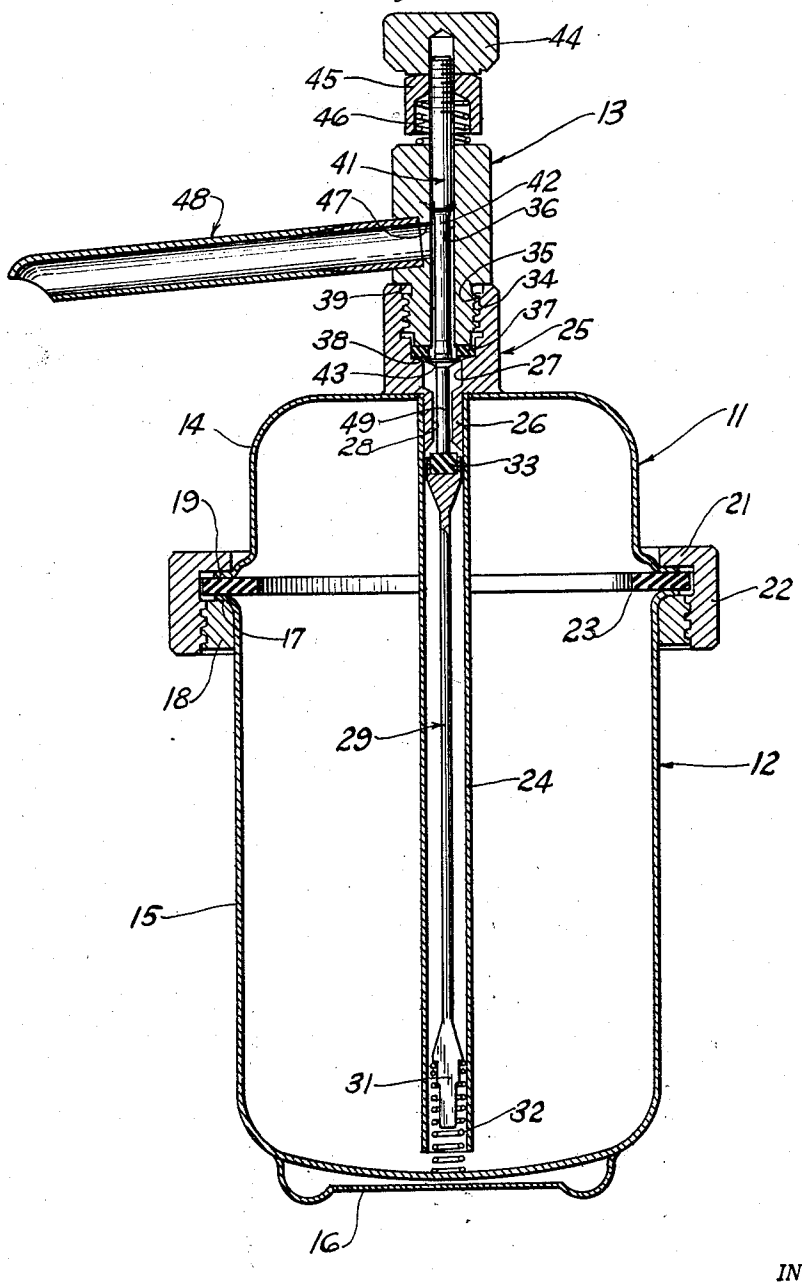
July 24, 1951 D. MICHEL 2,562,111

DISPENSING CONTAINER FOR FLUID UNDER PRESSURE WITH SEPARABLE DISPENSING UNIT

Filed July 23, 1947 2 Sheets-Sheet 1

Fig. 1



INVENTOR.
Daniel Michel
BY
Sheridan, Davis & Cargill
Attorneys

July 24, 1951 D. MICHEL 2,562,111

DISPENSING CONTAINER FOR FLUID UNDER PRESSURE WITH SEPARABLE DISPENSING UNIT

