Jan. 8, 1924. 1,480,334

C. H. AYARS

CAN FILLING MACHINE

Filed May 6, 1922 4 Sheets-Sheet 1

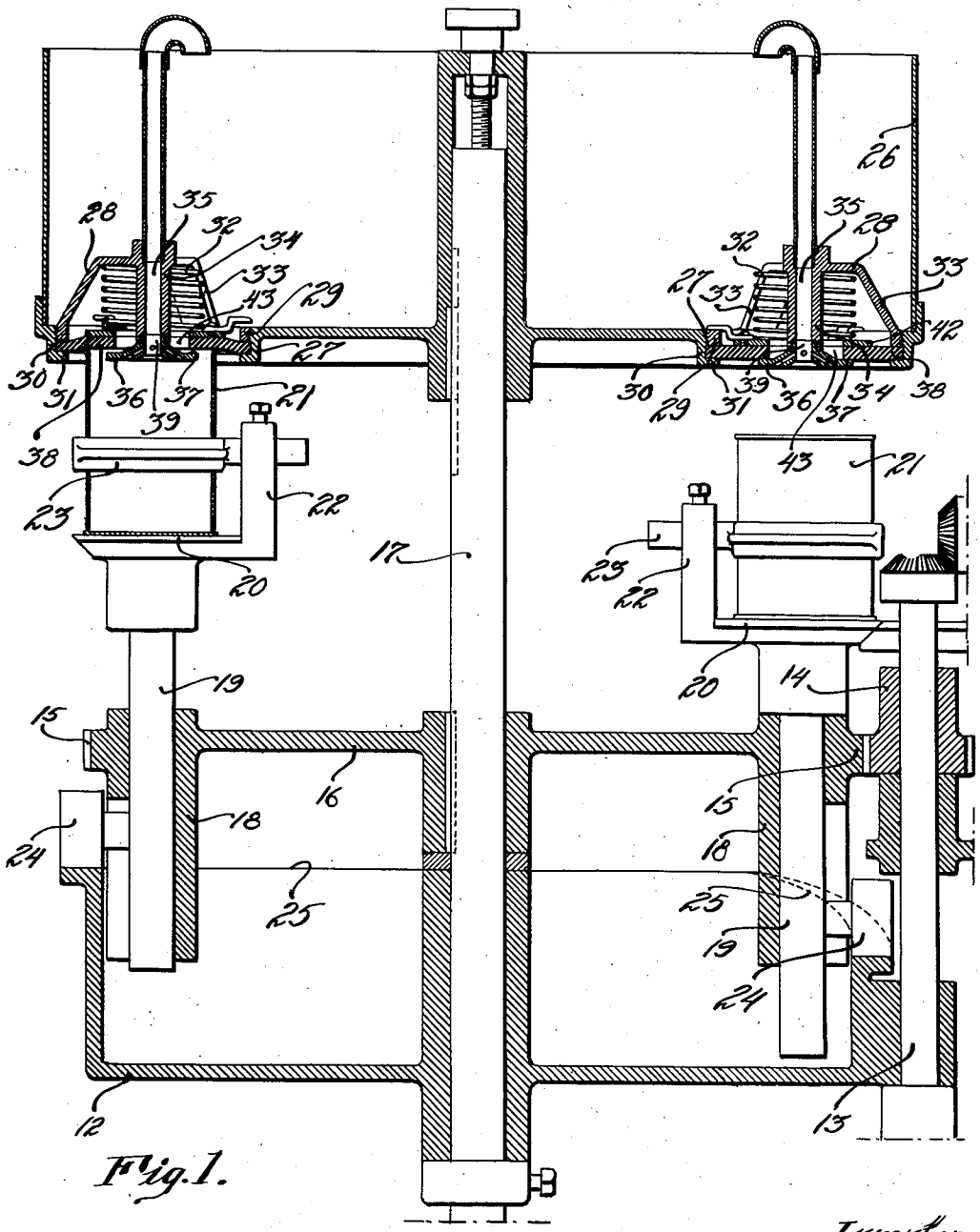


Fig. 1.

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Filed May 6, 1922 4 Sheets-Sheet 2

Fig. 2.

