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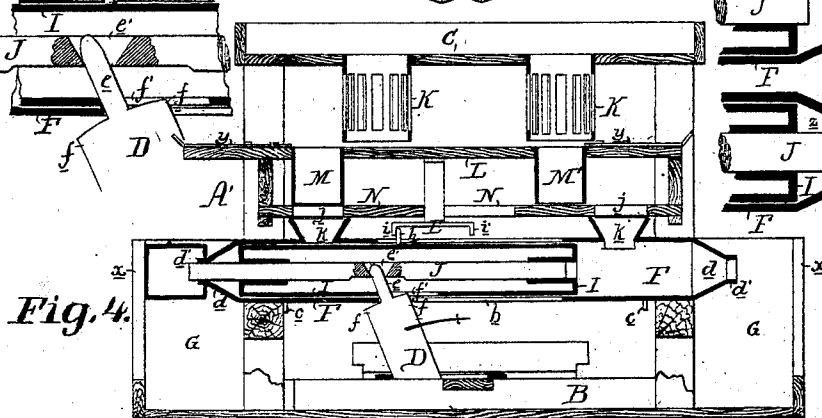
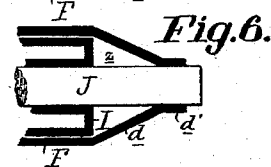
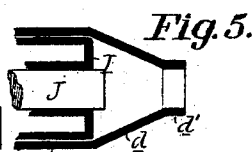
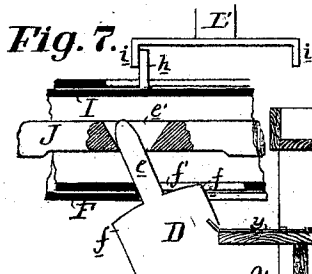
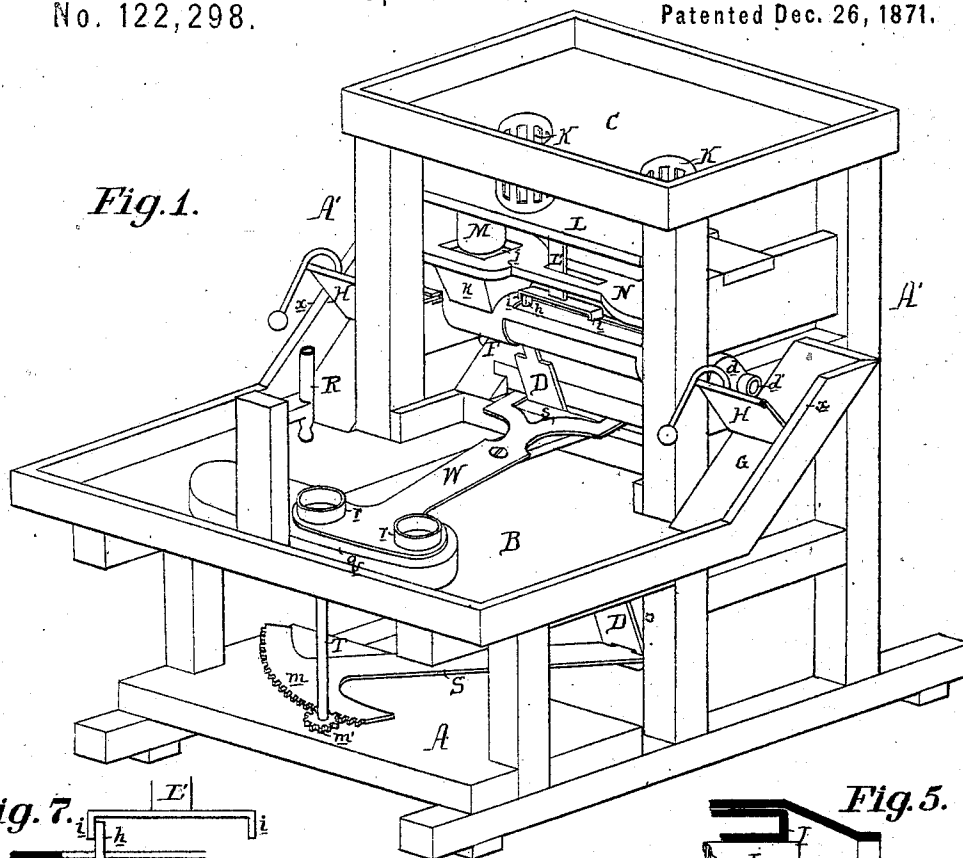
L. J. WICKS.

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Machines for Filling Fruit Cans and for Cleaning off the
tops of the same.

No. 122,298.

Patented Dec. 26, 1871.



