(No Model.) 2 Sheets—Sheet 1.

L. D. CORTRIGHT & S. P. DARLINGTON.

METALLIC ROOFING PLATE OR SHINGLE.

No. 370,317. Patented Sept. 20, 1887.

FIG. 1

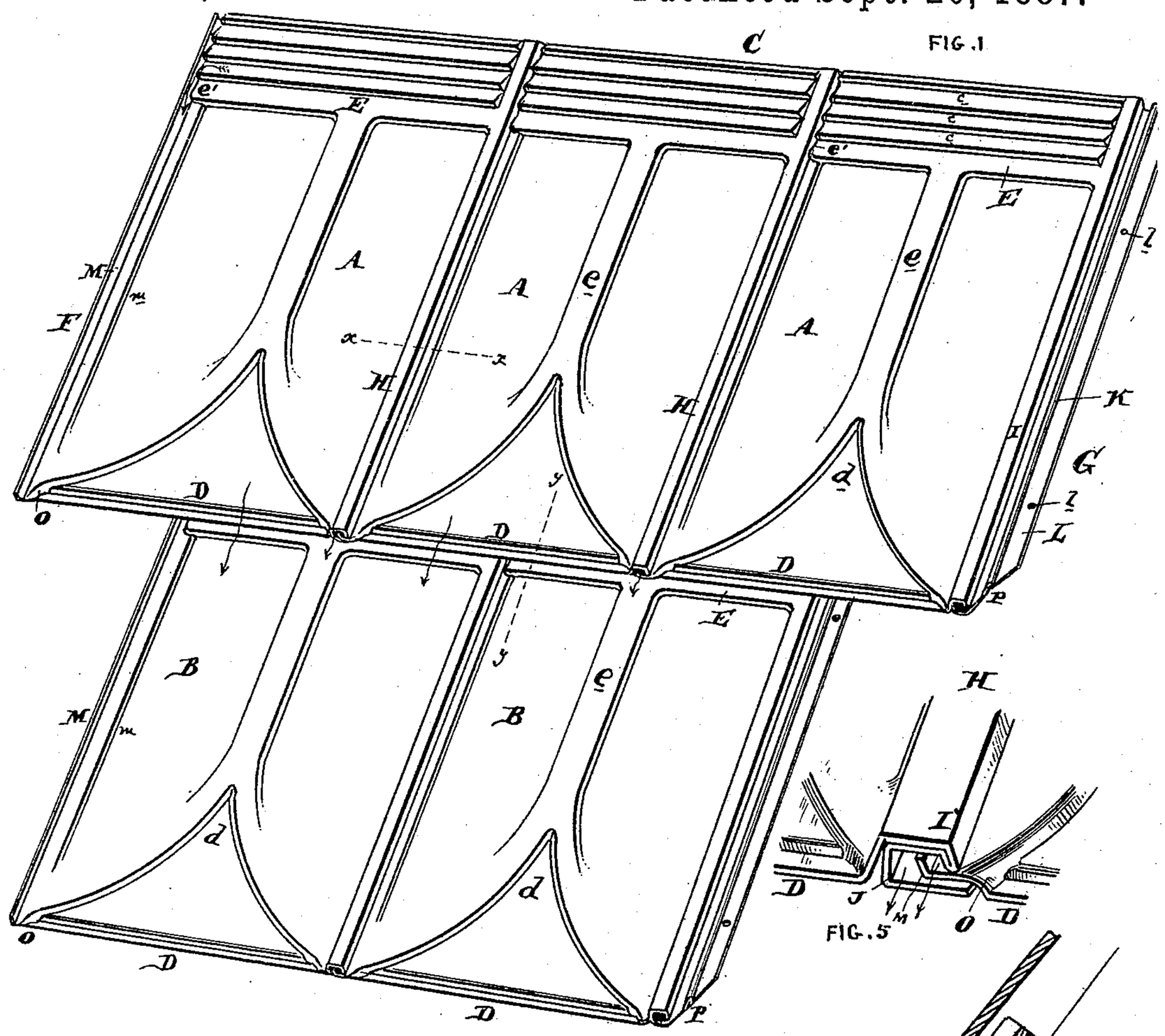


FIG. 2

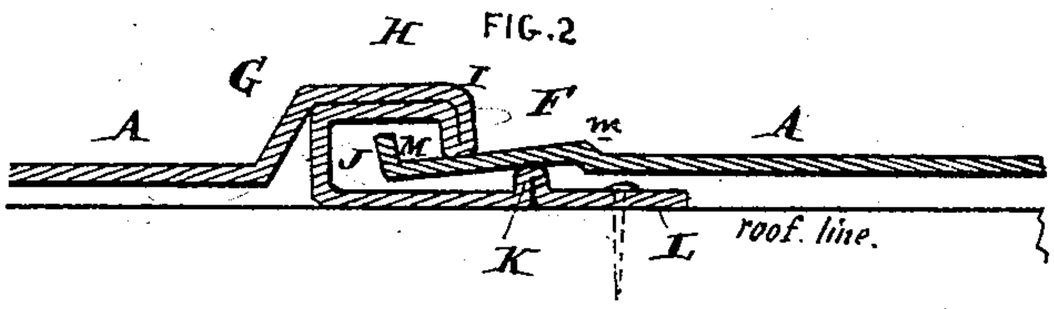
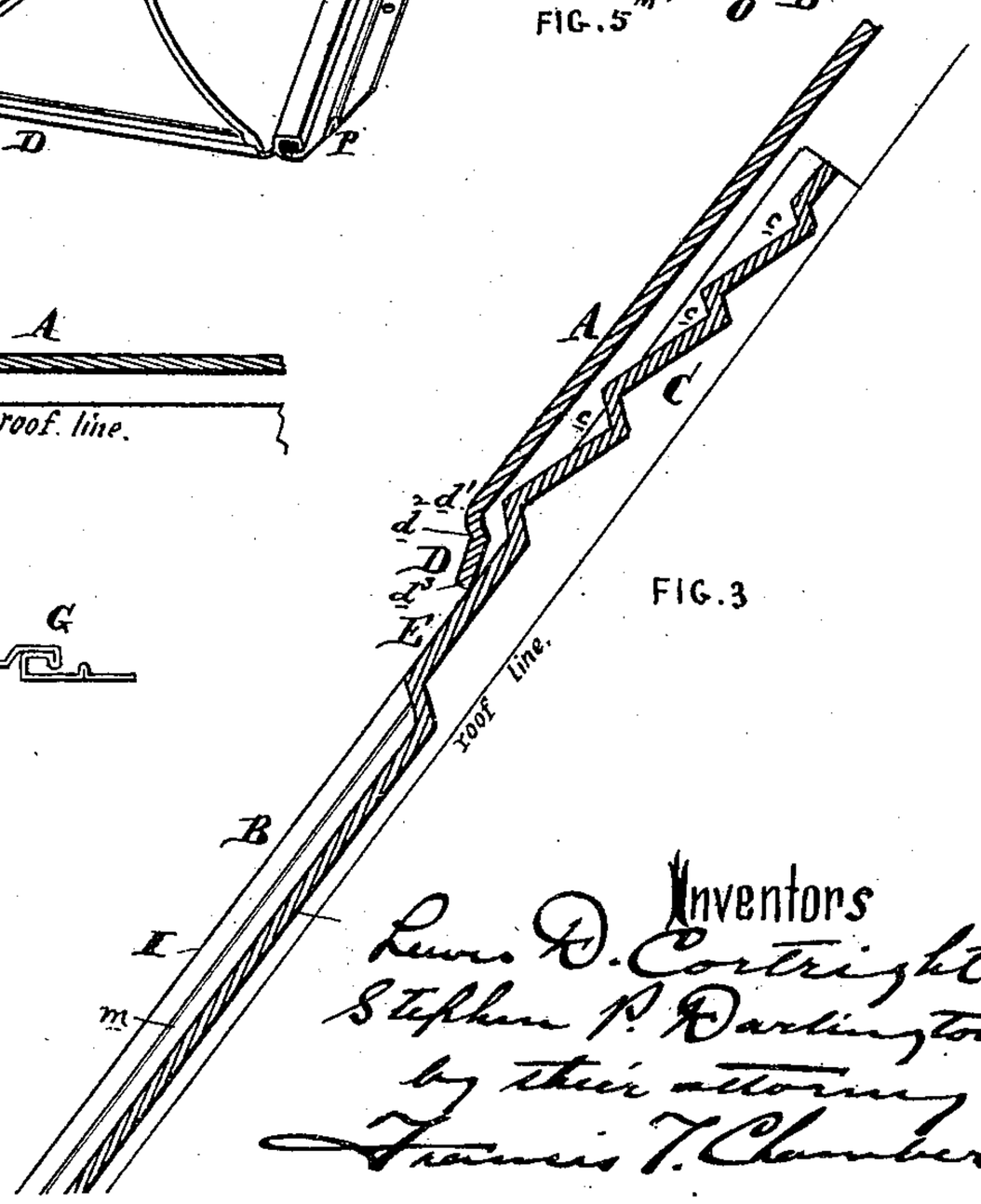


