United States Patent

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[72] Inventor **Helmuth T. Schmidt**
109 Oak St., Amityville, New York 11701

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[45] Patented **Nov. 17, 1970**

[54] **DISPENSER**
5 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **222/181,** 222/516, 222/43, 222/554, 251/312
[51] **Int. Cl.** **B67d 5/06**
[50] **Field of Search** ..... 222/181, 554, 516, 43, 486 not searched single ref by memory; 251/312

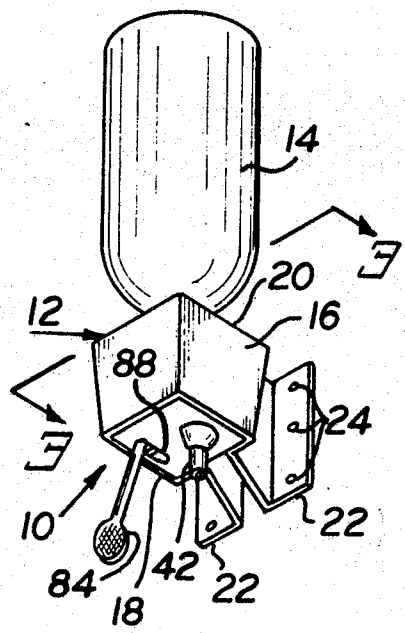
[56] **References Cited**

UNITED STATES PATENTS

505,915	10/1893	Haas	222/554X
1,136,108	4/1915	Curtis	222/554X
1,790,228	1/1931	Chambers	222/181
1,929,694	10/1933	Judson	222/516
2,740,562	4/1956	Bello	222/181
2,841,312	7/1958	Bello	222/181
3,240,401	3/1966	Kirschmann	222/486X

Primary Examiner—Robert B. Reeves
Assistant Examiner—Hadd S. Lane
Attorney—Jerome Bauer

ABSTRACT: A dispenser for delivering fluids from a container including a valve mechanism comprising a rotatable member having a channel adapted to communicate upon rotation between inlet and outlet passages including means for rotating the member and for limiting rotation within adjustable predetermined limits.