Filed July 23, 1947 2 Sheets-Sheet 2

Fig. 2

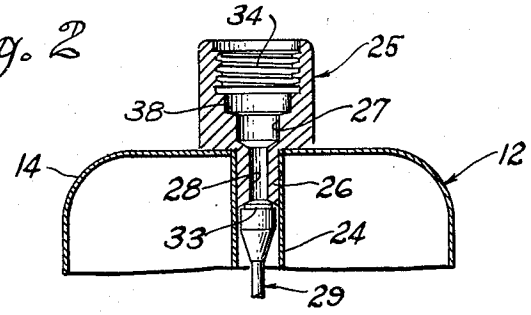
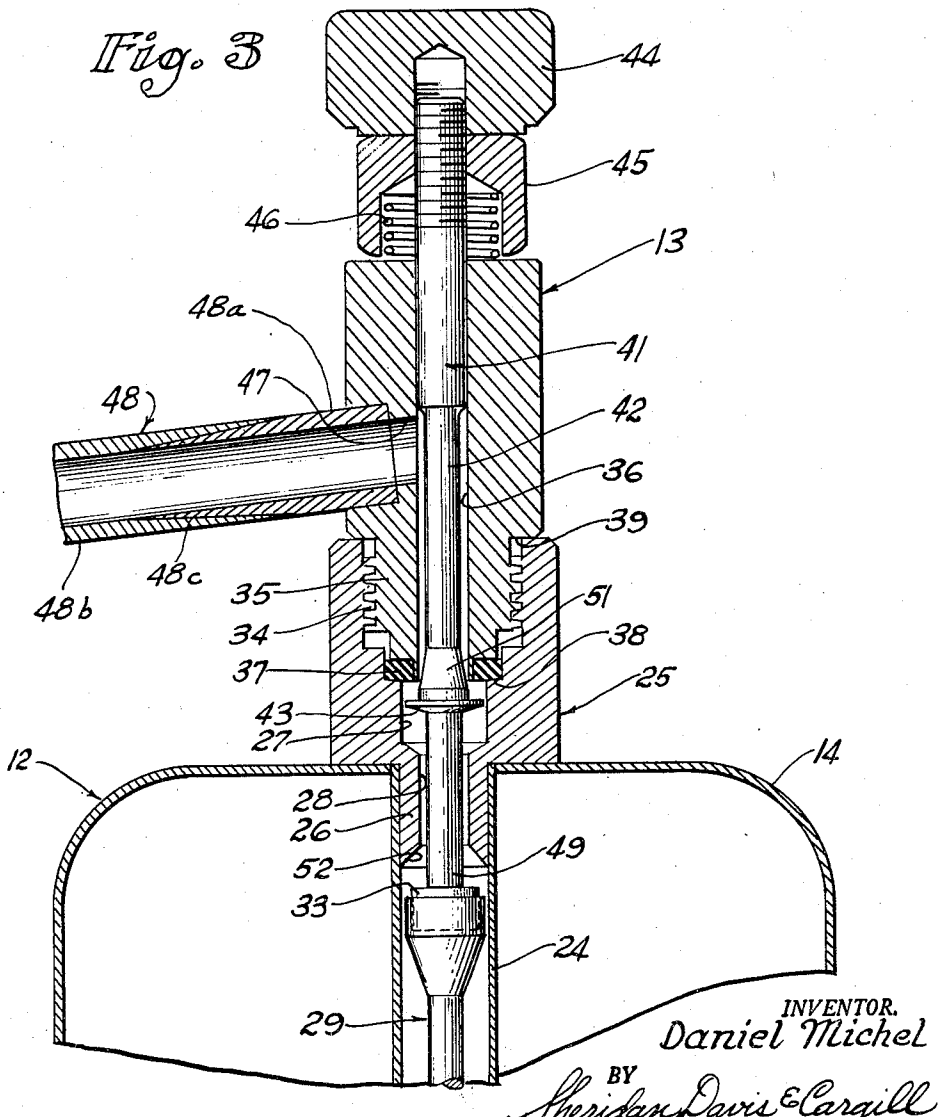


Fig. 3



INVENTOR.
Daniel Michel

BY
Sheridan, Davis & Cargill
Attorneys

Patented July 24, 1951 2,562,111

UNITED STATES PATENT OFFICE

2,562,111

DISPENSING CONTAINER FOR FLUID UNDER PRESSURE WITH SEPARABLE DISPENSING UNIT

Daniel Michel, Chicago, Ill.

