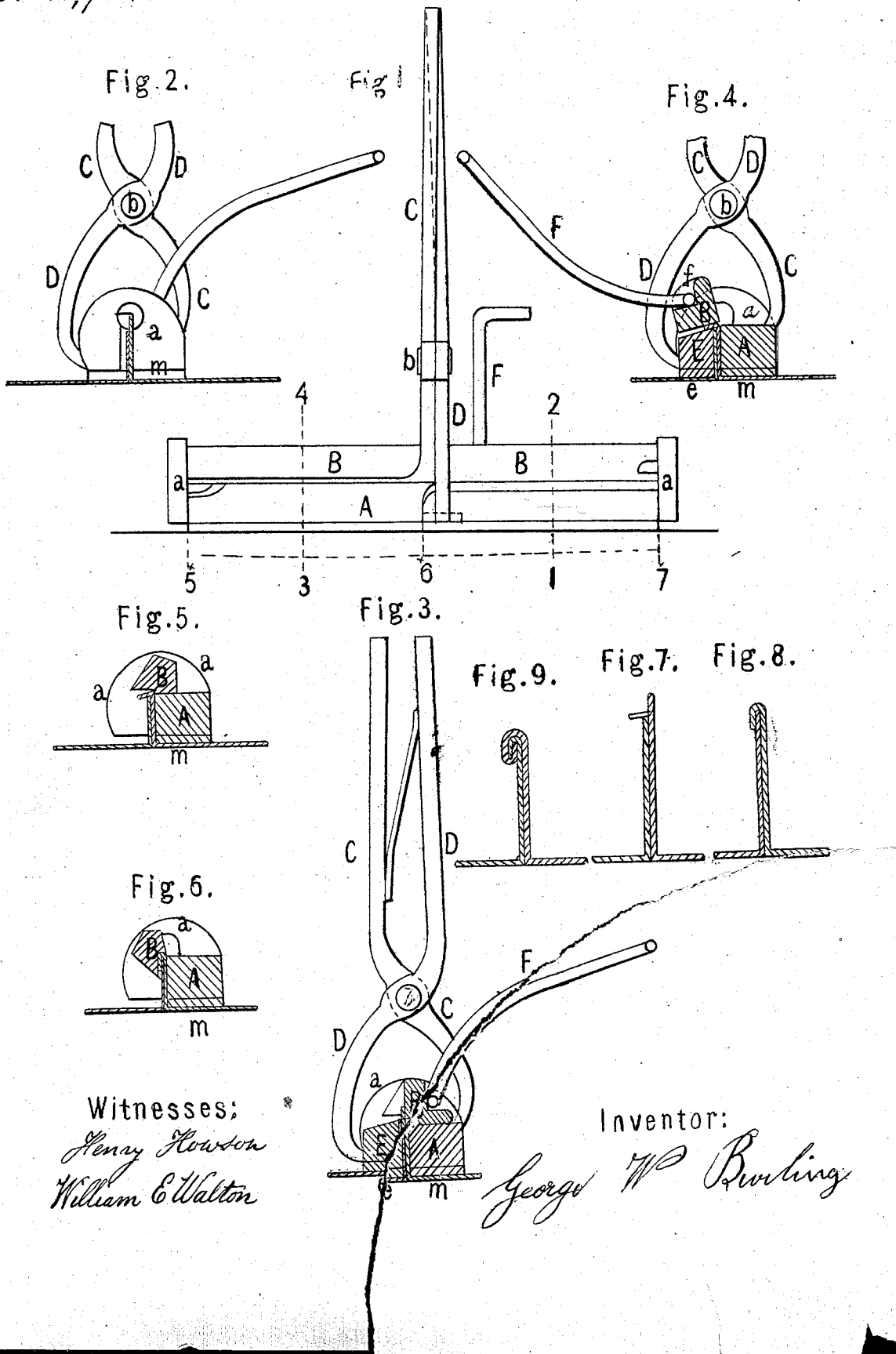


G.W. Burling.

Mach. for bending Sheet Metal.

No 15,964.

Patented Oct. 28. 1856.



UNITED STATES PATENT OFFICE.

GEO. W. BURLING, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR BENDING SHEET METAL.

Specification forming part of Letters Patent No. **15,961**, dated October 28, 1856.

