

1,039,360.

J. H. & F. W. BURPEE.
CAN FILLING MACHINE.
APPLICATION FILED DEC. 22, 1911.

Patented Sept. 24, 1912.

2 SHEETS--SHEET 1.

Fig. 1.

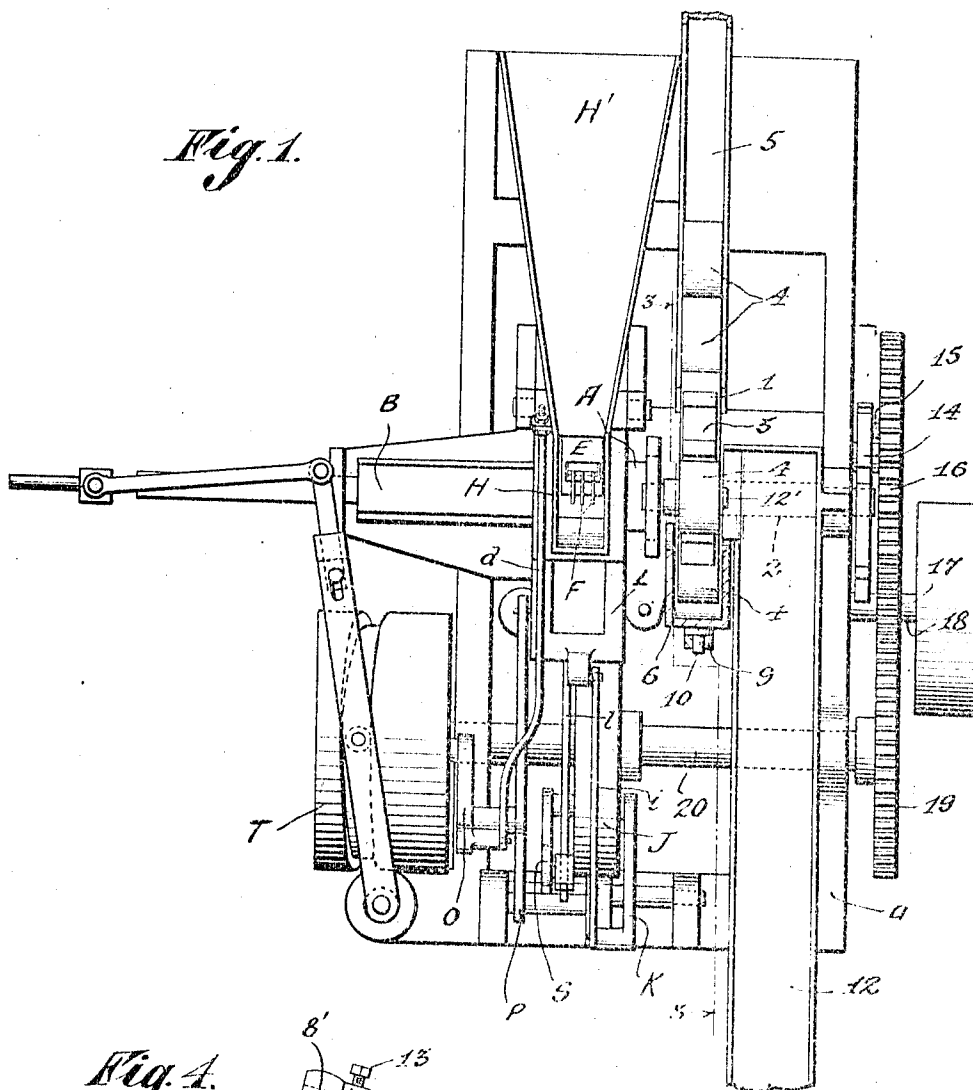
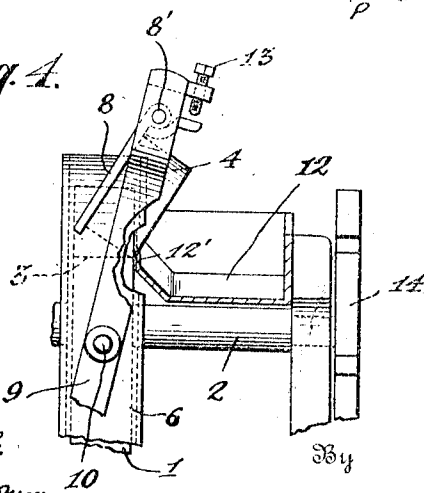


Fig. 4.



