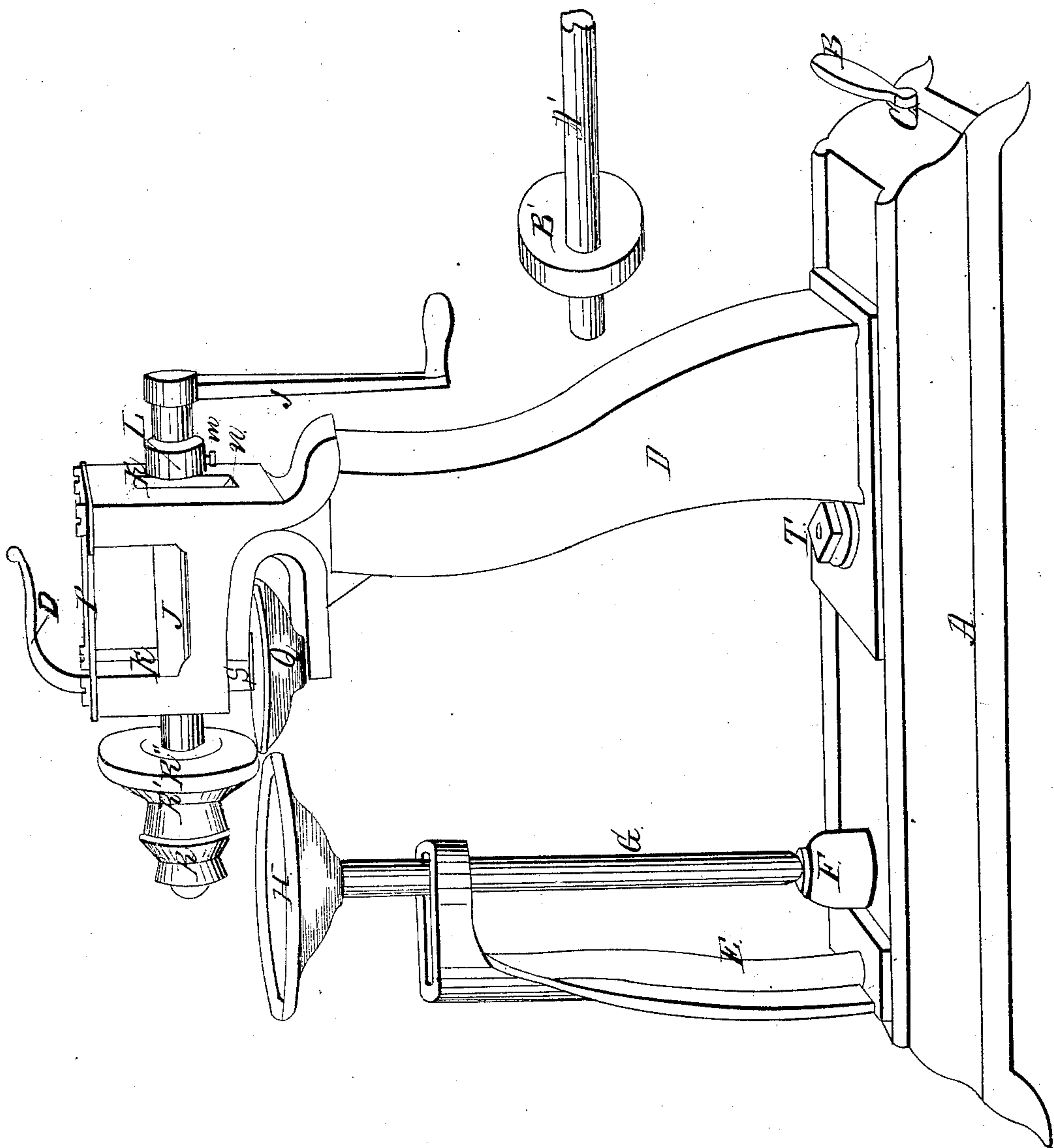


*S. J. Olmsted,*  
*Making Sheet-Metal Vessels.*  
*Nº 26,860. Patented Jan. 17, 1860.*



*Witnesses:*  
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*Inventor:*  
*Samuel J. Olmsted.*



# UNITED STATES PATENT OFFICE.

SAMUEL J. OLMSTED, OF BINGHAMTON, NEW YORK.

## IMPROVED MACHINE FOR MANUFACTURE OF TINWARE.

Specification forming part of Letters Patent No. 26,860, dated January 17, 1860.

*To all whom it may concern:*

Be it known that I, SAMUEL J. OLMSTED, of the town of Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements on Machines for Manufacturing Ware from Tin or other Sheet Metal; 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 and marks thereon.

My invention is designed to enable the worker in tin and other sheet-metal ware to "set down," "double seam," and deflect inwardly the bottom of such ware at one operation, and without removing the pan or other article being worked upon from the machine until these several acts have been performed upon it, as is shown by the drawings making part of this specification, and of which—

Figure 1 is a perspective view of the machine, and Fig. 2 a view of its main shaft and eccentric.