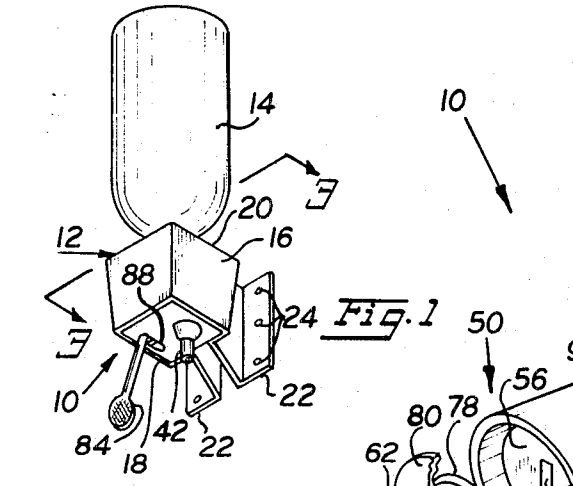


Fig. 1

Fig. 2

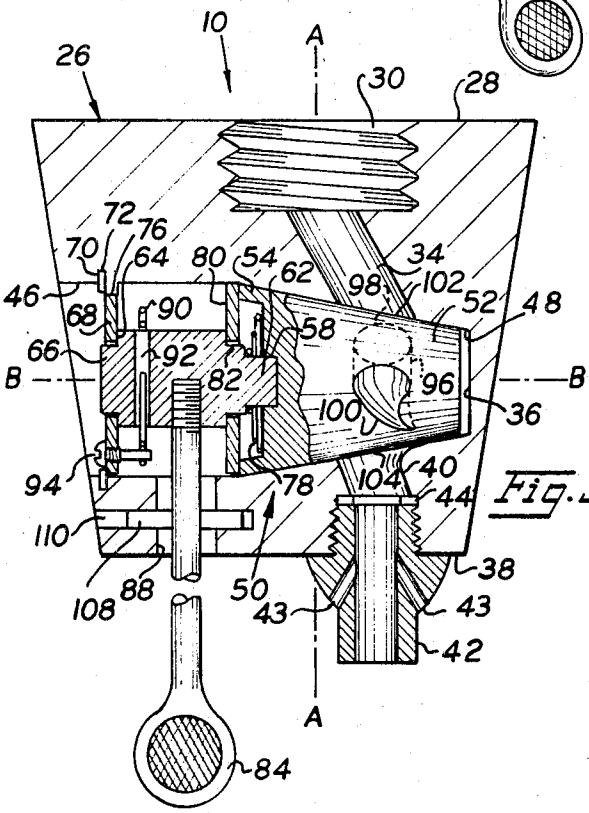


Fig. 3

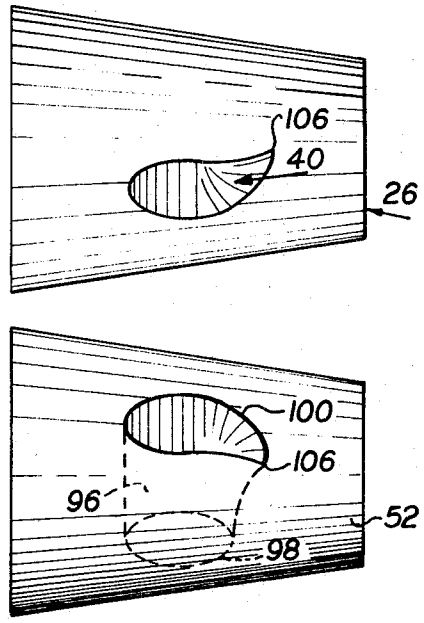


Fig. 4

INVENTOR.
HELMUTH T. SCHMIDT

BY Jerome Bauer

ATTORNEY

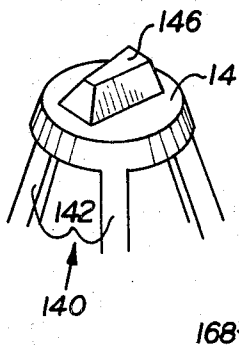


Fig. 8

Fig. 5

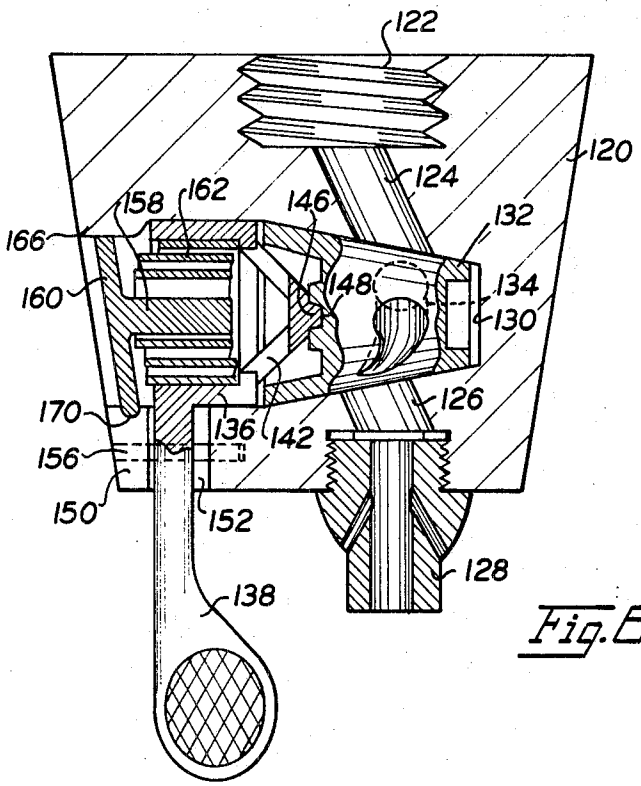


Fig. 6

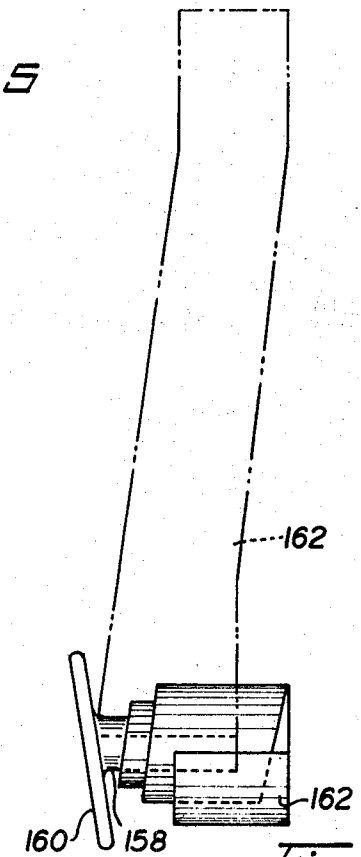


Fig. 7

INVENTOR.
HELMUTH T. SCHMIDT

BY Jerome Bauer

ATTORNEY

DISPENSER

This application is a coninuation-in-part of my copending application, Ser. No. 659,542, filed Aug. 9, 1967, entitled "Quicktap" now abandoned, and claim is made to all of the equitable and legal benefits derived therefrom.

