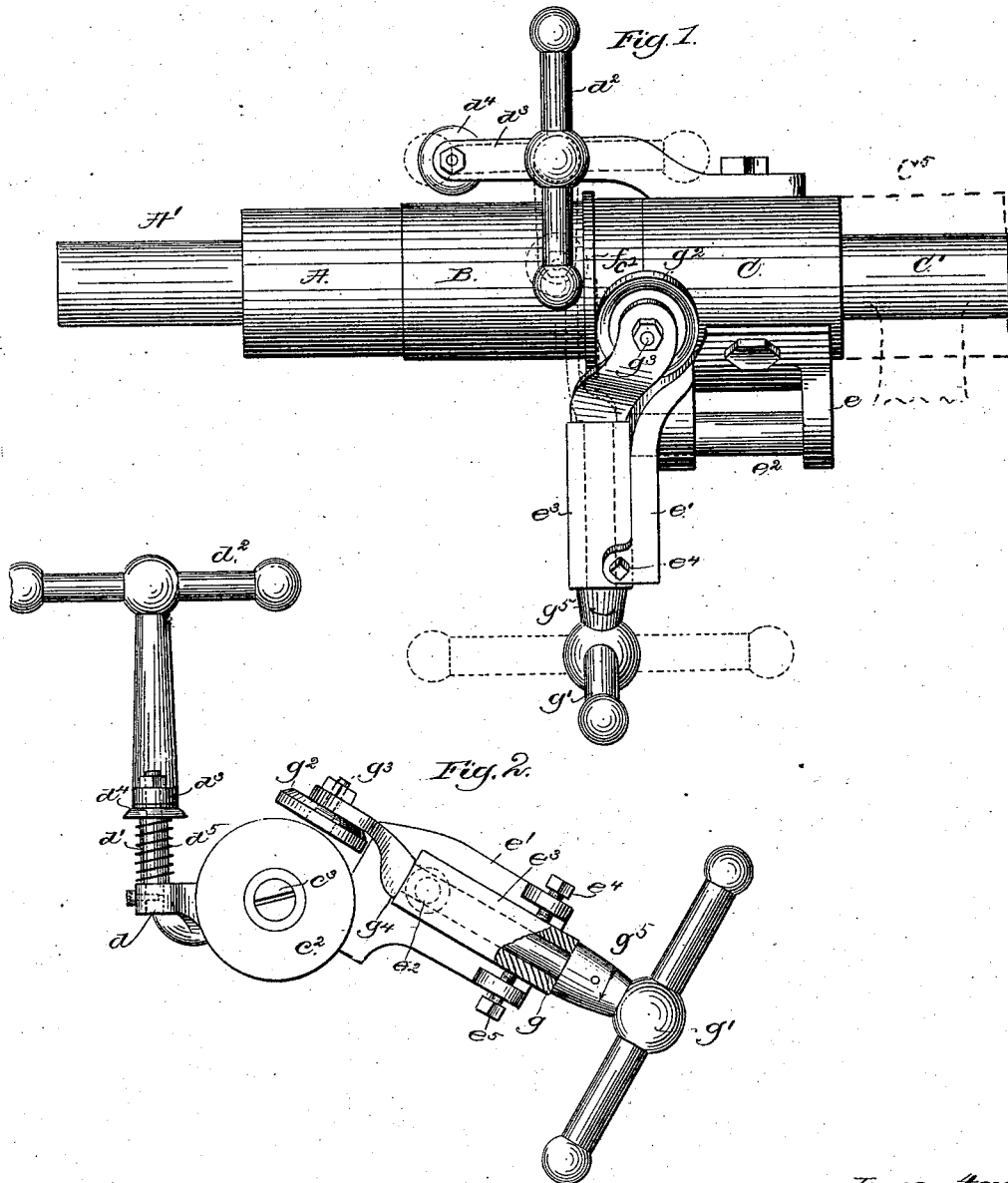


S. S. GETCHELL.

MECHANISM FOR MAKING SHEET METAL CANS.

No. 290,325.

Patented Dec. 18, 1883.



Witnesses
 John F. C. Frankfort
 Fred A. Powell.

