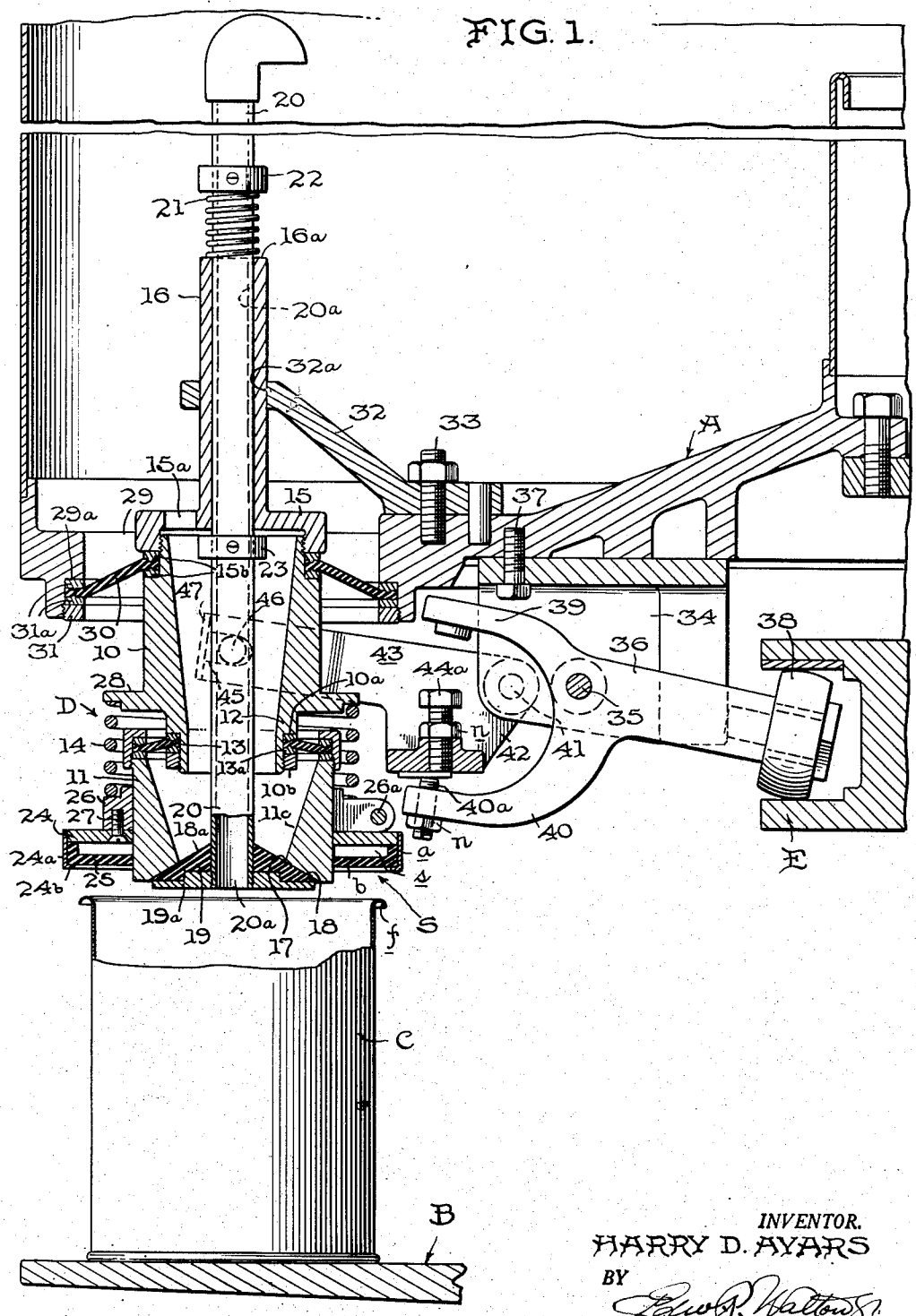
Sept. 4, 1956 H. D. AYARS 2,761,607

FILLER-VALVE FOR FILLING CONTAINERS

Filed Feb. 15, 1954 3 Sheets-Sheet 1

FIG. 1.