FIG. 4

FIG. 5

FIG. 3



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by their attorney
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(No Model.) 2 Sheets—Sheet 2.

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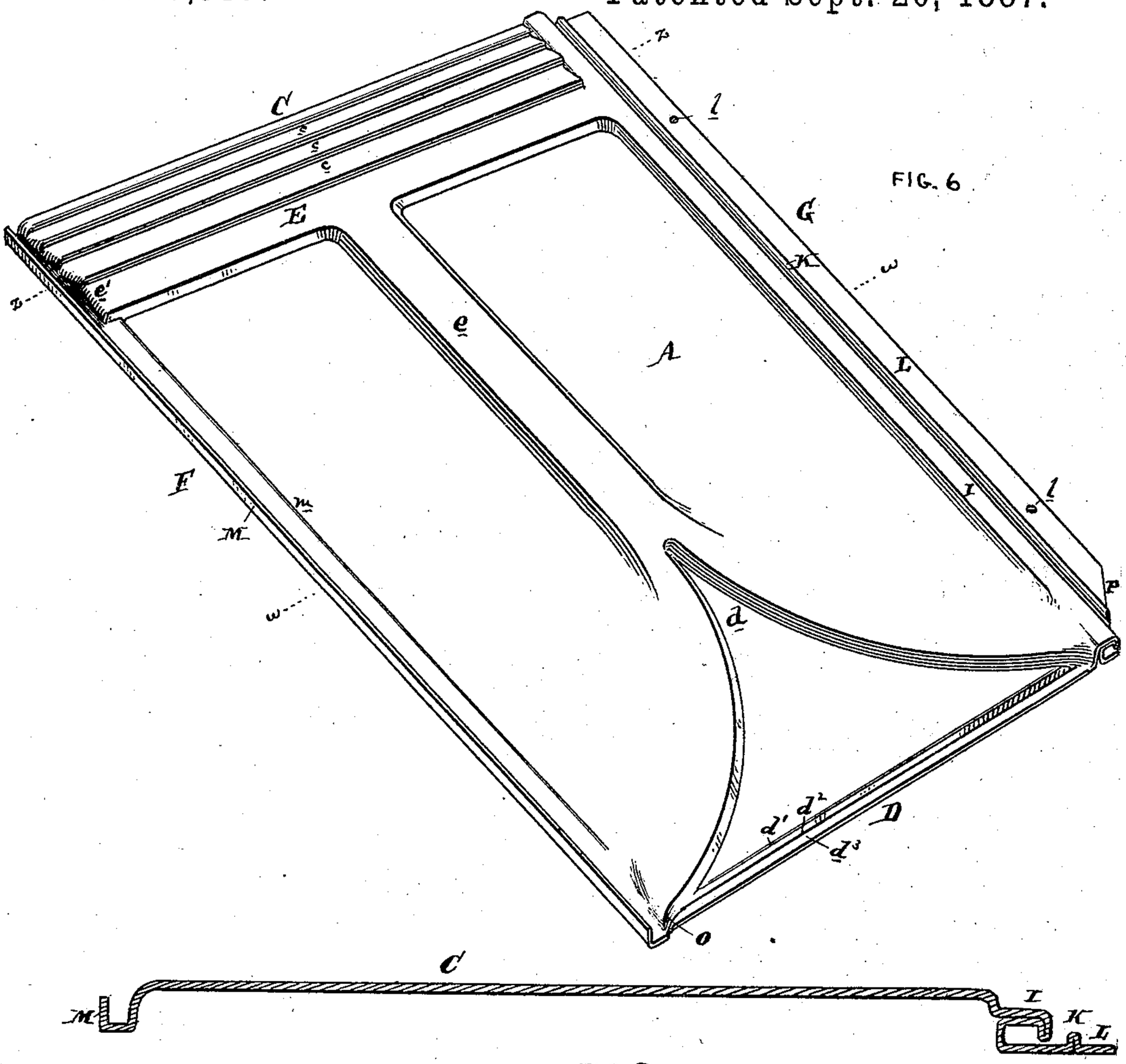

