(No Model.)

2 Sheets—Sheet 1.

J. G. HOSKINS.

CAN FILLING MACHINE.

No. 315,622. Patented Apr. 14, 1885.

FIG. 1.

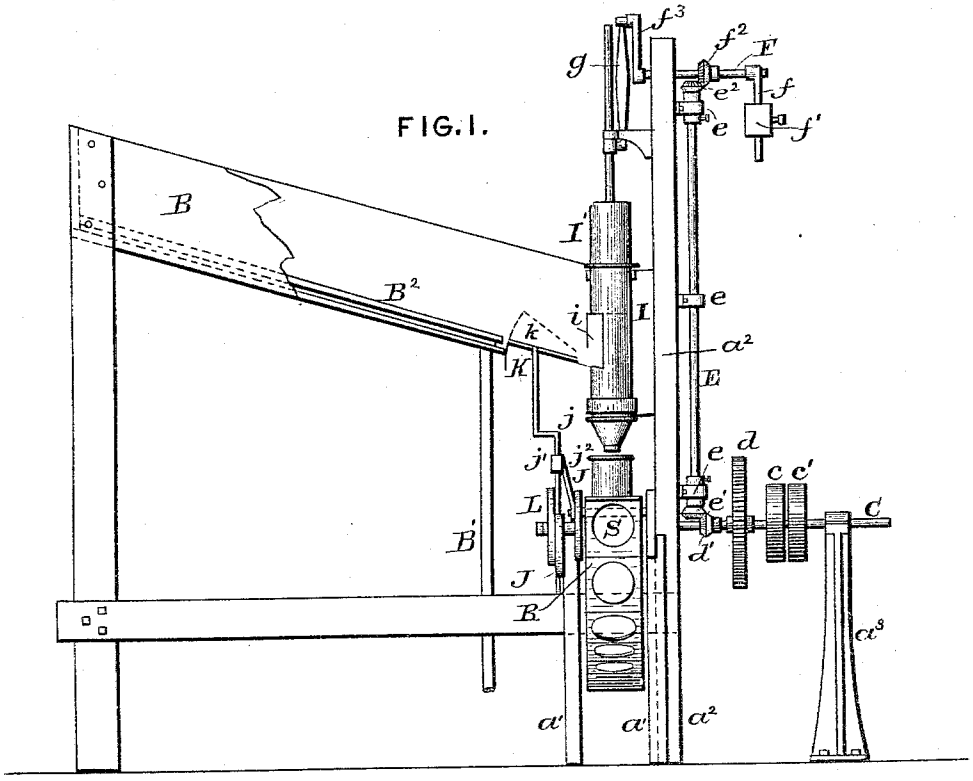
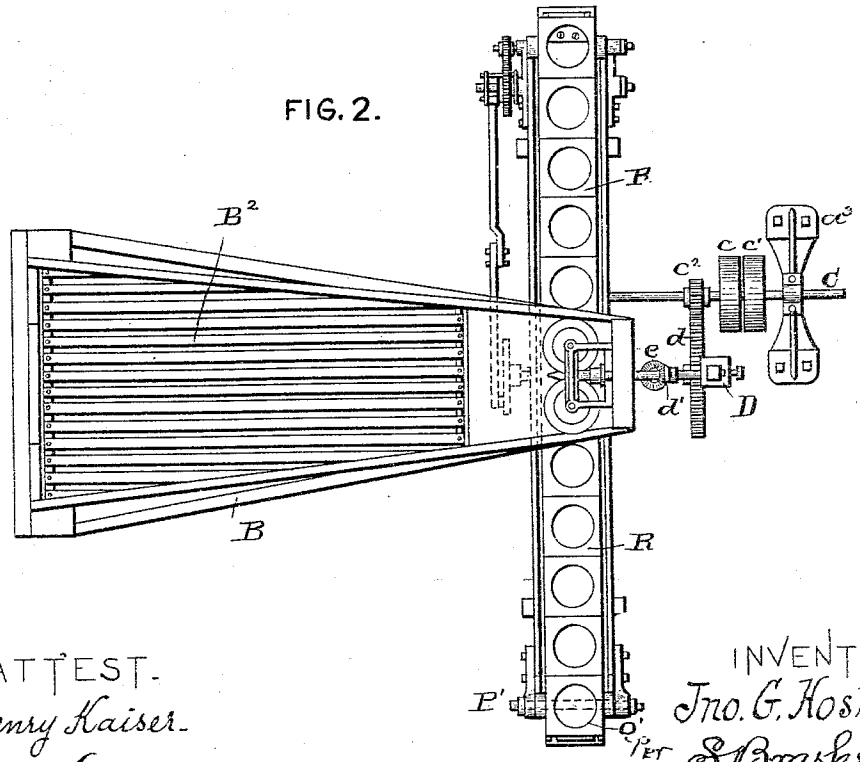


