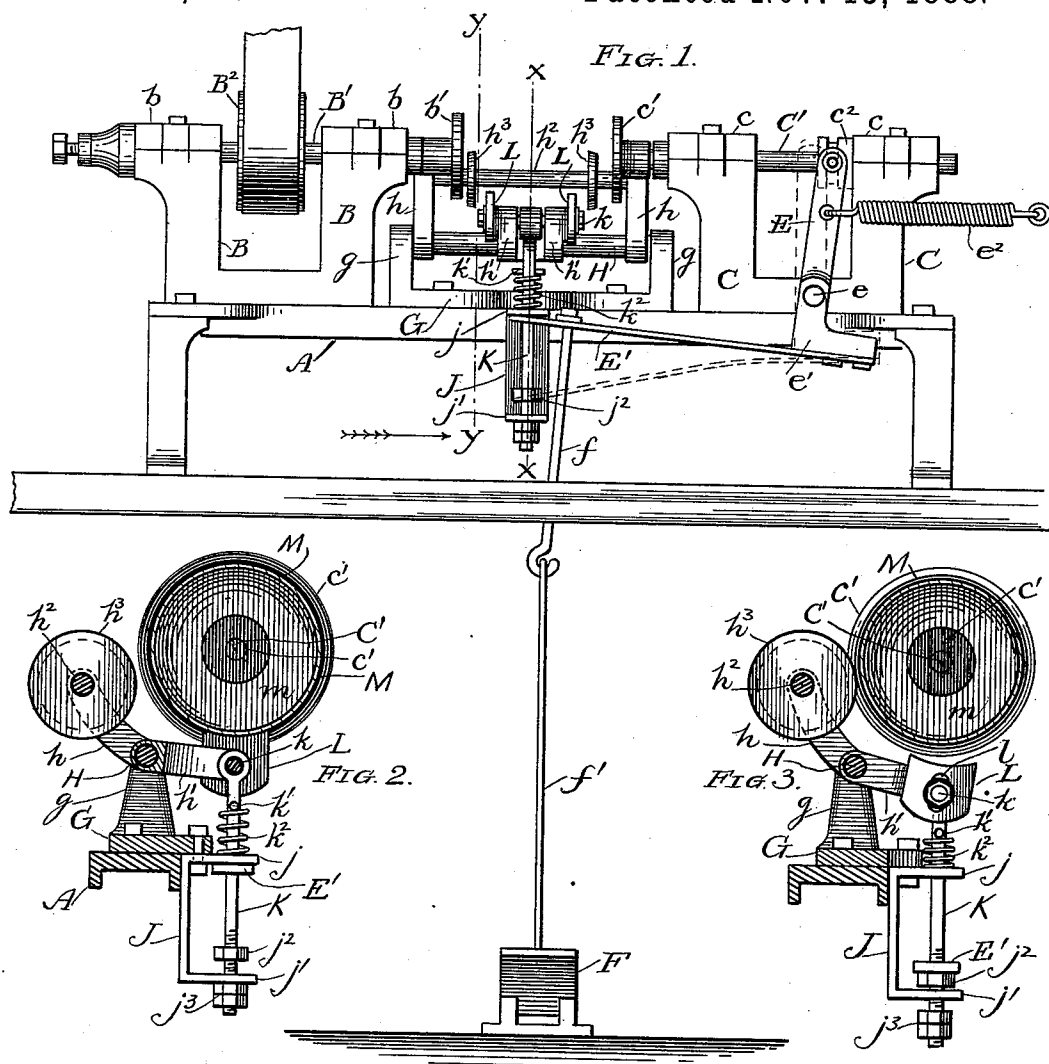
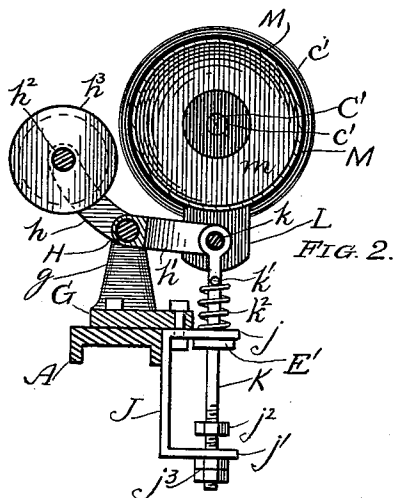
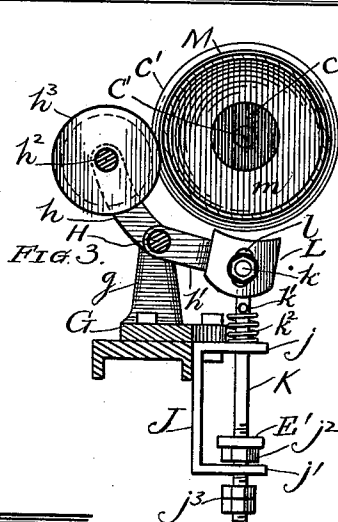
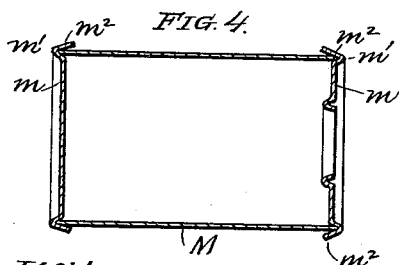


