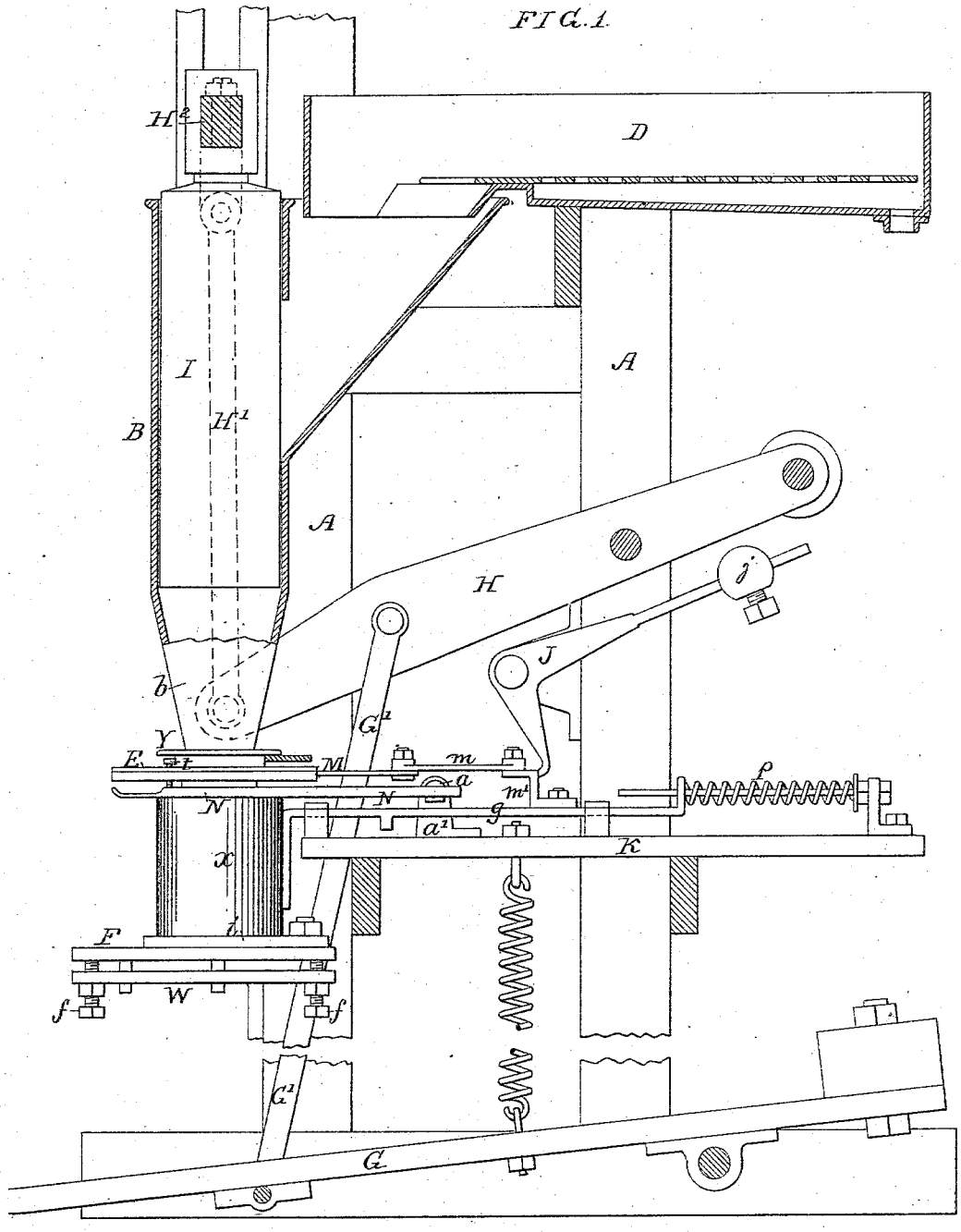
(No Model.) 2 Sheets—Sheet 1.

L. H. SMITH.

CAN FILLING MACHINE.

No. 289,156. Patented Nov. 27, 1883.

FIG. 1.



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(No Model.) 2 Sheets—Sheet 2.

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CAN FILLING MACHINE.

No. 289,156. Patented Nov. 27, 1883.

