April 17, 1962 S. F. ANDERSON 3,029,574

PACKAGING APPARATUS

Filed Aug. 20, 1959 4 Sheets-Sheet 1

Fig. 1

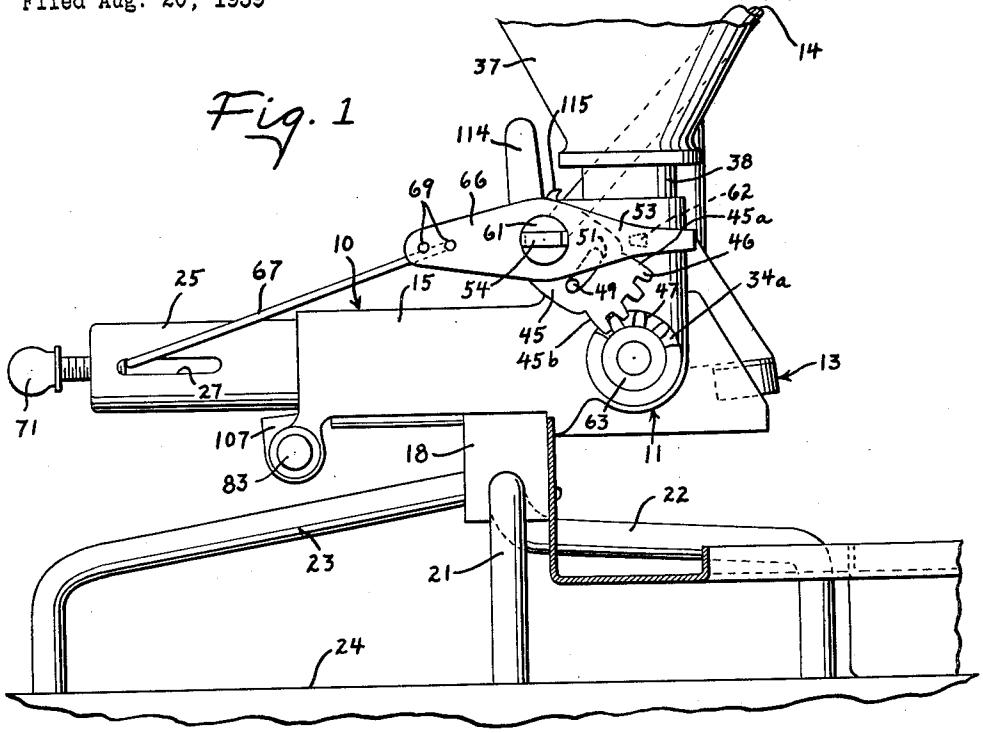
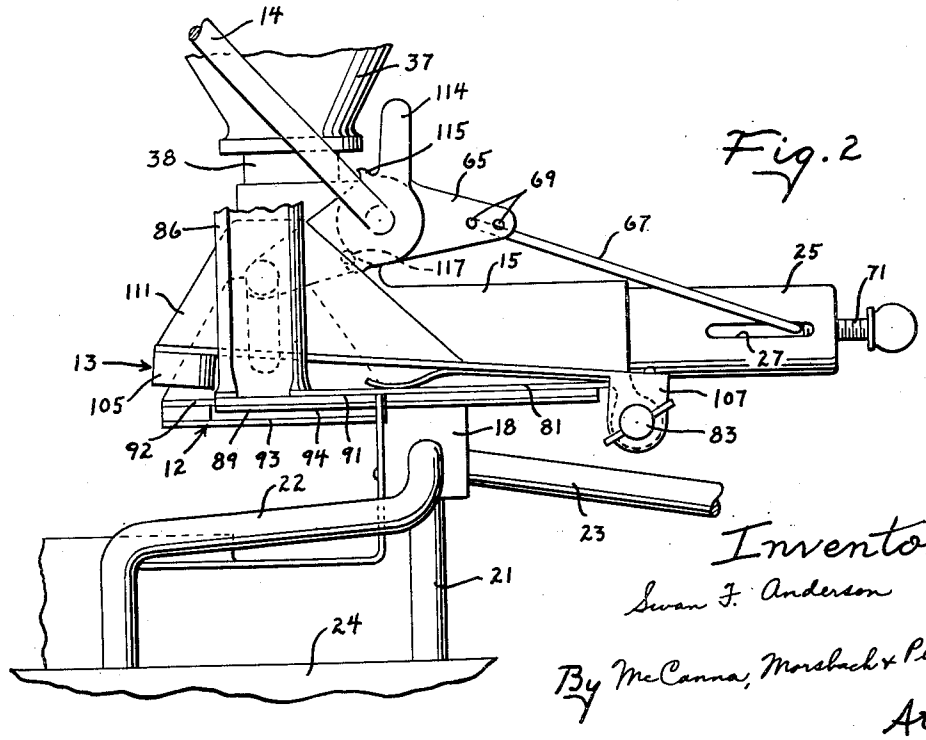


Fig. 2



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April 17, 1962 S. F. ANDERSON 3,029,574

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Filed Aug. 20, 1959 4 Sheets-Sheet 2

