

(No Model.)

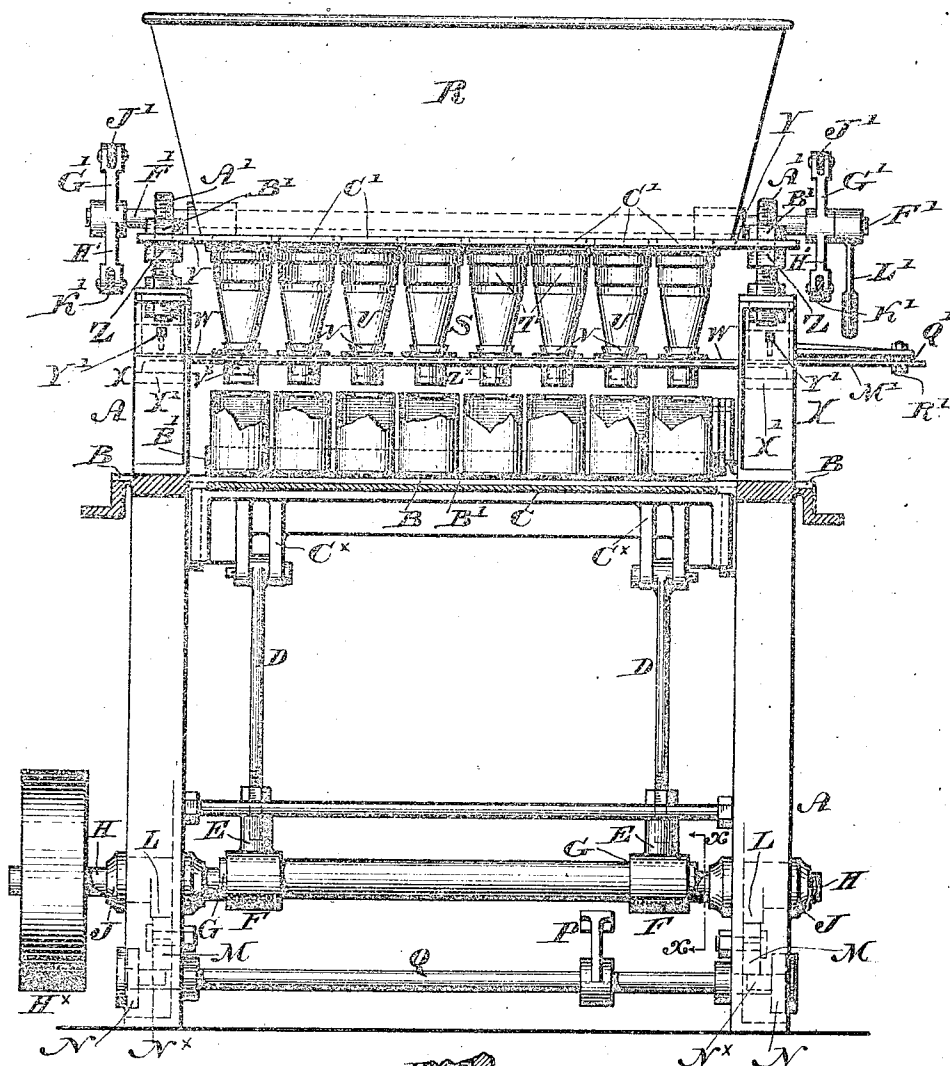
3 Sheets—Sheet 1.

J. T. COX.
CAN FILLING MACHINE.

No. 469,992.

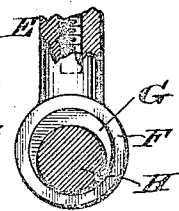
Patented Mar. 1, 1892.

Fig. 1.



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Fig. 2.