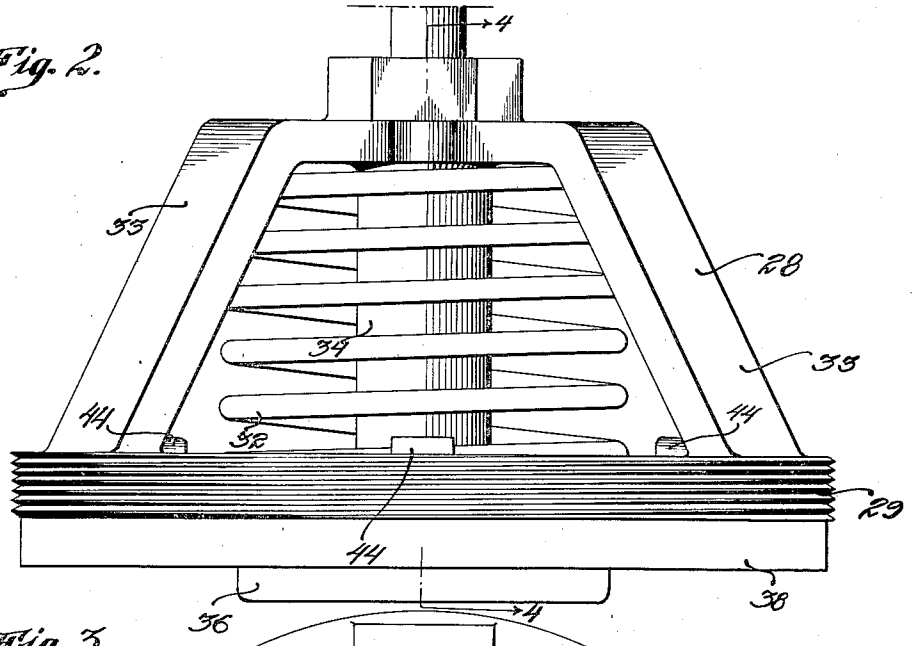
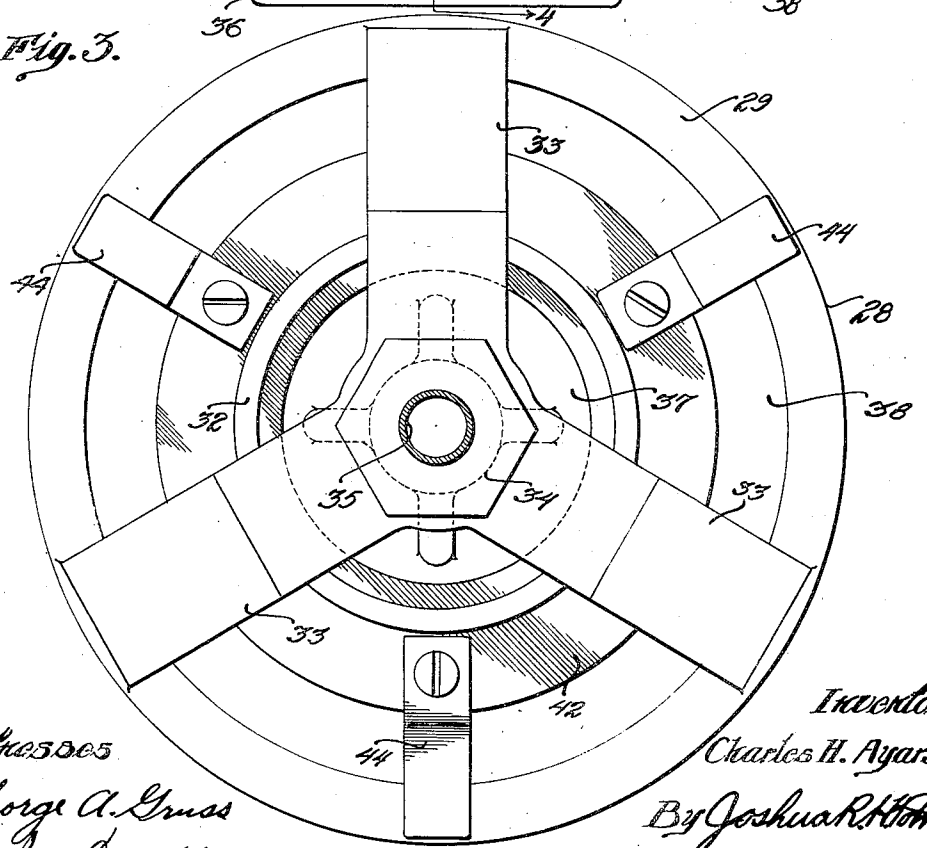


Fig. 3.



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Filed May 6, 1922 4 Sheets-Sheet 3

Fig. 4.