BRIEF SUMMARY AND OBJECTS OF THE INVENTION

The present invention is directed to dispensers for delivering quantities of such fluids as liquids, powders and granular materials and is particularly adaptable for use in rest rooms, hotels, kitchens and the like, for supplying controlled flow of such items as soaps, detergents, syrups, powder confections, etc.

Dispensers for the purposes indicated have taken various forms over a goodly number of years. However, such devices have depended upon gravity flow of material into a manually operable valve mechanism having a receiving chamber wherein measurement is effected and from which subsequent transfer to a spout may be made for delivery to the user. It has been found that those devices currently known and available have a number of shortcomings which it is the object of the present invention to overcome.

Specifically, it has been found that simple and effective means for controlling and adjustably limiting the flow rate and/or amount of flow is lacking from the present devices. It has been also found that effective means for one handed operation of the valve mechanism is also absent from present known devices. Particularly missing from the prior art is the simplicity with which the present dispenser screws to a container and also serves to hold the same to a wall mount or support.

It is the further objective of the present invention to provide a fluid dispenser simple in construction, economical to produce and capable of use both in public establishments and in private households.

It is an additional object to provide a fluid dispenser which may be employed with a variety of fluid containers and with a variety of fluids.

It is another object to provide a dispenser wherein adjustment can be made for the viscosity and composition of the material to effect desired flow rates.

It is yet another objective to provide a fluid dispenser in which the means for adjusting the flow rate is inaccessible during use but which is readily available when needed for adjustment.

It is a further object of the present invention to provide a dispenser which may be caused to dispense and to cease dispensing fluid with one-handed operation into a glass or beaker held in the same hand.

Briefly, the present invention provides a dispenser having a valve mechanism comprising a rotatable receiving channel movable between an inlet passage and outlet passage, the receiving channel and/or the inlet and outlet passages being provided with correspondingly contoured shapes so as to vary the rate of flow from one to the other depending upon the amount of rotation effected. The valve mechanism includes means for manually rotating the receiving channel and for limiting the rotation within adjustably predetermined positions.

DESCRIPTION OF THE DRAWINGS

The above object and advantages as well as others, together with a complete description of the present invention will follow hereinafter, wherein reference is made to the attached drawings, in which:

FIG. 1 is a perspective view of the dispenser of the present invention as employed;

FIG. 2 is an exploded expanded perspective view of the present invention showing each of its elements;

FIG. 3 is a sectional view along lines 3–3 of FIG. 1 showing valve mechanism and the interior of the present dispenser;

FIG. 4 is a schematic view of the mouth and orifice of the corresponding valve channel and outlet of the valve mechanism;

FIG. 5 is an expanded perspective view similar to FIG. 2 showing a modified version of the present invention;

FIG. 6 is a sectional view of the modified version of the dispenser of FIG. 5 showing its assembly and interior construction;

FIG. 7 is a detailed view of the axial spring connecting member of the device of FIG. 5; and

FIG. 8 is a detailed view of the actuating spring mechanism employed in the device of FIG. 5.

DETAILED DESCRIPTION

Turning to FIG. 1, the present invention is embodied is a dispenser 10 seated within a housing bracket 12 by which the whole may be secured to a wall or other support. Mounted on the top of the dispenser 10 is an inverted jar or suitable container 14 holding a supply of fluid.

The housing bracket 12 (FIG. 1) comprises a split frame 16 of metal or other suitable material such as ceramic having a generally rectangular shape with smooth sides and an inverted taper so that its lower edge 18 is peripherally smaller than its upper edge 20. The ends of the frame 16 are formed into a pair of opposed bracket members 22 having a plurality of holes 24 by which the unit may be secured to its support. When being secured to tile, glass and like surfaces, an adhesive backing may be employed. The dispenser 10 comprises a tetrahedral body 26 of a shape and taper similar to that of frame 16 and is adapted to fit within the frame 16 in one mode or direction only so as to be securely seated therein by its weight along against movement except in an upward direction. The snug fit of the body within the frame also provides a firm base for the fluid container 14 which is mounted thereon.