FIG. 2.

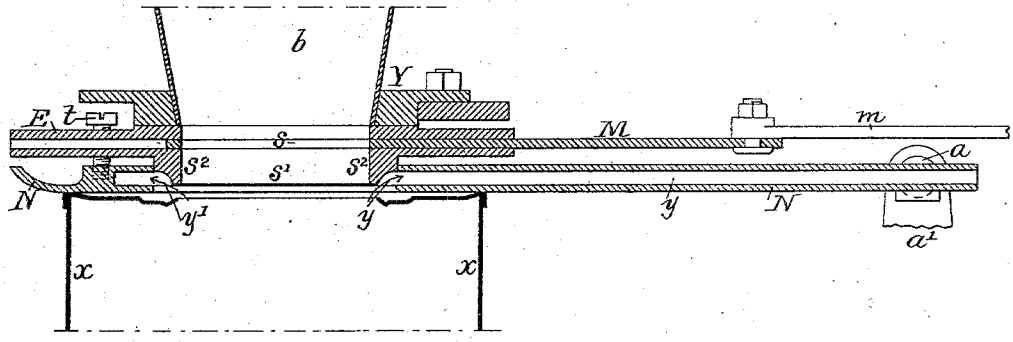


FIG. 3.

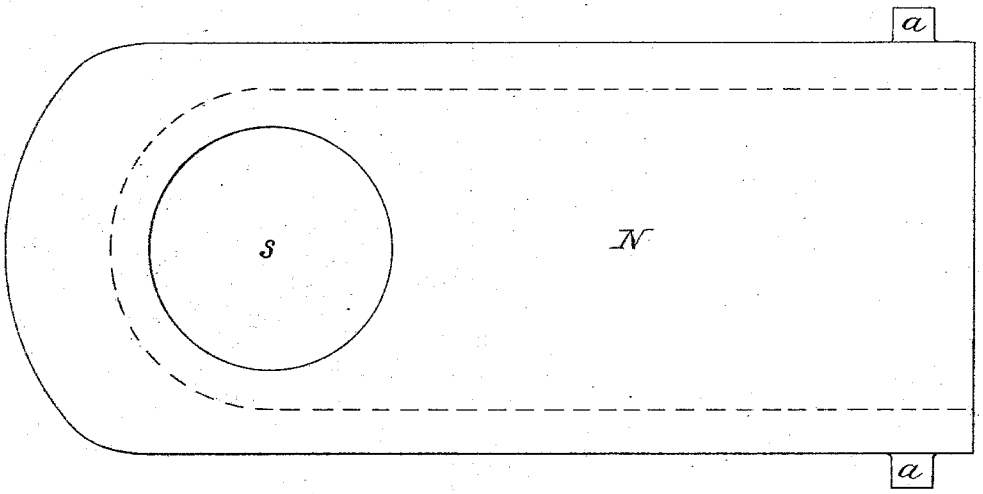
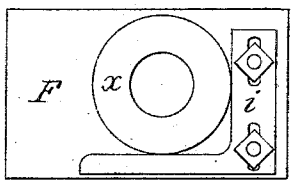


FIG. 4.



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UNITED STATES PATENT OFFICE.

L. HENRY SMITH, OF SALEM, NEW JERSEY, ASSIGNOR OF ONE-HALF TO THOMAS B. STARR AND RICHARD T. STARR, BOTH OF SAME PLACE.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 289,156, dated November 27, 1883.

Application filed August 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, L. HENRY SMITH, a citizen of the United States, residing in Salem, Salem county, New Jersey, have invented certain Improvements in Can-Filling Machines, of which the following is a specification.

My invention consists of certain improvements, fully described hereinafter, in can-filling machines, my improvements being directed to the cut-off valve and mechanism connected therewith, and to means for forming a joint with the top of the can during the filling of the same.

In the accompanying drawings, Figure 1 is a side view, partly in section, of the machine; Fig. 2, an enlarged view of the valve, valve-box, and joint-plate; Fig. 3, Sheet 2, an inverted plan view of the same; and Fig. 4, a plan view of the can and its supporting plate and gage.