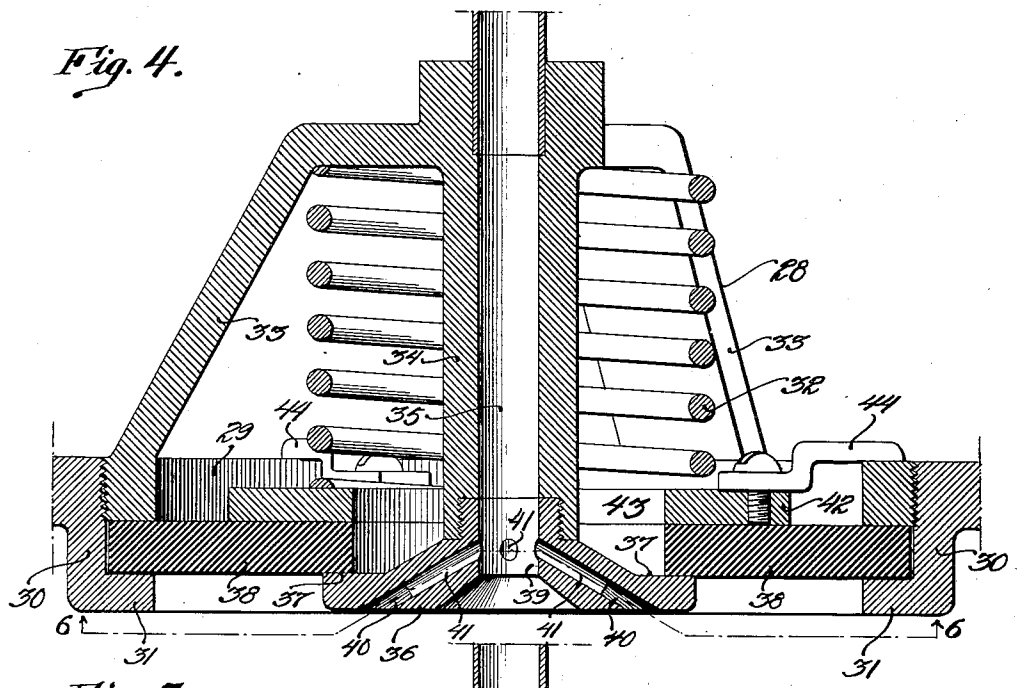
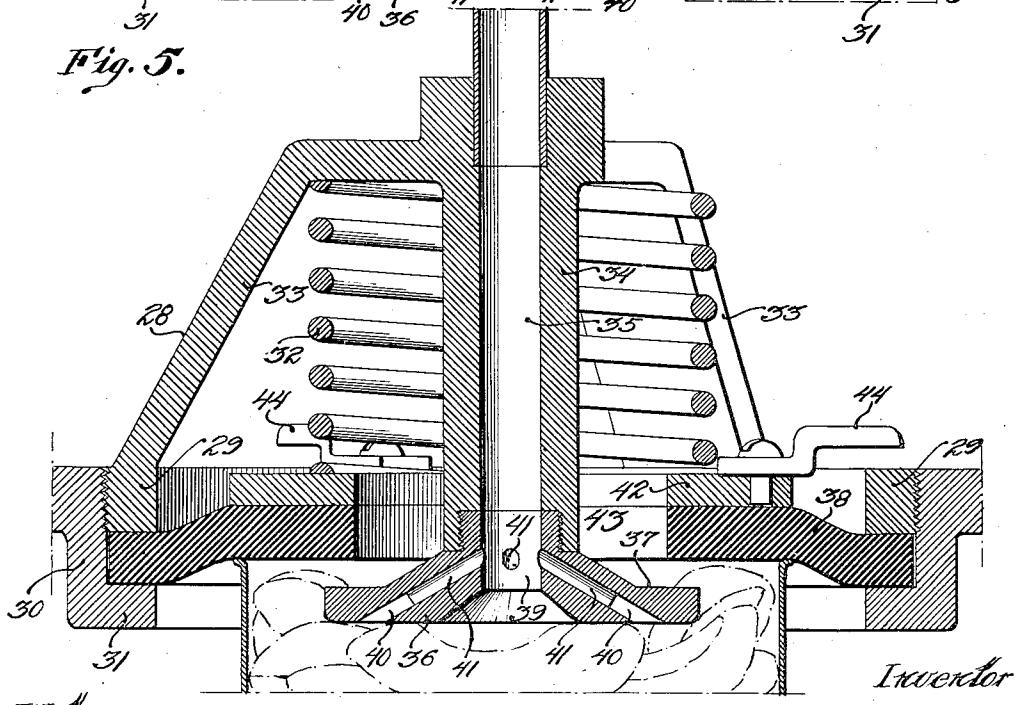


Fig. 5.