Witnesses,
Mr. B. Harding
Thos. McMillan

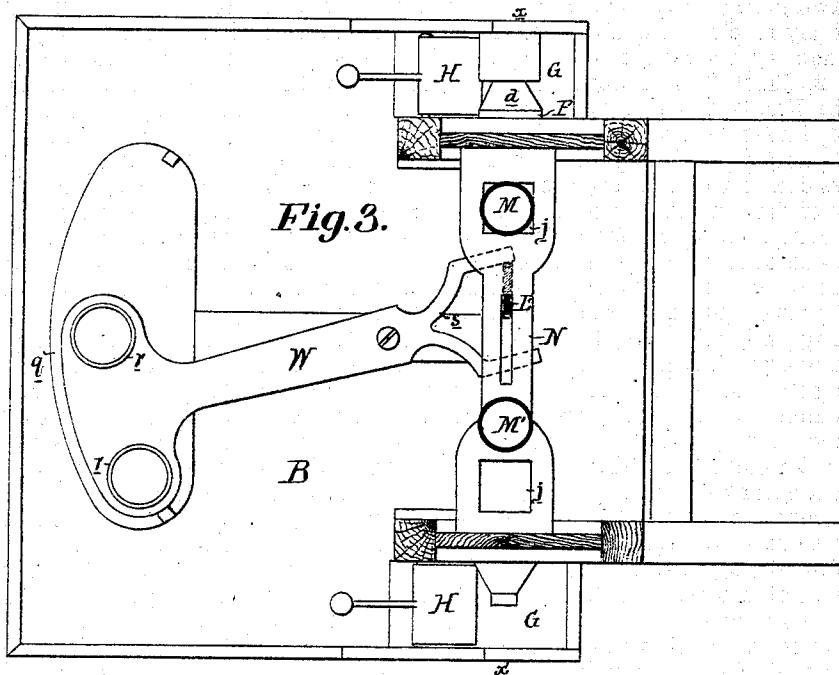
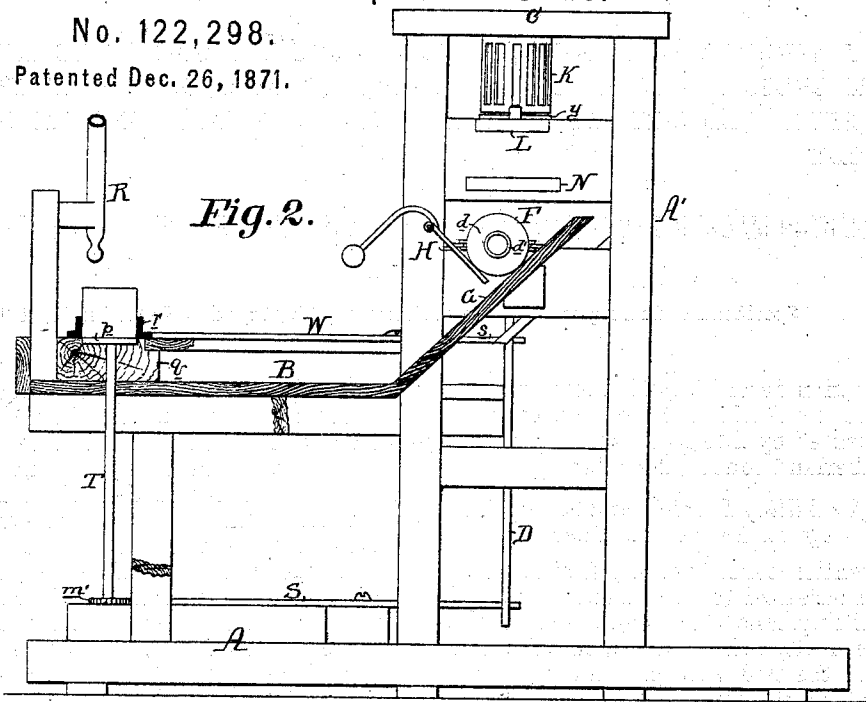
Loren J. Wicks
by his atts
Howson and Son

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Phos. McManis

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UNITED STATES PATENT OFFICE.

LOREN J. WICKS, OF BRIDGETON, NEW JERSEY, ASSIGNOR TO HIMSELF, WILLIAM SELSER, C. N. SELSER, J. A. SELSER, AND G. W. TURNER, OF PHILADELPHIA, PENNSYLVANIA, AND JOHN H. POOLE, OF BRIDGETON, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR FILLING FRUIT-CANS AND FOR CLEANING OFF THE TOPS OF THE SAME.

Specification forming part of Letters Patent No. 122,298, dated December 26, 1871.

Specification describing a Machine for Filling Fruit-Cans and for Cleaning off the Tops of the same, invented by LOREN J. WICKS, of Bridgeton, Cumberland county, New Jersey.

Machine for Filling Fruit-Cans and for Cleaning off the Tops of the Same.

