

I. B. Holmes.

Edging Sheet-Metal.

N^o 14,916.

Patented May 20, 1856.

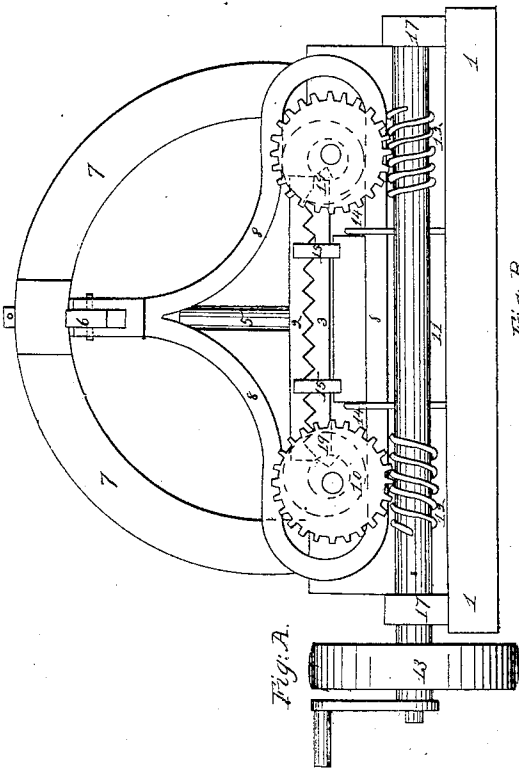
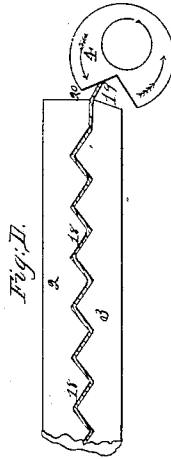
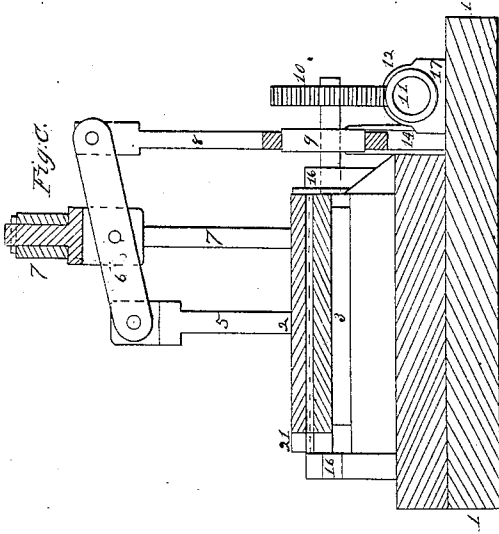
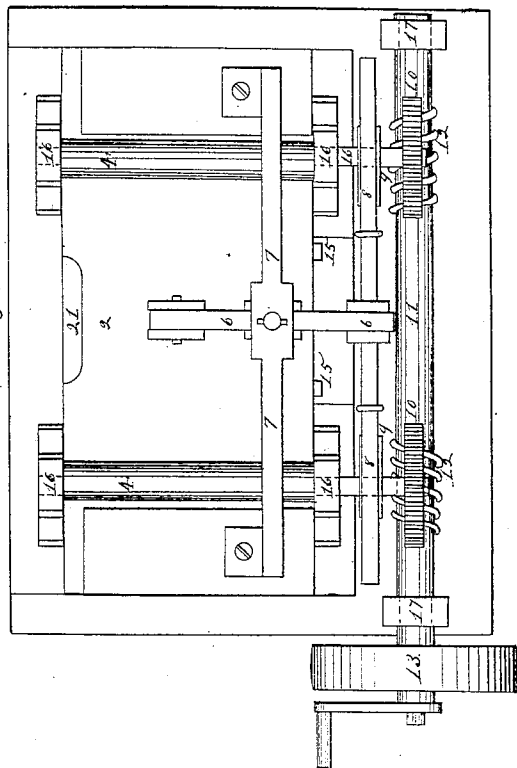


Fig. B.



UNITED STATES PATENT OFFICE.

I. B. HOLMES, OF CINCINNATI, OHIO.

IMPROVEMENT IN WORKING IN SHEET METAL.

Specification forming part of Letters Patent No. 14,913, dated May 20, 1856.

To all whom it may concern:

Be it known that I, I. B. HOLMES, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in a Machine for Gaging and Bending Corrugated Zinc Plates and other Metals for the Face of Wash-Boards; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, and to the letters and figures of reference marked thereon.