Application July 23, 1947, Serial No. 763,039

11 Claims. (Cl. 222—394)

1

This invention relates in general to dispensing apparatus, and more particularly to improvements in devices for dispensing any desired material from a container in response to gas retained therein under pressure.

Since foodstuff is that material most likely to be dispensed from such devices, elimination of any possibility of contamination thereof is of primary importance.

A principal object of this invention, therefore, is the provision of a dispensing device comprising a container having separable top and bottom portions for retaining the material to be dispensed and gas under pressure, and valve means normally operable to prevent the escape of the material confined therein, together with a separate delivery unit attachable to the container and having valve means operable to control the delivery of the material from the container in response to the pressure of the gas therein; the container and delivery unit being so constructed as to eliminate cracks, interstices, pockets, and the like, in which the material being dispensed could collect and decay or become rancid, and also being so constructed as to be easily, quickly and thoroughly cleaned by washing.

Another important object of the invention is to provide such a dispensing device in which the delivery unit may be removed from the container at any time to facilitate separate cleaning thereof and storage of the container, as in a refrigerator, between periodic uses of the device.

A further object of the invention is the provision of such a dispensing device in which the top portion of the container has a siphon tube rigidly connected thereto at its upper end and a coupling member for the delivery unit also secured thereto, with an outlet aperture communicating with the siphon tube, and in which a readily removable valve member is mounted in the siphon tube, with a spring interposed between the lower end thereof and the bottom of the bottom portion of the container for normally maintaining the upper end of the valve member in closing engagement with the lower end of the coupling member to prevent discharge of the contents of the container through the outlet aperture.

Another object of the invention is to provide a delivery unit for such a container having a valve member therein operable to control the discharge of the contents of the container, when the delivery unit is mounted on the latter, and operable also to open the valve member in the container.

2

More specifically, a further object of the invention is the provision in such a dispensing device of a two-part separable container for non-gaseous material and gas under pressure having a coupling member rigidly connected thereto with an outlet aperture therethrough, a valve mounted in the container, and valve closing means for normally maintaining the valve in operative position to close the outlet aperture; together with a separate delivery unit having a bore extending therethrough and attachable to the coupling member to align the bore with the outlet aperture, a valve member extending through the bore and having a valve normally closing the lower end of the bore and a downward extension in the form of a stem which passes through the outlet aperture as the delivery unit is attached to the coupling member to move the container valve to an inoperative position against the action of its closing means, and manually operable means for selectively moving the valve member to open position to establish communication from the container through the outlet aperture to the bore of the delivery unit, the outlet aperture and the delivery unit bore and valve member defining an annular mixing chamber for the non-gaseous material and gas as it is discharged from the container.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which when taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

In the drawings:

Figure 1 is a vertical sectional view through a dispensing device embodying the features of the invention, showing the delivery unit attached to the container with its valve member in normal closed position and holding the container valve in open position;

Fig. 2 is a view similar to Fig. 1 of the upper part of the container with the delivery unit removed therefrom; and

Fig. 3 is an enlarged view similar to Fig. 1 showing the delivery unit valve in open position.

Referring more particularly to the drawings, reference numeral 11 indicates in general a dispensing device embodying the features of the instant invention and comprising a container, indicated generally by reference numeral 12, and a delivery and control unit 13 selectively attachable to the container. As best seen in Fig. 1 of the drawings, the container 12 comprises separable top and bottom parts or portions 14 and

15, respectively, each of which may be formed in any desired manner to be conveniently removably secured together. These top and bottom portions of the container preferably are formed as open-ended cylinders by spinning, or the like, from some suitable metal, such as stainless steel. The bottom portion 15 is provided on its lower end with a guard plate or stand 16 rigidly secured around its periphery in any suitable manner to the outer surface thereof. The upper end of the bottom portion 15 terminates in an outwardly flared flange 17, and an exteriorly threaded coupling ring 18 is rigidly secured in any suitable manner to the under surface of this flange 17 and to the adjacent outer surface of the bottom portion 15. The top portion 14 terminates at its lower end in a retaining flange 19 upon which is rotatably mounted an inwardly extending annular flange 21 formed on a union or coupling ring 22 having an internally threaded lower portion engageable with the coupling ring 18. A suitable gasket 23 of rubber, or the like, is interposed between the flanges 17 and 19, so that rotation of the outer coupling ring 22 relative to the inner ring 18 will removably secure the top and bottom portions 14, 15 together in the manner illustrated in Fig. 1 to maintain a leakproof joint therebetween.