(No Model.)

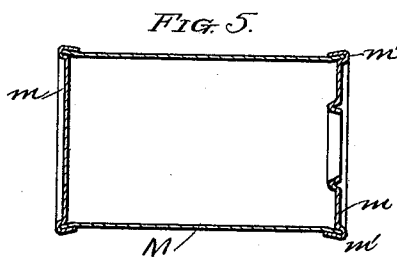
J. H. CLAPP.
CAN ENDING MACHINE.

No. 392,853.

Patented Nov. 13, 1888.



Witnesses:
J. B. Halpenny.
David Stearns.



Inventor:
James H. Clapp.
By Bradley & Fletcher
his Attys.

UNITED STATES PATENT OFFICE.

JAMES H. CLAPP, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES LEWIS BOARD, OF SAME PLACE.

CAN-ENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 392,853, dated November 13, 1888.

Application filed August 1, 1888. Serial No. 281,631. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CLAPP, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Can-Ending Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

- 10 Figure 1 is a side view of said machine. Fig. 2 is a transverse sectional view thereof taken upon the line *x x*, Fig. 1, viewed in the direction of the arrow there shown, and showing a can in position to be operated upon. Fig. 3 is a like view upon the line *y y*, but showing the parts in a reverse position, and Fig. 4 is a longitudinal sectional view of a can with the ends placed in position for crimping, and Fig. 5 is a like view of a can having the ends 20 crimped.

Like letters of reference in the different figures indicate like parts.

- The object of my invention is to so construct a can-ending machine, or a machine for crimping and securing the ends upon cans, that the 25 can may be automatically "centered" and clamped and both ends seamed or crimped thereon at a single operation.

- To this end my invention consists in the combination of elements hereinafter described and 30 claimed.

- Referring to the drawings, A represents the bed of the machine, which is mounted upon the usual supports, and upon which are formed 35 standards B C, in the top of which are journal-bearings *b b c c* for the reception of shafts B' C', the former of which is driven by means of a pulley, B². Said shafts are provided with chucks *b' c'*, having grooves concentric with 40 the shafts to fit the beads in the can-ends. The shaft C', which is constructed to move longitudinally in its bearings, is provided with a grooved collar, *c'*, into the groove in which is loosely projected a pin from the lever-arm E, 45 which is pivoted upon the frame at *e*. Said arm E is normally retained in the position shown in Fig. 1 by means of a spiral spring, *e'*, which may be attached to any suitable rigid point upon the machine. This serves to with-

draw the chuck *c'*, and need only be of sufficient tension to perform this office. Bolted to the lower part of the arm E is, by preference, a flexible arm or spring, E', the whole forming a yielding bell-crank lever. The arm E' is attached to a treadle, F, by means of 55 links *f f'*.

Bolted to the bed A is a plate, G, upon which are formed or secured upright projections *g g*, in which are pivoted the ends of a rock-shaft, H. Said rock-shaft is provided 60 with arms *h h'*, extending in nearly opposite directions from each other.

Loosely mounted in bearings in the arms *h h'* is a shaft, *h²*, provided with crimping-rolls *h³ h³*. Bolted to a projection upon the plate G 65 is a casting, J, having horizontal projections *j j'*, which are bored to receive a rod, K, screw-threaded at its lower end and provided with nuts *j² j²* upon opposite sides of the part *j'*. The opposite end of the pin K is provided 70 with an eye, through which is passed a bolt, *k*, by which it is loosely secured to the ends of the arms *h h'*. A pin, *k'*, is passed through the rod K, and between said pin and the projection *j* is interposed a spiral spring, *k²*, which 75 serves to normally raise the arms *h'*, and thus hold the rolls out of engagement with the can, as hereinafter more fully described.

