the strap with the plate is found to strain the metal of the latter at the point of riveting by the employment of the strap as the plate-fastening medium and tends to produce leakage at that point. This objection I overcome by forming the strap with a hinged section at which to fasten it to the plate. Moreover, the old construction of strap referred to involves a single strip adapted to afford only a single fastening-bend in one direction about a roof-timber; while my improved construction of the strap preferably involves two strips hinged at one end to the strip-fastening section to extend flatwise with relation to each other and permit them to be bent in opposite directions about a roof-timber with the advantage of fastening the plate in both its endwise directions.

Referring to the accompanying drawings—Figure 1 is a top plan view of my improved sheet-metal roofing-plate, showing the fastening-straps by dotted lines. Fig. 2 is a section taken at the line 2 on Fig. 1, viewed in the direction of the arrow, and illustrating the manner of adjusting a series of the plates together at their lateral edges; and Fig. 3 is a section taken at the line 3 on Fig. 1, viewed in the direction of the arrow and illustrating the manner of adjusting one plate endwise upon another.

A is the roofing-plate formed of a rectangular section having hollow beads r and q struck up to extend along its lateral edge-portions and in a manner to afford the lateral base-extension or flange of the bead q with the bead r having a groove r' formed lengthwise in it; and at one end of the plate it has formed upon it the two transverse terrace-like sections o , o' , affording the offsets o^2 , o^3 , the opposite end also having the transverse terrace-like sections n , n' and shoulders n^2 and n^3 . The central portion of the plate is shown, mainly by way of ornamentation and strengthening, as being embossed to afford a raised section m , which may have any desired form.

B is the fastening strap comprising a section l formed preferably of a strip of metal bent flatwise upon itself and having the end-eyes of a hinge-joint formed in the return-bend; and the two fastening strips i and i' , formed like, but longer than, the section l and with a hinge-eye to fit between the eyes on said section, the connection between the two parts of the strap being a pintle k passed through their eyes. Two of the straps B should be provided on each plate A, one at each side of its longitudinal center near one end, as indicated in Fig. 1, which is the lower end of the plate in its position on a slanting roof; and the straps are best fastened, as represented, by riveting them through their sections l to the plate.

For roofing with my improvement, the plates are placed relatively to cause the lateral bead q on one to overlap the coincident guttered bead r on the next; and to cause the lower terraced end of one to overlap the upper terraced end of the next lower. Thus, as

to the edge-joints, they are rendered water-proof by the abutments which the beads afford, though any water that penetrates between the beads and rises to the tops of the beads r , instead of running over them, is conducted off by the gutters r' ; and the inter-fitting end-sections o , o' , and n , n' , tend the better to prevent beating rain or driving snow from penetrating between them by the double abutments presented thereto by the offsets.

To fasten each plate in position after setting it, the strips i and i' of each fastening-strap B are bent about a roof-timber or lath, the one over and the other under, whereby the plate is stopped in both directions lengthwise; and the hinged-connections of the strips with their fastening-sections l tend to relieve the latter, and points of the plate to which they are riveted, from strain.

What I claim as new, and desire to secure by Letters Patent, is—

1. A roof-plate formed of a sheet of metal having a bead q and a guttered bead r respectively in its lateral edge-portions, and transverse abutments o^2 , o^3 , and n^2 , n^3 , respectively in its end-portions, substantially as and for the purpose set forth.

2. In combination, the beaded metal roof-plate A and fastening-straps B each comprising a section l , at which it is fastened to the under side of the plate to one side of its longitudinal center, and formed of a strip of metal bent upon itself and having a hinge-eye, and a length of flexible metal bent upon itself to form the strips i and i' and the hinge-eyes at the bend, at which they are flexibly connected with the section l by the pintle k , substantially as described.

ROBERT FRIEDEL.

In presence of—

M. J. FROST,
W. N. WILLIAMS.