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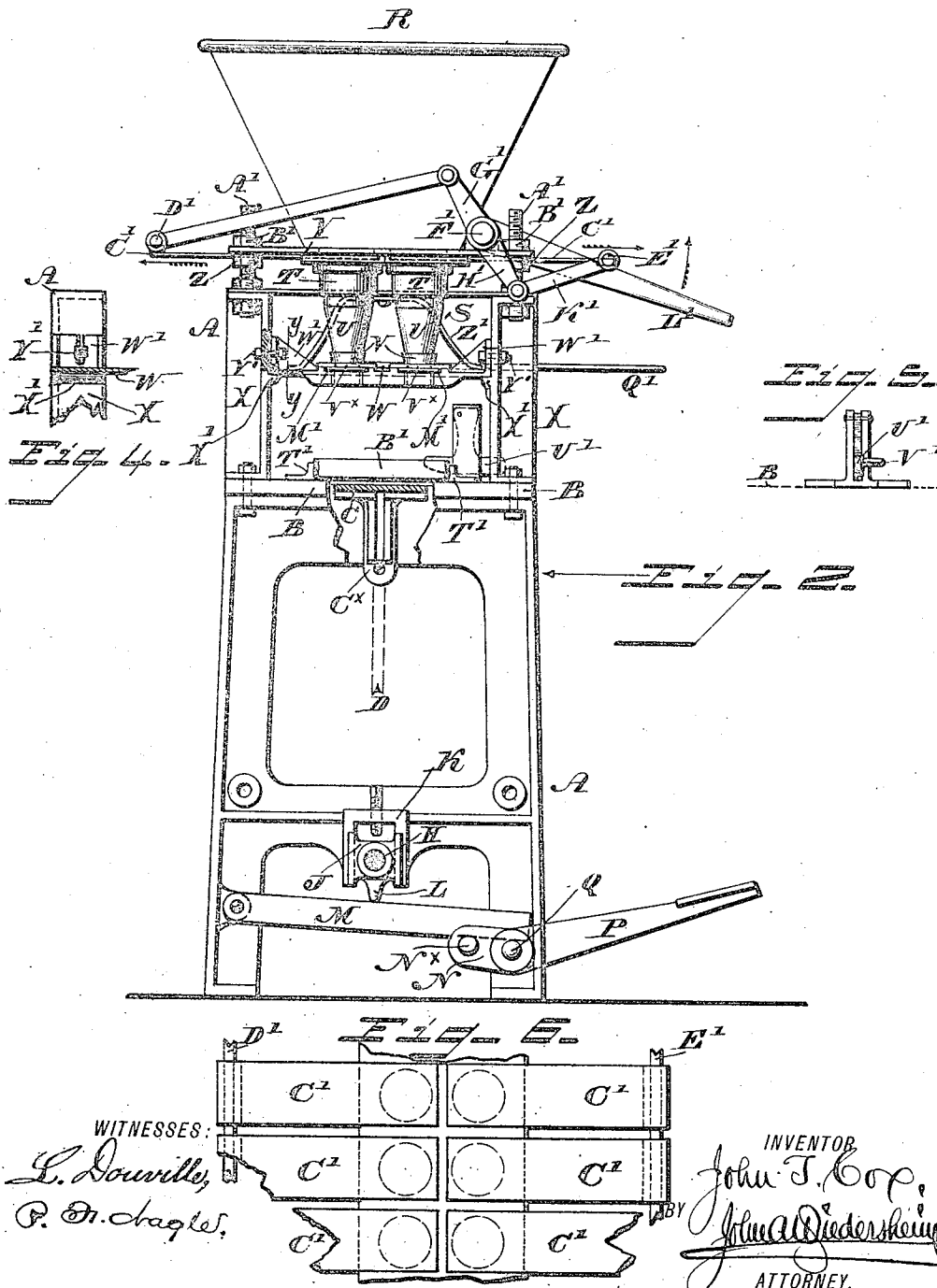
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Fig. 2