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CAN FILLING MACHINE

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Fig. 6.

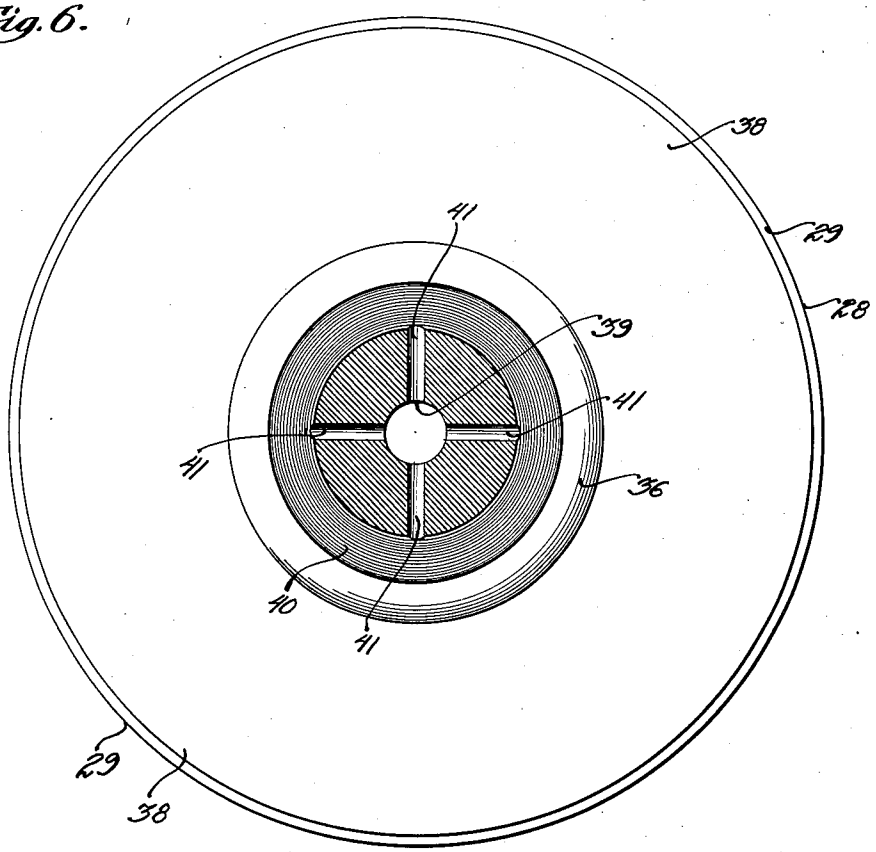
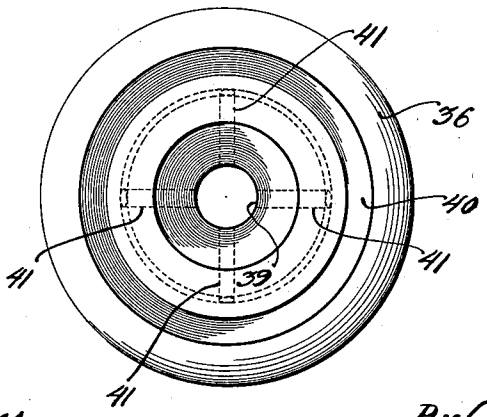


Fig. 7.



Witnesses
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His Attorney

Patented Jan. 8, 1924. 1,480,334

UNITED STATES PATENT OFFICE.

CHARLES H. AYARS, OF SALEM, NEW JERSEY, ASSIGNOR TO AYARS MACHINE COMPANY, OF SALEM, NEW JERSEY.

CAN-FILLING MACHINE.

Application filed May 6, 1922. Serial No. 558,866.

To all whom it may concern:

Be it known that I, CHARLES H. AYARS, a citizen of the United States, residing at Salem, in the county of Salem and State of New Jersey, have invented certain new and useful Improvements in Can-Filling Machines, of which the following is a specification.

My invention relates to can filling machines and more especially to means for supplying liquid such as syrup or brine to cans which have been filled, and the objects of this invention are to provide simple and efficient apparatus whereby the liquid may be supplied without spilling, and to provide an escape for air from the cans while the liquid is being fed, which will be open under all conditions of use.

The invention consists in the parts and combination and arrangement of parts hereinafter described and claimed.