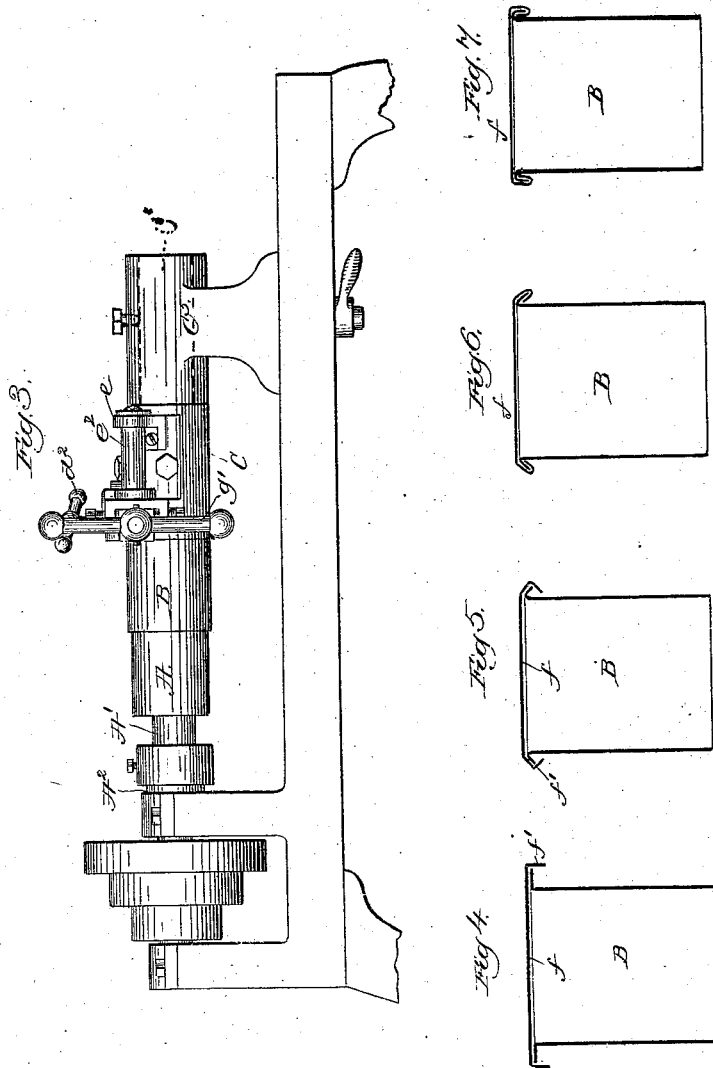
Inventor,
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UNITED STATES PATENT OFFICE.

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MECHANISM FOR MAKING SHEET-METAL CANS.

SPECIFICATION forming part of Letters Patent No. 290,325, dated December 18, 1883.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, SETH S. GETCHELL, of Woonsocket, county of Providence, Rhode Island, have invented an Improvement in Mechanism for Making Sheet-Metal Cans, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention has for its object the production of a simple portable tool for use in lathes of ordinary construction, and, without special adaptation, for seaming the heads of sheet-metal cans to the bodies.

The invention consists in a can seaming or heading device composed of a block carrying a flanging-roller and a turning-in roller, and means to operate the same, and a spindle for holding the can-body and its head while such rollers flange and turn in or seam together the said can-body and its head, all as hereinafter specifically set forth and claimed.

In this my invention the cylinder for the can-body, having an outwardly-turned flange at its lower end, is placed upon a spindle or former of substantially the diameter of the interior of the cylinder, and the bottom for the can-body, having an upwardly-turned flange surrounding that of the can-body, is held between the end of the said spindle and a plate pivoted centrally upon a block which, as herein shown, serves to sustain a folding-roller and a turning-in roller. The folding-roller is so sustained that its edge may be brought in contact with the under surface of the disk that is to form the bottom of the can, immediately opposite the flange at the end of the can-body, and operates to bend or fold the said disk near its edge, together with the flange at the bottom of the can-body, upward toward the side of the can-body, and after the bottom and flange of the can-body have been bent a sufficient distance the turning-in roller is caused to operate upon the flange of the can-bottom to turn it in between the flange at the end of the can-body and the side of the said can-body, after which the folding-roller again operates to completely fold the edge of the can-bottom and flange of the can-body, making what is known as a "double-seam." The axis of the

folding-roller, when first brought in contact with the bottom disk, was substantially radial with relation to the center of rotation of the said disk, and in folding the edges it is turned until the axis of the said roller is nearly or substantially parallel with a line drawn through the axis of the said disk, the folding-roller by such movement acting to force or bend the flanged edge of the disk over upon the flanged end of the can-body held on the said spindle, forming of the disk a bottom for the can, which bottom is subsequently soldered to the said body.

Figure 1, in plan view, represents a sufficient portion of a can-making apparatus to illustrate my improvements; Fig. 2, a left-hand side view of Fig. 1, with the spindle for holding the can-body removed; Fig. 3, a side elevation of the apparatus mounted in a lathe. Fig. 4 shows the can-body with the disk to be turned over upon it as put in position to be operated upon by the folding-roller. Fig. 5 shows the disk after the folding-roller has bent the disk near its edge and the flange at the end of the can-body a short distance toward the sides of the can, ready to be operated upon by the turning-in roller. Fig. 6 shows the flanged edge of the disk after it has been turned in between the flange and side of the can-body by the turning-in roller, and Fig. 7 shows the disk completely bent over by the folding-roller to constitute the bottom of the can; but in practice it will be understood that there is not a space between the disk and cylinder or body, as in Figs. 4 to 7.