As best illustrated in Fig. 3, the top portion 14 of the container 12 is provided with a suitable opening centrally located in the upper wall thereof within which is disposed the upper end of a siphon tube 24 rigidly secured in any desired manner to the top portion 14 at this point of junction therewith. A coupling member 25 is mounted upon and rigidly secured in any suitable manner to the upper wall of the top portion 14, and is provided with a depending reduced portion 26 at its lower end extending into the upper end of the siphon tube 24 and secured thereto in any desired manner to prevent leakage therebetween. This coupling member 25 is provided with a centrally disposed bore 27 extending therethrough and having a lower reduced end 28 extending through the depending portion 26 to provide an outlet aperture from, and communicating with, the siphon tube 24.

Referring again to Fig. 1, an elongated valve member 29 is loosely mounted within the siphon tube 24 and is provided at its lower end with a spring receiving and retaining portion 31 frictionally engaging the inner surface of the upper end of a coil spring 32 which rests at its lower end upon the bottom of the bottom portion 15 of the container 12. At its upper end, the valve member 29 is counter-bored to receive a valve plug 33 preferably formed of neoprene, or any other suitable acid-resistant material. The plug 33 comprises a movable valve normally held against the lower end of the depending portion 26 of the coupling member 25, which comprises a stationary valve, by the spring 32 to seal or close the outlet aperture 28, as illustrated in Fig. 2.

The upper portion of the bore 27 of the coupling member 25 is enlarged and interiorly threaded at 34, as best illustrated in Fig. 3, to receive a reduced and externally threaded lower portion 35 of the main body of the delivery unit 13. The main body portion of the delivery unit 13 has a centrally disposed bore 36 of uniform diameter extending therethrough, and is peripherally reduced at its lowest extremity to receive a stationary valve member 37 in the form of an annular ring of neoprene, or other suitable acid-resistant material. As clearly shown in Fig. 3, the bore 27 of the coupling member 25 is counter-bored at 38 below its threaded portion 34 to provide a shoulder forming a seat for the outer portion of the stationary valve 37 when the delivery unit 13 is attached thereto. The reduced lower end of the body portion of the delivery unit 13 is so dimensioned that the shoulder 39 formed thereby will contact the upper surface of the coupling member 25 when the delivery unit is attached thereto, to prevent undue compression of the stationary valve member 37.

Slidably mounted in and extending through the bore 36 of the delivery unit 13 is a movable valve member 41 having an intermediately disposed reduced portion 42 and an annular flange 43 formed integrally therewith adjacent the lower end of this reduced portion 42 and comprising a movable valve engageable with the stationary valve member 37 to close the lower end of the bore 36. At its upper end, the valve member 41 is threaded to receive an operating knob or control member 44 forming a manually operable valve actuating member. Also threaded upon this upper end of the valve member 41 below the knob 44 is a lock nut 45 counter-bored at its lower end to receive a valve operating coil spring 46 surrounding the valve member 41 and interposed between the lock nut 45 and the upper surface of the body portion of the delivery unit 13. The spring 46 normally maintains the valve member 41 and its actuating knob or control member 44 in the position of Fig. 1 to retain the movable valve 43 in sealing engagement with the lower surface of the stationary valve member 37. The extent of downward or opening movement that may be imparted to the valve member 41 against the action of the spring 46 is determined by the adjustable position at which the knob 44 and lock nut 45 are mounted on the valve member 41, the lower surface of the lock nut limiting such downward movement by engagement with the upper surface of the body portion of the delivery unit 13.