To mount the container 14, the body 26 is provided on its top surface 28 with a suitable recess 30, generated about a vertical axis A–A (FIG. 3), for receiving the neck of the container and for holding the container in a substantially vertical position. When standard screw top containers are used, the recess 30 can be provided with mating threads as shown into which the neck may be screwed. A washer or gasket 32 (FIG. 2) may also be provided to securely seal the container within the recess against leakage. Other convenient container holding means will suggest themselves to the reader. For example, the recess 30 may be enlarged to accept a wide necked container such as a "Mason" jar to be provided with retaining means such as clips, adaptors, etc. to hold plastic containers, etc.

It will be observed that the housing bracket 12 and the body 26 are depicted as being generally rectangular. This is preferred only because it combines a pleasant design with a rigid structure capable of securely holding the dispenser and filled container snugly while minimizing any danger of its being tipped or dislodged. Of course, other configurations, such as oval, octagonal can be substituted and it is not intended that the form shown be held to be critical.

Extending inwardly from recess 30 is a cylindrical bore 34 which comprises an inlet passage for the flow of material from the inverted container 14. The bore 34 intersects and communicates with an enlarged chamber 36 having a substantially symmetrical configuration generated about an axis B–B lying in a plane substantially perpendicular to the axis A–A running through recess 30. Extending from chamber 36 outwardly of the bottom face 38 of the body 26 is a second bore 40 comprising a cylindrical outlet passage for flow of material. Threaded within the outlet passage so as to extend below the body 26 is a spout 42. The spout 42 is provided with side air vents 43 to prevent vacuum formation or cavitation within the outlet passage. Any other suitable fitting for the ultimate delivery of material may be used. A washer 44 is employed to seal the spout against leakage. Except for the convenience of manufacture, the spout may be replaced with integral spigot

means or other suitable terminal means for the flow of material out to the user.

The chamber **36** extends from one side of the tetrahedral body **26** substantially through to its opposite side and is formed so that the interior wall of its axially outer portion **46** is cylindrical while the interior wall of its axially inner portion **48** of the chamber is conically tapered. The chamber **36** thus constitutes a direct path between the inlet and outlet passages and, unless obstructed, fluid would flow by direct gravity between the container and the spout.

The chamber **36**, however, is supplied with a valve mechanism generally depicted by the numeral **50** which is designed to regulate the flow of fluid. The valve mechanism comprises a solid truncated conical plug **52** having a depending annular skirt **54** about its lower or wider planar face **56**. The dimensions of the conical plug **52** substantially conform to the dimensions of the conical portion **48** of the chamber **36** so that when inserted therein it acts to normally seal the chamber **36** from ingress and egress of fluid. Since the conical plug **54** is substantially solid, it will also act to seal the internal ends of each of the inlet and outlet passages, thus also normally blocking passage of fluid from one to the other.

The bottom face **56** of the plug **52** is provided with a slot or keyway **58**. Axially arranged from the plug **52** is a stem **60** which is provided at its inner end with a key member **62** conforming to the slotted keyway **58** and into which it is adapted to be force fit. The outer end of the stem **60** is shouldered at **64** to provide a cylindrical extension **66** of smaller diameter over which is placed a washer **68**. The assembly is urged and retained inwardly of the chamber **36** by a "C" clamp **70** which is lodged within an annular keyway **72** formed within the inner surface of the outer portion **46** of the chamber. Further, the washer **68** is provided with means preventing its rotation as by forming its periphery with a V-shaped indentation **74** and by providing the inner surface of the cylindrical portion **46** with a corresponding key **76**.

To insure normally firm and continued seating of the conical plug **52** within the conical portion of the chamber a helical tension spring **78** is placed between the bottom face **56** of the plug **52** and about the inner end and key of the stem **60**. The helical spring **78** is retained in place by a washer **80** surrounding the inner end of the stem **60** which is also of reduced diameter so as to provide an inner shoulder **82** for this purpose.

It will be observed that the stem **60** is rotatably mounted within the washers **68** and **80**, respectively, which act as bearing members and that because of the keyed connection with the stem **60**, the plug **52** can also be made to rotate within the conical portion **48** of the chamber **36**. The stem and plug assembly is actuated by a handle **84** which is threaded or otherwise secured to the stem **60** within a radially extending recess **86**. The handle extends from the stem **60** outwardly of the body **26** through a slot **88** and is located so as to be proximate to the spout **42** with less than a handspan's distance so that it may be engaged simultaneously with the holding of either the hand or a receptacle beneath the spout. The handle extends approximately 20° forward of the vertical plane through the spout so that the hand will automatically and conveniently engage it and push it rearward for actuation. The slot **88** extends transversely of the bottom of the body **26** a sufficient distance so that the handle may be moved as desired from front to rear of the body **26** to cause the stem and plug to rotate by at least approximately 20°.