In the drawings:—

Figure 1 is a fragmentary central sectional elevation of a can filling machine showing my invention applied thereto,

Figure 2 is a side elevation of my invention,

Figure 3 is a top plan view of Figure 2,

Figure 4 is a sectional elevation taken on the line 4—4 of Figure 2,

Figure 5 is a view of the same general character as that shown in Figure 4, illustrating the valve open,

Figure 6 is a section taken on the line 6—6 of Figure 4, and

Figure 7 is a bottom plan view of a certain part of my invention.

Referring to the drawings, 12 indicates frame parts of the machine, 13 a vertical shaft driven from below. A gear 14 fixed to shaft 13 meshes with a gear 15 on a rotary table 16 splined to a vertical shaft 17 mounted in suitable bearings in the frame. The table has a plurality of cylindrical sockets 18 adapted to receive stems 19 which carry at their upper ends platforms 20 adapted to support cans 21. The platforms have upwardly extending arms 22 in which are adjustably mounted U-shaped arms 23, adapted to embrace and properly position the cans. Stems 19 carry rollers 24 adapted to travel on a cam-track 25 and raise and lower the stems and the platforms carried thereby. A tank 26 splined to the upper end of shaft 17 is provided in its bottom wall with a plurality of ports 27 spaced to register with the can platforms. That part of the bottom wall which surrounds a port is screw threaded to receive a corresponding thread on the base 29 of a housing 28, and has a depending annular flange 30 having at its lower end an inwardly extending annular shoulder 31. The housing is adapted to enclose a spiral spring 32 and consists of converging standards 33 extending upwardly from the base and then inwardly to a central stem 34 which extends downwardly into port 27. This stem has a central longitudinal passage 35 and is treaded at its lower end to engage with a corresponding thread upon a disk-shaped member 36 having a flat upper face 37 which serves as the inner seat of a ring 38 of rubber or other elastic material which has its outer seat upon the annular shoulder 31 and normally closes port 37. Disk 36 has a central passage 39, communicating with passage 35, and, in its base, an upwardly and inwardly extending annular slot 40 which is in open communication with the central passage 39 through a plurality of air vent passages 41. A metallic ring 42 is positioned over and in contact with the inner part of the elastic ring 38, an annular space 43 being left between the inner edge of the rings and stem 34. A plurality of angular fingers 44, bolted to ring 42 project over the base 29 of housing 28. Ring 42 serves as a seat for spring 32 and protects the elastic ring 38 from wearing and disintegrating action of the spring. The angular fingers 44 serve as stops to limit downward movement of the spring thereby preventing undue pressure upon the elastic ring.

In operation, the tank being filled with the desired liquid, and cans filled with fruit, peaches for instance, being placed in proper position upon platforms 20, rotation of shaft 13 brings a can into position under a port and by co-action of the rollers upon the cam track the can is forced upwardly into engagement with the elastic ring. The inner part of the ring, yielding to pressure exerted through the can, is raised thereby opening port 27 and allowing the liquid to flow into the can. When the can is filled it moves downward and the valve closes under pressure of spring 32. Air escapes from the cans through central passages 39 and 35 slot 40

and vent passages 41. A peach may contact with and close one part of the slot but it is not possible for the peaches to choke the entire slot, consequently escape of the air is provided for under all conditions of use.

While I have described my invention as taking a particular form, it will be understood that the various parts of my invention may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

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 tank having a discharge port; a depending annular flange surrounding the port and having an inwardly projecting annular shoulder, a disk mounted centrally of the port and having a flat portion on its upper side; an elastic ring seated upon the annular shoulder and the disk; a housing having its base upon the outer part of the elastic ring, and a spring mounted in the housing and normally holding the elastic ring in its closed position.

2. In a can filling machine, a tank having a discharge port; a depending annular flange surrounding the port and having an inwardly projecting annular shoulder, a disk mounted centrally of the port and having a flat portion on its upper side; an elastic ring seated upon the annular shoulder and the disk; a metallic ring seated upon the inner part of the elastic ring; a housing having its base upon the outer part of the elastic ring and a spring mounted in the housing and seated upon the metallic ring.

3. In a can filling machine, a tank having a discharge port; a depending annular flange surrounding the port and having an inwardly projecting annular shoulder, a disk mounted centrally of the port and having a flat portion on its upper side; an elastic ring seated upon the annular shoulder and the disk; a metallic ring seated upon the inner part of the elastic ring; a housing having its base upon the outer part of the elastic ring; a spring mounted in the housing and seated upon the metallic ring, and fingers projecting from the metallic ring adapted to limit its downward movement.

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

CHARLES H. AYARS.

Witnesses:
GEORGE B. PARKINSON,
ELIZABETH GARBE.