O. W. Noble,

Making Eaves-Troughs.

No. 54,758. Patented May 15, 1866.

Fig 2

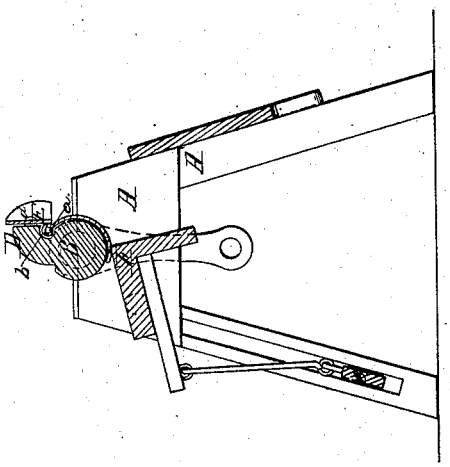


Fig 4

Fig 1

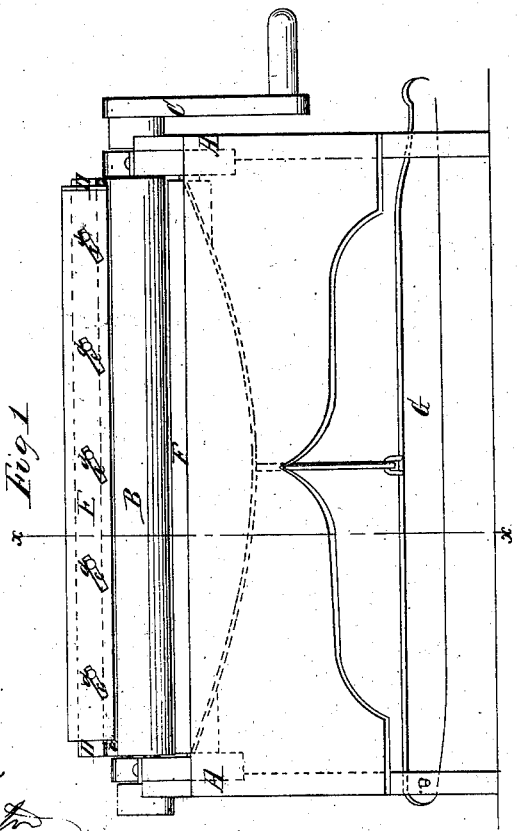
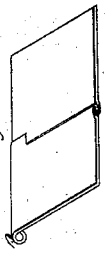


Fig 3



Witnesses,
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UNITED STATES PATENT OFFICE.

O. W. NOBLE, OF DARLINGTON, WISCONSIN.

IMPROVEMENT IN MACHINES FOR MAKING EAVE-TROUGHS.

Specification forming part of Letters Patent No. **54,758**, dated May 15, 1866.

To all whom it may concern:

Be it known that I, O. W. NOBLE, of Darlington, in the county of La Fayette and State of Wisconsin, have invented a Machine for Making Eave-Troughs; and I do hereby declare 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 a part of this specification, in which—

Figure 1 is a front elevation of my invention. Fig. 2 is a transverse vertical section taken on the plane of the line *x x*, Fig. 1. Fig. 3 (in red) shows a piece of the metal before being operated upon by the machine. Fig. 4 (in red) shows a trough formed by my machine.

Similar letters of reference indicate like parts.

My invention relates to a machine for forming sheet-metal eave-troughs, wherein the roller is provided with a slide secured to a permanent rib thereon for clamping the sheet of metal while being formed, which is used in combination with a forming-board operated by a treadle, all being suitably arranged so that the operator can put in the sheets of metal, operate the machine, and remove the formed troughs without a change of position.

A designates the frame of the machine, which may be of any suitable construction. Upon this frame there is mounted a roller, B, which has its bearings on the end pieces of the frame, and which is provided at one end with a crank, C, by which to revolve it.

D is a rib which is formed upon a separate piece secured to the roller, and which is provided with a groove, *a*, in which to place the bead B (see Figs. 3, 2, 4) of the trough. Upon the face of this rib there is arranged a slide, E, which has made through it slots *e e*, through which protrude pins *d d*, on which it works. For instance, by drawing it toward the end of the machine at which the operator stands the slide will be raised, and by shoving it in an opposite direction the edge of the slide will be crowded down so as to confine the bead *b* of the plate in the groove *a*.

F is the forming-board. This is pivoted at each end in the frame of the machine, so that its inner edge can be brought to bear against the roller B back of the rib D, and it is operated by a treadle, G, which will, when pressed down, cause the edge of the said forming-board F to bear with greater or less force against the roller B, according to the weight exerted on the treadle G.

The operation is as follows: The sheets of metal are locked together first and formed in a strip with the bead on one edge. The slide E is raised by drawing it toward the operator, who stands at the end of the machine where the wrench and treadle are arranged. The metallic sheet is then affixed by placing the bead *b* in the groove *a*. The slide E is then forced down, which secures the metal sheet. The crank is then turned until the rib D has pressed the forming-board F, when the treadle is depressed so as to cause the said pressure-board to bear with considerable force against the metallic sheet. Then by merely revolving the crank the sheet will be given the desired half-round shape, as shown in red in Fig. 4.

I am aware that a machine for a like purpose as mine was patented to John Lee, October 8, 1850, and June 12, 1860; but I claim that mine possesses many advantages over that machine: First, it is simple in construction and can be made at a much less cost, as there are no castings about it, and any mechanic can make one with the ordinary tools of every-day use. In using Lee's machine the operator is obliged to go to the center of the machine to put in the metal sheets, then to the crank at the other end to operate the machine, then back to the center to take out the trough, and thus for every one hundred feet of trough he has one hundred feet of travel.

With my machine the operator stands at the end of the machine, where he can properly put in the metal sheet, clamp it by the slide, revolve the crank, and bear down upon the treadle to form it and remove the finished trough.

In Mr. Lee's machine it is necessary to remove the rib in order to insert the metal. With mine it is only necessary to raise the slide.

In Mr. Lee's machine the pressure-slide has to be adjusted and then fastened with a wrench, but with mine the forming-board adjusts itself, and it is only necessary to bear down upon the treadle to bring it in proper position.

My machine is not intended for holding the trough while soldering it, but merely for form-

ing the trough, the sheets of metal having been previously joined by a lock-joint, as shown in Fig. 3.

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

1. The slide E, in combination with the roller B, arranged and operating substantially as specified.

2. The forming-board F, in combination with the treadle G and roller B, substantially as and for the purpose specified.

3. The combination and arrangement of the roller B, provided with a permanent rib, D, and slide E, with the forming-board F and treadle G, substantially as specified.

O. W. NOBLE.

Witnesses:
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ANDREW ANTHONY.