To bias the handle **84** forwardly of the body **26** within the slot **88** (and consequently the stem **60** and plug **52**) a spiral coil spring **90** is mounted about the stem. The inner end of the coil spring **90** is lodged with a retaining hole **92** drilled radially within the stem **60**. The outer end of the coil spring **90** is hooked about and retained by a set screw **94** mounted through the retaining washer **66**. Thus, the outer end of coil spring **90** is fixed by mesne connection to the wall or support, consequently establishing a base and normal position for the action of the spring which is overcome by operation of the handle **84**. The position of spring **90**, handle **84**, stem **60** and plugs **52** with respect to the axis B–B, is, of course, to be chosen so that the elements may be sufficiently rotatable about the axis and will provide sufficient torque upon the spring **90** so that it will automatically return the actuating elements to their normal rest position.

The valve mechanism is completed by providing the conical plug **52** with a channel **96** substantially transverse of its longitudinal axis (defined by axis B–B) which is adapted, on rotation of the plug, to register with both inlet and outlet passages **34** and **40** respectively to permit fluid flow. The inlet mouth **98** and the outlet mouth **100** at opposite ends of the passage **96** are made to conform in shape and dimension with the mating orifices **102** and **104** of the inlet passage **34** and the outlet passage **40**, respectively. Conveniently, the inlet passage **34** is formed cylindrically so that its orifice **102**, lying on the surface of the interior conical wall section **48**, becomes somewhat elliptical and curved to conform to its taper. Correspondingly, the inlet end of the channel **96** is also formed as a similar cylindrical section so its inlet mouth **98** will also become elliptical and curved congruently with the orifice **102**. Thus, upon rotation of plug **52**, during which channel **96** is caused to register with inlet passage **34**, the mouths **98** and orifice **102** align quickly, permitting maximum flow of fluid in the shortest time.

On the other hand, the outlet mouth **100** of the channel **96** and the inlet orifice **104** of the passage **40** are formed opposite each other and of a particular shape so that a variable opening and flow rate between them can be progressively established as the plug **52** is made to rotate. Turning to FIG. 4, it will be seen that both the mouth **100** and orifice **104** are formed as a modified deltoid somewhat like a tear drop. The major portion of the deltoid lies in a line with the elliptical inlet mouth **98** at the transverse side of the passage **96** so that full flow through passage **96** is effected. However, the apex **106** of the deltoid (mouth **100** and orifice **104**) are deviated and made askew of their material perpendiculars so that both deltoids appear to bend from such a perpendicular and curve around the surfaces of the plug and chamber walls respectively. Additionally, the outlet passage **40** and its orifice **104** are located with respect to the inlet passage **34** and its orifice **102** so that the major portions of the inlet mouth **98** and the outlet mouth **100** are caused to register simultaneously. As a direct consequence of the mirror image relationship between mouth **100** and orifice **104**, rotation of the plug causes the apexes **106** to be the first portions of the deltoids to come into registration and as rotation continues greater portions of the deltoids subsequently register thus progressively increasing the opening and flow of fluid between channel **96** and outlet passage **40**.

The maximum extent to which the plug **52** can be rotated and also the amount of registration between the various openings is determined by the extent to which the handle **84** is permitted to move in slot **88**. A pin **108** is provided which may be inserted in any one of a plurality of holes **110** bridging the slot **88**. The holes **110** may be so spaced that small, medium and full flow rates may be established as desired. By presetting the pin **108** in any hole **110** a maximum flow rate is determined which remains constant through continued use.

It will be observed that the adjustment of the actuating mechanism must be set before the body **26** and the valve mechanism which it incorporates is inserted within the housing bracket **10** since the housing bracket completely encloses the mechanism. The device is as a result tamper-proof and virtually break-proof during use.

In operation, of course, the device is assembled as described and the flow-rate preset by proper insertion of the pin **108** in the desired hole **110**. A bottle or jar **14** is screwed into the recess **30** on top of the device and the body **26** is slipped into the housing bracket **12** causing the force of gravity to initiate the flow of the fluid into the valve mechanism.