INVENTOR.
HARRY D. AYARS
BY
ATTORNEY

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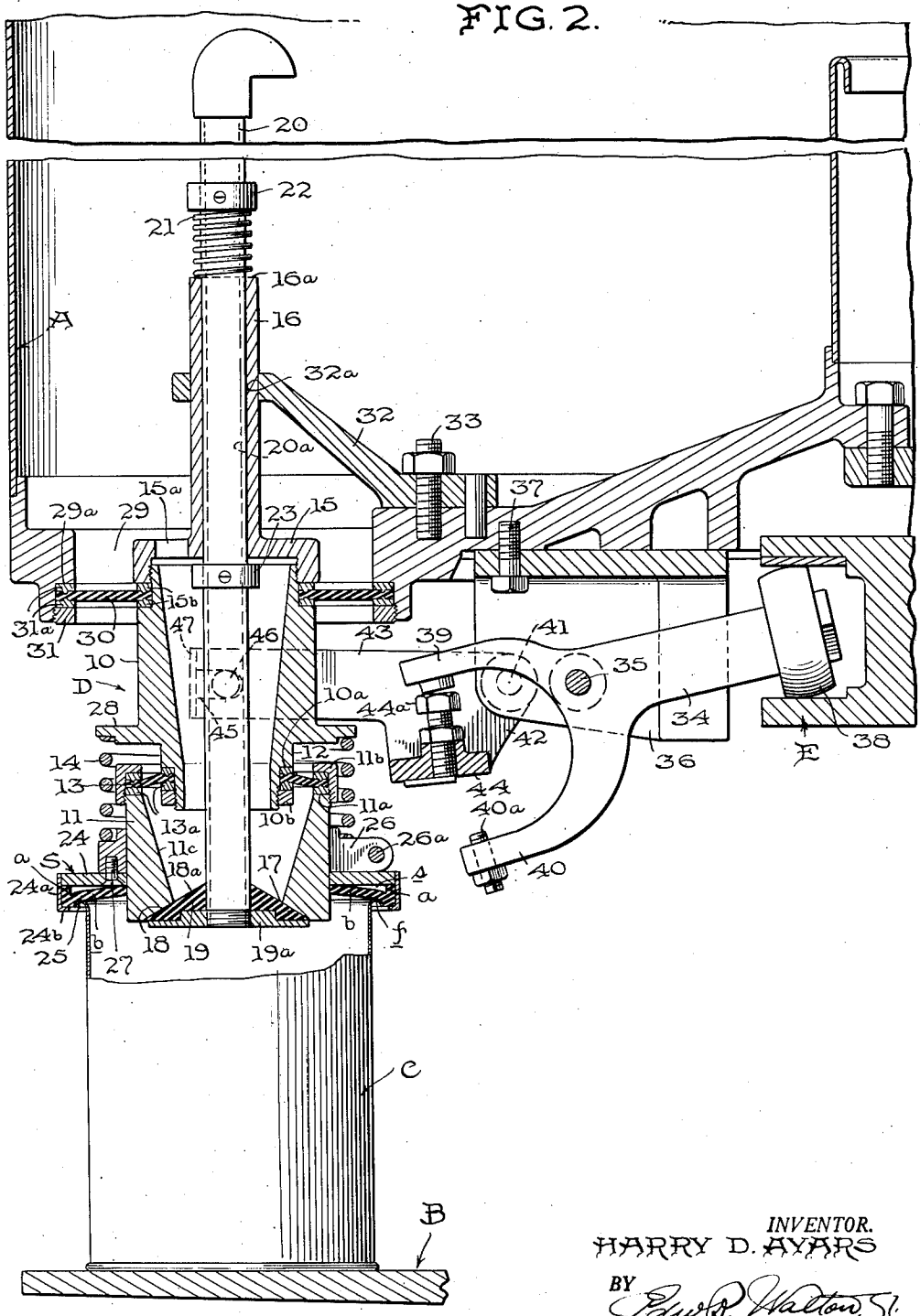
FIG. 2.



INVENTOR.
HARRY D. AYARS
BY Edward P. Walton, Jr.
ATTORNEY

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FILLER-VALVE FOR FILLING CONTAINERS

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FIG. 3.

