

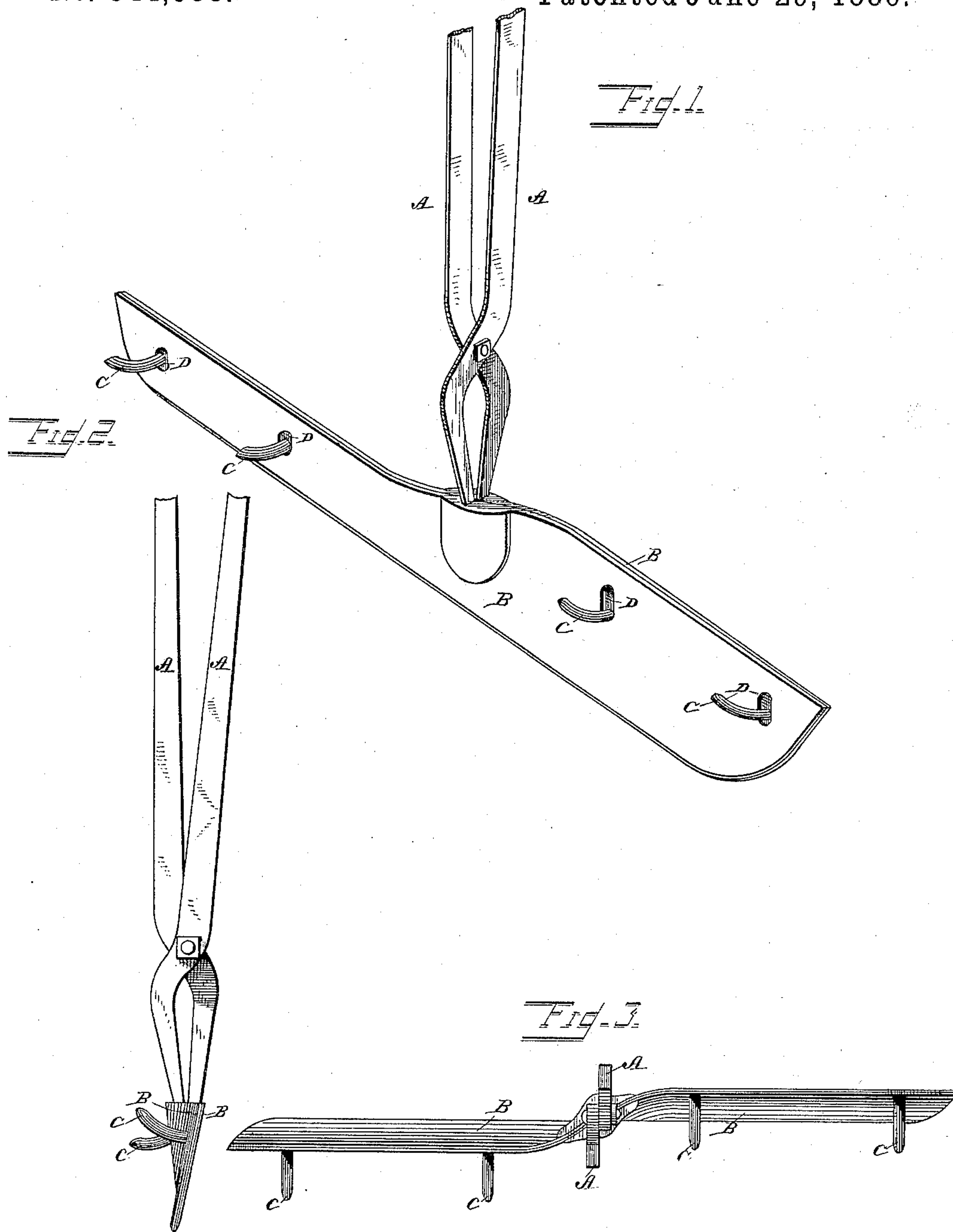
(No Model.)

J. D. McDOUGAL.

FLANGING TOOL.