Witnesses

James E. Spruell.
Louis T. Fossum.

By

Inventors

Frank W. Burpee.
John H. Burpee.

Attorneys

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2 SHEETS—SHEET 2.

Fig. 2.

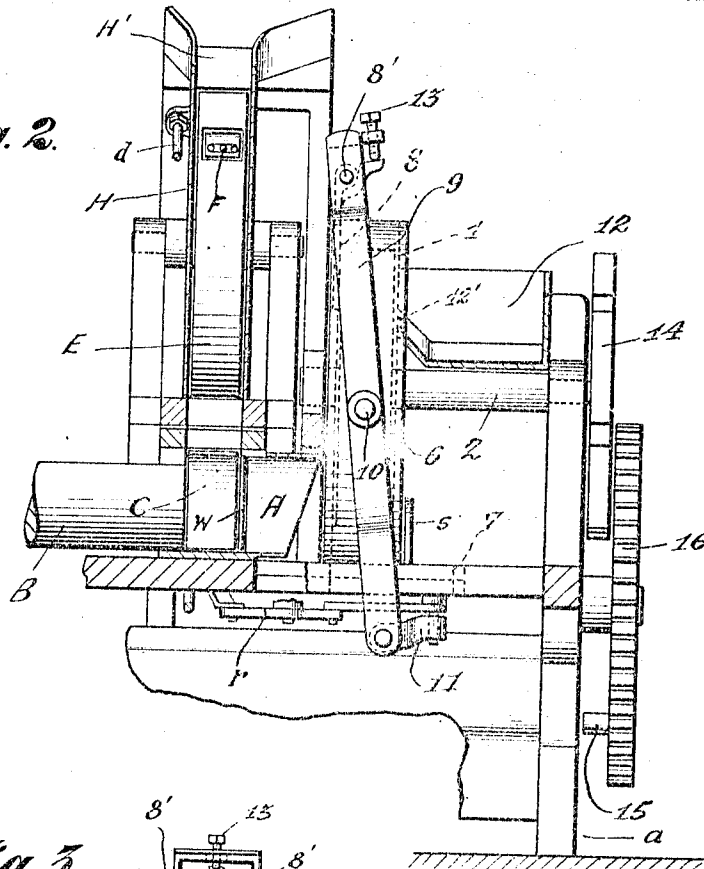
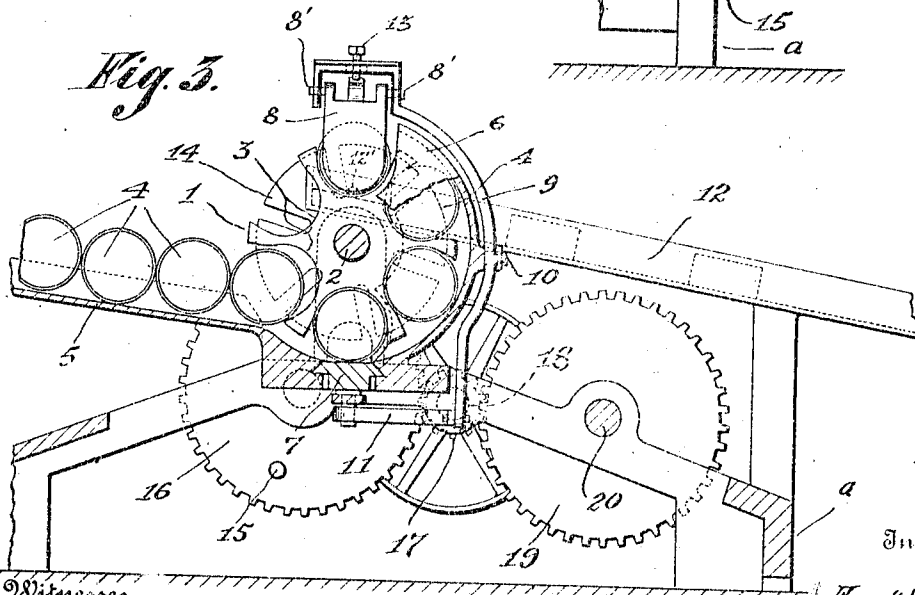


Fig. 3.



