

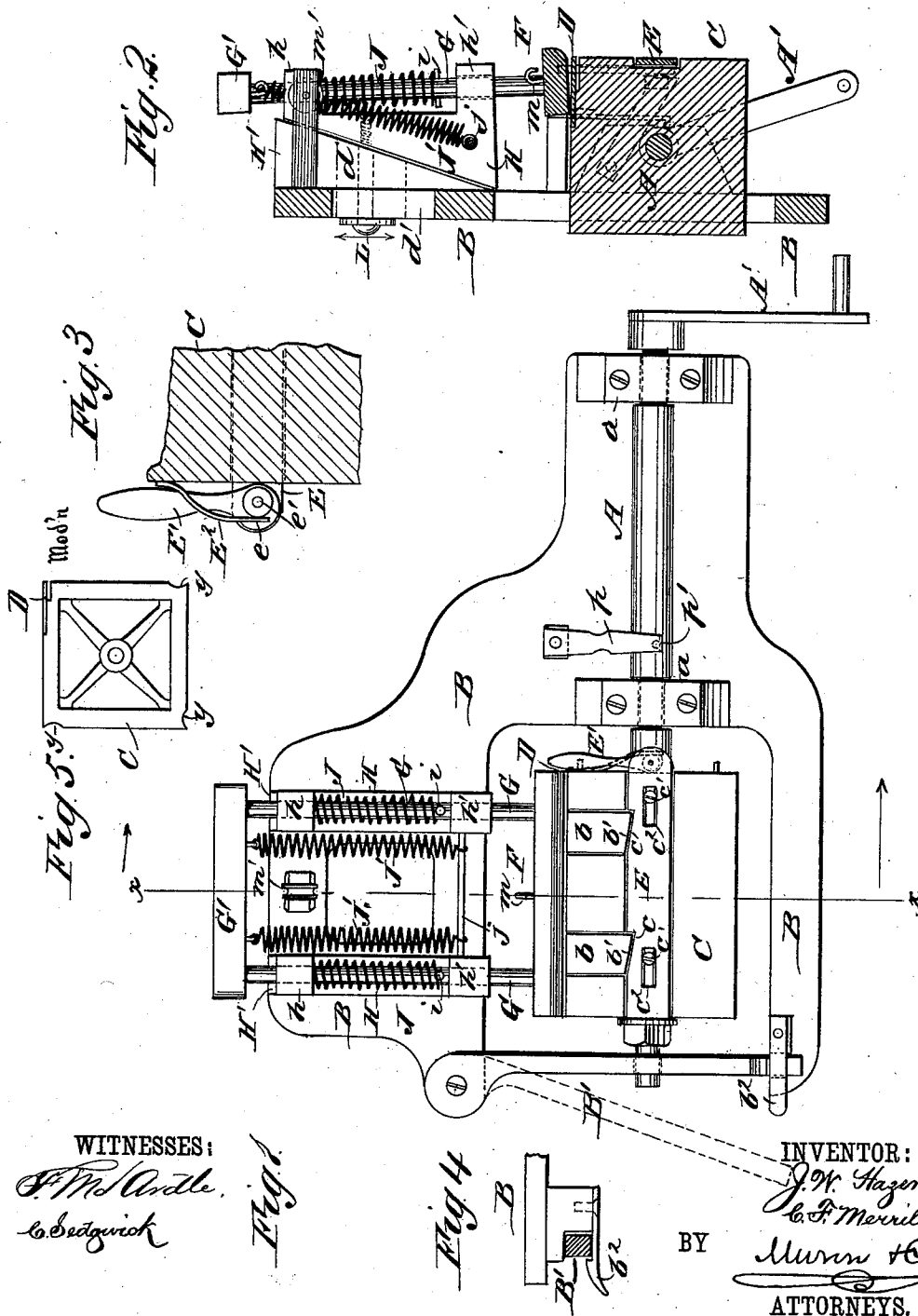
(No Model.)

J. W. HAZEN & C. F. MERRILL.

TIN CAN MACHINE.

No. 367,978.

Patented Aug. 9, 1887.



WITNESSES:
F. M. Apple
C. Sedgwick

Fig. 1

Fig. 2

Fig. 3

INVENTOR:
J. W. Hazen
C. F. Merrill
BY
Murray & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES W. HAZEN AND CHARLES F. MERRILL, OF WOODSTOCK, VERMONT.

TIN-CAN MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,973, dated August 9, 1887.

Application filed May 10, 1887. Serial No. 237,751. (No model.)

To all whom it may concern:

Be it known that we, JAMES W. HAZEN and CHARLES F. MERRILL, of Woodstock, in the county of Windsor and State of Vermont, have invented a new and Improved Tin-Can Machine, of which the following is a full, clear, and exact description.

