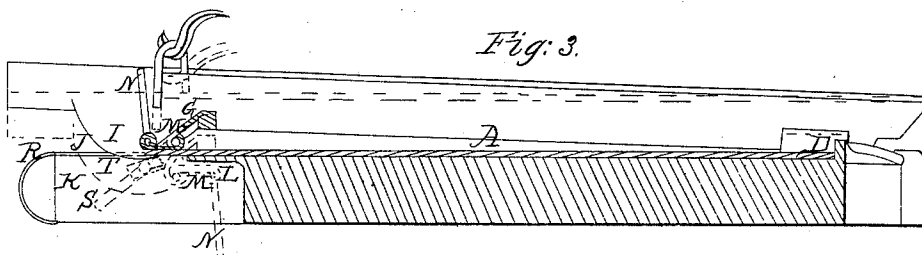
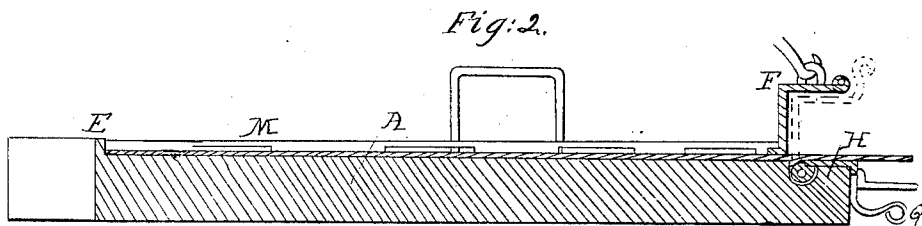
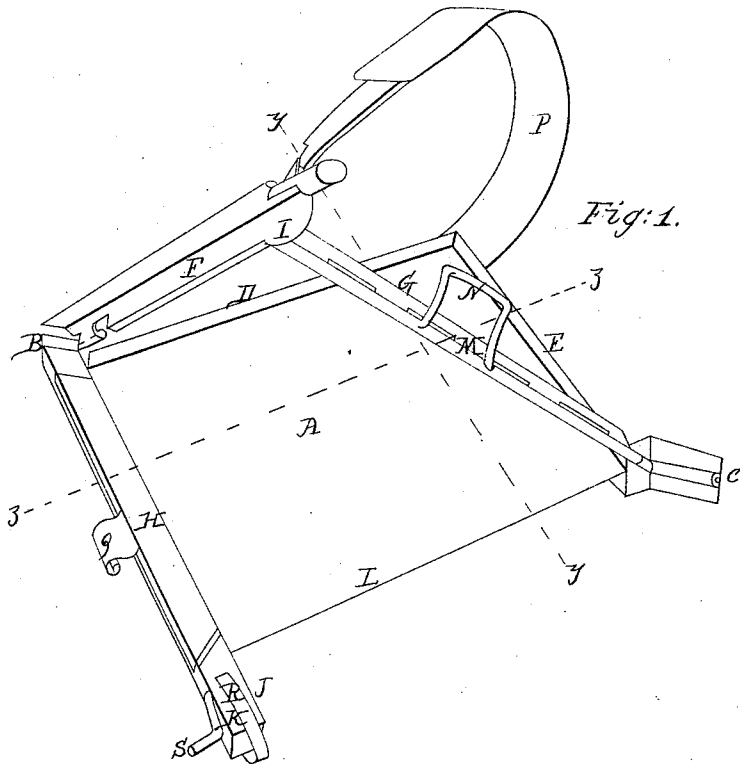


G. W. Merks,

Edging Sheet-Metal.

N<sup>o</sup> 19,038.

Patented Jan. 5, 1858.



# UNITED STATES PATENT OFFICE.

GEORGE W. MERK, OF LEAVENWORTH CITY, KANSAS.

## IMPROVED MACHINE FOR BENDING TIN.

Specification forming part of Letters Patent No. 19,038, dated January 5, 1858.

*To all whom it may concern:*

Be it known that I, GEORGE W. MERK, of the city and county of Leavenworth, and Territory of Kansas, have invented a new and useful Machine for Bending Tin or Sheets of other Metal; and I do hereby declare that the same is described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

Figure 1 is a perspective view of my machine with the clamping-bars or frame raised. Fig. 2 is a section on the line Z Z of Fig. 1. Fig. 3 is a section on the line Y Y of Fig. 1.