Delivery of fluid from the spout **12** is easily effected with only one hand which may move the handle **84** while simultaneously spanning the position beneath the spout. As the han-

dle is moved, the fluid flows in a progressively increasing stream until the maximum flow rate is reached. As soon as the amount of fluid is obtained and the handle released, the spring loading of the handle automatically returns the valve mechanism to its normal position to immediately stop the flow.

The dispenser itself need not be disturbed when a container is emptied and it may be simply replaced by removing the body from the wall mount, unscrewing the same and threading a full new container into the recess. The fluid may of course be liquid or granules and the rate at which flow is accomplished for any form of fluid material may easily be adjusted by resetting the pin **108** to open or close to some greater extent the openings between plug channel and passages. In some instances, it may be necessary to redesign and restructure the facing openings and orifices to accommodate large granular material for example, or other special fluids; however, this detail is well within the teachings herein and the skill of the craftsman.

In addition to the various minor modifications and equivalent structures which have been hereinbefore indicated as substitutable for the specific structures described, the present device may be modified to dispense metered quantities of fluids rather than to deliver an endless stream. This may be easily accomplished by positioning the location of the inlet and outlet orifices **34** and **40**, respectively, angularly to each other rather than aligned as shown. The channel **96** can be then made to register with only one of the passages at a time and when so singularly registered is sealed from the other. Thus, the channel **96** will receive a fixed amount of fluid first from the inlet passage **34** and then will subsequently deliver the fixed quantity to the outlet passage **40**.

Of course, it will also be obvious that the exact configuration of the exit mouth **100** and orifice **104** may be modified without departing from the concept of variable rate delivery of fluid as a function of rotation of the plug. Various geometrical shapes equivalent to the deltoid formation are readily available.

Furthermore, it is quite obvious also that the shaped mouth and orifice may be employed at the inlet end of the channel **96** rather than at the outlet end or even that both ends may be so provided with shaped openings so that the rate of flow may be controlled at both ends.

In FIGS. **5—8**, there is shown a second embodiment of the present invention in which is demonstrated how the present inventive concepts are readily adaptable with differing constructional materials, such as plastics, since it may sometime be advantageous to provide an all plastic fluid dispenser for use with special, corrosive or reactive fluids.

This second embodiment comprises a tetrahedral body **120** substantially similar to that of the body **26** shown in FIGS. **1—5**. The body is shaped and designed so that it too can seat within a housing bracket similar to that of the preceding figures. The internal construction of the body, except for minor modifications, to be described later, is without change and includes among its features a recess **122** into which the fluid container may be seated, an inlet passage **124**, an outlet passage **126** to which is connected a spout **128**, and a connecting chamber **130** in which is inserted a conical valve plug **132** having a connecting channel **134**, all of which function and operate precisely in the previously described manner.

The mechanism for urging the plug **132** to properly seat within the tapered portion of chamber **130** and for rotating the plug **132** are integrally formed and comprise a cylindrical hollow stem **136** of enlarged outer diameter substantially equal to the inner diameter of the cylindrical portion of chamber **130**. Formed with the stem **136** is a handle **138** which radially extends outwardly. Extending axially of the forward end of the stem **136** is a conically shaped spider web **140** of flexible plastic material. The web **140** is provided with a plurality of legs **142** joined at one end to the stem **136** and at the other by a common member **144**. By this construction, the web is resilient in an axial direction but rigid in a circumferential or radial direction. Integral with the common member **144** is a key **146** which is adapted to mate in the corresponding slot or recess **148** formed in the base of the plug **132**. Turning to FIG. **8**, the key **146** is preferably formed of a conically shaped trapezoid with no two of its sides equal. The slot or recess **148**, of course, being shaped in the same manner. This trapezoidal configuration is believed most suitable for use with plastic material, in that, it provides firm control during rotation and application of torque to the members. However, some sort of unique key means is required in the present modification to insure that the stem **136**, to which the handle is integral, is properly seated axially. Accordingly, a key which can only be mated in one manner, as here shown, is necessary.

Since the handle **138** is made integral with the stem **136**, the body **120** must be modified to permit its entry into the transverse slot in which it moves during operation. This is accomplished by providing an axial slot **150** leading into and communicating with the transverse slot **152**.

The handle arresting pin **154** and holes **156**, for its reception, may, of course, be located as required to facilitate the proper movement of the parts.