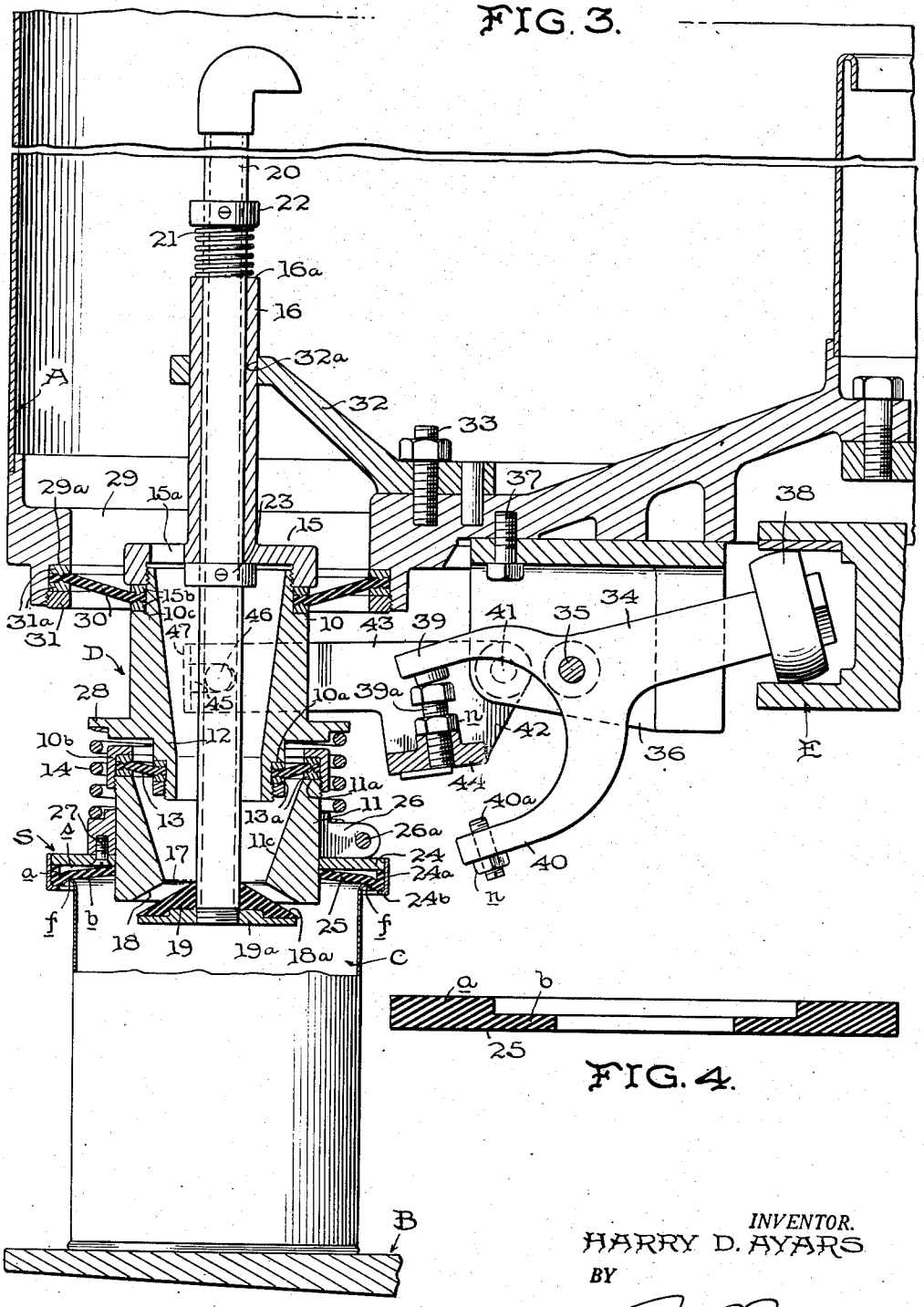

FIG. 4.

INVENTOR.
HARRY D. AYARS
BY
ATTORNEY

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2,761,607

FILLER-VALVE FOR FILLING CONTAINERS

Harry D. Ayars, Salem, N. J., assignor to American Machinery Corporation, Orlando, Fla., a corporation of Florida

Application February 15, 1954, Serial No. 410,150

16 Claims. (Cl. 226—109)

This invention relates to filler-valves and mechanism for actuating such valves for use more particularly in connection with apparatus for filling containers having open tops and is an improvement upon such valves and mechanism disclosed in United States Letters Patent No. 2,592,846 granted to me on April 15, 1952.

While the general principle of the filler-valve and of its actuating mechanism, as disclosed in said patent, are employed in the present improvement, the construction of the filler-valve body and the valve element, itself, have been materially modified and simplified resulting in an improved manner of operation.

The prime object of the present invention, therefore, is to provide a new and improved construction of filler-valves of the kind referred to wherein the filler-valve and its actuating mechanism has less parts, is materially faster in its filling operation, requires less maintenance, is cheaper to manufacture, and is easier to adjust and clean than heretofore.

Another object of the present invention is to provide a simple, positive and effective means on a filler-valve that will make a tight seal between it and the container, being filled, to prevent leakage therefrom and overfilling thereof during the filling operation, even should the flange or rim at the open end of the container be bent or deformed or if the container is tilted on its support under the filler-valve.

A further object of the invention is to provide a filler-valve with a valve element and vent tube that is free floating, within limits, to allow for over-travel of the filler-valve body to open said valve element whose opening and closing movements are controlled by the movement of the filler-valve body alone.

The objects of the present invention are attained, broadly, by constructing the valve body of two communicating sections positioned and mounted to have a relative axial movement and yieldably maintained against said movement in a normal position, when the filler-valve is in a non-filling position, said sections being sealed together to prevent leakage of the filling material and of air therebetween. The upper of said sections is actuated periodically to lower the valve-body into filling position with a container, to be filled, and to raise the valve-body out of filling position after said filling, the lower section being provided with a valve-seat at its lower end which is closed by a valve element normally biased upwardly to its closed position and positively opened against its bias by the relative axial movement of said valve-body sections toward each other. The lower section of the valve-body carries a sealing head having an annular sealing member of relative soft rubber or yieldable rubber-like material, the outer periphery of said sealing member having an upstanding lateral flange projecting therefrom and axially thereof so that, when the sealing member is mounted in its retaining head, there is a space between the body portion of said annular sealing member and the opposing surface of the head into which space the body portion of the sealing member yields, under the pressure of the sealing head on the top rim of the can, and molds

itself over and around the rim of the container filling-in all unevennesses of the rim, such as caused by a bent bead-flange or a canted rim or should the container be somewhat tilted on its supporting table, as occasionally occurs.