To all whom it may concern:

Be it known that I, GEORGE W. BURLING, of the city of Trenton and State of New Jersey, have invented a new and Improved Apparatus for Making the Joints in Metallic Roofs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in the employment of movable blocks in connection with handles and levers, the whole being fully described hereinafter, whereby an operative may make both the first and second turn or fold at the junction of tin or other metallic plates used for the purpose of roofing, thus avoiding the tedious and laborious use of mallet and block usually employed for effecting the same purpose.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the drawings which form a part of this specification, Figure 1 is a front view of my apparatus for folding the edge of one plate over another in metallic roof; Fig. 2, an end view of the apparatus; Fig. 3, a transverse section on the line 1 2, Fig. 1, with the folder raised; Fig. 4, the same as Fig. 3, with the folder lowered; Fig. 5, a section on the line 3 4, with the folder raised; Fig. 6, the same as Fig. 5, with the folder lowered; Figs. 7, 8, and 9, enlarged views, showing the different positions of the edges of the metallic plates during the operation of making the joint.

The same letters of reference allude to similar parts throughout the several views.

A is the body of the apparatus, representing a square bar of iron, to the ends of which are cast or otherwise secured the flanges *a a*, to which is hinged the folding and paning block B. The folding portion of this block, the form of which will be best observed on reference to Figs. 3 and 4, extends from 6 to 7, Fig. 1, and the paning portion (seen in Figs. 5 and 6) extends from 6 to 5, Fig. 1.

To the back of the body A of the apparatus is permanently secured the lever C, and to this lever, at *b*, is jointed another lever, D. Both levers extend upward a sufficient distance to

allow the operative to handle the instrument with facility.

To the lower bent arm of the lever B is secured a block, which extends from 6 to 7, Fig. 1, and the shape of which is shown in Figs. 3 and 4, the upper face of the block inclining toward the body A, so that the edges of both coincide.

In a lug, *f*, projecting from the paning and folding block B, is an orifice for receiving the cranked end of the bent lever F, by means of which the operator causes the block to assume the different positions shown in Figs. 3 and 4 and 5 and 6. Both the blocks E and body A of the apparatus are furnished with loose plates *e* and *m*, which can be readily removed and replaced, for a purpose which will be apparent hereinafter.

Operation: It will be understood that in the construction of metallic roofs where the edges of two plates are jointed together one of the plates is turned up one and one-fourth inch, or thereabout, the other one and one-half inch, as seen in Fig. 7. It is necessary in the first instance to turn the top of the larger turn up over that of the smaller, as seen in Fig. 8, after which the two have to be turned over together, as seen in Fig. 9. This has hitherto been accomplished by means of an iron block and wooden mallet—a tedious process—which by my improved apparatus I propose to avoid. The operative in the first instance separates the levers C and D, so that the block E may be removed from the body A of the apparatus, which he now places over the seam, so that the body A may be on the side of the larger turn up, and the block E on the side of the smaller one. The detachable plates *e* and *m* rest on the flat portion of the roof. He then with one hand brings the tops of the two levers C and D together, thus pressing the two turns between the body A and block E. With the other hand he now turns down the lever E, causing the folding-block B to be brought from the position shown in Fig. 3 to that shown in Fig. 4, and thereby causing the top of the larger turn to assume the position shown in dotted lines, Fig. 7. Thus a portion of the seam of a length equal to the distance between 6 and 7, Fig. 1, has been what is technically termed “folded.” The operative now moves the apparatus forward until the portion of the seam

thus folded coincides with the paning part of the apparatus that is between 5 and 6, Fig. 1. The block B is now in the position shown in Fig. 5; but by operating the lever F it is brought into the position shown in Fig. 6, and thus the portion previously folded (only) becomes paned, as seen in Fig. 8. It now becomes necessary to turn the fold already made completely over a second time, as seen in Fig. 9. Before this can be accomplished by my apparatus the loose plates *e* and *m* at the bottom of the block E and body A are removed, and consequently the apparatus dropped lower, leaving the part already folded to be acted upon in a manner precisely similar to that already described, and thereby accomplishing the double fold desired, as seen in Fig. 9. It will be now seen that by going over the

seam twice with my apparatus the tedious process of using mallet and block is avoided.

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

1. The combination of the bars A and E with the folding-bar B, the same being arranged and operating substantially in the manner and for the purpose herein set forth.

2. The loose plates *e* and *m*, in combination with the aforesaid bars E, A, and B.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

GEORGE W. BURLING.

Witnesses:

HENRY HOWSON,

WILLIAM ELBALTON.