The main body portion of the delivery unit 13 is provided with a transverse aperture 47 communicating at its inner end with the bore 36 opposite the reduced portion 42 of the valve member 41, and counter-bored at its outer end to receive the inner end of a delivery spout 48 including an inner tube 48*a* and an outer tube 48*b* with the outer end of the former tapered and frictionally engaging in the outwardly tapered end of the latter as shown at 48*c* in Fig. 3. The untapered end of the inner tube 48*a* is preferably press-fitted into the aperture 47 at a slight downward inclination. The disclosed frictional connection 48*c* provides a smooth inner surface for the two piece delivery spout 48, and permits ready removal of the outer tube 48*b* to facilitate cleaning the spout.

The valve member 41 is provided at its lower end with an extension 49 of a reduced cross section comprising a stem formed integrally with, and extending a predetermined distance below, the flange or valve 43. The bore 36 of the delivery unit 13 is axially aligned with the outlet aperture 28 when the delivery unit is mounted upon the container 12 by being threadedly engaged with the coupling member 25, and the stem 49 is of sufficient length to pass completely through the outlet aperture 28 when the dispensing device 11 is thus assembled, as shown in Fig. 1, to contact the valve plug 33 of the valve member 29 and move the latter to, and maintain it in,

the open or inoperative position of Fig. 1 against the action of the spring 32.

Since, as previously noted herein, this dispensing unit 11 is intended for use in dispensing foodstuff, it is preferred that all of the parts thereof hereinbefore described, except the valve members 33 and 37 and the gasket 23, be formed of stainless steel, or other suitable non-corrosive material.

The container 12 is adapted to receive powder, liquid, or any other material to be dispensed, through the open upper end of the bottom portion 15 prior to the assembly of the top portion 14 thereon. Suitable gas under pressure is introduced into the container, after attachment of the top portion 14 to the bottom portion 15, through the aperture 28 by any desired and well-known charging mechanism. After charging, the spring 32 will maintain the valve 33 in its closed position of Fig. 2 to prevent escape of the gas and the material to be dispensed from the container 12 through the outlet aperture 28. The material to be dispensed thus may be placed in the container 12 and the desired gas introduced thereto to charge the container at any desired place or location for subsequent use at such place or elsewhere. When the dispensing device 11 is to be used for the purpose of dispensing whipped cream, for example, the gas employed is preferably a mixture of nitrous oxide and carbon dioxide introduced to the container 12 under a pressure of between 25 and 200 lbs. per sq. in. It has been found that under such conditions, cream may be kept under refrigeration for an extremely long period of time, in some cases, as much as a month, without any deteriorating or souring action taking place.

Whenever it is desired to dispense the cream or other material in the container 12, it is only necessary to mount the delivery unit 13 thereon as shown in Fig. 1. During such attachment of the delivery unit to the coupling member 25, the stem 49 of the valve member 41 moves the valve member 29 and its valve 33 against the action of the spring 32 to its open position of Fig. 1. The threaded portions 35 of the delivery unit 13 and 34 of the coupling member 25 are so dimensioned, and the counter-bored portion 38 is so formed, that the valve 37 will seal the bore 27 prior to engagement of the lower end of stem 49 with the valve plug 33 during attachment of the delivery unit 13 to the coupling member, so that completion of such attachment by further rotation of the delivery unit relative to the coupling member to its position of Fig. 1, during which movement the stem 49 will open the valve 33, may be accomplished without any resulting leakage through the bore 27 from the container 12 through the outlet aperture 28. With the dispensing unit in its condition of Fig. 1, subsequent downward movement of the valve member 41 by manual operation of the knob or control member 44 will displace the valve 43 from its normal engagement with the valve 37, as shown in Fig. 3, to permit discharge of the material to be dispensed from the container 12, in response to the pressure of the gas therein, through the siphon tube 24, outlet aperture 28 and bore 27, around the valve 43, and through the bore 36 of the delivery unit to the spout 48. During such discharging action, the outlet aperture 28, the bore of the coupling member 25 communicating with the upper end thereof, and the stem 41 and valve 43 define an annular mixing chamber within which the material being dispensed and the gas will be properly commingled, which is of particular importance when ordinary cream thus is being dispensed as whipped cream.