The nature of my invention consists in arranging two clamping-bars at an angle to each other, and hinging the end of each leg of the angle to the corners of a bed, which are diagonally opposite to each other, so that the apex of the angle can be raised to insert the sheets of metal to be bent and closed to bend them, and raised again to remove the bent sheets, and in combining with said clamping-bars some hinged bending-bars for turning and bending the edges of the metal sheets.

In the accompanying drawings, the bed of the machine is shown at A, and may be made of cast-iron in the form shown, and provided with projections B and C at two of its corners which are diagonally opposite to each other, as shown in the drawings. The bed A has a flange projecting upward at a right angle on the two contiguous sides D and E, against which sides the edges of the tin or sheets of metal are placed when put into the machine for the purpose of bending the opposite edges. The clamping-bars F and G are firmly fastened together at the apex of the angle, where they are joined and provided each with a journal at their opposite ends fitted to turn in sockets on the projections B and C, as shown in the drawings. The clamping-bar F has a recess in it, forming a right angle, into which the tin is pressed and bent to correspond with said angle by the bending-bar H, which is hinged to the bed A, as shown in section, Fig. 2. The share-blade I is fastened near the end of the bar F, and acts, in conjunction with the share edge J on the projection K from the corner of the bed A, to cut a slit near the corner of the

sheet when the bar F is brought down to clamp it. The bar G is made in such a form (see Fig. 3) that as it is brought down upon the sheet of tin it bends the edge of the sheet over the edge L of the bed A, so as to form a right angle. This bar G has the bending-bar M hinged to it, which is provided with a handle, N, by which it is turned under the edge L, (which is made thin,) so as to bend that portion of the tin which was turned down at a right angle to the sheet up under the edge L and form a lock on the edge of the tin or sheet of metal. The spring P is fastened under the corner of the bed A, and is connected to the apex of the bars F and G by a hook and eye, so as to hold the bars up while the sheets of metal to be bent are put on the bed A and removed from it.

To bend a sheet of tin or other metal in this machine, it is laid upon the bed A with two of its edges against the flanges D and E, when the clamping-bars F and G are brought down upon it, the latter turning the edge under it down at a right angle, the blades I and J cutting a slit, so as to separate that portion of the sheet turned down from the portion that lies on the bending-bar H. The handle N is now pressed down, so as to work the bending-bar M around under the edge L and form a lock on the edge of the sheet. The bar M is shown by dotted lines in Fig. 3 in the position to which it is moved to form the lock on the sheet. The bar M may be held under the edge L with one hand, so as to hold the clamping-bars down firmly on the sheet while the operator seizes the handle Q with his other hand and raises the bending-bar H up into the angular recess in the bar F, forming two bends at right angle near the edge of the sheet, as shown by dotted lines in Fig. 2.

In using this machine it is best to bend the lock on one edge only first, and then turn the sheet over and put the opposite edge against the spring-gage R, which may be raised for that purpose by turning the crank S and cam T. (Shown by dotted lines in Fig. 3.) After the lock is bent on the edge of the sheet the cam must be turned so as to let the gage spring down, so that the lock on the sheet can be slipped off of the edge L and the sheet removed.

This machine is designed for bending the edges of sheets of tin and other metal for covering roofs and for other purposes, and is

far superior to any machine heretofore used for that purpose, as two edges of the sheet are bent by inserting it in the machine once.

I believe I have described and represented the machine which I have invented for bending the edges of sheets of metal so as to enable any person skilled in the art to make and use it.

I will now state what I desire to secure by Letters Patent, to wit:

1. The two clamping-bars F and G, arranged at an angle to each other, with each leg of the angle hinged to the bed, so that the apex of the angle can be raised from the bed to insert the sheets of metal, and closed down upon

them to bend them, and raised again to remove the bent sheets, substantially as described.

2. In combination with the above-described clamping-bars F and G, the folding or bending bars H and M, for bending the edges of the sheets of metal, substantially as described.

3. The spring-gage R, so arranged that it may be raised to gage the sheet and spring down, so that it may be removed.

GEORGE W. MERK.

Witnesses:

JOHN M. TAYLOR,  
MERWIN R. LANE.