FIG. 2.



ATTEST.

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Harry L. Ames

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(No Model.) 2 Sheets—Sheet 2.

J. G. HOSKINS.

CAN FILLING MACHINE.

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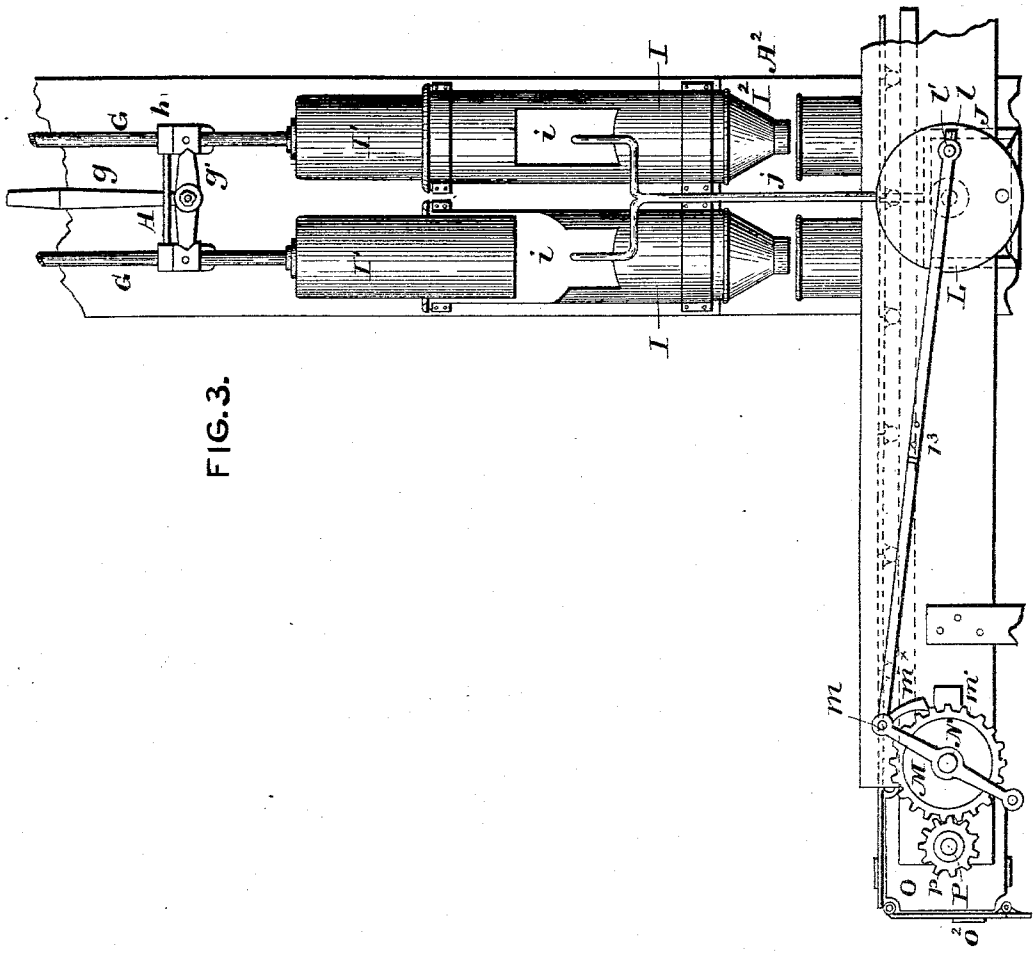


FIG. 3.

