

J. BOWERS.

Sheets for Forming the Bodies of Square or Rectangular Tin Cans.

No. 134,726.

Patented Jan. 14, 1873.

Fig. 1.

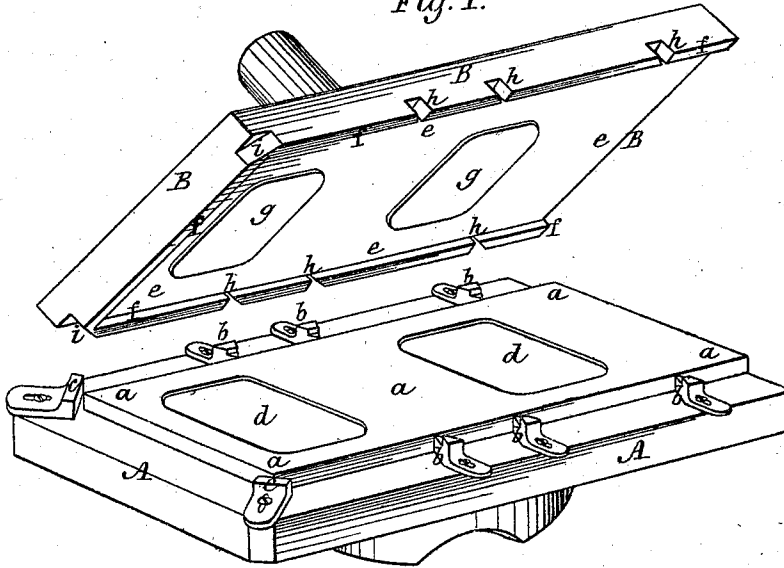


Fig. 2.

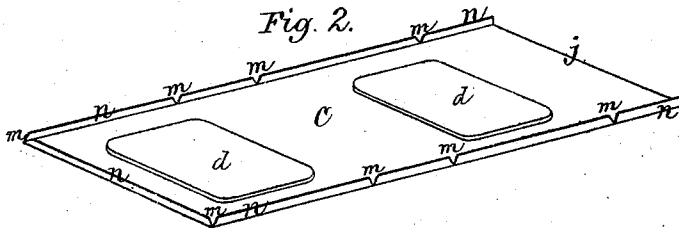
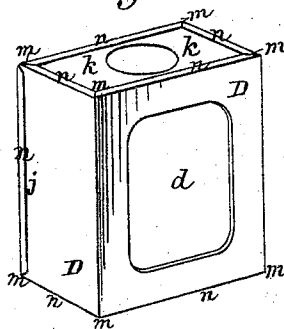


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSIAH BOWERS, OF BALTIMORE COUNTY, MARYLAND, ASSIGNOR TO JOHN A. IVES & BROTHER, OF SAME PLACE.

IMPROVEMENT IN SHEETS FOR FORMING THE BODIES OF SQUARE OR RECTANGULAR TIN CANS.

Specification forming part of Letters Patent No. 134,726, dated January 14, 1873.

To all whom it may concern:

Be it known that I, JOSIAH BOWERS, of Baltimore county and State of Maryland, have invented certain new and use Improvements in Stamping-up Sheets of Tin for Forming the Bodies of Square or Rectangular Cans; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents, in perspective, an under and upper die, between or in which the sheets of tin for forming the body of the can, are notched and “broke” or flanged, at one and the same operation; and, if desired, also paneled. Fig. 2 represents one of the sheets after it has been operated upon in the dies, showing the notches and turned edges; also the panels, though the latter is not a necessary operation, it being ornamental, mainly. Fig. 3 represents, in perspective, one of the cans complete.

The plan hitherto pursued in preparing the sheets for the bodies of what are called square cans required some fine manipulations, and were not then as perfect as those I make by one single operation. As heretofore practiced, the sheet was notched (in a machine) on one of its sides, then turned and notched on its opposite side. It was then taken to what is called a “breaking”-machine, and the “breaks” or flanges were turned upon its three sides by three separate operations or manipulations, thus making five manipulations in all; and when the sheet was paneled, that required another machine and another operation. The paneling, however, may be omitted.

My invention consists in striking-up, shaping, or forming the sheets of metal out of which the bodies of square or rectangular cans are made, at one and the same operation, by which much time and expense is saved, and much more perfect and uniform work produced, such striking-up, shaping, or forming of the sheets consisting in turning or flanging (technically called “breaking”) three sides of the sheet, and notching the opposite sides, not only to facilitate, but as guides for bending said sheet around a “former,” to give it square corners and true form.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

A represents an under die, the central portion *a* of which is somewhat raised. Upon opposite sides of this die are arranged cutters *b b* having angular cutting-edges, so as to cut a notch in the sheet when pressed upon or over them. At two corners of this die are arranged two cutters, *c c*, which take off the two corners of the sheet of metal as it is pressed over them. These cutters are held to the die by set-screws passing through slots, so that they may be removed to be sharpened or repaired, replaced and adjusted. Upon the raised bed or portion *a* of the die may be sunken recesses *d d* for forming panels in the sheet, when desired, and upon the die may be arranged a guide or gage for placing the sheets accurately thereon, and the cutters or shoulders thereon may serve as the guides or gages for placing the sheets upon the die. The upper die or follower B is formed in reverse to the under die, its face *e* being sunken below the edges *f*, and its paneling-surfaces *g*, raised, and the flanges or edges are notched or cut, as at *h i*, where this upper die comes down upon or over the cutters *b c* of the under die A.

The sheet of tin to be operated upon is first accurately laid upon the under die, its edges at two sides and one end projecting over the bed-surface *a*. The upper die or follower is then brought down, and the notches *m* and flanges *n*, as seen in Fig. 2, are made upon the sheet C at one operation. The paneling may also be made at the same time; but this paneling is not essential to the manufacture of the can, as the notches and flanges are, and may be omitted entirely. They may add some little stiffness to the sides of the can, but are ornamental, and often used for stamping the name of the user in.

One end, *j*, of the sheet, is neither notched or flanged. This end, when the sheet is bent over the “former,” passes under or over the “break” or flange at the opposite end, so as to solder these two parts together.

The notches *m* in the “breaks” or flanges *n* not only admit of the bending of the metal without crimping or damaging the flange, but are the guides for bending or forming three of

the corners of the square or rectangular can. the "breaks" or flanges *n*, when the sheet is bent up into rectangular form and soldered, forming seats for the top and bottom of the can to rest against and to be soldered to or in.

The can when finished is shown at D, Fig. 3, whereon is marked the "breaks" *n*, and the points where the notches *m* admit of the bending and closing of their edges, so as to be readily soldered tight at the corners. The head *k* of the can, as well as the bottom of it, is pressed from the inside against the flanges *n* of the body, and there soldered from the exterior, and the vertical soldered joint in the body is also soldered from the exterior, and

may be done when the body is bent over and is upon the former, which will hold the unflanged edge *j* against the flange *n*, as seen in Fig. 3.

Having fully described my invention, what I claim is—

Sheets for forming the bodies of square or rectangular tin cans which are flanged or "broke" and notched at one and the same operation and by dies operating as and for the purpose described.

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Witnesses:

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