The spindle or former A, of substantially the diameter of the interior of the can-body B, has a stem, A', which will be connected in any usual manner with the rotating spindle A² (see Fig. 3) of an ordinary metal or rod turning lathe, so as to rotate the spindle A, and with it the can-body placed thereon. The block C has a stud or journal, C', to be grasped by a part of the tail-stock C² of the lathe, as shown in Fig. 3, and be held in line with the spindle A. The other end of block C is provided with a plate or rest, c², pivoted thereon at c², so that it may turn freely. The block C has a bracket, d, which supports loosely a rod or shaft, d', provided with a handle, d², and

an arm, d^2 , which carries the turning-in roller d^4 , the normal position of which is as in full lines, Figs. 1 and 2, but which may be turned into the dotted line position, Fig. 1, by the handle d^2 , and be thus brought into contact with the outer side of the flange f' of the metal disk f when the latter has been turned to the position shown in Fig. 5, as hereinafter described. A spiral spring, d^3 , arranged about the rod or shaft d' , normally acts to keep the rod or shaft and roller d^4 in its full-line position. The block C has a second bracket, e , provided with an arm, e' . The arm e' has a suitable pin or stud, e^2 , (shown in dotted lines, Fig. 2,) to receive a guide, e^3 , which is made adjustable on the arm e' about the axis of the pin e^2 by adjusting-screws $e^4 e^5$. The guide e^3 , bored centrally, receives the rounded rod g , having a handle, g' , at its outer end, and at the inner end the said rod carries the stud g^3 , which constitutes the center of motion or axis about which the flanging-roller g^2 turns freely. The head at the inner end of the rod g forms a shoulder at g^4 , which, by its engagement with the guide e^3 , prevents end motion of the rod in one direction, while a collar, g^5 , pinned upon the said rod below the handle g' , prevents end motion in the other direction.

In operation the end piece A' of the spindle A is connected with the usual rotating shaft of a lathe, and the end piece C' of the block or support C with and so as to be moved horizontally with the tail-piece of the lathe toward and from the head-stock, as shown in Fig. 3. The cylindrical can-body, previously flanged at its end, is placed on the spindle A, and the disk f , having a flange, is placed over the flanged end of the can-body, as shown in Fig. 4, after which the tail stock and block C are moved horizontally toward the end of the spindle far enough to clamp the metal disk f , which is to form the end or the bottom of the can-body, between the end of the spindle and the face of the plate c^2 , pivoted at the end of the block C. Then the spindle A is rotated, turning with it the can-body and the disk f and plate c^2 . The operator, with his right hand grasping the handle g' , turns the rod g for a short distance in the direction of the arrow thereon, Fig. 1, causing the edge of the folding-roller to act upon the under side of the disk f , opposite the flange of the can-body, bending the edge of the flat portion of the disk and the flange of the can-body over the edge of the spindle toward the sides of the can. After the disk f has been folded to about the position shown in Fig. 5, or so that the edge of the flange f' nearly reaches the sides of the can, the operator turns the handle d^2 , thus causing the turning-in roller to be forced against the edge of the flange f ,

turning it in between the flange and sides of the can-body, as shown in Fig. 6, after which the said handle is released, permitting the said roller to be moved back to its normal or full-line position by the spring d^3 . Then the operator with his right hand gradually turns the rod g farther in the direction of the arrow in Fig. 1, causing the edge of the folding-roller resting against the rotating disk f to completely turn the edge of the said disk over upon the can-body, as shown in Fig. 7, the flanging-roller at the completion of its movement occupying the dotted-line position, Fig. 1.

When the folding-roller first commenced to act against the disk f , its axis g^2 was substantially radial to the axis of rotation of the disk f ; but at the completion of its movement, after folding the edge of the disk f over, as in Fig. 7, the said axis g^2 occupies a position substantially parallel to a line drawn through the center of rotation of the said disk or through the center c^3 of the plate c^2 .

I claim—

1. The spindle A, to hold the can-body, and means to rotate it, and the block or support C, and pivoted plate or rest c^2 , to hold the flanged disk to form the can-bottom, combined with the folding and turning-in rollers, and rods or shafts supporting them having bearings fixed upon the said block, the said rollers operating, as described, on the can-body or flanged cylinder and can-bottom or flanged disk to unite them with a double seam, substantially as set forth.

2. The combination, substantially as shown and described, of the spindle A, to hold the can-body, and means to rotate the same, the block C, the loosely-held plate or rest c^2 , to hold the flanged disk to form the can-bottom, the flanging and turning-in rollers, and their handled shafts having bearings mounted on the said block C, they co-operating to double-seam a flanged cylinder and flanged disk rotated by the said spindle, as set forth.

3. The spindle A and block C, provided with a pivoted plate, c^2 , adapted to be held in the head and tail stocks of a lathe, combined with the folding and turning-in rollers, their handled shafts, and supporting-brackets therefor fixed on the said block C, and the adjustable bearing or guide e^3 , for the shaft of the said turning-in roller, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SETH S. GETCHELL.

Witnesses:

E. D. BANCROFT,
A. B. C. DEMING.