Our invention relates to a machine for forming square tin cans; and it consists of the special construction of the machine, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the complete machine. Fig. 2 is a sectional elevation of the same, taken on the line *xx* of Fig. 1. Fig. 3 is a detail view of a portion of the former, showing the eccentric-lever for operating the cam-plate for locking the sheet of tin in the machine. Fig. 4 is a detail view showing the lock for the hinged side bar of the main frame. Fig. 5 shows a modification of the former C.

A represents a main crank-shaft journaled in boxes *a a*, secured upon the main frame B, and at its outer end in the hinged arm B'. Upon the shaft A is secured the square former C, provided at one edge with the holder D, for one edge of the sheet of metal to be folded around the former C. The holder D in this instance is a plate of metal secured to the former C and slightly offset therefrom to leave a shallow space to receive the edge of the sheet to be bent. For grasping the edge of the sheet to be bent against the holder D we fit in shallow recesses in the former C the sliding plates *b*. The lower ends of these plates are slanted, as shown at *b'*, and in contact with these inclined ends are placed the cams *c c* of the sliding plate E, held in a recess in the former C by the screws *c' c'*, passed through slots *c² c²*. The slots *c²* permit the plate E to be moved endwise, so that the cams *c* will force outward the plates *b* and cause their outer ends to clamp the sheet of metal to be folded firmly against the plate D. For moving the plate E longitudinally we pivot to it the eccentric-lever E', the eccentric *e* of which is adapted to bear against the former C and thus draw the said plate forward. The lever and the plate E are moved back by the

action of the spring E², secured at one end to the end of the former C, and pressing at its opposite end against the stud *e'*, secured to the lever E', as shown clearly in Fig. 3.

F represents a presser-foot or follower attached to the rods G G, held loosely in the arms *h h'* of the blocks H H. Upon the rods G G are placed coiled springs J, which act between the arms *h* and the pins *i* in the rods, so that these springs constantly press the follower F against the former C. In addition to the springs J, we employ two other springs, J', for holding the follower in contact with the form. These are secured at their lower ends to the rod *j*, held in the two blocks H, and are attached at their upper ends to the cross-piece G', attached to the outer ends of the rods G, as shown clearly in Fig. 1.

The blocks H are slanted at their inner edges, and back of each block is placed a wedge, H', made fast to the main frame B. A slot, *d*, (shown in dotted lines in Fig. 2,) is formed in each of the wedges H', and a slot, *d'*, is also made through the frame B, back of each wedge H'. Through the slots *d d'* pass screws or bolts L, which screw into the blocks H and hold them in place, as will be understood from Fig. 2. By loosening these bolts L the blocks H may be raised or lowered to adjust the follower F both vertically and horizontally to suit formers C of different sizes.

In use, the edge of a sheet of tin to be formed into a square can-body will be inserted between the former C and the holding-plate D and the lever E' reversed, which will cause the plate E to force the plates *b* outward and cause them to nip the sheet of tin firmly against the plate D. The former C will now be revolved by the crank A' of the crank-shaft A. This will cause the follower F to fold the tin at the corners of the former and wrap it entirely around the form. The meeting ends of the sheet of tin will now be soldered together. This done, the follower will be held away from the form by a wire or rope, M, attached to the hook *m* in the follower and passed thence over the pulley *m'* and then down to a treadle. (Not shown.) The pivoted arm B' will then be swung outward and the can-body slid endwise off from the former.

The arm B' is held in closed position by a catch, *b²*, and the shaft A is prevented from be-

ing turned in the wrong direction by a spring-catch, *p*, attached to the main frame B, and adapted to engage with the small stud *p'* in the said shaft.

- 5 Instead of making the former C solid, as shown in Fig. 2, we may make it of a skeleton or open casing, as shown in Fig. 5, and at the corners the former is hollowed out, as shown at *y*, so that the sheet metal will be bent in
10 sharper angles at the corners than when the former is made plain at the corners, as in Fig. 2.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

- 15 1. The former C, provided with the plate D, in combination with the slanted plates *b*, and the plate E, formed with the cams *c*, for mov-

ing the plates *b* outward, substantially as described.

2. The former C, provided with the cam- 20 plate E and operating-lever E', in combination with the beveled plates *b* and the holding-plate D, substantially as described.

3. The blocks H and the spring-actuated 25 follower-rods G, provided with the follower F, in combination with the former, the wedges H', secured to the main frame, and slots for the passage of the bolts L, substantially as and for the purposes set forth.

JAMES W. HAZEN.

CHARLES F. MERRILL.

Witnesses:

FREDERICK C. SOUTHGATE,

WARREN C. FRENCH.