The valve member 41 is flared at 51 to provide a conoidal portion extending from the lower end of its intermediate reduced portion 42 to a point adjacent the valve flange 43, as shown best in Fig. 3, to provide a means for controlling the rate at which the material will be discharged from the container 12. Thus, adjustment of the lock nut 45 and knob 44 on the valve member 41 will determine the extent of downward movement which may be given the valve member 41 to establish the effective size of the annular aperture between the conoidal portion 51 and the lower end of the bore 36 to determine the rate of discharge from the container.

As illustrated herein, the simplified construction of the dispensing device 11 eliminates cracks, interstices, pockets, and the like, in which the material being dispensed could collect and decay or become rancid, and it is also so constructed as to be easily, quickly, and thoroughly cleaned by washing. For example, the lower end of the reduced portion 26 of the coupling member 25 is counterbored to provide a sloping inner end surface 52 (Fig. 3) not only to insure sealing engagement with the valve plug 33 despite wear of the latter, but also to eliminate any possible lodging place for the material being dispensed. At any desired time, the control unit 13 may be removed from the container 12 regardless of what quantity of the material contained in the latter has been dispensed therefrom. Thus, if all of the material in the container 12 has not been dispensed at the end of a period of use thereof, the delivery unit 13 may be removed and the container 12 placed in a refrigerator or other storage space. The delivery unit 13 may then readily be disassembled, merely by removal of the knob or control member 44 and lock nut 45 and withdrawal of the valve member 41, to enable thorough cleaning of the unit. As already mentioned, the outer end of the inner portion 48a and the inner end of the outer portion of 48b of the two-piece spout 48 are provided, respectively, with relatively long sloping exterior and interior matching surfaces, so that these two parts of the spout readily may be assembled and disassembled for cleaning purposes, and at the same time present a continuous and smooth inner bore surface to eliminate any dispensing material collecting cracks. The advantages of this device also include the possible use of one delivery unit with any desired number of different containers. This enables the user to fill, or have filled, a plurality of containers whenever desired for subsequent use during busy periods. It is not intended to limit the use of the instant device to the dispensing of whipped cream, since it is applicable to the dispensing of any desired material. In this connection, the term "non-gaseous material" is used to connote all dispensable material other than the pressure producing gas employed, and to include liquids, such as water, plain or carbonated, syrups, cream, etc., as well as powders, or the like.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material ad-

vantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A dispensing device, comprising a container having a bottom portion and a separable top portion, a siphon tube rigidly secured at its upper end to said top portion and disposed at its lower end adjacent the bottom of said bottom portion, means for removably securing said top and bottom portions together, a stationary valve secured to said top portion and having an aperture therethrough communicating with said siphon tube, a movable valve disposed within said siphon tube and co-operating at its upper end with said stationary valve, means interposed between the lower end of said movable valve and the bottom of said bottom portion for resiliently maintaining said valves in engagement with each other to close said aperture, and a delivery unit removably attached to said container, comprising a stationary valve member, a movable valve member, spring means for normally maintaining said movable valve member in engagement with said stationary valve member, the lower end of said movable valve member extending through said aperture for co-operation with said movable valve, and control means operable to move said movable valve member out of engagement with said stationary valve member against the action of said spring means and to move said movable valve out of engagement with said stationary valve to establish communication between the lower end of said siphon tube and said delivery member.

2. In a dispensing device, a container, comprising a bottom portion, a top portion having an aperture therein, a stationary valve member mounted on said top portion and having a bore therethrough, said valve member closing said aperture and said bore communicating with the interior of the container, means for removably connecting said top and bottom portions together, and a movable valve member mounted interiorly of the container and normally co-operating with said stationary valve member to prevent communication between said bore and the interior of the container; and a delivery unit removably attachable to said container and having a bore therethrough aligned with the bore of said stationary valve member when the unit is attached to said container, a valve stem extending through the bore of said delivery unit and having valve means normally closing said delivery unit bore, the lower end of said valve stem being sufficiently long to extend completely through the bore of said stationary valve member when the delivery unit is attached to the container to move said movable valve member to inoperative position responsive to the attachment of said delivery unit to said container, and control means manually operable to actuate said valve stem to move said valve means to inoperative position to establish communication between said bores.