A is the frame of the machine; B, the filling-cylinder, terminating in a conical spout, *b*, and D the straining-box. The operating-treadle G, pivoted to the frame, is connected by rods G′ to levers H, and the latter by rods H′ to the guided cross-bar H^2, which carries the plunger I. The conical end of the spout is fitted into and secured to a plate, Y, Fig. 2, which is attached to the frame in any suitable manner, and to this plate is secured the valve-box E to a longitudinal opening, in which is adapted the sliding valve M, which has an opening, *s*, Fig. 3, and beneath the said valve-box is a chambered plate, N, pivoted at the inner end, trunnions *a* on the plate being adapted to bearings in brackets *a′* on a table, K, forming part of the frame of the machine. The outer end of the plate N is bent upward, and in this portion of the plate is formed an opening for the reception of an annular flange, s^2, on the under side of the valve-box. The flange s^2 surrounds an opening, *s′*, in the valve-box, this opening coinciding with the end of the spout of the filling-cylinder, and with the opening *s* of the valve when the latter is retracted. A pin, *t*, limits the downward movement of the pivoted plate N; or any other device may be used for that purpose.

The can-supporting plate F is adjustable by means of set-screws *f* passing through the fixed plate W, which is secured to the frame of the machine, the plate being adjusted to suit the height of the cans to be filled, and on the said plate is an angular gage, *i*, serving as stops, by which the proper position of the can to be filled may be determined.

To guides on the table K is adapted a bar, *g*, the bent front end of which projects over the plate F, the rear end of the bar being acted upon by a spring, *p*, and a lug, *m′*, on the bar being connected by a link, *m*, to the valve M, and being acted on by one arm of a bell-crank lever, J, the other arm of which has an adjustable weight, *j*. As the can *x* is pushed into its place on the plate F, it strikes the upturned end of the plate N and lifts the same, the plate thus forming a close joint with the top of the can, the pressure, if desired, being increased by a spring interposed between the plate and the valve-box, and the plate being furnished on the under side with a suitable packing-ring, if an absolutely tight joint is required. In pushing the can along the plate F to the gage *i*, it strikes the bent front end of the bar *g*, and presses the same rearward, this movement being transmitted to the valve M, which is thus moved to the position shown in Fig. 2, so as to permit the vegetables or fruit to be forced into the can on the descent of the plunger I.

In the plate N is a chamber, *y*, with which communicates an opening, *y′*, the latter being directly over the mouth of the can when the latter is in position, so that the air or surplus material finds a ready escape from the can as it is being filled. The outer end of the plate N should be connected, by a suitable flexible pipe, with some adjacent receptacle for the overflow. On the removal of the can from the plate F, the plate N falls, and the valve M is closed by the action of the spring *p* and lever J.

By forming the vent and overflow-chamber in the plate N, I am enabled to use a thin plate for the valve, this plate acting as a knife to cut off any cores or other obstructions with which it might come in contact.

Instead of being pivoted at one end, the plate N might be adapted to suitable vertical guides on the valve-box, but the pivoted plate is preferred, as being the simplest. As the plate N has no longitudinal movement, less care is required in adjusting the can to its

place than when the plate is connected to and moves with the valve.

I claim as my invention—

1. The combination of the filling-cylinder and its valve-box, the valve M guided therein, and the yielding plate N, independent of the valve and valve-box, and adapted to form a joint with the top of the can, as set forth.

2. The combination of the filling-cylinder and its valve-box, the valve M, and the pivoted plate N, disconnected from the valve and valve-box, and adapted to form a joint with the top of the can, as set forth.

3. The combination of the filling-cylinder, valve, and valve-box, with the yielding plate N, having the vent and overflow-chamber *y* formed therein, as set forth.

4. The combination of the valve with the guided rod *g*, connected thereto and arranged in respect to the can-supporting plate, as described, whereby the valve is opened by the can as the latter is thrust into position, as set forth.

5. The combination of the guided valve, the rod *g*, connections between the valve and rod, and the weighted bell-crank lever J, as set forth.

6. The combination of the filling-cylinder and its valved spout, with the bed-plate F, having a gage, *i*, and the rod *g*, connected to the valve and projecting over said bed-plate and into the path of the can, as set forth.

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

L. HENRY SMITH.

Witnesses:
JOHN E. PARKER,
HENRY HOWSON, Jr.