Witnesses

James E. Spruell.
Louis T. Fossum

334

Inventors:
Frank W. Burpee.
John H. Burpee.
Adams & Brooks
Attorneys

UNITED STATES PATENT OFFICE.

JOHN H. BURPEE AND FRANK W. BURPEE, OF BELLINGHAM, WASHINGTON.

CAN-FILLING MACHINE.

1,039,360.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed December 22, 1911. Serial No. 667,357.

To all whom it may concern:

Be it known that we, JOHN H. BURPEE and FRANK W. BURPEE, citizens of the Dominion of Canada, and residents of the city of Bellingham, in the county of Whatcom and State of Washington, have invented certain new and useful Improvements in Can-Filling Machines, of which the following is a specification.

Our invention has for its primary object to provide novel mechanism for effecting the upending of the cans, subsequently to the filling thereof, for delivery from the apparatus with their open ends uppermost. With the above and other objects in view, to be referred to as our description progresses, the invention resides in the features of construction, arrangements and combinations of parts hereinafter described and succinctly defined in our annexed claims.

Referring to the accompanying drawings wherein like characters of reference indicate like parts throughout: Figure 1 is a top plan of a machine embodying our invention. Fig. 2 is a fragmentary vertical transverse section thereof. Fig. 3 is a longitudinal section taken on line 3--3 of Fig. 1, and Fig. 4 is a fragmentary view illustrating more particularly the ejector in operation.

Our invention is particularly designed for use in connection with can filling machines of that type wherein the cans are filled while resting on their sides and broadly comprehends mechanism for upending the filled cans so that they will be discharged open end up, thereby preventing loss of their contents during their delivery from the machine. This upending of the cans is extremely desirable when handling short cans or "flats," as will be apparent.

We have incorporated our improvements in a can filling machine of the type shown in Patent 281,767, issued July 24, 1883.

Referring to the drawings by numerals of reference, 1 indicates a vertically disposed can carrier, fixed to a shaft 2 and provided with peripheral seats 3 adapted for reception of the cans, as 4, on their sides, and 5 indicates an inclined can way, extending in proximity to the lower side of carrier 1, down which the cans roll into the seats 3 which latter are successively brought into a receiving position with respect to way 5 through carrier 1 being intermittently rotated by mechanism hereinafter described.

Reference numeral 6 indicates a guide extending from a slide 7 up at the upwardly moving side of carrier 1 to an ejector 8, mounted on an oscillatory support 9, for movement crosswise of carrier 1 and into the seats 3 thereof for effecting ejection and simultaneous upending of the cans, the latter when discharged falling open end up on a fixed delivery chute 12, of any suitable construction. Oscillatory support 9 is fulcrumed, as at 10, on guide 6 and operatively connected at its lower end, as by a link 11, with slide 7. Ejector 8 is pivoted, as at 8', on support 9 and is free to swing thereon in a rearward direction. An adjustable stop 13, consisting of a screw threaded on support 9, as shown, limits forward relative swinging of ejector 8 and serves to normally hold the latter in a predetermined normal position, which is at a slight rearward inclination to its support, as shown in Fig. 2, so that during advance movement, it will engage the upper edge of the can and thereby effect a tilting of the latter simultaneously with its ejection, see Fig. 4. Ejector 8 being free to swing rearwardly on support 9, this engagement of the can will be of a yielding nature, thereby overcoming injury to the cans, as will be readily understood.