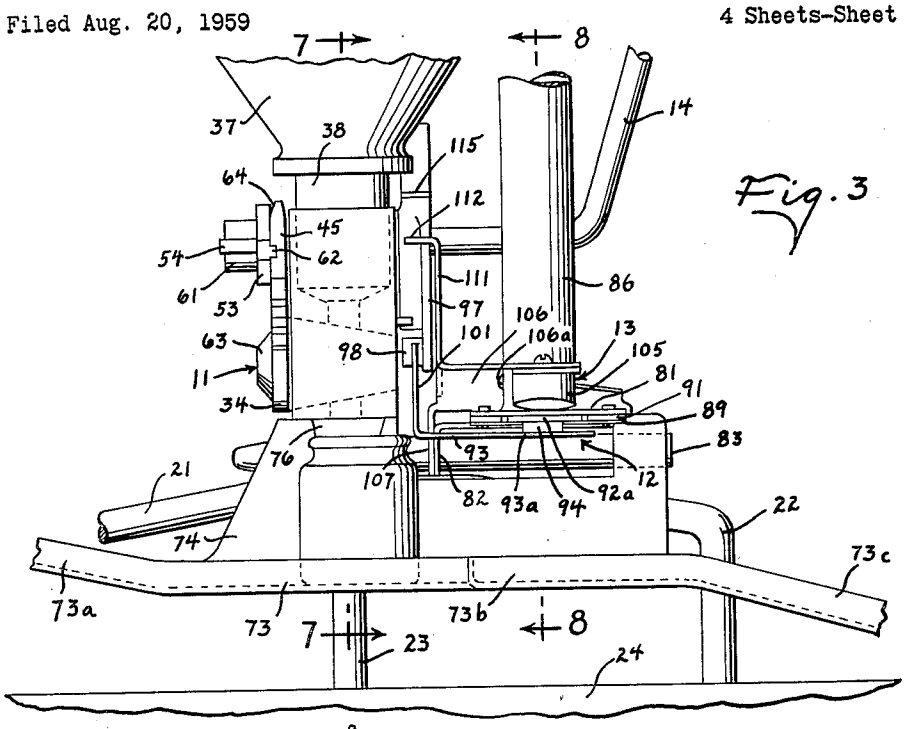


Fig. 3

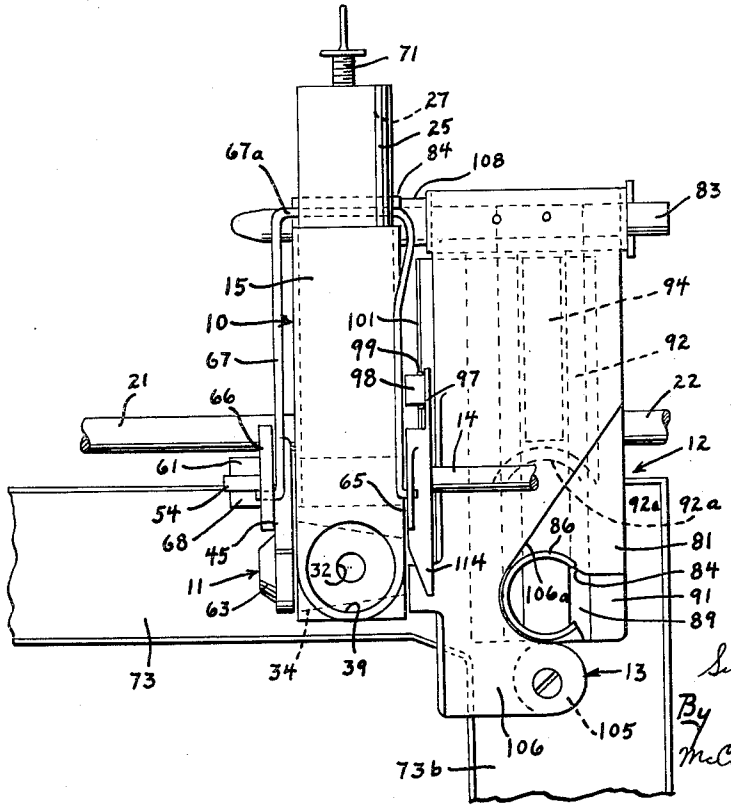


Fig. 4

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April 17, 1962 S. F. ANDERSON 3,029,574