No. 344,588.

Patented June 29, 1886.



WITNESSES
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UNITED STATES PATENT OFFICE.

JAMES D. McDOUGAL, OF COLUMBUS, OHIO.

FLANGING-TOOL.

SPECIFICATION forming part of Letters Patent No. 344,588, dated June 29, 1886.

Application filed May 4, 1886. Serial No. 201,088. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. McDOUGAL, of Columbus, county of Franklin, State of Ohio, have invented new and useful Improvements in Flanging-Tools, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in sheet-metal flanging-tools, and has for its objects to provide means for flanging the edge of sheet metal without the liability to breakage incident to the use of the tools now known, to flange the metal to the desired angle by one continuous operation, and to provide a strong, durable, and simple construction for the tool by which these objects are attained.

Crimping-tools for turning the edge of sheet metal have been heretofore subject to many difficulties, some of which are as follows: By bending the metal to an abrupt angle the metal is broken at the angle. Where the sharpened corners of the ends of the tool come in contact with the metal there is great liability of puncturing the metal at that point. To partially avoid the first of these difficulties, the metal is gone over two or three times, at each time bending it to a more acute angle, thus adding greatly to the labor. I obviate these difficulties by means of the tool illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention. Fig. 3 is a plan view showing the angles between the two parts of the tool. Fig. 2 is an end view of the tool.

In the drawings, A A are the handles, pivoted near the lower end, where the elongated flanging-blades B B are attached. These flanging-blades are elongated, and have rounded corners at either extremity, to prevent the cutting of the metal, as in the ordinary tools. These blades have co-operating portions extending from the lower edge upward in different planes of the center, converging gradually to meet without forming any sharp corners at the junction. At the points where the curves thus meet the metal is made heavy, to receive the handle, and at the same time to strengthen the blades at that point. At intervals upon

one of the blades are rigidly attached projections or fingers C C, slightly curved to conform with the arc of the vibration of the blades. Opposite these projections or fingers are perforations D D, cut in the other blade to receive them. They are slightly elongated, to accommodate any inequality of motion in the handles. The corners of the blades, where they come in contact with the metal, are rounded off, so as not to cut the metal in bending it.

The operation of my invention is: The operator grasps the handles and opens the blades enough to receive the metal against the stops. The metal being thus in the grasp of the blades, the handles are operated to close the blades, and then elevated to an upright position, bending the metal to an obtuse angle. The blades are now opened, and the blades carried forward half their length for another grasp. When in this position the blades are again closed, bringing the forward section to the same angle as that just passed, while the rear section, which was partially bent by the first operation, is bent to an acute and the desired angle; so on down the entire length of the sheet of metal, bending it thus in one operation to the desired angle without the liability of breakage, as the metal is brought to the angle gradually. The projections or fingers C C are gages to regulate the width of the flange or crimped portion as they rest on the metal before the jaws are closed.

I am aware that flanging-tools have been made with straight blades, and having gages substantially the same as those used in this flanging-tool, and I do not claim such.

What I claim is—

1. A flanging-tool for sheet metal, provided with corresponding jaws having two or more co-operating portions extending from the lower edge upward in different planes, substantially as set forth.

2. A flanging-tool for sheet metal, provided with corresponding jaws having two or more co-operating portions extending from the lower edge upward in different planes, said jaws being re-enforced where the handles are joined to them, substantially as set forth.

3. A flanging-tool for sheet metal, provided with corresponding jaws having two co-operating portions extending from the lower edge

upward in different planes, said jaws being
re-enforced where the handles are joined to
them, and one being provided with fingers
curved to correspond with the arc of the vi-
5 bration of the jaws, and the other provided
with perforations to receive the said fingers,
substantially as set forth.

In testimony whereof I have hereunto set
my hand, this 29th day of April, A. D. 1886.

JAS. D. McDOUGAL.

Witnesses:

C. W. MURDOCK,
J. A. KIGHT.