The stem retaining means and handle actuating means for automatic closing of the valve are also integrally formed comprising a stem **158**, a disc **160** at one end, and an elongated strip **162** attached at one end to the stem and coiled about it as a spring. The disc **160** is angularly offset from the stem **158** to equalize axial and rotational forces and is provided with a small notch **164** is adapted to seat in a key **166** formed at the outer edge of the chamber **130** to prevent rotation of the disc and consequently establish a base for spring strip **162**. It will also be noted that the outer surface of the stem **136** is provided with a groove **168** to permit its entry into the chamber beyond the key **166**. The disc **160** also seats within a circumferential groove **170** locking it against axial movement much in the same manner as provided in the embodiment shown in FIGS. **1—5**.

The handle return or actuating spring **162** is shown in generation in FIG. **7** will be seen to have an angular or bent contour so that when coiled about the stem it not only takes on a spiral configuration but also a helical configuration creating a component of force not only for rotation but also for axial movement.

The coiled spring **162** is inserted within the interior of the hollow stem **136** which is provided with a longitudinal shoulder or ridge **172** (FIG. **5**) which is engaged by the edge **174** of the spring **162** to thereby create the proper spring tension. It is suggested that the entire retaining and handle actuating means and the stem and handle be assembled first as an operational subassembly whereby the spring **162** may be properly loaded. The entire subassembly can, of course, then be easily inserted within the chamber **130**.

It will be appreciated that the embodiment shown in FIGS. **5—8** is eminently suited for manufacture from plastic material, in that, the major elements may be molded or cast as integral units with great ease and that assembly, as with the embodiment of FIGS. **1—4**, may be effected easily and simply with little or no tools. Notwithstanding such modifications and use of other structural materials, this second embodiment functions and operates in exactly the same manner as previously described and has all of the advantages inherent in the present invention with the additional advantages of having few parts and nonreactive materials.

It will be further appreciated that this second embodiment need not be fabricated wholly or even in part from plastic materials and that metallic materials, ceramics, etc. may be used as substituted for any element. Minor modifications, as for example, the shape of the web **140**, the key **146**, or the generation of the spring **162**, may be made.

In retrospect, there has been disclosed herein novel dispenser mechanisms capable of wide and frequent use. The dispensers are designed to be both pleasing in appearance and readily mounted on a wall or support for convenient use. The dispensers are simply constructed and economical to produce, easy to adjust, as well as to repair.

Functionally, the dispensers are capable of being adjusted to vary flow rates and to maximize such flow to desired levels. The mechanism is further tamper-proof in that the adjustment means is inaccessible against manipulation during use. The devices are operable by one-handed manipulation, in that, handle and spout are convenient to each other and that return actuation handle and closing of the valve mechanism is automatic.

In view of the various modifications which can be made and of the various equivalent structures which may be employed, it is intended that the foregoing description be exemplary only of the inventive concept herein described and that this invention should not be limited by the specific description but only by the claims as appended hereinafter.

I claim:

1. Apparatus for dispensing fluid materials from a container comprising:
- a frame;
- a tapered body removably supported within and rendered inaccessible by said frame;
- said body having means for mounting said container thereon for gravitational flow;
- a symmetrically conical chamber located within said body and generated about a horizontal axis;
- an inlet passage from said container to said chamber;
- an outlet passage from said chamber to the exterior of said body;
- a conical plug conforming to said chamber located therein for rotation relative thereto about said horizontal axis;
- a rotatable stem separable from and extending axially from said plug within said body;
- means for axially retaining said stem with said body;
- said plug and stem being provided with mating key and keyway members axially aligned to provide positive rotational connection and spring means located therebetween for resiliently biasing said stem against said plug to seat said plug within said chamber, spring means for resiliently biasing said stem in a predetermined angular direction with respect to said inlet and outlet passages;
- lever means radially attached to said stem and extending through said body for manually rotating said stem counter to said bias;
- said plug having a channel formed transversely therethrough and aligned with said inlet and outlet passage;
- said channel having orifices mating with the orifices of said inlet and outlet passages on manual rotation of said stem and plug and means for selecting and predetermining the extent of rotation of said stem and plug to limit the degree of registration of said orifices;
- a bracket for mounting the frame to a support;
- said frame comprising a tetrahedral form having an open bottom and top being adapted to removably hold the body rendering the plug; and
- stem and means determining the extent of rotation of said stem and plug inaccessibly surrounded by the sides thereof.

2. The apparatus according to claim 1 wherein said mating orifices have a deltoid shape, said orifices being positioned as mirror images of each other so that on rotation registration progresses from the apex of each to the base whereby the opening therebetween is varied.