Other objects and features of the present invention will become apparent as the following description proceeds when read in connection with the accompanying drawings.

In the accompanying drawings, which illustrate the improvements of the present invention in the form as now employed in practice—

Figure 1 is a vertical sectional view of a filler-valve assembly and actuating mechanism therefor embodying the improvement of this invention and shown in connection with portions of a conventional container support and filler tank or reservoir, the filler-valve and its actuating parts being shown in the positions normally occupied before a filling operation has begun;

Figure 2 is a view similar to Fig. 1 showing the parts in the positions occupied, when the filler-valve assembly and a container are in contacting relation, but prior to operation of the valve element for admitting flowable filling material from the tank into the container;

Figure 3 is a view similar to Fig. 2 but showing the valve element open for admitting filling material from the tank into the container; and

Figure 4 is an elevation of the sealing member of a form as used in filling small (6 oz.) cans.

The filler-valve of the present invention may be used in connection with filling machines of various kinds for filling containers, and the like, with various kinds of flowable materials, particularly liquids.

Referring in detail to the drawings, in which like characters of reference refer to similar and like parts, A denotes a bottom portion of a toroidal reservoir or tank positioned above a support or table B for holding one or more containers C about to be filled from said tank by a filler-valve D. A plurality of the filler-valves D may be deployed about and carried by the bottom of the tank to provide a plurality of filling stations over a plurality of containers on the table B. The tank A, support B and filler-valve D may turn around a central column, not shown, in the manner of a turret, and, since the turret type of filling machine is generally known in the art, no detailed illustration of such machines are shown other than those shown in the drawings. Of course, it is understood that one or more of said filler-valves D may be employed in other arrangements or devices to meet other requirements.

The present invention resides more particularly in the construction and operation of the filler-valve D itself, and the means thereon for making a sealing contact with the container, to be filled, during the filling operation.

The filler-valve D comprises two tubular communicating body sections **10** and **11**, which may be designated, for convenience, as the upper section and the lower section, respectively. These valve-body sections, particularly the lower section **11**, are preferably, but not necessarily, cylindrical depending upon the shape or type of the container C to be filled and are connected together at their adjacent ends by a liquid-proof means that permits relatively endwise or axial movement of said body sections **10** and **11**. The presently preferred manner of accomplishing this is shown in the drawings as having the lower end of the upper section **10** reduced, as at **12**, and extending for a distance into and spaced from the upper end of the lower section **11**, said lower end of the upper section **10** and the upper end of the lower section **11** being connected by a flexible diaphragm or wall **13**, which may be of rubber or other suitable plastic or flexible material, arranged to span the space between said adjacent ends of said sections.

The connection between the flexible wall **13** and the

said ends of said sections may be accomplished in any convenient way but, in order to provide for quick disconnection as for cleaning or renewal of parts, it is preferred that the inner and outer marginal edge portions of the flexible wall **13** be releasably clamped to said adjacent ends of said sections **10** and **11**. To this end, said marginal portions of the flexible wall **13** are sandwiched between roughed or ridged washer rings **13a** and positioned on shoulders **10a** and **11a** formed on said sections, respectively, and clamped into position by rings **10b** and **11b** threaded onto the adjacent ends of said sections, the roughed or ridged surfaces of said washer rings being pressed into the margins of said wall **13** to grip the same thus forming effectively sealed fluid-tight joints. The arrangement of the parts is to be such as to allow the sections **10** and **11** to have sufficient relative endwise or axial movement as will presently appear.

The valve-body sections **10** and **11** are biased to move axially away from each other. This may be accomplished by a helical compression spring **14** interposed therebetween, preferably, exteriorly thereof.

The upper end of the upper valve-body section **10** is externally threaded to receive an end cap **15** having a centrally disposed outwardly extending tubular guide-stem **16** projecting therefrom and having one or more ports **15a** therein.

The lower valve-body section **11** has the inner surface of its side wall downwardly converging, as at **11c**, to a discharge port **17**, the circular wall of said port being flared or chamfered downwardly and outwardly to provide a circular beveled valve-seat **18** exterior of the section **11** for cooperation with the circular head of the valve member **19** having a complementally beveled edge **18a**.

The valve member **19** is preferably of rubber or rubber-like material and is centrally disposed and carried on the lower end of a hollow stem or tube **20** which ends through the valve-body sections **10** and **11** and through and beyond the guide-stem **16**, the hollow valve stem **20** also serving as a vent tube as will later appear. The valve member **19** is normally biased to closed position on its seat **18** and this may be done by the provision of a helical compression spring **21** surrounding the valve stem at a point above the guide-stem **16**, one end bearing against the outer end **16a** of the guide-stem **16** and the other end bearing against a collar **22** adjustable on the valve stem **20**. Another collar **23** is fixedly adjustable on the valve stem **20** and positioned thereon within the section **10** to form an abutment engageable by the under or inner surface of the end cap **15**. The collar **23** is normally spaced from the cap **15**, as shown in Figure 1, so as not to be contacted thereby until the filler-valve D has been brought down into sealing contact with the open end of an underlying can or container C which arrests further downward movement of the lower valve-body section **11**; then, upon further downward movement of the upper section **10** against the compression of the spring **14**, the cap **15** abuts the collar **23**, as shown in Figure 3 and moves the valve-stem **20** against the bias of the spring **21**, which causes the valve member **19** thereon to move downwardly off its seat **18** and open the discharge port **17**.