PACKAGING APPARATUS

Filed Aug. 20, 1959 4 Sheets-Sheet 3

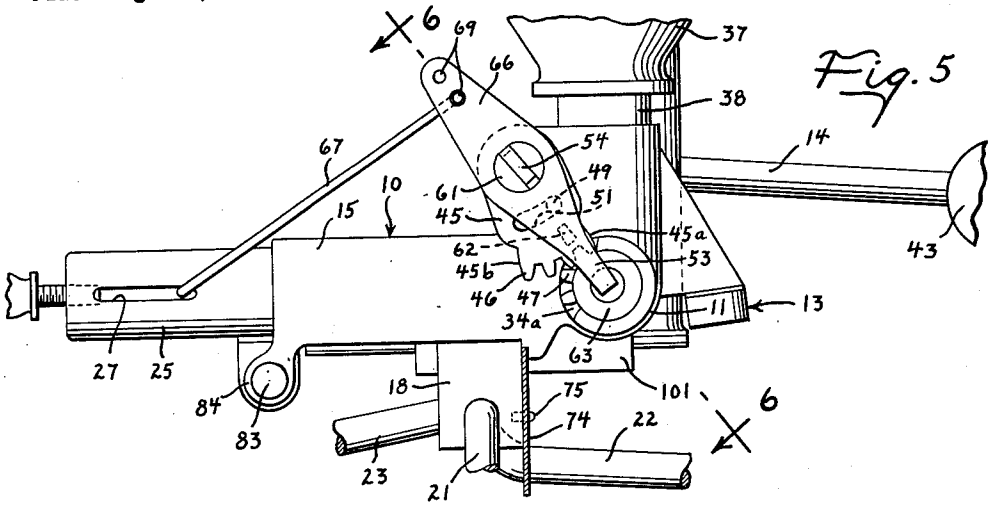


Fig. 5

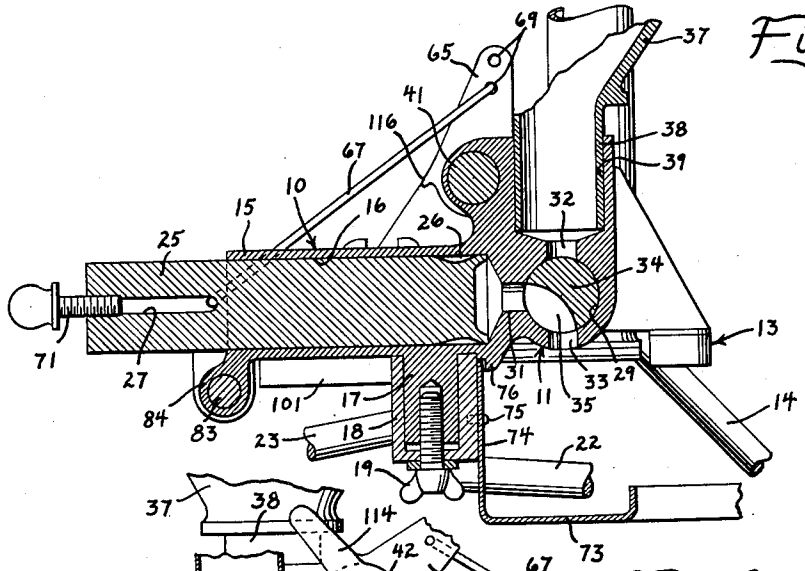


Fig. 7

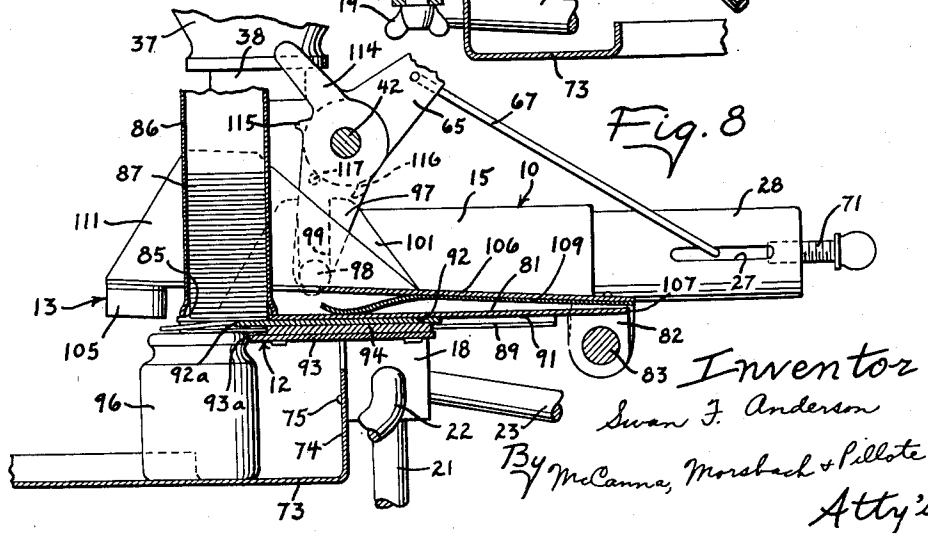


Fig. 8

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April 17, 1962 S. F. ANDERSON 3,029,574