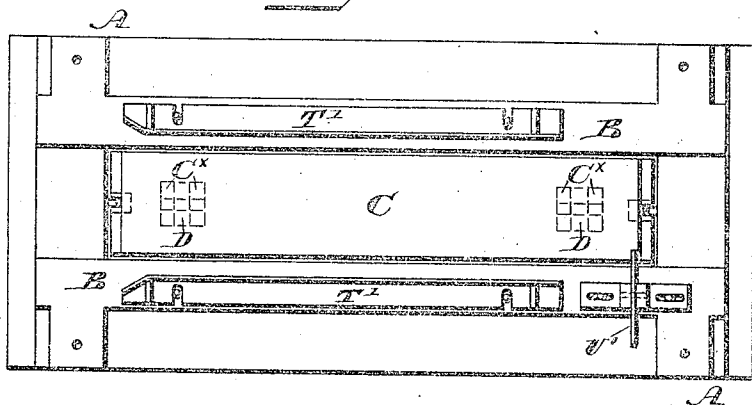


Fig. 3

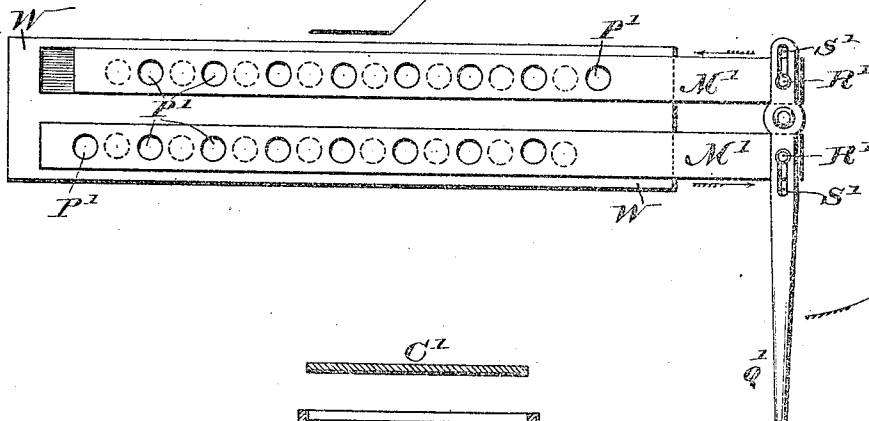
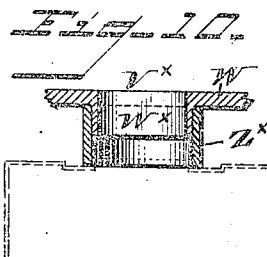
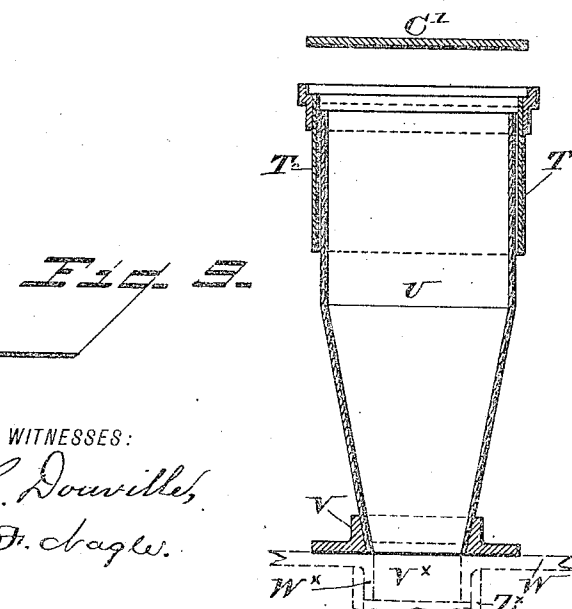


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN T. COX, OF CAMDEN, NEW JERSEY, ASSIGNOR TO THE ANDERSON PRESERVING COMPANY, OF NEW JERSEY.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,992, dated March 1, 1892.

Application filed July 13, 1891. Serial No. 399,351. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. COX, a citizen of the United States, residing in the city and county of Camden, in the State of New Jersey, have invented a new and useful Improvement in Can-Filling Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in can-filling machines; and it consists, first, of mechanism, substantially as described, for raising and lowering the table of the machine.

It further consists of mechanism for settling the contents in the cans.

It further consists of feeding mechanism, substantially as described.

It further consists of the combination and arrangement of parts hereinafter described.