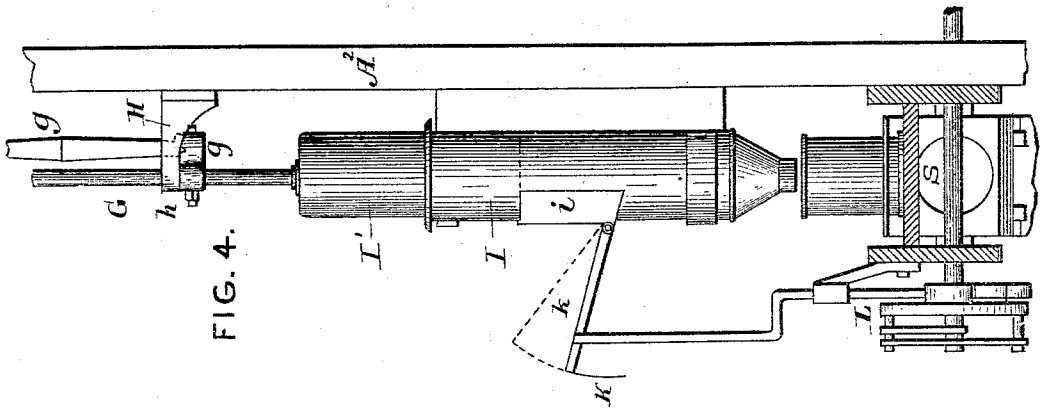


FIG. 4.

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UNITED STATES PATENT OFFICE.

JOHN G. HOSKINS, OF BALTIMORE, MARYLAND.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 315,622, dated April 14, 1885.

Application filed August 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. HOSKINS, of Baltimore city, Maryland, have invented certain new and useful Improvements in Can-Filling Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a view in side elevation partly broken away. Fig. 2 is a top plan view. Fig. 3 is a partial rear elevation, parts being omitted; and Fig. 4 is a partial section on a plane from front to rear.

Like letters mark the same parts in all the figures.

My invention relates to machines for filling cans (prior to hermetically sealing them) with fruits, vegetables, &c., the construction here shown being especially intended for tomatoes, although it is applicable to other vegetables and fruits without change.

The object of my invention is to furnish a machine of this class which will automatically carry up the cans, bring them under the fillers, put in a predetermined quantity in each can, and then automatically deliver the filled cans, the number of cans to be filled at each stroke being only dependent upon the number of plungers, the machine here shown being constructed so that two cans are fed forward, filled, and delivered at each stroke.

My invention consists in the construction, arrangement, and combination of parts, which will be first fully described herein, and afterward specifically pointed out in the claims.

Referring to the drawings by letter, A is the frame of the machine, which consists of standards a a' a^2, the standards a being at the rear and supporting the rear end of an inclined trough, B, which serves as a hopper and chute to deliver the mass with which the cans are to be filled to the fillers. The standards a' a' extend across the front of the machine, and serve to support the working parts of the machine. The standards a' a' are in the nature of cross-beams, and to one of them is attached the standard a^2, whose upper end is embraced and supported by the extended ends of the trough B. A standard, a^3, is set up at a short distance from the standard a^2, and a shaft, C, is mounted in said standard a^3, and extends through one of the standards a'. The shaft C carries fast and loose pulleys c c', by means of which connection is made with any suitable power to drive the machine. This shaft also carries a pinion, c^2, which engages a gear-wheel, d, on a shaft, D, passing through bearings in standards a^2 and a'. On the shaft D is also a bevel-gear, d', which engages a bevel-gear, e', on an upright shaft, E, mounted in bearings e, attached to standard a^2. On the upper end of the shaft E is another bevel-gear, e^2, which engages a bevel gear, f^2, on a shaft, F, mounted in the upper end of the standard a^2. This shaft F carries an arm, f, on which is adjustably secured a weight, f', which serves to counterbalance a crank, f^3, and its attachments. A pitman, g, is attached to said crank, and has secured to its lower end a cross head, g', which slides up and down, carrying with it two plungers, G, which are guided in bearings h in a bracket, H, attached to the standard a^2. Each of these plungers carries at its bottom a head, I', located in each of two standpipes or tubes, I, which are provided on one of their sides with openings i, communicating with the trough B, and are funnel-shaped at their lower ends to register with and set over the cans when in position to be filled.