PACKAGING APPARATUS

Filed Aug. 20, 1959 4 Sheets-Sheet 4

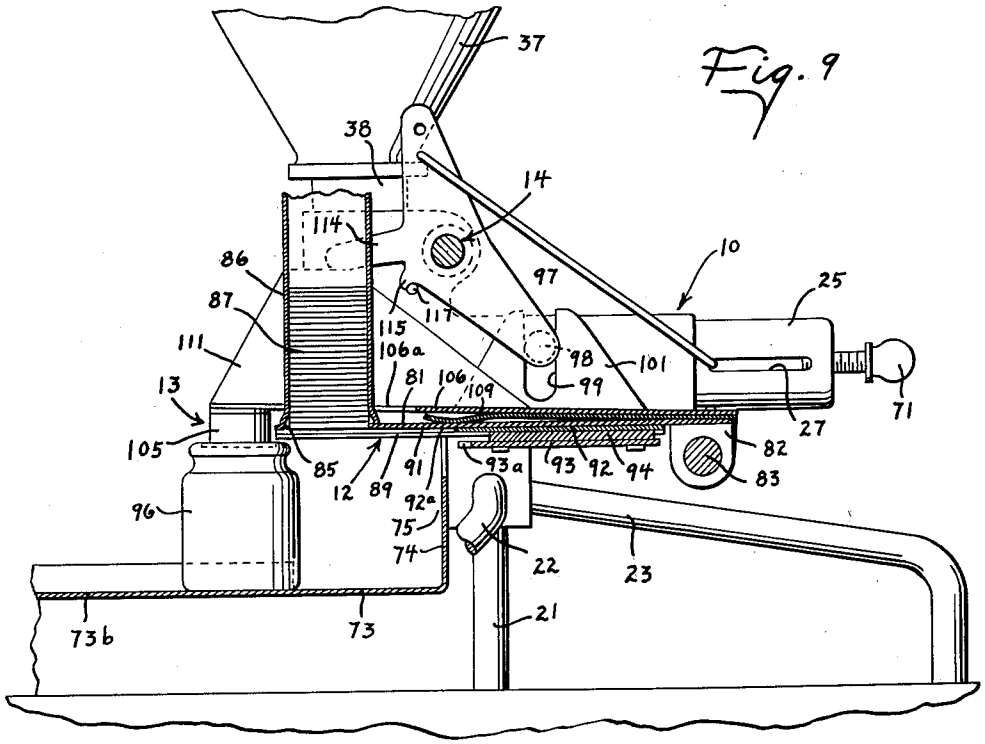


Fig. 9

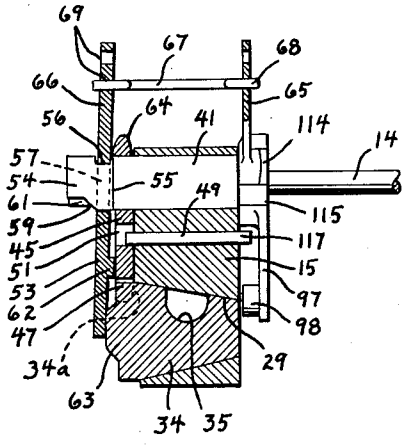


Fig. 6

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United States Patent Office 3,029,574 Patented Apr. 17, 1962

3,029,574
PACKAGING APPARATUS

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Filed Aug. 20, 1959, Ser. No. 835,048
12 Claims. (Cl. 53—281)

This invention relates to improvements in apparatus for packaging fluent materials.

It is a general object of this invention to provide an improved apparatus for dispensing a measured quantity of fluent material into a container, which apparatus is of simple and economical construction and which can be readily disassembled for cleaning without the use of tools.

Another object of this invention is to provide a packaging apparatus including a piston type measuring device, a control valve for controlling flow to and from the measuring device, a cap dispensing apparatus, and a cap applying device, together with an improved common actuator connected to the several elements for operating the same in timed relation to each other to dispense a measured quantity of material into the container and thereafter apply a cap to the container.

A more particular object of this invention is to provide a dispensing apparatus including a measuring cylinder having a plunger therein and a three-way valve movable between intake and discharge positions to control the flow of material to and from the cylinder, which apparatus has a single actuating lever operative during movement of the lever in one direction to initially move the valve to its intake position and thereafter retract the plunger to draw a charge into the cylinder and operative during movement of the lever in the other direction to initially move the valve to its discharge position and thereafter extend the plunger and discharge a measured quantity of material from the cylinder.

An additional object of this invention is to provide a dispensing apparatus in accordance with the foregoing object and including a cap magazine and a cap applying device and a slide for removing a cap from the magazine and for carrying the same with a container to the cap applying device, together with mechanism connected to the common actuating lever for operating the slide and capping apparatus in response to movement of the actuating lever.

These, together with various ancillary objects and advantages of this invention will be more readily appreciated as the same becomes better understood by reference to the following detailed description when taken in connection with the accompanying drawings wherein:

FIGURE 1 is a right side elevational view of the dispensing apparatus and illustrating the position of the valve and piston when the operating lever is in its raised position;

FIG. 2 is a fragmentary left side elevational view of the dispensing apparatus and illustrating the position of the cap dispensing and cap applying mechanism when the operating lever is in its raised position;

FIG. 3 is a front view of the dispensing apparatus with the operating lever in its raised position;

FIG. 4 is a top plan view of the dispensing apparatus with the hopper removed and illustrating the position of the parts when the operating lever is in its lowered position;

FIG. 5 is a fragmentary right side elevational view of the dispensing apparatus illustrating the position of the parts as the lever is moved from its raised to its lowered position;

FIG. 6 is a fragmentary sectional view taken on the plane 6—6 of FIG. 5;

FIG. 7 is a fragmentary longitudinal sectional view through the valve and dispensing piston taken on the plane A—A of FIG. 3 and illustrating the position of the parts when the operating lever is in its lowered position;

FIG. 8 is a fragmentary sectional view taken on the plane B—B of FIG. 3 and illustrating the position of the cap dispenser and cap applying mechanism at an intermediate position; and

FIG. 9 is a fragmentary sectional view taken on the plane B—B of FIG. 3 and illustrating the position of the cap dispenser and cap applying apparatus when the actuating lever is in its lowered position.

The packaging apparatus of the present invention is generally adapted for use in dispensing measured quantities of fluent materials into containers and, in general, includes a piston type dispenser **10**; a valve **11** for controlling the flow of material to and from the piston dispenser; a cap dispensing mechanism **12**, and a cap applying mechanism **13**. The several instrumentalities are operated by a common actuator which, in the embodiment illustrated, is arranged for manual operation and includes a lever **14** movable from a first position to a second position and back.

The dispenser **10** comprises an elongated generally horizontally extending body **15** which defines a measuring cylinder or chamber **16**. The body **15** is removably supported on a base and, as best shown in FIG. 7, has a depending lug **17** thereon which is removably received in a block **18** and retained in position thereon by a set screw **19**. The block **18** is supported on a plurality of legs **21—23** which extend outwardly and downwardly from the block to support the same on a supporting surface such as a counter-top **24**. A piston **25** is slidably disposed in the cylinder and has a collector groove **26** extending therearound at its inner end. For reasons set forth more fully hereinafter, an elongated slot **27** is formed in the outer end of the piston **25**. The valve **11** is formed in the body **15** at the forward end of the cylinder **16** and includes a valve chamber **29** which communicates through a passage **31** with the measuring cylinder **16**. The valve also includes inlet and discharge passages **32** and **33** and a rotary plug type valve **34** having a flow passage **35** operative in one position of the valve member to communicate the passage **31** with the inlet **32** and, in the other position thereof shown in FIG. 7, to communicate the passage **31** with the outlet **33**. The valve chamber **29** and plug **34** are preferably axially tapered as shown in FIG. 6 to maintain a close working fit between the parts. The material may be supplied to the inlet passage **32** in any desired manner and, as herein shown, a hopper **37** is formed with a spout **38** on its lower end which is detachably received in a counterbore **39** formed in the upper side of the body **15**.