Shaft 2 is driven intermittently, the same being provided with a notched wheel 14, in the notches of which a pin 15 on a gear 16 engages. Gear 16 is in mesh with a pinion 17, fixed to a drive shaft 18 and meshing with a gear 19 on a cam shaft 20.

The charges for the cans are formed and inserted in identically the same manner as that shown and described in Patent 281,767, hereinbefore referred to. In this mechanism H indicates a hopper to which the fish or other material is fed along a feed way H'.

I indicates a fork mounted in the oscillatory back or block E for alternate projection and retraction into hopper H for forcing the material into the measuring device or former, having a movable back wall C and gate W. B indicates a plunger connected with a cam T, on shaft 20, for movement through said measuring device.

Slide 7 which is connected by a bell crank lever 7' with back wall C is provided with a lug 8 for engagement with a can in a seat of carrier 1 to force said can onto the spout A. When the can is there positioned, plunger B is advanced to forward the

charge into the can, at which time slide 7 is retracted and the advance movement of the plunger continued to seat the filled can on carrier 1, as is well understood.

5 *d* indicates a connecting rod between oscillatory back E and lever O pivoted to arm P, and *l* a connecting rod between movable rear wall C and lever S.

10 *L* indicates a knife carrying slide which is actuated by a cam J acting upon a lever arm K and a connecting rod *z*.

Reference character *a* indicates a suitable frame upon which the various mechanisms and driving shafts are supported.

15 In the operation of our invention, slide 7 and ejector 8 operate in unison during a pause of carrier 1, the former carrying a can, previously advanced by carrier 1 from feed way 5, to spout A for filling, immediately following which it is returned to the carrier for conveyance up guide 6, and the latter acting to discharge a filled can onto delivery chute 12.

20 Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. In can filling apparatus, a rotary carrier provided with a transverse seat for holding a can on its side, means for operating said carrier, and means for tilting the cans on said carrier to eject and simultaneously up-end the cans.

2. In can filling apparatus, a rotary carrier provided with a transverse seat for holding a can on its side, means for operating said carrier intermittently, means movable against the cans for tilting the cans on said carrier and simultaneously ejecting the same, and means for operating said second means during a pause of said carrier.

3. In a can filling apparatus, a vertically disposed rotatably supported carrier provided with a seat for holding a can on its side, said seat extending transversely of said carrier for delivery of the can from the side thereof, means for rotating said carrier, and means for ejecting a can from the seat of said carrier by first tilting the can on said carrier.

4. In a can filling apparatus, a vertically disposed rotatably supported carrier provided with a seat for holding a can on its side, said seat extending transversely of said carrier for delivery of the can from the side thereof, means for rotating said carrier intermittently, means movably crosswise of the path of said carrier for ejecting a can therefrom by first tilting of the can on said carrier, and means for operating said last named means during a pause of said carrier.

5. In can filling apparatus, a rotary carrier provided with a transverse seat for holding a can on its side, a can delivery means extending alongside said carrier,

means for operating said carrier, means for effecting the transfer of cans from said carrier to said delivery means and the upending of the cans during such transfer, and means for operating said first means to tilt a can on said carrier during the initial portion of the transfer movement of the can.

6. In can filling apparatus, a rotary carrier provided with a transverse seat for holding a can on its side, a can delivery means extending alongside said carrier, means for operating said carrier intermittently, means supported for movement crosswise of the path of said carrier for engagement with a can thereon to tilt and simultaneously eject a can on said carrier to said delivery means, and means for operating said last named means during a pause of said carrier.

7. In can filling apparatus, a vertically disposed rotary carrier provided with a transverse peripheral seat for reception of a can on its side, can filling means at the side of said carrier, an ejector means supported above said first means for movement crosswise of the path of said carrier to engage a can and tilt the same on said carrier to an overbalancing position, means for operating said carrier intermittently to convey a filled can from said filling means to said ejector means, and means for operating said filling means and said ejector means during a pause of said carrier.