3. A fluid dispenser comprising:
- a substantially solid boxlike body having a threaded recess in its upper surface for receiving an inverted similarly threaded container of fluid and a horizontally formed chamber extending inwardly from one of its sides for receiving a valve mechanism;
- a first substantially cylindrical fluid passage from said recess to said chamber;
- a second substantially cylindrical fluid passage from said chamber to an outlet spout;
- an outlet spout extending downwardly from the bottom surface of said body;
- said chamber comprising an outer cylindrical walled portion and an inner conically tapered wall portion;
- a conically tapered core member conforming in dimension and located within said inner chamber portion;
- an extension member axially of said core located within said outer cylindrical member;
- means including resilient spring means for separably connecting said extension member to said core for conjoint rotary movement;
- said resilient means acting to urge said core normally into engagement with the walls of said inner chamber portion;
- means retaining said extension member within said outer chamber portion;
- coil spring means for rotatably biasing said extension member in one angular direction;
- handle means extending radially from said extension member for rotating said extension counter to said biased angular direction;
- said handle extending through a slot in the bottom surface of said body;
- adjustable stop means mounted across said slot to limit movement of said handle therein;
- said core having a transverse channel therein aligned with said inlet and outlet passages; and
- said channel being formed so as to present a variable opening with respect to at least one of said passages as a result of the rotation of said core, the limit of said variable opening being defined by the limit of rotation of said plug caused by the movement of said handle.

4. Apparatus for dispensing fluid materials from a container comprising:
- a frame;
- a tapered body removably supported within and rendered inaccessible by said frame;
- said body having means for mounting said container thereon for gravitational flow;
- a symmetrically conical chamber located within said body and generated about a horizontal axis;
- an inlet passage from said container to said chamber;
- an outlet passage from said chamber to the exterior of said body;
- a conical plug conforming to said chamber located therein for rotation relative thereto about said horizontal axis;
- a rotatable stem separable from and extending axially from said plug within said body;
- means for axially retaining said stem with said body;
- said plug and stem being provided with mating key and keyway members axially aligned to provide positive rotational connection and spring means located therebetween for resiliently biasing said stem against said plug to seat said plug within said chamber, spring means for resiliently biasing said stem in a predetermined angular direction with respect to said inlet and outlet passages;
- lever means radially attached to said stem and extending through said body for manually rotating said stem counter to said bias;
- said plug having a channel formed transversely therethrough and aligned with said inlet and outlet passage;
- said channel having orifices mating with the orifices of said inlet and outlet passages on manual rotation of said stem and plug and means for selecting and predetermining the extent of rotation of said stem and plug to limit the degree of registration of said orifices;
- wherein the means for selectively predetermining the extent of rotation of said plug comprises a pin;
- a plurality of opposed holes within said body bridging the path of movement of said lever; and
- said pin being adapted for insertion within one set of said holes to thereby arrest the movement of said lever.

5. Apparatus for dispensing fluid materials from a container comprising:
- a frame;

a tapered body removably supported within and rendered inaccessible by said frame;

said body having means for mounting said container thereon for gravitational flow;

a symmetrically conical chamber located within said body and generated about a horizontal axis;

an inlet passage from said container to said chamber;

an outlet passage from said chamber to the exterior of said body;

a conical plug conforming to said chamber located therein for rotation relative thereto about said horizontal axis;

a rotatable stem separable from and extending axially from said plug within said body;

means for axially retaining said stem with said body;

said plug and stem being provided with mating key and keyway members axially aligned to provide positive rotational connection and spring means located therebetween for resiliently biasing said stem against said plug to seat said plug within said chamber, spring means for resiliently biasing said stem in a predetermined angular direction with respect to said inlet and outlet passages;

lever means radially attached to said stem and extending through said body for manually rotating said stem counter to said bias;

said plug having a channel formed transversely therethrough and aligned with said inlet and outlet passage;

said channel having orifices mating with the orifices of said inlet and outlet passages on manual rotation of said stem and plug and means for selecting and predetermining the extent of rotation of said stem and plug to limit the degree of registration of said orifices;

wherein said stem comprises a cylindrical section;

a conical resilient web integral with one end of said section;

a key integrally formed at the apex of said conical web;

said key adapted to mate with a corresponding keyway formed in the base of said plug;

a handle integrally formed with said cylindrical section and extending radially therefrom;

said apparatus further including a retaining disc adapted to be secured with a groove found in the chamber of said body;

said disc having integrally formed therewith a coil spring member; and

said member being adapted to enter into said cylindrical section to rotatively bias said section.