The valve **11** and piston type dispenser **10** are operated in timed sequence by a common actuator. The actuator includes a shaft **41** mounted in the body **15** for rotation about an axis parallel to the axis of the rotary valve member **34**. The operating lever **14** is connected to the left hand end of the rod and extends outwardly and forwardly and terminates in a knob **43** (see FIG. 5). A valve operator is connected to one end of the shaft and includes the sector plate **45** which is supported on one end of the shaft **41** for rotation relative thereto. The sector plate is formed with teeth **46** on one end thereof which mesh with the teeth **47** formed on the outer end of the valve member **34**. Preferably, the teeth **47** on the valve member are located inwardly of the periphery of the valve member to form a shoulder **34a** on the valve member against which the teeth **46** of the sector plate

abut to maintain the valve member in assembled relation on the body **15**. The angular movement of the valve member **34** between its intake and discharge positions is limited by means of a stop pin **49** on the body **15** and which extends into an arcuate slot **51** in the sector plate. The pin **49** engages the sector plate **45** at one end of the slot, when the valve member is in its intake position shown in FIG. 1, and engages the pin **49** at the other end of the slot when the valve member is in its discharge position shown in FIG. 7.

The sector plate **45** is moved from one limiting position to the other by means of an arm **53** which is connected to the shaft **41** for turning movement therewith and for limiting tilting movement at the direction transverse to the shaft. As best shown in FIG. 6, the shaft **41** is formed with a flat blade portion **54** at its end which defines a shoulder **55**. The blade portion has a notch **56** formed therein and the arm **53** has an elongated slot **57** having a length only slightly greater than the depth of the blade portion between the base of the notch **56** and the underside thereof. The underside of the blade portion is beveled at **59** at a point spaced outwardly from the shoulder **55** to permit the arm **53** to pivot about the notch **56** in a direction transverse to the shaft. A hub **61** is provided on the arm and engages opposite sides of the blade **54** to guide the arm during the aforedescribed pivotal movement. The arm is yieldably urged in a counterclockwise direction as vewed in FIG. 6, in a manner hereinafter described, to releasably retain the arm in position on the shaft **41** and to also urge the arm toward the sector plate **45**. A dog **62** is formed on the inner face of the arm **53** and is arranged to engage a shoulder **45***a* on the sector plate **45**, when the operating lever **14** is moved in a clockwise direction as viewed in FIGS. 1 and 5, and to engage a second shoulder **45***b* on the sector plate when the arm is moved in a counterclockwise direction.

When the dog **62** engages the shoulders **45***a* or **45***b* it moves the sector plate **45** with the shaft **41** and thereby moves the valve **34** from one position to the next. In order to interrupt movement of the valve member after it reaches its succeeding position, a cam member herein shown in the form of a beveled nose **63** on the valve member **34**, is arranged to engage the end of the arm **53** and cam the same outwardly to disengage the dog **62** from the sector plate. As is apparent from FIGS. 5 and 6, the cam is arranged to tilt the arm **53** away from the sector plate, at about the time the pin **49** engages one end or the other of the slot **51**. Thus, during the initial movement of the lever **42** from its raised position shown in FIG. 1 toward its lowered position, the dog **62** engages the sector plate to rotate the valve member **34** to its discharge position. When the valve member reaches its discharge position, the cam nose **63** cams the lever **53** outwardly and disengages the same from the sector plate. In accordance with the present invention, provision is made for thereafter operating the piston **25** to discharge a measured quantity of material from the measuring cylinder **16**. The upper edge of the sector plate **45** is preferably beveled as indicated at **64** (see FIG. 6) to facilitate the aforedescribed tilting of the arm **53** relative to the sector plate.

The piston **25** is extended and retracted by means of a pair of arms **65** and **66** connected to the shaft **41** for rotation therewith. The arm **65** is herein shown rigidly attached to the shaft **41** at one side of the body **15**, and the arm **66** is conveniently formed integrally with the arm **53** to extend from the side of the shaft opposite the arm **53**. A generally U-shaped bail **67** has the web portion **67***a* thereof disposed in the elongated slot **27** in the piston. Pintles **68** are formed on the free ends of the bail and are adapted to be received in apertures **69** formed in the arms **65** and **66**. A plurality of sets of openings or apertures **69** may be provided in each of the arms **65**, to enable adjustment of the stroke of the piston in fixed increments, and a set screw **71** is threaded into the piston **25** and intersects the slot **27** therein to adjust the lost motion between the bail and the piston. The bail is formed of a resilient wire material and is bent so as to yieldably press the outer ends thereof apart. This urges the arm **66** and hence the arm **53** in a counterclockwise direction as viewed in FIG. 6 to yieldably maintain the dog in engagement with the sector plate and also to retain the arm **53** in assembled relation on the shaft. When the operating handle or lever **14** is in its raised position shown in FIG. 1, the piston **25** is retracted and, during the initial movement of the lever toward its lowered position, the bail **67** moves along the slot **27**. The slot is advantageously made sufficiently long so that the bail does not engage the inner end of the slot until after the valve **34** has been moved to its discharge position shown in FIG. 7. Thereafter, further movement of the lever toward its lowered position will extend the piston to discharge material from the measuring cylinder. Similarly, when the lever is in its lowered position, the bail is at the inner end of the slot **27** and, during the initial movement of the lever to its raised position, the bail merely moves along the slot and does not engage the adjusting screw **71** until after the valve member **34** has been moved to its intake position shown in FIG. 1.

