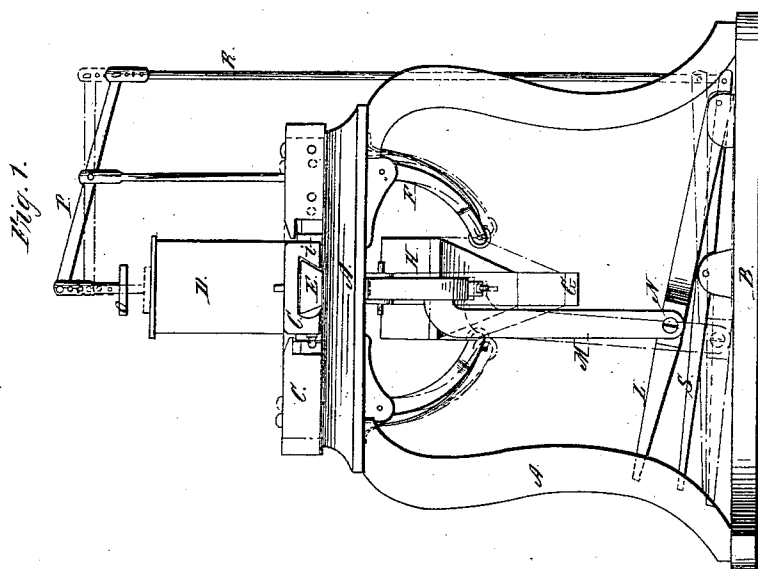
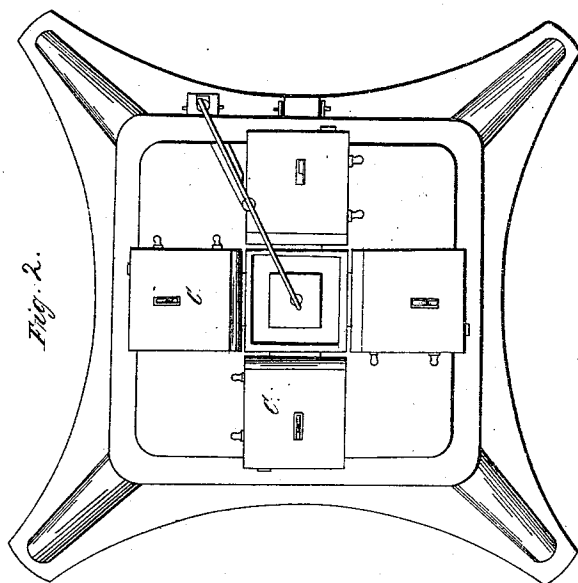


E. W. BLISS.
MACHINE FOR BENDING TOPS AND BOTTOMS OF BODIES OF TIN CANS.
No. 82,481. Patented Sept. 29, 1868.



Witnesses:
Colbert Crusor
August 2^d

Inventor:
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per Daniel Breed Atty



ELIPHALET W. BLISS, OF BROOKLYN, NEW YORK, ASSIGNOR TO
CHARLES PRATT, OF NEW YORK CITY.

Letters Patent No. 82,481, dated September 29, 1868.

**IMPROVEMENT IN MACHINE FOR BENDING THE TOPS AND BOTTOMS OF THE BODIES
OF TIN CANS.**

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ELIPHALET W. BLISS, of Brooklyn, in the county of Kings, and State of New York, have invented a new and useful Improvement in Machines for Bending the Tops and Bottoms of the Bodies of Tin Cans; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to the manufacture of tin cans where the seams are first closed by bending the edges of the plate of tin and then soldering.

My machine is constructed for making square or cubical cans, but the same principle may be applied to round cans, or to any other desirable form.

My invention consists chiefly in the arrangement of four clamping-jaws, in combination with a treadle and four cam-levers, the latter being provided with friction-rollers, and thus bearing against a pyramidal or four-sided cam, which slides upon a rigid, square, central guide, for the purpose of clamping all four sides of a square can at the same time, and especially for securing the same exact mechanical motion for each of the four jaws, and thus making the seams, on the four sides of the can, all uniform and close. It also consists in other improvements, hereafter described.

In the accompanying drawings—

Figure 1 is a side view of my machine.

Figure 2 is a top view of the same.

In the construction of my machine, a suitable frame, A, is made, which may be placed upon a cast-iron pedestal or tripod, B, to keep the legs rigid when the machine is movable, or not fastened to the floor.

Upon the bed-plate of the machine are arranged four sliding jaws, C, in connection with a centre-piece, i, for supporting can D, fig. 1. These slides work upon rigid guides, E, and are moved by the cam-levers F, as will be soon described.

A central cam-guide, G, is rigidly fixed to the under side of the bed-plate of the frame A, for preventing the sliding cam H from being pushed one side by the cam-levers F, or by the action of the treadle. This guide is square, corresponding to the four sides of the cam H and the four cam-levers. By this construction, the rollers of the cam-levers travel on a broad, flat sur-

face of the cam-slide, which, moving on a square guide, cannot revolve. Therefore each lever must be moved exactly the same distance of each other lever, thus giving each of the jaws C precisely the same motion when the cam H moves down. Such uniform motion could not be secured by a cam which is liable to float one side, or rotate.

The cam H is moved down by means of a treadle, L, provided with two connecting-rods, M, which are pivoted to the cam, and also to the treadle, in order to prevent any lateral pressure upon the cam as the treadle descends, and the lower ends of the rods N swing to one side, as seen in red lines, fig. 1.

When the treadle L is released, the springs K, acting through the levers F, move back all the jaws C.

The body of the can, being already formed so far as uniting the side plates, is placed upon the machine, as seen at D, fig. 1, where the same is held by the cap O, brought down by means of the lever P, connecting-rod R, and treadle S. Then the jaws C are moved forward, by means of the treadle L, thus clamping and bending all the sides of the can at the same time. The edges of the head of the can are bent up and upon the outside of the side plates, and forced into the grooves in those plates made by the edges of the jaws C. The joint thus made is very close and uniform, requiring very little solder to perfectly seal the same. The necessary solder may be applied by dipping the head, or seam around the head, into a groove of molten solder, or with the soldering-copper.

Having thus fully described my invention,

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

1. The square or pyramidal cam-slide, in combination with the rigid central guide, the cam-levers, and the four clamping-jaws, substantially as set forth.
2. The combination of the cam-slide with the swinging levers M and treadle L, substantially as set forth.
3. The arrangement and combination of the cap O, lever P, connecting-rod R, and treadle S, substantially as described.

ELIPHALET W. BLISS.

Witnesses:

HENRY STANTON,
FREDK. B. MILES.