On the shaft D, inside the standard a', is mounted a square box, J, inside of which works an eccentric or cam, which serves to raise a rod, j, which is guided in a bearing, j', on a bracket, j^2, secured to standard a. The rod j forks at its upper end, and serves, at a predetermined time, to raise a hinged plate, K, which forms thus a movable bottom to the lower end of the trough and to more effectually dump the mass into the tubes I. This plate K is formed with an angular projecting end, k, which, when the plate is raised, serves to prevent any further flow of material down the trough to the tubes I, and to prevent leakage from the trough.

On the inner end of the shaft D is a face-plate, L, having a slot, l, in which is adjustably secured a crank-pin, l', which carries a lever or pitman, l^2, whose outer end connects with a lever, M, pivoted centrally on a shaft, N, mounted in suitable bearings near one end (which we may call the "rear" end) of the standards a'.

On the pin m, which connects the pitman l^2 and lever M, is also hung a gravity-pawl, $m^\times$,

which engages a gear-wheel m' mounted on the shaft N, which gear-wheel in turn engages a pinion, p, mounted on a shaft, P, which works in suitable bearings at the rear end of the standards a'. The pitman l^2 is provided with an adjustable joint, l^3, by means of which it may be adjusted in length, when desired. A shaft, P′, is mounted in suitable bearings at the opposite end of standards a', and on the shafts P and P′, between the standards a', are secured square blocks O and O′, each side of the block O being provided with a block, O^2, shaped as a segment of a circle, which serve as teeth to engage and draw forward an endless belt composed of flat square links R, each link having a circular perforation in which to place a can, the cans resting through said perforations on a board or table, S, over which the chain moves.

The mass of material being placed in the trough, the parts being in position, as in Fig. 1, motion is communicated and the following operations performed, viz: The forked rod j, raised by the cam in box J, pushes up the hinged plate K, dumping a portion of the contents of the trough into the filling-tubes. The plungers now descend, closing up the openings in the tubes and forcing the contents of the tubes into the cans below. Next the plungers ascend ready for another stroke. In the meanwhile the endless belt has been carried forward the space of two links, bringing two more cans under the tubes and carrying away the two already filled. The plate K again dumps and the operations are repeated. The motions are all effected from the main shaft, and are properly timed and adjusted. The pitman l^2 can be given a longer or shorter throw by adjusting its crank or wrist pin in the slot in the face-plate. The plungers can be adjusted on the cross-head, the weight on the counterbalance-arm may be adjusted, and the length of the tubes may be altered to suit the throw of the plungers by the telescopic arrangement shown in Fig. 3. The trough has a slatted bottom to drain the liquid out of the contents thereof. The bottom of pipes I may be made into funnels I^2, removable or fixed, as desired. A suitable drain-pipe, B′, attached to lower side of trough B, carries off waste liquor into any suitable receptacle to be thrown away or utilized, as desired, a slat bottom, B^2, draining off the liquor in the trough.

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

1. The combination, with the tubes having openings in their sides, of the trough ending at said openings, and having its lower end arranged to dump a quantity of the contents of the trough through said openings, as set forth.

2. In combination, the tubes, the trough, the angular plate hinged in the end of the trough, with means for raising the plate, as and for the purpose set forth.

3. In combination, the filler-tubes, a table below, an endless chain for carrying the cans, and means for advancing said chain two steps at each motion, as set forth.

4. In combination, the trough, the pivoted plate K, the tubes I, with openings i, and the plungers I′, as set forth.

5. In combination, the trough B, tubes I, plungers I′, rods G, cross-head g', pitman g, and crank f^3, as set forth.

6. In combination, the tubes I, the endless belt composed of links R, having circular openings, and the blocks O O′, as set forth.

7. The endless belt composed of links R, having circular openings, in combination with blocks O and O′, the block O having segments O^2 to engage said openings and serve as teeth, the openings also serving as can-receptacles, as set forth.

8. In combination, the trough B, hinged plate K, tubes I, with openings i, the forked rod j, and mechanism to raise it periodically to correspond with the movement of the endless belt which carries the cans, as set forth.

JOHN G. HOSKINS.

Witnesses:
S. BRASHEARS,
J. N. PISTEL, Jr.