The containers **96** to be filled are advanced to a position below the outlet **33** along a platform **73** having guide flanges along opposite sides thereof. The platform is conveniently formed with an upwardly inclined portion **73***a* (see FIG. 1) so that the containers are urged by gravity to a position below the valve outlet. The platform **73** is conveniently supported on the block **18** and for this purpose has a mounting plate **74** along the rear edge thereof which is supported on pins **75** carried by the block. As best shown in FIG. 7, the body **15** has a depending rib **76** which overlies the upper edge of the mounting plate **74** to aid in retaining the same in position on the pins. With this arrangement, the platform can be removed by lifting the same upwardly to pivot the plate **74** about its upper edge until it clears the pins **75** at which time it can be lowered away from the lip **76**. For reasons set forth hereinafter, the platform **73** is formed with a transversely extending portion **73***b* which extends forwardly from the main platform **73** and terminates in a downwardly inclined portion **73***c* which guides the containers onto the counter top **24**.

The cap dispensing mechanism **12** is also detachably mounted on the body **15** and includes a generally flat slide bracket **81** having depending ears **82** at one end which are pivotally mounted by a pin **83**. The pin **83** extends through a boss **84** formed at the underside of the body **15**. The plate **81** has an opening **85** adjacent the free end thereof and a cap magazine **86** is attached to the plate **81** and extends upwardly around the opening **85** to support a plurality of caps **87**. Spaced guide strips **89** are attached to the plate **81** and are spaced therebelow by bars **91** to define a guideway for the cap ejector slide **92**. The caps **87** in the magazine move downwardly by gravity and the lowermost cap rests upon the strips **89**. The forward end of the ejector plate **92** is formed with a concave recess **92***a* (see FIG. 4) which engages the lowermost cap and removes the same from the stack as the slide is extended. A container ejector plate **93** is attached to the cap ejector plate **92** and is spaced therebelow by a bar **94**. The container ejector plate has an arcuate recess **93***a* in its nose portion arranged to engage the upper end of the container **96** to advance the same with the cap. As is apparent from FIG. 8, the recesses **92***a* and **93***a* are arranged so as to advance the cap in registry with the open top of the container **96** whereby the cap drops onto the container after the cap moves beyond the ends of the guide strips **89**. The slides **92** and **93** are respectively retracted and extended in response to movement of the lever **14** from its raised position to its lower

position and back. For this purpose, an arm **97** is attached to the shaft **41** for rotation therewith and as herein shown is formed integrally with the arm **65** at the left hand end of the shaft **41**. The arm has a pintle **98** at its outer end which extends into a vertically extending slot **99** formed in a slide operating plate **101**. As best shown in FIG. 3, the slide plate **101** is connected to the container ejector plate **93** along one side edge of the latter. When the slide **93** is extended, the plate **101** projects into the path of movement of the containers **96** along the platform **73** (see FIG. 3) and is advantageously so arranged with respect to the outlet **33** of the valve as to stop a container in filling position below the valve. When the slide **93** is retracted, the container can be advanced to a position adjacent the cap magazine **86**. As will be noted from FIG. 4, the cap magazine is positioned slightly in advance of the outlet **33** of the valve so that the container ejector plate engages the container slightly before the cap ejector plate engages a cap in the magazine to remove the latter.

The cap applying mechanism **13** comprises a head **105** which is positioned along the path of movement of the containers and caps as they are advanced by the slides **92** and **93**. The head **105** is supported at the free end of a plate **106** which is pivotally mounted at its other end by means of laterally extending ears **107** which are supported on the pin **83**. A spacer sleeve **108** (see FIGS. 3 and 4) is provided on the pin to maintain the proper spacing between the plate **106** and the body. A spring **109** is interposed between the plate **106** and the plate **81** to yieldably urge the plate and head **105** to a raised position in which the head is above the path of movement of the caps and containers. As is apparent from FIG. 3, the plate **106** is cut away as indicated at **106***a* to extend around the cap magazine **86** to permit free vertical movement of the cap applying device. A cam plate **111** is attached to one side of the plate **108** and terminates in a laterally extending ear **112** (see FIG. 3). A further arm **114** is connected to the shaft for rotation therewith, which arm is also conveniently formed integrally with the arm **65**. The arm **114** extends outwardly and is angularly related with respect to the arm **97** so as to engage the ear **112** and press the head **105** downwardly to seat the cap on the container, as the lever **14** is moved to its lowered position. Stops **115** and **116** are provided on the hub formed by the levers **65**, **97** and **114** and are arranged to engage a stop pin **117** to limit the angular movement of the lever between preselected upper and lower positions.