3. A device for dispensing non-gaseous material in response to gas under pressure, comprising a container having separable top and bottom parts for storing said material and gas under pressure, a siphon tube extending from said top part to a point adjacent the bottom of said bottom part, a coupling member secured to said top part and having an outlet aperture communicating with said siphon tube, a valve movably mounted in said siphon tube, a first valve closing means for normally causing said valve to close said outlet aperture, and a delivery unit removably attachable to said coupling member, comprising a body portion having a bore forming an extension of said outlet aperture when said delivery unit is attached to said coupling member, a valve member movably mounted in said bore, and a second valve closing means for normally maintaining said valve member in position to close said bore, said valve member having a portion extending downwardly into said outlet aperture, when said delivery unit is attached to said coupling member, of sufficient length to move said valve against the action of said first valve closing means to an inoperative position to open said outlet aperture, and said first valve closing means thereby transmitting a valve-closing force through said downwardly extending portion of said valve member, when said delivery unit is attached to said coupling member, to assist said second valve closing means in maintaining said valve member in position to close said bore.

4. A device for dispensing non-gaseous material in response to gas under pressure, comprising a container having separable top and bottom parts for storing said material and gas under pressure, a siphon tube extending from said top part to a point adjacent the bottom of said bottom part, a coupling member secured to said top part and having an outlet aperture communicating with said siphon tube, a valve movably mounted in said siphon tube, a first valve closing means for normally causing said valve to close said outlet aperture, and a delivery unit removably attachable to said coupling member, comprising a body portion having a bore forming an extension of said outlet aperture when said delivery unit is attached to said coupling member, a valve member movably mounted in said bore, a second valve closing means for normally maintaining said valve member in position to close said bore, said valve member having a stem extending downwardly through said outlet aperture, when said delivery unit is attached to said coupling member, to move said valve against the action of said first valve closing means to an inoperative position to open said outlet aperture, and manually operable means for moving said valve member against the action of said second valve closing means to establish communication between said outlet aperture and said bore, said valve member, outlet aperture and bore then forming a mixing chamber for said gas and said non-gaseous material.

5. In a dispensing device, a container, comprising separable top and bottom parts, a siphon tube extending from said top part to a point adjacent the bottom of said bottom part, a coupling member secured to said top part and having an outlet aperture communicating with said siphon tube, a valve movably mounted in said siphon tube, and a first valve closing means for normally causing said valve to close said outlet aperture; and a delivery unit removably attachable to said coupling member, comprising a body portion having a bore forming an extension of said outlet aperture when said delivery unit is attached to said coupling member, a valve member movably mounted in said bore, a second valve closing means for normally maintaining said valve member in position to close said bore, said valve member having a portion extending downwardly completely through said outlet aperture, when said delivery unit is attached to said coupling member, to move said valve against the

action of said first valve closing means to an inoperative position to open said outlet aperture, said first valve closing means thereby operating, when said delivery unit is attached to said coupling member, through said downwardly extending portion of said valve member to assist said second valve closing means in maintaining said valve member in position to close said bore, and a manually operable control member for moving said valve member against the action of said valve closing means to establish communication between said outlet aperture and said bore.

6. In a dispensing device, a container, comprising a bottom portion, a top portion having an aperture therein, a stationary valve member extending through said aperture and secured to said top portion and having a bore therethrough, a depending siphon tube rigidly secured at its upper end to said top portion and communicating with the bore in said stationary valve member, and means for removably connecting said top and bottom portions together so that the lower end of said siphon tube is disposed adjacent the bottom of said bottom portion; a movable valve member mounted in said siphon tube and adapted to cooperate at its upper end with said stationary valve member, and means interposed between the lower end of said movable valve member and the bottom of said bottom portion for resiliently maintaining said valve members in engagement with each other to close said bore.

7. In a dispensing device, a container, comprising a bottom portion, a top portion removably attachable to said bottom portion, a siphon tube rigidly secured at its upper end to said top portion and depending therefrom, means for removably connecting said top and bottom portions together so that the lower end of said siphon tube is disposed adjacent the bottom of said bottom portion, a coupling member rigidly secured to said top portion and having a reduced lower end extending downwardly into the upper end of said siphon tube, said coupling member having a bore extending therethrough and communicating with said siphon tube, a valve member disposed within said siphon tube in the form of an elongated stem having a valve at the upper end and a shouldered portion at the lower end thereof, and a spring engaging the shouldered portion of said valve member at its upper end and the bottom of said bottom portion at its lower end to resiliently maintain said valve in engagement with the lower end of said coupling member to prevent communication between said bore and said siphon tube.