My invention consists of a machine (too fully explained hereafter to need preliminary description) for filling cans with tomatoes or other vegetables or fruit, and for afterward cleaning off the tops of the said cans preparatory to soldering the lids on the same.

In the drawing, Figure 1, Sheet 1, is a perspective view of my machine for filling tomato and other cans, and for cleaning off the tops of the same; Fig. 2, Sheet 2, a sectional elevation of the machine; Fig. 3, a plan view, partly in section; Fig. 4, Sheet 1, a sectional elevation on the line 1 2, Fig. 2; and Figs. 5, 6, and 7, detached views drawn to an enlarged scale.

The frame of the machine consists of the lower horizontal portion A, which supports a table or platform, B, and of an upper vertical portion, A', at the top of which is a tray or receptacle, C. The various movements required are imparted to the working parts of the machine by a vibrating lever, D, hung to a cross-bar, a, of the frame, and receiving its motion through the medium of a suitable connecting-rod from a crank or crank-wheel, not shown in the drawing. The upper end of the lever D passes through a slot, b, in the bottom of a tubular casing, F, which has a limited sliding movement, determined by lugs c c in the opposite sides of the frame A'. This tubular casing has funnel-shaped ends, d, (somewhat resembling those of a sausage-stuffer,) which terminate in short tubes, d', of sufficiently small diameter to enter the opening in the top of a tomato or fruit can. The cans while being filled are supported in a proper position directly opposite each end of the casing, between inclined chutes, G, which extend upward from the table B, and weighted flaps or valves, H, which are hinged to the opposite sides of the frame A', as will be more particularly described hereafter. Within the casing F there is a tubular plunger, I, and within the latter a sliding rod, J, which

can be projected through the tubes d' at the ends of the casing, as shown in Fig. 6. Both the plunger and the sliding rod J receive their motion directly from the lever D, the upper reduced end e of which enters a slot, e', in the sliding rod, while shoulders f f of the said lever strike against the opposite ends of a slot, f', cut in the plunger, and thus operate the latter. (See Figs. 4 and 7.) During the first portion of the movement of the lever in either direction, the rod J will first be moved independently of the plunger, until the end of the slot f' in the latter is struck by one of the shoulders f of the lever, when the plunger and rod will be moved forward together, and will continue such movement until the shoulder f passes beneath and is no longer in contact with the end of the slot in the plunger, the latter then remaining stationary while the sliding rod continues to move independently until the motion of the lever is stopped or reversed. No positive movement is imparted to the casing F, but the pressure of the plunger I against the mass of tomatoes to force them through the funnel-shaped ends d into the cans, will be sufficient to cause the said casing to slide to the limited extent required.

In the receptacle C at the top of the machine there are two openings, from each of which extends downward a short cylindrical casing, K, of wire-gauze or of perforated or slotted sheet-metal, and beneath these casings there is a slide, L, furnished with two receivers, M and M', of somewhat greater capacity than tomato-cans, which are arranged to be brought successively beneath the open ends of the perforated casings by the motion of the slide, the latter being reciprocated by the plunger I, a pin, h, on which projects upward through a slot in the casing F, and is arranged to strike successively projections i and i' of an arm, L', which extends downward from the slide L. The intermittent reciprocating motion of the slide also brings the receivers M and M' successively over openings j in a cross-piece, N, the said openings communicating with hoppers or funnels k at the top of the casing F, and forming with the same passages through which the contents of the receivers may be conducted into the casing.

The tops of the filled cans, prior to being soldered up, are cleaned off by a jet of steam from a pipe, R, while the cans are being rapidly revolved, the devices for revolving the cans and for bringing the same within range of the jet of steam being as follows: A horizontal lever, S, hung to the lower portion of the frame, is connected to the operating lever D, and has at the extremity of its long arm a toothed segment, *m*, gearing into a pinion, *m'*, at the lower end of a vertical spindle, T, which projects upward through the table B, and terminates in a flat disk, *p*, flush with the surface of a segmental block, *q*, secured to the top of the said table. A horizontal lever, W, is arranged upon or above the table, and has an enlargement at the extremity of its long arm which rests upon the block *q*, and in which are two flanged openings, *r*. The operating lever D passes through the slotted short arm *s* of the lever W, and imparts such a movement to the same that each of the flanged openings *r* may be brought to a point directly above the revolving disk *p*, and there held for an instant; owing to the lost motion in the slot *s*, before the lever is again turned in order to bring the other flanged opening over the disk.