The lower valve-body section **11** is provided with a sealing-head S for making a sealing contact with the open upper end of the container C and may be in the form of a rigid annular disc **24** surrounding and radially extending from the lower valve-body section **11** and slidably adjustable thereon in directions axially thereof. The disc **24** forms a backing for a yieldably compressible sealing-ring or gasket **25** disposed on the outer or downwardly facing surface thereof to engage and seal the top rim of the container C during the filling operation. The disc **24** is held rigid in its adjusted position on the section **11** by a split clamping band **26** also surrounding the section **11** and having a clamping screw **26a** through its split ends and being secured to the inner or top face of the disc **24** by screw **27**.

Containers C fed to a filling machine occasionally are slightly tilted on the supporting table B or have the flange *f* at their open end bent or distorted causing an imperfect sealing contact with the sealing head of the filler-valves. Cans, that have their rim portion severely bent, are, of course, picked off the feed-line before they reach the filler; but some less severely bent are not readily detectable and proceed into the filler machine, and, in the past, have resulted in leakage, over-filling and spillage of the filling material as well as other inconveniences in line-production. It has been found that a rubber sealing ring or gasket **25** of the shape shown in the drawings permits those tilted cans or those having bent flanges or rims, that come into the filler-machine, to be properly sealed and overcome the drawbacks just mentioned.

The sealing-ring **25** comprises an outer annular part *a* that is positioned against the outer downwardly facing marginal surface of the rigid disc **24** and is retained thereon by a downwardly projecting rim flange **24a** carried on the disc **24**, said flange **24a** having its free edge portion inturned to provide a retaining lip **24b** extending under the part *a* of the sealing ring **25**. The annular part *a* of the sealing ring has an integral inner marginal extension *b*, of less thickness than that of part *a*, projecting planarly from approximately the lower half of the inner edge of the part *a* so as to provide a space *s* between it and the opposing surface of the backing disc **24**, thus the inner marginal extension *b* forms a self-sustaining yieldably resilient and freely movable flap. When a can C is brought into sealing engagement with the soft yieldable resilient sealing ring **25** (Fig. 2), the flange *f* on the rim of the can will, or should, contact the part *b* of the soft yieldable resilient sealing ring **25** slightly inward of its juncture with its part *a*; and further downward movement of the sealing head S compresses the relatively thin extension part *b* up into the space *s*, thus causing the flexible part *b* adjacent the part *a* to deform over and around the entire rim of the can compensating for any unevenness of the rim and filling any voids caused by distortion, bending and canting of said rim and thus making a tight seal between said rim and the sealing-ring **25**.

In order to properly effect the sealing action just described, cans of different sizes will require sealing-rings **25** of different sizes, wherein the size or area of the parts *a* and *b* will vary; and, to this end, it is suggested that the following table may employed:

	6 oz. can	12 oz. can	18 oz. can	46 oz. can
	Inches	*Inches*	*Inches*	*Inches*
Exterior diameter of Part *a*	4 3/8	4 3/8	5	5
Interior diameter of Part *a*	2 5/8	3 1/8	3 7/8	4 3/4
Thickness of Part *a*	1/4	1/4	5/16	5/16
Interior diameter of Part *b*	1 9/16	1 9/16	2 13/16	2 13/16
Thickness of Part *b*	1/8	1/8	3/16	3/16

While the above table has been found satisfactory for cylindrical containers now commonly in use, it is to be understood that the above table is merely suggestive. The sealing-ring shown in Figs. 1, 2 and 3 is that employed with cans designed to contain 46 ounces of liquid, while Fig. 4 shows a sealing ring for use in filling cans designed to contain 6 ounces of liquid.

The helical compression spring **14** surrounding the valve-body sections **10** and **11**, at their adjacent connected ends, is preferably interposed between the bears against the split clamping band **26** on the section **11** and an abutment flange **28** projecting outwardly from the section **10** above its reduced portion **12**.

Filler valves D of this invention may be carried in a circular series by the tank A and mounted thereon for relative vertical movement. To this end, and as shown,

each filler valve may be mounted in an opening 29 formed in the bottom of the tank A and connected by a flexible annular diaphragm or wall 30, which may be of rubber or other suitable plastic or flexible material, arranged to span the space between the body of the filler-valve D and the wall of the opening 29. The underside of the opening 29 is counterbored to provide a shoulder 29^a and the upper valve-body section 10 is provided with a shoulder 10^c under the rim edge portion of its end cap 15. The marginal portions of the flexible wall 30 are placed upon the shoulders 10^c and 29^a, respectively, and are clamped in place by the rim portion of the cap 15 and by a ring 31 threaded into the counterbored portion of the opening 29, respectively, suitably roughened, ribbed and ridged ring washers 15^b and 31^a being interposed between the marginal portions of the wall 30 to press into and grip the same.