My machine, in general, is made up of a base or supporting part, A, within which is the main shaft A' and its eccentric B', of a fixed standard, E, adjustable step F, vertical shaft G, and circular die H at one end and a horizontally-adjustable standard, D, with a horizontal shaft, J, rollers Q R R' R'', and other minor parts at the other end of the machine.

Other letters on the drawings than what have been named mark the following parts.

B is the handle or crank of the main shaft; C, the end of that shaft; I, the crank of the horizontal shaft; J K K, the boxes of that shaft; L, an adjustable sleeve or collar; M, a binding-screw of that collar; N, the end of a flat spring which extends underneath shaft J; O, a crank-screw; P, cap or top plate; S, cap to the box of roller Q, and T binding-nut to the bottom of the standard D. The step F fits into a hole in the top plate of the base A immediately over the eccentric B'. It moves in this hole, being elevated by the eccentric, and may be lowered so that when the eccentric has its shortest radial line above the shaft A' the bottom of the step rests upon it, the die H being at its lowest point, and when the eccentric has its longest radial line above the step also rests upon it, the die H being at its highest point. The shaft G at its lower end is conical or rounded and fits into a recess in

the step, which allows this shaft to be rotated. The die H is attached to the upper end of shaft G, and, as is shown by the drawings, has a seaming-edge and an upper concave surface. The shaft G, by passing through a slot in the arm of the standard E, is allowed movement backward and forward, and thus the die H can be raised or lowered, rotated and vibrated. The standard D with all the parts attached to it can be moved longitudinally, and thus be adjusted with the rollers in relation to the die H. The shaft J has both vertical and horizontal adjustment, the first being allowed by the turning of the crank-screw O and the action of the flat spring underneath the shaft, and the second by the adjustment of the collar L.

The rollers R R' R'' can be made of one piece and attached to the shaft as a whole; or they may be made of different pieces and be attached to the shaft separately.

The various parts of this machine may be constructed of any suitable material and in any known or convenient way. I prefer, generally, for the frame-work cast-iron. The shafts, screws, and all the small pieces may be of brass, wrought-iron, malleable iron or steel, as also for the rollers and dies, though for the circular die H, I prefer cast-iron, and malleable iron case-hardened for the other rollers.

In using this machine the ware to be worked is put upon the circular die H in an inverted position, the eccentric B being turned down to the lowest point, which allows the ware to pass under the rollers R R' R'', and the shaft G to be brought to a vertical position. If, now, the horizontal shaft J be moved forward until the roller R'' covers the proper part of the upper working-surface of the circular die H, and the crank-screw O be turned to the requisite degree of tightness by rotating the shaft J, the roller R, the setting-down roller Q, and circular die H will also be rotated, and the act of setting down be performed. The next act of double-seaming will be performed under the following movements, the article being worked upon still continuing upon the die H. Turn back the crank-screw O sufficiently to allow the spring N to elevate the roller end of the shaft J to an angle of about ten degrees from its horizontal position, and then draw back the shaft J until the shoulder rests



against the front side of the front box K. Bring forward the shaft G until it forms an angle of about ten degrees from its vertical position, and thus place the working-surface of the circular die H in its proper position to the roller R. Now turn up the eccentric B to its highest point and turn down the crank-screw O to a proper degree of tightness, and then, by the rotation of the shaft J, the rollers and die are again put in motion and the double-seaming performed. If, now, while the ware is being kept upon the die H it be desirable to "dish" or deflect inward the bottom of it, the following position of the parts will produce it, and the result of the dishing will be to give to the ware a bearing-surface immediately next to the bottom's edge, while all the bottom within this bearing-surface will be of a concave or dished form, which is regarded as of great advantage to tin and other sheet-metal ware. Let the shaft J be moved forward and elevated at its roller end and the shaft G be placed in position so as to bring the working-surface of the roller R' into contact with the concave of the circular die H, and then by tightening down the crank-screw O and rotating the shaft J the dishing will be neatly and perfectly performed.

It will readily be perceived that the form

and pressing surfaces of the rollers and die and the position of the one roller in relation to the other can be modified and arranged so as to adapt them to different patterns or pieces of ware.

Having thus set out my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Having the die-holding shaft G so constructed and arranged upon the step F and in the slot of the standard E as to allow the die H to be elevated or lowered, moved forward or backward, and rotated, as herein set forth.

2. The so arranging of the shaft J within its supporting-frame and boxes as to allow of its vertical and longitudinal adjustment, for the purposes described.

3. The rollers R R' R'', as combined with the setting-down roller Q, and the circular die H, constructed and operated as described, whereby I am enabled to set down, double seam, and dish or deflect the bottom of the ware at one operation and without removing the ware from the die, as set forth.

SAMUEL J. OLMSTED.

Witnesses:

MICAH SEABURY,  
JAMES CALLEN.