Figure 1 represents a partial end and partial sectional view of a machine embodying my invention. Fig. 2 represents a view of the machine at right angles to that shown in Fig. 1, parts being broken away. Fig. 3 represents a section on line *x x*, Fig. 1. Fig. 4 represents a vertical section on line *y y*, Fig. 2. Fig. 5 represents an end view of a catch or stop for the tray. Fig. 6 represents a partial plan view of a portion of the device, showing a portion of the valves at the upper end of the spouts. Fig. 7 represents a plan view of a portion of the machine, showing the tray-guides, stop, and adjacent mechanism. Fig. 8 represents a plan view of the lower valves of the measuring-spouts of the device. Fig. 9 represents a vertical section of a measuring-spout. Fig. 10 represents a vertical sectional view of a detail portion of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the frame of a can-filling machine, and B the bed thereof, on which a tray B', holding the cans to be filled, is supported. Within a slot in said bed is a table C, normally below the plane of said bed and having on its under side the lugs C', to which are pivotally connected the bars D, each of which has its lower end threaded to adjustably connect with a threaded socket E on a collar F, the latter being fitted on an eccentric G on the rotary

shaft H, having the pulley H' thereon. The said shaft H is journaled in the rising and falling boxes J, which are movable in ways K on the ends of the frame A. Each of the boxes J has a lug L, which rests on an arm M, pivoted to the frame and raised or lowered by means of the stud N' of an arm N, secured to a rock-shaft Q, journaled in the frame A and operated by a treadle P.

R designates a hopper having a series of spouts or nozzles S depending therefrom and arranged in two rows. Each of the spouts S is formed of two parts telescopically arranged, the upper part T being attached to the hopper so as to be adapted to be raised or lowered therewith and the lower part U fitting in a boss V, surrounding an opening V' in a cross-piece W of the upper extension X of the frame.

To adjust the parts T and U so as to regulate the size of the spouts according to the quantity of material to be placed in the cans, the hopper, with the upper parts T, is raised by means of the frame Y, which supports the hopper and rests on the nuts Z, which are adjustable on the threaded bolts A', secured in horizontal extensions of the side pieces X. The jam-nuts B' on the bolts A' above the frame Y serve to hold the said frame in place.

To control the entrance of the material into the spouts S, a sliding valve C' is provided for each of the said spouts. The valves C' are pivoted to a bar D', and the valves of the other row are pivoted to the bar E', so as to connect the valves of each row for operating simultaneously. A rock-shaft F', suitably journaled on the frame Y, is provided with the arms G' H', which are respectively connected by the links J' K' with the bars D' and E'. A lever L', secured to the said shaft F', is employed for oscillating or rocking the same.

At the lower end of each row of spouts is a slide M', each of said slides having a series of openings I' therein so arranged that when one of the slides is moved in one direction and the other slide simultaneously moved in the opposite direction the openings in both slides are below or coincide with the openings in the spouts and when the slides are moved

in the opposite direction the openings do not coincide, but solid portions of the slides are below said spout-openings, closing the same. To operate the said slides simultaneously and in opposite directions, a lever Q', pivoted to the cross-piece W, is employed, the said lever being connected with said slides by the pins or studs R', which are secured to the slides and project in the slots S' in the lever on opposite sides of the pivot or fulcrum thereof.

The tray B' is held in place on the bed B by means of the guides or ways T' thereon and a stop U', the latter being pivoted in a suitable support and provided with a nose adapted to be swung in the way of the end of the tray. The said stop has a pin V' for convenience in operating it.

The cross-piece W is loosely connected with the extensions X, so as to be adapted to have a slight vertical motion thereon, such connection being effected by supporting the upward-projecting sides W' of the piece W on the flanges X' of the extensions X, said sides W' being vertically slotted, so as to be guided on the bolts Y' in said extensions X. The springs Z' serve to normally keep the piece W on the flanges X'. To insure a close connection between the mouths of the cans and the lower ends of the spouts, or, rather, the openings V^x in the piece W, the said piece is provided with the bosses W^x, surrounding the said openings V^x, and an elastic gasket or collar Z^x surrounds each of the said bosses and extends below the same, so as to come in contact with the top of a can on the tray.