FIG. 6

FIG. 7

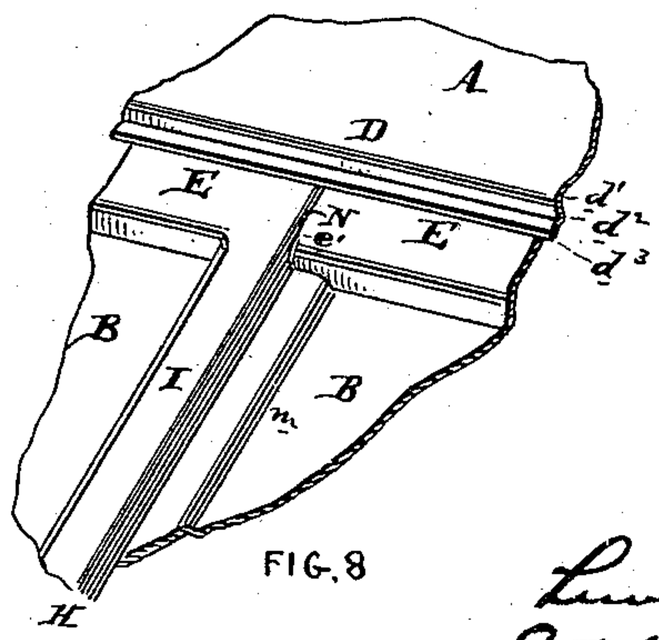

FIG. 8

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UNITED STATES PATENT OFFICE.

LEWIS D. CORTRIGHT, OF HYDE PARK, ILLINOIS, AND STEPHEN P. DARLINGTON, OF WEST CHESTER, PENNSYLVANIA, ASSIGNORS TO THE CORTRIGHT METAL ROOFING COMPANY, OF PENNSYLVANIA.

METALLIC ROOFING PLATE OR SHINGLE.

SPECIFICATION forming part of Letters Patent No. 370,317, dated September 20, 1887.

Application filed June 30, 1887. Serial No. 242,933. (No model.)

To all whom it may concern:

Be it known that we, LEWIS D. CORTRIGHT, of Hyde Park, county of Cook, State of Illinois, and STEPHEN P. DARLINGTON, of West Chester, county of Chester, State of Pennsylvania, have invented a new and useful Improvement in Metallic Roofing Plates or Shingles, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to that class of metallic roofing-plates in which the side seams which the plates form with each other lie in substantially vertical planes; and it has for its object the avoidance of certain difficulties heretofore met with in this class of roofing-plates, and we seek particularly to improve the horizontal seam formed between the top and bottom of the horizontal rows of plates.

Our invention consists in the novel devices hereinafter described and pointed out, and which are illustrated in the drawings forming a part of this specification, and which show our improvements in what we believe to be their best and most useful form.

In these drawings, Figure 1 is a perspective view of a portion of two rows of our improved metal shingles as they are laid upon a roof. Fig. 2 is a cross-section of the vertical seam on the line *x x* of Fig. 1. Fig. 3 is a cross-section of the horizontal seam on the line *y y* of Fig. 1. Fig. 4 is a cross-section of one of the roofing-plates on the line *w w* of Fig. 6, showing the character of the side seams which we prefer to employ. Fig. 5 is a perspective view of the lower edges of two interlocked shingles. Fig. 6 is a perspective view on an enlarged scale of our improved metallic shingle. Fig. 7 is a cross-section of our shingle on the line *z z* of Fig. 6; and Fig. 8 is a perspective view of the joint formed where the tops of two interlocked shingles and the bottom of an overlapping shingle meet.

A and B designate our improved metallic shingles, those in the upper row being marked A and those in the lower row being marked B.

C designates the upper edge and D the lower edge of the shingles.

F and G designate the edges or sides of our plates, which, as shown, are adapted to interlock with similar shingles in the manner shown most clearly in Fig. 2.

H is the seam formed by the interlocking of the adjacent edges of two similar shingles. As here shown, the edge F is bent at *m* to form a shoulder and again at M into an upwardly-projecting flange or hook, while the edge G is bent and folded so as to form a tube or gutter, J, the upper portion, I, of the folded metal having its edge bent downward into a hook shape, and an upward bend, K, being formed in the metal, which extends under and outside of the hooked end of I, and which prolonged becomes the nailing-flange L. The hook M on the edge F is inserted beneath the hook I on the edge G, and the plate is then pressed down upon the roof, bringing the portion of the edge F between the hook M and the shoulder *m* into close contact with the hooked edge of I and with the projection K, as shown in Fig. 2. This vertical seam forms no part of our present invention, having been patented to Lewis D. Cortright, March 1, 1887, by Letters Patent No. 358,595; and it is shown in this patent as being, we believe, the best seam for use with our improvements.

E is a projection having, preferably, a plain level surface, which we strike up from the level of the sheet to the same plane as the top of the vertical seams H, this plane being in the present case that of the top of the hook I upon the edge G. Above this projection E the top C of the sheets are preferably struck up into serrations *c*, the lowest of which rises above the projection E, forming an abrupt shoulder with it, while the upper ones should gradually recede toward the plane of the plate, as shown, so as not to come in contact with the overlying shingles when they are nailed down upon the roof. These serrations *c*, with their abrupt shoulders on their downward sides, form dams or obstructions to prevent water being forced over the top of the shin-

gle, the bottoms of the serrations forming gutters, which should open at one end, preferably on the side of the edge F, when the seam shown at H is used, so that any water which may get into them can escape freely into the vertical seams H. The projection E merges on the edge G of the plates into the surface formed by the top of the hook I, while on the side of the edge F it terminates in an abrupt shoulder, *e'*, which, when two plates are interlocked, lies closely against the downward flange of the hook I, forming a close joint, as shown at N, Fig. 8, so that the space between the plain surfaces E of adjoining interlocked plates is as small as it is practicable to make it.

The lower edge, D, of our improved shingles is preferably bent downward at *d'*, and then outward at d^2, terminating in the flange d^3. These bends in the bottom D of the sheet serve to strengthen and stiffen it and counteract any tendency to curve or bend at this point. They have also the additional function of raising the lower edge of the shingle, so that it will pass over the serrations *c* without touching them, and by bending the flange d^3, so that its extreme edge will rest on the projection E and the flange itself lie at an acute angle to the plane of the said projection, its own elasticity will tend to force the edge to close contact with the supporting-surface.

e d designate ornamental patterns stamped up upon the center of the shingle.

The bottom corner of the edges G should be cut away, as shown at P, while the corresponding corner of the interlocking edge F should be bent downward, as is shown at O, so as to cover over all parts of the seams H outside of the tubes J. This downward bend of the metal at the end of the edge F is rendered practicable by the cutting away of the corner P.

The chief feature of our invention consists in the elevation of the projection or platform E, upon which the horizontal seams are formed, to the same height as the top of the vertical seams, so that a tight joint is formed between the upper and lower rows of shingles without the necessity of bending or striking up a groove in the lower edges of the shingles to pass over the elevated vertical seams.

It is not essential that the whole top of the projection E should lie in the plane of the top of seam H, the main point being that in the line where the edge D of the upper plate rests the plane shall be continuous. Above and below this line the level of the projection may rise or fall; but we prefer to make the surface level, in order to permit more freedom in the adjustment of the upper rows of shingles.

Another advantage of our device is that the joint is tight where the upper shingles cross the vertical seam of the lower shingles, even if the center line of the said upper shingle does not correspond with the line of the joint, which of course is not the case where the lower edge of the shingle is recessed to cross the joint. By our device the vertical seams H of successive horizontal rows may be either staggered, as shown, or laid in continuous lines.

While, as we have already said, we prefer to make the lower edges, D, of our shingles or plates of the form shown, we do not wish to be understood as limiting our invention to the use of this device, as our projection or platform E may be used with any straight, or rather level, form of bottom edge.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A metallic shingle having a projection, E, struck up to the level of the vertical seams on the line where the overlapping bottom edge of a similar shingle rests upon it.

2. A metallic shingle having a projection, E, struck up to the level of the vertical seams on the line where the overlapping bottom edge of a similar shingle rests upon it, said projection having an abrupt shoulder, *e'*, adapted to come close to and form a joint with the high seam on an adjacent interlocked shingle, all substantially as and for the purpose specified.

3. A metallic shingle having a projection, E, struck up to the level of the vertical seams on the line where the overlapping bottom edge of a similar shingle rests upon it, and one or more elevated serrations or corrugations struck up from the top of the shingle above said projection.

4. A metallic shingle having a projection, E, struck up to the level of the vertical seams on the line where the overlapping bottom edge of a similar shingle rests upon it, two or more serrations, *c*, of gradually-decreasing elevation above the plane of the roof struck up from the top of the shingle above the projection E, and a downwardly-bent lower edge, D, adapted to rest on the projection E while the plane of the shingle passes over the serrations *c*.

5. A metallic shingle having a projection, E, struck up to the level of the vertical seam on the line where the bottom edge of an overlapping shingle rests upon it, and having its bottom edge, D, bent at *d' d²*, substantially as and for the purpose specified.

6. A metallic shingle having a projection, E, struck up to the level of the vertical seam on the line where the bottom edge of an overlapping shingle rests upon it, having serrations *c* of gradually-decreasing height above the plane of the roof struck up on its upper end above the projection E and having its bottom edge, D, bent at *d' d²*, substantially as and for the purpose specified.

7. A metallic shingle having its edges F and G bent and flanged, as shown and described, so as to interlock with similar shingles, and a projection, E, struck up to the level of the top of the hook I of edge G and termi-

nating at the edge F in a shoulder, *e'*, adapted to rest against the hook I of a similar interlocked shingle.

8. A metallic shingle having its edges F and G bent and flanged, as shown and described, so as to interlock with similar shingles, the edge F being bent downward at O and the edge G cut off at P, and a projection, E, struck up to the level of the top of the hook I of edge G and terminating at the edge F in a shoulder, *e'*, adapted to rest against the hook I of a similar interlocked shingle.

LEWIS D. CORTRIGHT.
STEPHEN P. DARLINGTON.

Witnesses:
CHARLES F. ZIEGLER,
JOSHUA MATLACK, Jr.