Similar figures of reference refer to corresponding parts.

In connecting metal faces of wash-boards to the sides or legs, which metal faces commonly consist of sheet-zinc plates cut to the proper size and corrugated by a suitable machine, it is necessary to have the corrugations retain the original shape given to them by the corrugating-machine and to bend the edges of the plates at each end, which bent parts are let into the body-board, (forming the back of the wash-board.) Said bends should also be as near alike in their extent, distance apart, and their relative position to the corrugations of the plate as possible, so that one corrugating incision-knife will serve to make the incisions in all the legs for the reception of different plates, and so that the slits sawed in the body-board can all be sawed to one gage for receiving the different plates; and to effect the object of gaging the length of the plate, the extent of the bends, and retain the original shape of the corrugations in the plates given to them by the corrugating-machine is the object and design of my improvement.

My improvement consists in making a machine provided with two metal plates which are furnished with corrugations to correspond with those made in the sheets of zinc by the corrugating-machine. One of the said plates is secured to the frame of the machine, while the other is made to move up and down directly over it, and is worked by a system of levers, rods, and pulleys. The corrugated sheet of zinc to be gaged and bent is laid on the metal plate attached to the frame-work of the machine. The top plate is then brought down upon it by means of the mechanical contrivances before mentioned, and holds the sheet of zinc to its original corrugated shape, while grooved eccentric bending-shafts revolve

around on each side of the machine, and come in contact with and bend the ends of the sheet of zinc down at right angles. After this operation, the machine lifts the top plate, and the bent and prepared sheet of zinc is taken out and replaced by another to undergo the same operation.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation by referring direct to the accompanying drawings.

Figure A represents a rear elevation of the machine in a supposed complete state, showing the means employed for giving motion to the eccentric bending-shafts and elevating the plate that holds the corrugated sheet of zinc while being bent. Fig. B is a top view of the machine. Fig. C represents a transverse sectional view of the same. Fig. D shows part of the two plates for holding the zinc while being bent, in combination with an end view of the eccentric bending-shaft.

1 1 is supposed to be the top of the table, and will be supported by legs. To this table the different parts of the machine are attached.

3 represents the bottom corrugated plate made fast to the top of the table. Upon this plate the corrugated zinc sheet is placed, and held there by means of the top corrugated plate, 2, rod 5, lever 6, frame 8, and eccentrics 9 9, while the eccentric bending-shafts 4 4 are made to revolve around by means of the shaft 11 and right and left screws 12 12 on said shaft. These screws, working into the wheels 10 10, (on bending-shafts 4 4,) causes them to revolve around and bend down that portion of the zinc sheet which projects over the edge of the plate, as represented in Fig. D.

18 18 is supposed to be the zinc sheet between the two corrugated plates, and 20 is the end of it projecting over the edge of the plate, and in the process of being bent at a right angle by the eccentric bending-shaft 4. The darts denote the direction of the shaft's motion. As soon as the bending process is completed, the top corrugated plate is elevated by the eccentrics 9 9, (one attached to each of the shafts 4 4,) and the frame 8, lever 6, and rod 5, and the bent sheet of zinc is removed and replaced by another sheet to undergo a similar operation of gaging and bending.

14 14 are guides to keep the frame 8 in a vertical position. 15 15 are guard-pieces

placed at the rear of the corrugated plates 2 and 3 to prevent the sheet of zinc from being shoved too far back.

16 16 represent the bearings in which the eccentric bending-shafts 4 4 revolve, and 17 17 are the bearings in which the shaft 11 revolves, that works the benders and top corrugated plate, 2.

7 is the arch-piece for holding the lever 6, that works the plate 2.

The machine will be worked by means of a belt passing around the pulley 13, or a crank, if desired.

21 is a recess cut in the front of the corrugated plates 2 and 3 for giving the fingers an opportunity to take hold of the zinc sheet when being put in and taken out of the machine.

The angular groove made in the bending-eccentric for taking a better hold of the zinc

sheet to bend it down is fully shown in Fig. D, and is cut on the eccentric portion of the shaft, and as it bends the edge of the plate down the bend is made a little beyond a right angle by cutting the under edge of the lower plate, 3, away, so that the top angle or edge of the lower plate will form an acute instead of right angle, as fully represented in Fig. D.

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

The use of corrugated plates 2 and 3, constructed as described, and operating in connection with the eccentric bending and gaging shafts 4 4, in the manner and for the purposes set forth.

I. B. HOLMES.

Witnesses:

W. E. WATSON,
L. W. SMITH.