The filler-valve D is guided in its vertical movement and held against lateral movement by a guide arm 32 disposed within the tank A and detachably secured to the bottom wall thereof adjacent the opening 29 therein by a screw 33. The arm 32, preferably, is inclined upwardly and has its free end formed with a guide opening 32^a centrally disposed over the opening 29 and into which the guide-stem 16 on cap 15 extends with a sliding fit. The upper end of the valve-stem 20 projects upward through the tank A above the liquid level therein and, thus, provides a vent tube for the escape of air from the container C during the filling operation.

The filler valve D is lowered into and raised from filling position with an underlying container C on supporting table B by means of an actuating lever 34 pivoted, at 35, on a bracket 36 secured by screws 37 to the bottom side of the tank A. The lever 34 is provided at its inner end with a cam follower roller 38 co-operable with the cam track E usually supported on a center supporting column, not shown. The outer end of the lever 34 is forked to provide upper and lower bifurcated portions 39 and 40 spaced vertically with respect to each other. Also, pivoted on the bracket 36, as at 41, is a valve-body operating lever 42 comprising two arms 43—43 spaced horizontally and connected by a cross-strap 44 adjacent the pivot end of said lever 42 and positioned to lie between the bifurcated portions of lever 34 to provide an abutment adapted to be alternately engaged thereby on its opposite sides, the spacing of the bifurcations 39 and 40 being such that, when the cross-strap 44 is engaged by the bifurcation, the other is out of contact therewith and spaced therefrom for a distance. The lower bifurcation 40 is provided with an adjustable contact abutment 40^a to engage the cross-strap 44 and a similar adjustable contact abutment 44^a is carried by the cross-strap to contact the upper bifurcation 39. The adjustable abutments 40^a and 44^a may be conveniently provided in the form of set-screws, threaded in the parts as shown, and held in their adjusted positions by jam nuts *n*. The arms 43—43 extend to opposite sides of the valve-body upper section 10 and are suitably slotted at 45—45 to receive gudgeon pins 46—46 fast with the body section 10, suitable means 47 being provided to releasably maintain the arm 43 and pins 46 against accidental disconnection.

When the lever 34 is rocked counter-clockwise (as viewed in Figs. 1, 2 and 3) motion is transmitted from lever 34 to lever 42 to move the filler-valve D, as a whole, downwardly by its upper bifurcation 39 contacting the adjustable abutment screw 44^a threaded through the cross-strap 44 which rotates the lever 42 anti-clockwise on its pivot to bring the sealing-head into engagement with the top of the container C as shown in Fig. 2. At this point further downward movement of the lower valve-body section 11 is substantially retarded by the contact of the sealing-head with the rim of the container; and as the movement of the levers 34 and 42 continues, the upper valve-body section 10 moves downwardly relative to section 11 and against the bias of the compression spring 14. This continuing downward movement of the upper valve-body section 10 for a distance of about 1/16 inch, and the compression of the compression spring 14, exerts pressure which causes the rim of the can to embed itself into the sealing-ring 25, in the manner above stated, thus, arresting further downward movement of the section 11 and establishing a firm sealing engagement. However, at this point in the continued downward movement of the upper valve-body section 10 by the action of the levers 34 and 42, the under-surface of the end-cap 15 engages the abutment collar 23 on the valve-stem 20 (because of the shortened distance between the end cap 15 and the port 17) and moves the valve-stem downwardly against its bias 21, causing the valve 10 to open downwardly off its seat 18 to the position shown in Fig. 3. In its open position, the conical valve member 19 coacts with its seat 18 to provide a downwardly flaring annular deflector for the filling liquid, flowing from the tank A through the discharge port 17, directing it downwardly and divergingly so as to flow toward and along the side walls of the container C. Air displaced from the container by the inflowing liquid will escape through the vent passage 20^a in the valve-stem 20, either to the atmosphere or to a source of vacuum.

After a predetermined lapse of time, the cam-follower 38 will have arrived at a position on the cam track E as to cause the actuating lever 34 to be rocked clockwise (as viewed in Figs. 1, 2 and 3) out of contact with the contact abutment 44^a so as, first, to relieve the compression on spring 14 and allow it to move the valve-body section 10 upwardly instantaneously relative to the lower valve-body section 11 which, together with the spring 21, causes the valve member 19 to return immediately to its normal or closed position on its seat 18. Continued clockwise movement of the lever 34 then causes the adjustable abutment screw 40^a, carried by the lower bifurcation 40, to contact the underside of the cross-strap 44 and move the lever 42 upwardly about its pivot to lift the filler-valve D, as a whole, upwardly to the position shown in Fig. 1, thus breaking the sealing contact of the valve D with the can and allowing the same to be passed on to a can closing machine.