From the foregoing it is thought that the operation of the device will be readily understood. Briefly, when the operating lever **14** is in its raised position, the valve **11** will be in its intake position and the piston **25** fully retracted as shown in FIG. 1, and the cap applying mechanism **13** will be in its depressed position while the slides will be extended, as shown in FIG. 2. As the operating lever is moved downwardly, the dog **62** on the arm **53** engages the shoulder **45***a* on the sector plate to rotate the sector plate and hence the valve **34** toward its discharge position. As the valve approaches its discharge position, the arm **53** rides over the cam nose **63** and disengages the dog from the sector plate. During this time, the bail **67** has moved along the slot **27** in the piston. As the lever is moved further downwardly, the piston is extended and the arm **53** rides across the face of the sector plate until it drops behind the other shoulder **45***b*. As the piston is extended, it discharges a measured quantity of material through the outlet **33** into a container on the platform **73** therebelow. When the lever **14** is in the raised position previously described, the slides **92** and **93** are extended. The plate **101** along the edge of the slide projects into the path of movement of the containers on the platform **73** and is spaced from the delivery outlet **33** a distance less than the diameter of the container so as to stop the same in proper filling position. As the lever **14** is moved downwardly, the slides are retracted and, as the lever approaches its lower position, the arm **114** engages the plate **111** to move the cap applying anvil **105** downwardly to seat the cap on the mouth of the container as shown in FIG. 9.

When the lever **14** is returned to its raised position, the dog **62** initially engages the shoulder **45***b* to rotate the cam plate in a counterclockwise direction as viewed in FIGS. 1 and 5. When the valve reaches its intake position, the cam nose **63** swings the arm **53** outwardly to disengage the dog **62** from the sector plate. During this time, the bail **67** has been moving along the slot **27** and about the time the valve reaches its intake position, the bail strikes the adjustable thumb screw **71** whereby further movement of the lever will retract the piston to draw a charge of material into the measuring cylinder. During the aforedescribed raising of the lever **14** the arm **114** first disengages the cam plate **111** to permit the anvil **105** to raise. The arm **97** then moves the slides **92** and **93** to their extended position to simultaneously advance a cap and the container **96** to a position below the anvil **105**.

The device can be readily disassembled for cleaning by merely bowing the bail **67** inwardly to release the pintles **68** from the apertures **69**. The piston **25** can then be retracted. In addition, the arm **53** can be swung outwardly and then disengaged from the notch **56** on the shaft **41**. This enables removal of the arms **53** and sector plate **45**. The valve is retained in position by the sector plate engaging the shoulder **34***a* on the end thereof so that the valve can also be removed after the sector plate has been removed. The arms **65**, **97** and **114** are formed integrally with the shaft **41** and lever **42** and are removed as a unit therewith. By withdrawing the pin **83**, the cap dispensing and cap rejecting mechanisms can be removed from the body **15** and disassembled from each other.

I claim:

1. A dispensing apparatus comprising a measuring cylinder having a plunger therein and adapted when retracted to draw material into the cylinder and when extended to discharge material therefrom, a valve communicating with said cylinder and having an inlet and an outlet, a rotary valve member, a valve operator for moving said valve member between intake and discharge positions respectively communicating said cylinder with said inlet and outlet, a common operating lever for said valve member and plunger mounted for turning movement between first and second positions, an arm disposed alongside said valve operator and operatively connected to said lever and engageable with said operator for moving said valve member to its intake position during the initial movement of said lever from its first to its second position and for moving said valve member to its discharge position during initial movement of said lever from said second to said first position, cam means operative in response to turning of said lever for laterally separating said arm and said operator to disengage said arm from said operator when said valve member respectively reaches its intake and discharge positions, and a lost-motion means connecting said lever to said plunger and operative after said valve member has reached its intake position to retract said plunger as said lever is moved from its first to its second positions and operative after said valve member has reached its discharge position to extend said plunger as said lever is moved from its second to its first position.

2. A dispensing apparatus comprising a measuring cylinder having a plunger therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said cylinder with the inlet and outlet, a common actuator including a shaft mounted for rotation about an axis parallel to the axis of said rotary valve member and a handle connected to said shaft for turning the shaft from a first position to a second position and back, a valve operator mounted for rotation about the

axis of said shaft and engageable with valve member to rotate the latter, an arm mounted on said shaft for rotation therewith between first and second positions, means on said arm engageable with said valve operator for rotating the latter in one direction when the arm is moved toward its second position and for rotating the operator in the other direction when the arm is moved toward its first position, cam means operative in response to rotation of said arm for laterally separating said arm and said operator to disengage the arm from the operator during a portion of the angular movement of the arm in either direction of movement thereof, and lost-motion means connected to said shaft for extending and retracting said piston during that portion of the angular movement of the shaft in which the arm is disengaged from the operator.

3. The combination of claim 2 wherein said cam means is formed on the end of said rotary valve member.

4. A dispensing apparatus comprising a measuring cylinder having a plunger therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said inlet and said outlet, a shaft mounted for rotation about an axis parallel to the axis of said valve member, a sector plate mounted for rotation about the axis of said shaft and engaging said valve member to turn the latter, a first arm mounted on said shaft for turning therewith and for tilting movement about an axis transverse to said shaft, a dog on said arm engageable with said sector plate as said arm is turned to turn said sector plate therewith, means for turning said arm from one position to a second position and back, cam means engageable with said arm at a point intermediate said first and second positions for tilting the arm away from the sector plate to disengage the dog therefrom, and lost-motion means operatively connected to said shaft and to said plunger for extending and retracting said plunger in timed relation with the operation of said valve means.

5. A dispensing apparatus comprising a measuring cylinder having a plunger therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said inlet and said outlet, a shaft mounted for rotation about an axis parallel to the axis of said valve member, a sector plate mounted for rotation about the axis of said shaft and engaging said valve member to turn the latter, a first arm mounted on said shaft for turning therewith and for tilting movement about an axis transverse to said shaft, a dog on said arm engageable with said sector plate as said arm is turned to turn said sector plate therewith, means for turning said arm from one position to a second position and back, cam means engageable with said arm at a point intermediate said first and second positions for tilting the arm away from the sector plate to disengage the dog therefrom, a second arm attached to said shaft for turning therewith, said plunger having a longitudinally extending slot therein, and a link slidable in said slot and connected to said second arm for extending and retracting said plunger.