In using the above-described machine, a quantity of tomatoes, prepared in the usual manner for canning, is placed upon the receptacle C, and a portion of the mass is introduced into each of the perforated casings K by an attendant, these perforated casings serving as strainers, and allowing the superfluous water or juice to pass off before the tomatoes are introduced into the cans. An empty can is next thrown into the angular space at each side of the machine, between the chute G and balanced flap H, with its bottom toward the ledge *x*, and its open mouth presented to the tapering end of the casing F, after which valves *y*, on the slide L beneath the casings K, are drawn back and the machine is set in motion. When the valves *y* are drawn back the contents of one of the casings K will be discharged into the receiver beneath it, the receiver M', for instance; and on the motion of the operating lever in the direction of the arrow, Fig. 4, all or a portion of the contents of this receiver will pass into the passage *j* and hopper *k* at one end of the casing F, while the opposite receiver M is being filled from the casing K above it. When the lever D is moved in the reverse direction, so as to again restore the parts to their original positions, Fig. 4, the contents of the receiver M' will be discharged through the hopper *k* into the casing F in front of the piston, and the said receiver will be moved back to a position beneath its casing K, in order that it may be again filled. On the second movement of the operating lever in the direction of the arrow, Fig. 4, the inner plunger or rod J will first be moved slightly, as will also the casing F to the extent permitted by the lugs *c*, in order that the reduced end of the said casing may be introduced into the mouth of the can which has to be filled. The plunger I will then be moved forward to the position shown in Fig. 5, which will force the tomatoes into and nearly fill the can. The latter is

completely filled, however, by the action of the inner plunger J, which is moved forward until it projects through the reduced end of the casing and into the can. (See Fig. 6.) This final movement has the effect of forcing the tomatoes well into the can, and of preventing the adhering of particles about the mouth of the same. It also prevents dripping from the end of the casing F, by forcing all of the material out of the same with the exception of that contained in the tapering recess *z*, Fig. 6. This small portion, however, is so far inside of the casing that it will have no tendency to exude from the end of the same when the plunger is drawn back. When a can has been filled as above described, and the motion of the lever is reversed in order to operate upon a can at the opposite side of the machine, the plunger J at first, and afterward the end of the casing F, will be withdrawn from the mouth of the filled can, when the latter, owing to its increased weight, will tilt the balanced flap H, and will pass beneath the same down the inclined chute G onto the table. The same operation is repeated at the opposite side of the machine, and may be continued uninterruptedly as long as the machine remains in motion and the reservoirs K are kept filled with tomatoes. The filled cans as they roll down the inclined chutes onto the table are picked up by an attendant or attendants, and placed in the flanged openings *r* of the lever W, by which they are conducted successively beneath the steam-pipe R, and there revolved, as they rest upon the disk *p* while being subjected to the action of the jet of steam. The latter instantly and effectually cleans off the tops of the cans, so that when removed from the machine, they can be at once soldered up without having to be washed and wiped, as usual. Instead of revolving the cans, the same effect could be produced by revolving the pipe R, and a jet of air under pressure might be substituted for the steam-jet.

It will be observed that, as the devices for bringing the cans within range of the pipe R receive their motion from the operating lever D, tops of the cans can be cleaned as fast as they are filled, so that there need be no accumulation of filled cans upon the table B.

By means of the above machine, which requires but three or four attendants, as much work can be accomplished as is usually performed by thirty or forty hands.

It will be evident that the machine can be used for canning other vegetables or fruits, which would not be injured by the treatment to which they are subjected, as well as tomatoes.

I claim as my invention—

1. A machine for filling cans, in which the material is forced by a plunger or plungers through a casing arranged to fit into or over the mouth of the can, all substantially as described.

2. The casing F tapered at its opposite ends, arranged to have a limited sliding movement, and furnished with plungers I and J, arranged one within the other and operating in respect to each other and to the casing, substantially as described.

3. The combination of the lever D and its tongue *e* and shoulders *f* with the plungers J and I, substantially as specified.

4. The combination of the inclined chutes G and their flanges *x* with the flaps H, for the purpose of retaining the cans in a proper position in respect to the casing F.

5. The hinged flaps H, when so balanced or weighted as to sustain an empty can, but so as to yield to the weight of a filled can.

6. The perforated casing K, for the purpose specified.

7. The combination of the said perforated casings with the slide L, operated substantially as described, and with the receivers M and M' attached to the said slide.

8. The combination of the said receivers with the cross-piece N and its openings, and with the hoppers *k* of the casing F, all substantially as set forth.

9. The combination of a fixed or rotating pipe, R, with devices substantially as herein described, whereby the tops of filled cans may be brought within range of a jet of steam, or air under pressure, from the said pipe.

10. The combination of the pipe R, revolving disk *p*, and lever W with its flanged openings *r*, for the reception of cans, all substantially as described.

11. The combination, substantially as herein set forth, of the operating lever D, lever W, and lever S, with its toothed segment for driving the vertical spindle T.

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

LOREN J. WICKS.

Witnesses:

WM. A. STEEL,
HARRY SMITH.

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