It will be observed that the sealing-head S is adapted to be adjusted vertically with respect to the bottom end of the valve-body section 11 for varying the extent to which the lower end of said section extends into a container C, thus controlling the volume of liquid deposited into the container.

It will also be observed that the provision of the adjustable abutments 40^a and 44^a permit adjustments to be made in determining the timing and amount of positive movement transmitted from the actuating lever 34 to the filler-valve D.

The filler-valve D and its mode of operation, in accordance with the present improvements, increases the rapidity of the filling operation and renders the assembly, as a whole, much cheaper to manufacture because of the simplicity and less number of its parts than heretofore and is much easier to disassemble for cleaning purposes, thus fulfilling the objects of this invention.

Having thus described the invention and the manner in which the same is to be performed, it is to be understood that the specific form of the invention, as illustrated and described herein, is susceptible of various modifications and changes and that the invention is only to be limited to the scope of the appended claims.

That which is claimed as new and to be secured by Letters Patent is:

1. A filler-valve, for use with a filler-machine for filling containers, comprising a valve-body having two communicating sections mounted to have relative movement toward and from each other; means for communicating one of said sections with a source of flowable filling material; the other of said sections being adapted to contact a container to be filled and having a discharge port therein positioned to discharge into said container; a valve mem-

ber normally biased to close said port for controlling the flow of material through said valve-body into a container, said valve being positioned to be opened by one of said sections in the relative movement of said sections in one direction; means for moving said other section of the valve body into contact with the container and, subsequently, causing said relative movement between said sections to open said valve member and, then, causing said relative movement of said sections in an opposite direction, to first close said valve member and, subsequently, move the valve-body, as a whole, out of engagement with said container.

2. A filler-valve, for use with a filler machine for filling containers, comprising a valve-body having two communicating sections mounted to have relative movement, means normally biasing the relative movement of said sections in one direction, one of said sections having filling material inlets therein, the other of said sections having a discharge port therein, a valve member for said port normally biased to closed position, and co-operating means between the valve member and one of said sections for opening said valve during the relative movement of said sections against their bias.

3. A container filler-valve, adapted to be mounted on a filler machine for substantially vertical movement with respect to said machine into and out of engagement with a container to be filled, comprising a valve-body having upper and lower communicating sections connected together at their adjacent ends by a flexible sealing wall so as to have relative movement toward and from each other, biasing means normally tending to distend said sections, the upper section having filling material inlets therein, the lower section having a port in its bottom end, a valve member for said port and positioned to move outwardly of said port to open the same, a valve stem carried by said valve member and extending through said valve-body, biasing means normally tending to move said valve member to close said port, and means on the valve-stem positioned to be engaged by the said upper section during the relative movement of said sections against their bias whereby to open said valve member.

4. A filler-valve, for use with a filler-machine for filling containers, comprising a valve-body having two communicating sections mounted to have relative movement; sealing means at the adjacent ends of said sections; a compression spring exterior of the valve-body and having its ends bearing against portions of said sections, respectively, to bias said sections to distended position; one of said sections having an inlet opening in its outer end portion and carrying thereon a valve stem guide, the other of said sections having a port in its outer end portion; a poppet valve member for said port and positioned to move outwardly of said port to open the same; a stem carried by said poppet valve member and slidably extending through said valve stem guide; spring means between said guide and said valve-stem normally tending to move said valve member to close said port; and means on the valve-stem normally spaced from said guide and positioned to be engaged by the guide during the relative movement of said sections against their bias whereby to open said valve member.

5. A filler-valve, for use with a filler-machine for filling containers, comprising a valve-body having upper and lower communicating sections connected together at their adjacent ends by a flexible wall so as to have relative movement; biasing means normally tending to distend said sections; a cap removably mounted on the upper end of said upper section and having communicating openings therein and having a centrally disposed valve-stem guide thereon, the lower section having a port in its bottom end, a poppet valve member for said port and positioned to move outwardly of said port to open the same, a hollow stem carried by said valve member and extending through said valve-stem guide and providing an air-vent, biasing means normally tending to move said valve member to close said port, means on the valve-stem below and normally spaced from said cap and positioned to be engaged by the cap during the relative movement of said sections against their bias thereby to open said valve; and a flexible diaphragm sealing means secured to the upper section for mounting the valve-body in an opening of a supply tank and which permits movement of the valve body relative to said tank to bring the lower section down into engagement with the rim of an underlying container to be filled and subsequently causes relative movement of said sections toward each other to open said valve member and, then, upward movement to first allow said valve member to close and, subsequently, disengagement of the valve-body from the container.

6. A filler-valve, for use with a filler-machine for filling containers, comprising a valve-body having two communicating sections mounted to have relative movement toward and from each other; means normally biasing said sections from each other; means for communicating one of said sections with a source of flowable filling material, the other of said sections having a discharge port therein provided with a sealing surface thereabout to contact with the rim of a container to be filled; a valve member for said port controlling the flow of material through said valve-body into a container, said valve member being mounted to move outwardly of said port and being normally biased to close position, said valve member having a part positioned to be engaged by said first section at a delayed period in the relative movement of said sections against their bias whereby to open said valve; and means on said first section by which said valve-body may be moved first in one direction into sealing engagement with a container and a continuation of movement causes relative movement of said valve-body sections against their bias toward each other to open said valve member and by which means said valve-body may be moved in the opposite direction, to first cause said first section to move under its bias away from the said other section to allow said valve member to be closed under its bias and, continued movement in said opposite direction, moves the valve body, as a whole, out of engagement with said container.