The manner of operation of the machine is as follows: A tray with the cans to be filled is placed on the bed B, and the material in the hopper R is measured into the spouts, the lower valves or slides being closed and the upper ones opened. The upper slides are then closed and the lower ones opened, permitting the material to drop into the cans. At the same time, by means of the treadle P and connecting mechanism, the rotary shaft H is raised, so as to bring the table C in contact with the tray B', when, owing to the rising and falling motion of the table due to the movement of the eccentric G and connected parts, the tray, with the cans, will be raised and lowered, so that the material in the cans will be shaken and thereby settled in the same. During this movement of the tray the cans are insured from any crushing, owing to the rising of the piece W during the upward movement of the table. The springs Z' assist the weight of the piece W in seating the same on the return or downward movement of the table, and the gaskets Z^x insure communication of the cans and spouts and prevent the crushing of the cans. When the can is filled, the treadle is operated so as to lower the boxes J and shaft H, thereby removing the table C from contact with the tray, which latter is then removed for other cans to be inserted thereon.

Having thus described my invention, what

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

1. In a can-filling machine, a frame with a stationary bed having a slot therein, a rising and falling table movable in said bed, a can-supporting tray normally seated on said bed and movable therewith, and filling mechanism above said tray, said parts being combined substantially as described.

2. In a can-filling machine, a frame supporting a hopper having a bed, a table, mechanism connected with said table for imparting a rising and falling motion thereto, said table normally being below the plane of said bed, and mechanism, substantially as described, for raising said operating mechanism of the table, said parts being combined substantially as described.

3. In a can-filling machine, a frame with a bed, a table normally below the plane of the bed, a shaft journaled in boxes vertically movable in ways on the said frame, mechanism, substantially as described, for raising and lowering said boxes, and mechanism connected with said shaft and table for raising and lowering the same, said parts being combined substantially as described.

4. In a can-filling machine, a support and a hopper with a depending spout formed of two telescopic parts, one of said parts being connected and movable with said hopper and the other part being seated on an attachment to the said support, said parts being combined substantially as described.

5. In a can-filling machine, a frame, a hopper with a depending spout of two parts formed telescopically, one part being connected and movable with said hopper, the other part being seated on a cross-piece or attachment of the frame, and means connected with said frame and hopper for vertically adjusting the same, said parts being combined substantially as described.

6. In a can-filling machine, an adjustable frame with depending rows of spouts, a sliding valve at the entrance of each of said spouts, adapted to be simultaneously operated to open and close, and slides or discharge-valves at the lower part of said spouts, mechanism for simultaneously operating said discharge-valves, a rubber gasket connected with the lower portions of said spouts, and a cross-piece carrying bosses, into which the lower ends of the spouts extend, the said rubber gasket surrounding the said bosses and depending below the same, said parts being combined substantially as described.

7. A frame, a hopper having a discharge-spout of two parts telescopically arranged, the lower part being seated on a movable part of the frame, a bed adapted to normally support a tray, and a movable table adapted to raise and lower a tray seated on said bed, said parts being combined substantially as described.

8. In a can-filling machine, a frame with flanges and studs, a movable cross-piece with vertical slots, and a spout having a lower tele-

scopic section seated on said cross-piece, said cross-piece being seated on said flanges, said parts being combined substantially as described.

5 9. In a can-filling machine, the frame A, with side pieces X, the threaded bolts A', with nuts Z thereon, the frame Y, supported on said nuts and having the upper part T of the spouts secured thereto, and a cross-piece W,
10 with the lower parts U of the spout connected therewith, said parts T and U being telescopically arranged, said parts being combined substantially as described.

15 10. In a can-filling machine, the cross-piece W, having openings V^x therein and provided with upwardly-projecting sides with vertical

slots therein, the frame-extensions X, having the flanges X', the bolts Y in said extensions, the springs Z', bearing against the piece W, the bosses W^x on the under side of the cross- 20 piece and surrounding the openings V^x therein, an elastic gasket surrounding each boss, and the bosses V on the upper side of the cross-piece surrounding the openings V^x and adapted to receive the lower parts U of the 25 spouts of the machine, said parts being combined substantially as described.

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Witnesses:

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A. P. JENNINGS.