Upon the ends of the arms *h h'* are adjustably secured, by means of the bolt *k*, plates L 80 L, which are provided with slots *l*, Fig. 3, therein for the reception of said bolt, and the upper surfaces of which are curved to conform to the shape of the can-body.

The pin K passes loosely through the end 85 of the flexible arm E', which is stiff enough to overcome the resistance of the spring *e'* without bending. The nut *j²* is placed at the normal limit of movement of the arm E', so that to overcome the resistance of the spring *k²* and 90 actuate the rock-shaft a sufficient pressure must be exerted upon the treadle to bend the arm E'.

In Figs. 4 and 5, respectively, I have shown sectional views of an incomplete and a com- 95 pleted can.

M represents the cylindrical body of the can, upon which are first placed the end pieces or

plates, $m m$, each of which is stamped to form a bead, m' , upon the outside. Into the groove formed thereby upon the opposite side is inserted the cylindrical can-body. Flanges m^2 project obliquely over the can body, as shown in Fig. 3.

The operation of said machine is as follows: The ends $m m$ being placed upon the can-body, where they remain by virtue of the friction incident to pressing them in position, the can-body is then placed upon the plates L , which I term the "rests," which are adjusted as shown in Fig. 1, so that when the rock-shaft is in its normal position, as shown in Fig. 2, the faces of the rests will be concentric with the chucks $b' c'$, so as to "center" the can therewith. Upon depressing the foot-lever the chuck c' is pushed toward its fellow until the can is compressed between the two. A further depression of the treadle bends the bar E , as shown in dotted lines, and, being in contact with the nut j^2 , the rod K is forced down against the pressure of the spring k^2 , thus tilting the rock-shaft, withdrawing the rests L from the can which is being revolved, and forcing the crimping-rolls $h^2 h^3$ against the flanges m^2 , which are thereby crimped, as shown in Fig. 5. Thus it is apparent that the "centering" of the can, the clamping of the same between the chucks, and the turning or crimping of both of the end seams are all accomplished by a single operation and with great speed and accuracy, it being only necessary for the workman to place the can upon the rests and depress the treadle.

It is obvious that the rock-shaft may be held in its normal position by the weight of the crimping rolls or arms h , in lieu of the spring k^2 ; but I prefer the latter.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a can-ending machine, of chucks for clamping and revolving the can, a lever connected with a treadle for actuating one of said chucks longitudinally to and from its fellow, a rock-shaft provided with a can-rest normally concentric with said chucks, crimping-rolls arranged upon arms attached to said rock-shaft, means, as described, for holding said rock-shaft in a normal position, and means for connecting the

same with the treadle, whereby the depression of the treadle will clamp the can between the chucks and tilt said rock-shaft, substantially as shown and described.

2. The combination, with the chucks of a can-ending machine, and means, as described, for compressing the same against the can-ends, of a rock-shaft bearing arms arranged in substantially opposite directions, can-holding rests upon one set of arms, crimping-rolls upon the opposite set, means, as described, for normally holding said rests in a position to center the can in relation to the chucks, and a treadle and intermediate connections for tilting said rock-shaft, substantially as shown and described.

3. The combination, in a can-ending machine, with the chucks and a rock-shaft bearing a can-rest and crimping-rolls, of a treadle and yielding lever in operative connection with one of said chucks and with the rock-shaft, whereby the depression of the treadle to a given point may clamp the can between the chucks, and a further depression will withdraw the can-rest from and press the crimping-rolls against the can, substantially as shown and described.

4. The combination, with the chucks $b' c'$, arranged to move as specified, and the rock-shaft H , having a can-rest and crimping-rolls arranged upon oppositely-extended arms, of a flexible lever in engagement with the shaft bearing the chuck c' , means for retaining the shaft in a normal position, whereby the chuck is withdrawn from a clamping position, rod K in operative connection with said rock-shaft, and lever-spring k^2 , nut j^2 , and a treadle in operative connection with said lever, substantially as shown and described.

5. The combination, with the chucks of a can-ending machine, of a can-rest and crimping-rolls mounted, respectively, upon arms $h h'$ of a rock-shaft, and a treadle in operative connection therewith, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 26th day of July, 1888.

JAMES H. CLAPP.

Witnesses:

D. H. FLETCHER,
A. E. POND.