7. The subject matter of claim 6 wherein the two valve-body sections are connected by a flexible diaphragm wall which seals said sections and permits said relative movement.

8. The subject matter of claim 6 wherein the biasing means for said valve-body sections is a compression spring surrounding said sections exteriorly and having its ends abutting against portions of said sections, respectively.

9. The subject matter of claim 6 wherein the valve member and its seat are coni-form and form a downwardly flared deflector passage, when the valve member is open, directing the flow of filler material toward the side walls of the container, and wherein the valve stem is hollow and forms an air-vent permitting the escape of air from the container being filled.

10. The subject matter of claim 6 wherein the valve-body has its section, that communicates with a source of filling material, mounted in an opening in a supply tank with a sealed joint permitting movement of said section relative to said opening in the tank.

11. The subject matter of claim 6 wherein said sealing surface is a substantially rigid retainer ring surrounding the valve-body section that opposes the container to be filled, a yieldably resilient annually gasket mounted on the face of said retainer ring that opposes the container, said gasket having a relatively thick outer marginal area thereabout fittedly secured to said opposing face of said retainer ring and a thinner inner marginal area spaced from said opposing face of the retainer ring, said gasket being dimensioned to have the rim of the container, with which it engages, contact said thinner area near its juncture with the thicker marginal area.

12. A filler valve for filling containers, comprising a valve-body having a discharge port therein and adapted to be brought into and out of engagement with a container

to be filled; and a sealing means on an annular surface of the valve-body, that opposes a container during a filling operation, for making a fluid seal contact with the rim of the container; said sealing means comprising a yieldably resilient cushion material carried by said surface and surrounding said port and positioned to be brought into engagement with the rim of the container, said cushion material being formed to provide a thick outer marginal area in abutting contact with said surface and to provide a thinner inner marginal area spaced from said surface, the outer faces of said outer and inner marginal areas of said cushion material being planarly extensive and being dimensioned to have the rim of a container, to be filled, contact said thinner area thereof near its juncture with said thicker marginal area and move said thinner area in said space toward said surface and bend the same at its juncture with the thicker area around the rim edge of the container, when the valve-body and the container are pressed together.

13. A filler-valve for filling containers, comprising a valve-body having a discharge port therein, a sealing means carried by and surrounding the valve-body and said port to contact the rim of the container, said sealing means including a rigid retainer member having a surface that opposes the rim of the container, a yieldably resilient annular gasket of rubber-like material having a thickened outer marginal area thereabout fittedly disposed on said surface of the retainer ring and having a thinner marginal area extending inwardly from an inner edge of the thickened area and spaced from said surface of the retainer-ring, said gasket being dimensioned to have the rim of the container, with which it engages, contact said thinner area thereof near its juncture with the thicker marginal area.

14. A sealing means for use with sealing-heads of filler-valve, wherein the sealing-head includes a retainer ring for supporting said sealing means; said sealing means comprising a yieldably resilient annular gasket of rubber-like material having a thick outer marginal area thereabout adapted to be fittedly positioned in retainer ring in abutting relation therewith and having a thinner inner marginal area planarly extensive with and extending inwardly from one edge of the inner circumference of said thicker area to provide a freely movable flap, said gasket being dimensioned so that, when the rim of a container contacts said flap near its juncture with the thicker marginal area, said flap bends against the thicker area and over the rim of the container to fill the voids or unevennesses in said rim.

15. The subject-matter of claim 6, wherein the said means for moving the valve-body in opposite directions includes an abutment member operatively connected with the said first valve-body section and an oscillatory actuated member having spaced parts arranged on opposite sides of said abutment member to alternately and positively contact and disengage said abutment member in opposite directions of movement of said oscillatory member to reciprocate said valve-body sections; and adjustable contact elements between said abutment member and said spaced parts of the oscillatory member, whereby the timing and amount of positive movement transmitted from said oscillatory member to said valve-body section may be controlled.

16. The subject-matter of claim 6 wherein the said means for moving the valve-body in opposite directions includes an actuated lever having a bifurcated end, a valve-body operating lever having one of its ends connected to the said first section of said valve-body and having the other of its ends pivotally mounted, said valve-body operating lever having a part positioned between the bifurcations of said actuated lever to be contacted by one of said bifurcations alternately in each different direction of movement of said actuated lever, the spacing between said bifurcations being such that when said part of the valve-body lever is contacted by one bifurcation, the other bifurcation is spaced considerably from said part, and adjustable contact elements between and carried by said part and said bifurcations thereby to control the timing and amount of positive movement transmitted from said actuated lever to said first section of the valve-body.

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