6. A dispensing apparatus comprising a measuring cylinder having a piston slidable therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said inlet and said outlet, a shaft mounted for rotation about an axis parallel to the axis of said valve member, a sector plate mounted on one end of said shaft for turning relative thereto, said sector plate and valve member having interengaging teeth whereby to rotate the valve member from one position to the other in response to turning of said sector plate, said shaft having a non-circular blade on said one end and a notch in the edge of said blade remote from said valve member, a first arm having a slot therein dimensioned to receive said blade when the arm is seated in said notch to effect rotation of the arm with the shaft, said blade being beveled at the edge opposite said notch to permit limited tilting of said arm relative thereto in a direction transverse to said shaft, a dog on said arm engageable with said plate as the arm is turned to turn said sector plate therewith, means for yieldably urging said first arm toward said sector plate, a cam engageable with said first arm for tilting the latter away from said sector plate as the arm is rotated from one position to a second position and back to disengage the dog at a point intermediate said positions and after the valve has been turned from one position to its other position, and lost-motion means operatively connecting said shaft to said piston for extending and retracting the latter.

7. A dispensing apparatus comprising a measuring cylinder having a piston slidable therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said inlet and said outlet, a shaft mounted for rotation about an axis parallel to the axis of said valve member, a sector plate mounted on one end of said shaft for turning relative thereto said sector plate and valve member having interengaging teeth whereby to rotate the valve member from one position to the other in response to turning of said shaft, said shaft having a non-circular blade on said one end and a notch in the edge of said blade remote from said valve member, a first arm having a slot therein dimensioned to receive said blade when the arm is seated in said notch to effect rotation of the arm with the shaft, said blade being beveled at the edge opposite said notch to permit limited tilting of said arm relative thereto in a direction transverse to said shaft, a dog on said arm engageable with said plate as the arm is turned to turn said sector plate therewith, a second arm attached to said first arm and extending from the shaft in a direction opposite the first arm, a third arm attached to said shaft for movement therewith, means defining a guide slot on said piston, a U-shaped bail having the web portion thereof slidable in said slot and the ends connected to said second and third arms for extending and retracting said plunger and for yieldably urging said first arm toward said sector plate, and cam means engageable with said first arm for tilting the same away from the sector plate as said shaft is turned between first and second positions to disengage the dog from the sector plate at a point intermediate said positions.

8. The combination of claim 7 wherein said cam means is formed on one end of said valve member.

9. A dispensing apparatus comprising a measuring cylinder having a plunger therein, valve means communicating with said cylinder and having an inlet and an outlet and a rotary valve member for selectively communicating said inlet and outlet, a shaft mounted for turning about an axis parallel to the axis of said valve member, actuator means for selectively turning said shaft first in one direction and then in the opposite direction, a first means connected to said shaft for moving said valve member from one position to the other during the initial movement of said shaft in either direction, a second means connected to said shaft for moving said plunger in response to turning of said shaft after said valve member has been moved, a cap magazine mounted adjacent said outlet of said valve, a slide mounted for movement across the lower end of said magazine to remove a cap therefrom, a cap applying device for pressing the caps on a container, means on said slide engageable with a container for moving a container with the cap to a position below said cap applying device, a third means connected to said shaft for extending said slide in response to turning of said shaft in one direction, and a fourth means connected to said shaft for operating said cap applying device in response to turning of the shaft in the other direction.

10. An apparatus for dispensing material into a container and for applying a cap thereto comprising, a measuring chamber, a piston in said chamber, valve means communicating with said chamber and having an inlet

and an outlet and a valve member movable to selectively communicate said chamber with said inlet and outlet, an operating lever connected to said valve member and said piston for sequentially moving said valve member to draw a charge of material into the chamber through said inlet and discharge a measured quantity of material out of the chamber through said outlet as the operating lever is moved from a first position to a second position and back, a cap magazine, means laterally offset from said magazine operable to press a cap onto a container, means operable to remove a cap from said magazine and to move the cap and a container into position below said cap pressing means, and means connected to said lever for operating said cap removing said cap pressing means in timed relation in response to movement of said lever from said first position to said second position and back.

11. An apparatus for packaging fluent material in a container comprising a dispenser including a rotary valve for dispensing material into a container, an actuator including a shaft mounted for rotation about a horizontal axis, means connected to said shaft for turning said rotary valve into and out of a dispense position in response to turning of said shaft from a first position to a second position and back, a slide bracket extending alongside said dispenser, a cap magazine on said bracket, a slide mounted for reciprocation on said bracket and having a cap engaging element and a container engaging element movable in unison to remove a cap from the magazine and advance the cap and the container to a position at one side of the magazine, a cap applying anvil, an anvil support bracket mounted for limited vertical movement relative to said slide bracket, a first arm connected to said shaft and engageable with said slide to extend and retract the latter as said shaft is moved from a first position to a second position and back, and a second arm on said shaft engageable with said anvil support bracket to depress the latter and move the anvil downwardly to seat the cap on the container.

12. The combination of claim 11 wherein said dispenser includes a measuring piston, and means connected to said shaft for extending and retracting the piston.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,029,574 April 17, 1962

Swan F. Anderson

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 8, line 24, for "shaft", first occurrence, read -- sector plate --; column 9, line 14, for "said", second occurrence, read -- and --.

Signed and sealed this 14th day of August 1962.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents