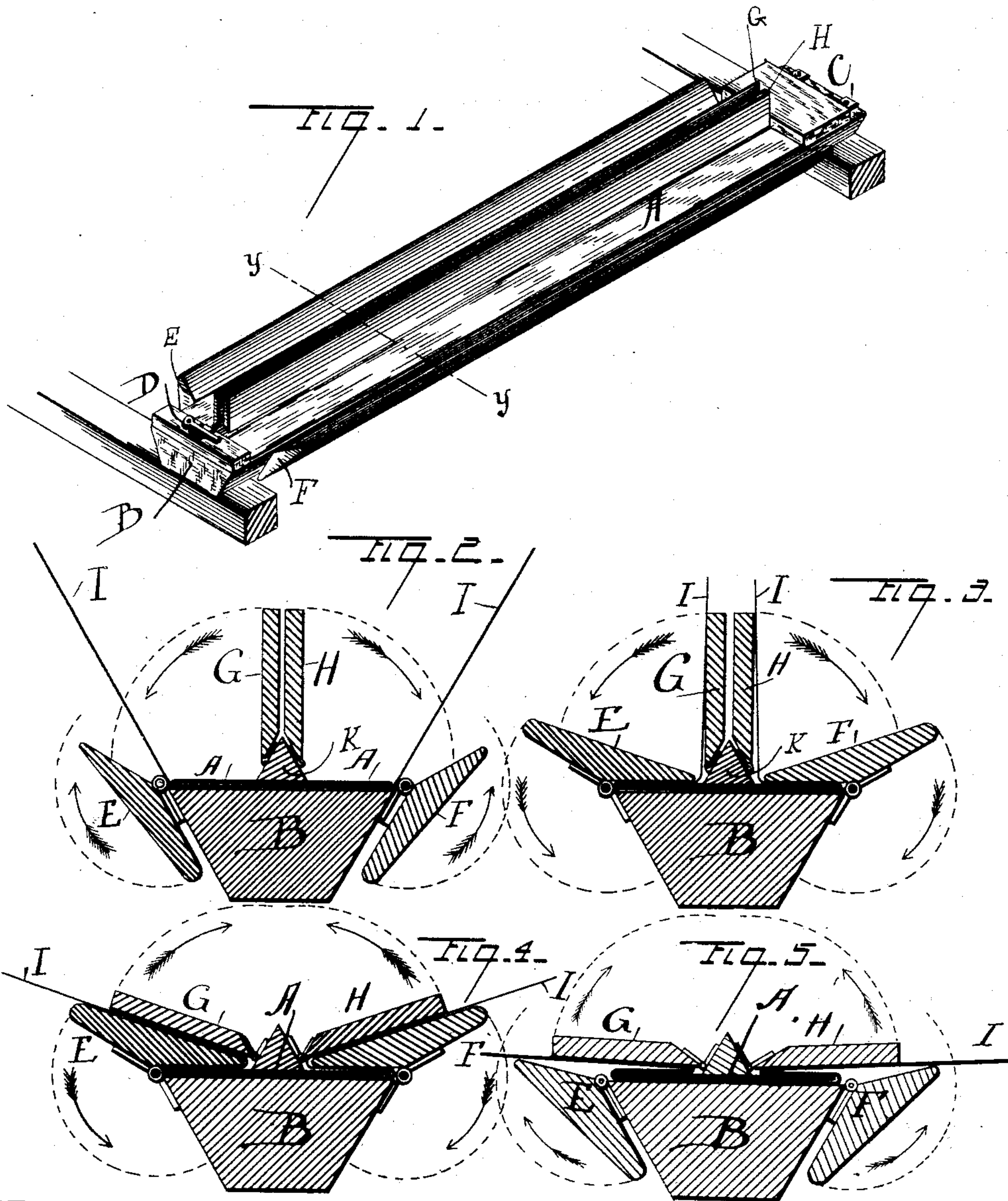


L. D. CORTRIGHT.

MACHINE FOR MAKING RIDGES AND VALLEYS FOR BUILDINGS.

No. 343,700.

Patented June 15, 1886.



WITNESSES

W. S. Paré
Frederick Douglas

INVENTOR

Lewis D. Cortright,
By Banning & Banning,
ATTORNEYS

(No Model.)

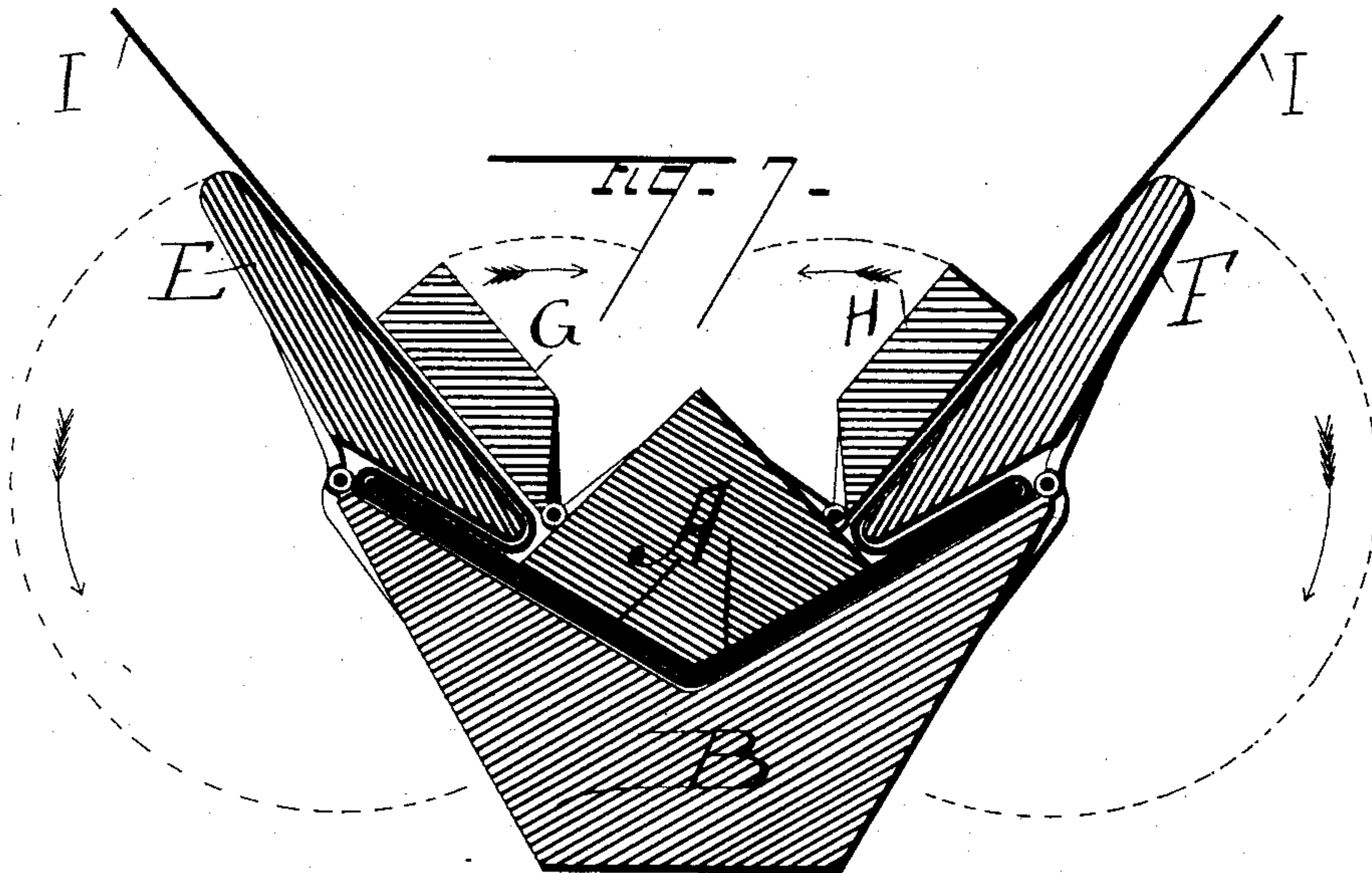
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

LEWIS D. CORTRIGHT, OF HYDE PARK, ILLINOIS.

MACHINE FOR MAKING RIDGES AND VALLEYS FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 343,700, dated June 15, 1886.

Application filed January 22, 1886. Serial No. 189,422. (No model.)

To all whom it may concern:

Be it known that I, LEWIS D. CORTRIGHT, a citizen of the United States, residing at Hyde Park, Illinois, have invented certain new and useful Improvements in Machines for Making Ridges and Valleys for Buildings, of which the following is a specification.

The object of my invention is to construct a machine for making ridges and valleys like those described in Letters Patent No. 313,852, issued to me March 17, 1885.

In the drawings, Figure 1 is a perspective view of my machine with the outside levers down and the inside levers up. Fig. 2 is a vertical transverse sectional view taken in line *yy* of Fig. 1 with a piece of tin clamped between the upper and the lower portions of the machine. Fig. 3 is a vertical transverse sectional view of the same with the outer levers up and the tin bent into a different position. Fig. 4 is a vertical transverse sectional view of the same with the outside levers up and the inside levers down, and the tin bent into still another position. Fig. 5 is a view of the machine with the levers E and F down as in Fig. 2, and with the levers G and H pressed farther down than in Fig. 4. Fig. 6 is a view of the tin when it has been further bent by hand or otherwise to the shape in which it is finally applied; and Fig. 7 is a modification of my machine, so that the central longitudinal bend in the tin shown in Fig. 6 may be made with the machine itself.

In the drawings, A represents the upper part of my machine; B, the lower part; C, hinges by which the upper and lower parts are hinged together at the lower end; D, the clasp or fastener by which they are held together at the other end; E, a lever or leaf hinged to one side of the lower portion of the machine; F, another leaf or lever hinged to the other side of the lower portion of the machine; G, a leaf or lever hinged to one side of the upper part of the machine; H, another leaf or lever hinged to the other side of the upper part of the machine; I, the piece of tin from which the ridge or valley is constructed; and J the completed ridge or valley, as shown in my Letters Patent above referred to.

In making my machine for the manufacture of hips or ridges and valleys for buildings, I make it of an upper and a lower part, prefer-

ably hinged together at one end, as at C, and adapted to be locked or fastened together at the other end when the tin of which the ridge or valley is composed is being operated upon. The upper and lower parts of the machine should rest upon benches or other suitable supports. I prefer to make the lower piece of the machine wider at the top than at the bottom, as shown in Fig. 2 and other figures. At each side of the lower part I hinge leaves or levers E and F, preferably of the shape shown in Fig. 2 and other figures. These levers may be turned down, as shown in Fig. 2, and put up, as shown in Fig. 3. The upper portion of the machine is preferably made of a thin but strong piece of flat steel of the length and width desired, and provided along its longitudinal center with a triangular piece, as shown in the drawings. At each side of this triangular piece K are hinged levers G and H, preferably beveled at the side next to the triangle. They are hinged so that they can be raised up into the position shown in Figs. 2 and 3, or turned down into the position shown in Fig. 4.

Instead of making the upper part of the machine of a flat thin plate of steel or other metal with a triangular piece along its longitudinal center, to which the leaves or levers G and H are hinged, it may be made of wood, metal, or other suitable material, thin at its edges and increasing in thickness toward the middle where the levers are hinged. These slight modifications in form, and others which can be mentioned, are not regarded as essentials, so long as the machine is constructed substantially as described, and so as produce the result desired.

It is also obvious that the machine can be constructed with levers or leaves on only one side, in which case only half of the ridge or valley would be made at a time.

In operation the upper part of the machine is raised or turned back on its hinges C, and a piece, I, of tin or other suitable material, of preferably the length of the levers and the width necessary to make the completed ridge or valley, is slid in between the upper and lower parts of the machine. The upper part of the machine is then lowered onto the tin and locked or clasped securely in place by the fastener D, or held in any other suitable man-

ner. The tin is thus caused to assume substantially the position shown in Fig. 2, in which it is clasped between the upper and the lower parts of the machine, and its edges bent somewhat upward at an incline. The leaves E and F are then turned up, as shown in Fig. 3, when the tin is bent back over the upper part of the machine and stands upright against the levers G and H. The levers G and H are then turned down, and the tin bent back again upon the levers E and F into the position shown in Fig. 4. The levers G and H are then raised into their first position, as shown in Fig. 2, and the levers E and F are turned down into their first position, as shown in Fig. 2, when the levers G and H may be again lowered to still further bend the material down and make the last fold close, as shown in the completed valley in Fig. 6. The clasp D or other holder is then loosened, and the upper part of the machine raised and the tin slid out at its free or unhinged end.

The manipulations which I have described leave the tin substantially in the position shown in Fig. 5, after which it may be bent by hand or other means along its longitudinal center, as shown in Fig. 6, when it is in the shape described and claimed in my patent above referred to, and is ready to be applied to the ridge or valley of a building.

Instead of making the machine as shown in the first five figures of the drawings, and completing the bending by hand as above described, the machine may be made, as shown in Fig. 7, with a groove or channel cut in its upper surface at the proper angle to which the roof or valley is desired to be bent, and the upper portion of the machine may have its bottom V-shaped, to correspond to the channel cut into the lower part of the machine. This is plainly shown in Fig. 7, and need not be dwelt on at length.

I have not illustrated this machine through all of the operations in making a ridge or valley, because the operation is precisely as before described in reference to the other form of machine, the only difference being that in the one case the longitudinal central bend is made by hand after the tin has been removed from the machine, and in the other it is made by the machine itself. By dropping the levers E and F and bringing the levers G and H further down, as aboved described, the last fold may be brought close together, as shown in Fig. 6. By hinging the wings G and H farther apart, and shortening correspondingly the bending edge of the levers E and F, the distance between the final bends or folds in the middle will be increased. In this way the distance between these folds may be varied at pleasure.

By the "longitudinal center of the plate," I mean the line along which the apex of the comb or the bottom of the valley is bent, whether the same be in fact the center of the plate or in the direction of its longest axis, it being the bend in relation to which the others are made.

What I consider as new and desire to claim is—

In a machine for bending or folding the edges of a tin or other thin plate, the combination of a lower part having a hinged leaf on one side, or a leaf on each side folding, when down, along the side or sides of the lower part, and when up over the top of the upper part, and an upper part having a leaf or leaves hinged inside of the inside edge or edges of the leaf or leaves of the lower part when folded up, substantially as described.

LEWIS D. CORTRIGHT.

Witnesses:

GEORGE C. COOK,
FRANK L. DOUGLAS.