



# UNITED STATES PATENT OFFICE.

JANE BELT, OF MOUNT WASHINGTON, OHIO, ADMINISTRATRIX OF  
WILLIAM S. BELT, DECEASED.

## IMPROVEMENT IN MACHINES FOR MAKING SHEET-METAL ROOFING.

Specification forming part of Letters Patent No. **209,747**, dated November 12, 1878; application filed  
June 15, 1878.

*To all whom it may concern:*

Be it known that WILLIAM S. BELT, of Cincinnati, county of Hamilton, and State of Ohio, did invent a new and Improved Machine for Making Sheet-Iron Roofing; and it is hereby declared that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the machine; Fig. 2, a vertical section of the same, and Fig. 3 a perspective view of the roofing as shaped upon the machine.

Similar letters refer to similar parts.

The invention has for its object to provide a simple and effective machine for crimping sheet-iron roofing; and to this end it consists in the construction of the machine, as will be hereinafter described.

In the accompanying drawings, G represents a bed-plate, mounted upon suitable supports H, and provided with a longitudinally-grooved metal plate, I, near its rear edge, the groove being of the shape to be given the crimps. A second groove of similar shape is formed parallel to the first at the front of the table, to receive the crimp already formed in one edge of the sheet while the crimp is being formed by the machine at the other edge, as will presently be shown in describing the operation of the machine.

J J are standards, bolted or otherwise secured to each end of the grooved metal plate I, and K is a strong metal beam or bar, bolted or otherwise securely fastened to the standards, so as to lie edgewise some distance above the grooved plate.

L is the crimping-bar, composed of metal, with a longitudinal rib or die upon its under surface, made V-shaped transversely, to fit within the groove or matrix in the plate I. This bar is suspended by jointed levers M M from one side of the beam K, and is adapted to move up and down between end guides N N, attached to the proximate faces of the standards. O is an operating-shaft, held in bearings P P at the back of the beam, and

provided with eccentrics R R, which are connected by eccentric-arms S S to the joint of the levers, thereby forming strong and powerful toggle-levers.

In order to crimp the sheet-iron plates in the machine thus constructed, one or more sheets—preferably two—are laid upon the table and pushed back under the crimping-bar to the adjustable gage-blocks T T. The shaft is then rotated by the hand-crank U on one of its ends, thereby causing the eccentrics to operate the toggle-levers and move the crimping-bar down upon the iron plate with such force that its die or rib shall force the sheet metal into the matrix, and thus form the crimp at one operation. The position of the sheet-metal plate and the operative parts of the machine in forming the first crimp is shown in Fig. 2. After the first crimp has been formed the hand-crank is turned to lift the crimping-bar. The sheet-metal plates are then reversed so as to bring their uncrimped edge under the bar, and the operation of crimping repeated, the crimp already formed in the opposite edge resting within the front groove of the table, so that the plate shall lie flat thereon, as will be readily understood. By this means the sheet-metal plates are crimped very rapidly in the most perfect manner, with the crimps properly and uniformly spaced.

If desired, the central crimp can be made in the sheets by adjusting the gages so as to push the sheets under the crimping-bar the proper distance for the purpose; and, instead of turning the machine by hand, it may be operated by power, and the sheets fed to it either by hand or machinery.

The plates crimped by the machine are shown at A A, Fig. 3, B B representing the edge crimps, and C the center crimps.

Having thus described the invention, what is claimed as new is—

1. The machine for forming crimps in sheet-metal roofing-plates, consisting of a table having a front and rear groove, a vertically-reciprocating crimping-bar, L, provided with a rib to fit into the rear groove, and operated from the driving-shaft O by means of eccentrics R R thereon, connected by arms S S to the toggle-

levers M M, which suspend the bar from the beam K, substantially as described, for the purpose specified.

2. The table of the crimping-machine, formed with a front groove, which, after a roofing-plate is crimped along one edge by the die and rear groove, and is then reversed, shall receive the crimp already formed while a crimp is being made in the opposite edge, substantially as described.

In testimony of which invention I hereunto set my hand.

JANE BELT,  
*Administratrix of the estate of William S. Belt,  
deceased.*

Witnesses:

JOHN E. JONES,  
J. G. Q. MADDOX.