8. In can filling apparatus, a vertically disposed rotatable carrier formed with a transverse peripheral pocket adapted to receive a can on its side, can filling means at the side of said carrier, means for rotating said carrier intermittently, means for operating said filling means during a pause of said carrier, means at the upper side of said carrier for removing the cans, said last means being adapted to engage a can and tilt the same on said carrier whereby the cans during their discharge will be simultaneously upended, and a guide at the upwardly moving side of said carrier for holding the cans on the latter during their travel to said last named means.

9. In can filling apparatus, a vertically disposed rotatable carrier formed with a transverse peripheral pocket adapted to receive a can on its side, can filling means at the side of said carrier, means for rotating said carrier intermittently, means for operating said filling means during a pause of said carrier, means for ejecting and simultaneously upending the cans supported at the upper side of said carrier for movement crosswise of the path of the latter for engagement with the cans to tilt the same on said carrier, and means for operating said last named means during a pause of said carrier.

10. In can filling apparatus, in combina-

tion with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat, mechanism for filling a can and inserting the latter on its side in the seat of said carrier, and means for operating the same, means for ejecting and simultaneously upending the filled cans supported at the upper side of said carrier for engagement with the cans conveyed from said mechanism to tilt the same on said carrier, and means for holding the cans on said carrier during their conveyance to said second named means.

11. In can filling apparatus, in combination with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat, mechanism for filling a can and inserting the latter on its side in the seat of said carrier, means for operating the same, means for ejecting and simultaneously upending the filled cans supported at the upper side of said carrier for movement crosswise of the path thereof to engage and tilt the can on said carrier, and means for operating said second named means.

12. In can filling apparatus, in combination with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat adapted to receive a can on its side, means for operating said carrier intermittently, can filling mechanism at the side of said carrier, and means for operating said can filling mechanism during a pause of said carrier, an ejector supported at the upper side of said carrier for movement through the seat thereof to engage and tilt a can in said seat, and means for operating said ejector during a pause of said carrier.

13. In can filling apparatus, in combination with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat adapted to receive a can on its side, means for operating said carrier intermittently, can filling mechanism at the side of said carrier, and means for operating said can filling mechanism during a pause of said carrier, an ejector, an oscillatory support on which said ejector is mounted for movement into the seat of said carrier, and means for oscillating said support during a pause of said carrier to tilt a can on said carrier.

14. In can filling apparatus, in combination with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat adapted to receive a can on its side, means for operating said carrier in-

termittently, can filling mechanism at the side of said carrier, and means for operating said can filling mechanism during a pause of said carrier, an oscillatory support, an ejector pivotally mounted on said support for movement into the seat of said carrier, and means for oscillating said support during a pause of said carrier to engage and tilt a can on said carrier.

15. In can filling apparatus, in combination with a vertically disposed rotatable carrier provided with a transversely disposed peripheral seat adapted to receive a can on its side, means for operating said carrier intermittently, can filling mechanism at the side of said carrier, and means for operating said can filling mechanism during a pause of said carrier, an oscillatory support, an ejector member carried by said support for movement into the seat of said carrier, said member being pivoted at its upper end portion and having its lower portion free to swing rearwardly, adjustable means for limiting forward movement of said member on said support, and means for oscillating said support during a pause of said carrier to engage and tilt a can on said carrier.

16. In can filling apparatus, the combination with a vertically disposed rotatable carrier provided with transverse peripheral can seat, an inclined can feed way extending downwardly into proximity to the lower side of said carrier, can filling means at one side of said carrier, a can conveying slide supported for movement beneath said carrier for conveying a can from the latter to and from said filling means, and means for operating said carrier and slide alternately, of a guide extending at the upwardly moving side of said carrier, a movable support connected with said slide for movement thereby, and an ejector at the upper end of said guide mounted on said support for movement into the seat of said carrier to engage and tilt a can therein.

Signed at Bellingham, Washington, this 6th day of December 1911.

JOHN H. BURPEE.

Signed at Seattle, Washington, this 1st day of December 1911.

FRANK W. BURPEE.

Witnesses:

F. D. YALE,

JOHN F. WELLS.

Witnesses:

ARLITA ADAMS,

JAMES E. SPROLL.