8. In a dispensing device, a delivery unit, comprising a body portion having a bore extending longitudinally therethrough, a delivery tube attached to said body portion and communicating with said bore, a stationary valve member mounted on the lower end of said body portion adjacent the lower end of said bore, a movable valve member slidably mounted in said bore and having a reduced portion extending between points adjacent the lower end of said bore and said delivery tube, a valve flange formed integrally therewith of greater diameter than that of said bore and a conoidal portion extending from the lower end of said reduced portion to a point adjacent said valve flange, a valve actuating member adjustably mounted upon the upper end of said movable valve member, a lock nut adjustably mounted on said movable valve member for co-action with said valve actuating member, and spring means interposed between said lock nut and the upper end of said body portion for normally maintaining said valve flange in closing engagement with the lower surface of said stationary valve member, said lock nut adjustably limiting downward movement of said movable valve member to determine the maximum effective size of opening obtainable between the lower end of said bore and said conoidal portion by downward movement of said movable valve member by said valve actuating member.

9. In a dispensing device, a container, comprising a bottom portion, a top portion removably attachable to said bottom portion, a siphon tube rigidly secured at its upper end to said top portion, means for removably connecting said top and bottom portions together so that the lower end of said siphon tube is disposed adjacent the bottom of said bottom portion, a coupling member rigidly secured to said top portion and having a bore extending longitudinally therethrough and communicating with said siphon tube, an elongated valve member movably mounted interiorly of said siphon tube, and spring means interposed between the lower end of said valve member and the bottom of said bottom portion for normally maintaining the upper end of said valve member in engagement with the lower end of said coupling member to prevent communication between the bore in the latter and said siphon tube; and a delivery unit removably attachable to said coupling member, comprising a body portion having a bore extending therethrough which is alignable with the bore in said coupling member when said delivery unit is attached thereto, a second valve member having a valve for closing the lower end of the bore in said body portion and a stem extending upwardly therefrom through said bore, said stem having a reduced portion extending from said valve to a point intermediate the ends of said body portion, a delivery tube mounted on said body portion and communicating with the bore thereof adjacent the reduced portion of said stem, a valve operating member adjustably mounted on the upper end of said stem, and spring means interposed between said valve operating member and the upper end of said body portion for normally maintaining said valve in engagement with the lower end of said body portion to close the bore therein, said stem having a depending portion of reduced cross section adapted to extend through the bore of said coupling member to move said first valve to open position upon attachment of said dispensing unit to said coupling member.

10. In a dispensing device, a container, comprising a bottom portion, a top portion removably attachable to said bottom portion, a siphon tube rigidly secured at its upper end to said top portion and depending therefrom, means for removably connecting said top and bottom portions together so that the lower end of said siphon tube is disposed adjacent the bottom of said bottom portion, a coupling member rigidly secured to said top portion and having a reduced lower end extending downwardly into the upper end of said siphon tube, said coupling member having a bore extending therethrough and communicating with said siphon tube, and terminating at its lower end in a sloping counterbored surface to present a smooth joinder with said siphon tube, said counterbored surface constituting a stationary valve member, a movable valve member disposed within said siphon tube in the form of an elongated stem having a valve at the upper end and a shouldered portion at the lower end thereof, and a spring engaging the shouldered portion of said

valve member at its upper end and the bottom of said bottom portion at its lower end to resiliently maintain said valve in engagement with said stationary valve to prevent communication between said bore and said siphon tube.

11. In a dispensing device, a delivery unit, comprising a body portion having a bore extending longitudinally therethrough, a delivery tube attached to said body portion and communicating with said bore, and comprising two separable parts having matching sloping surfaces so as to present a smooth inner bore when assembled together, a stationary valve member mounted on the lower end of said body portion adjacent the lower end of said bore, a movable valve member engageable with said stationary valve member to close the lower end of said bore and having a stem formed integrally therewith extending upwardly through said bore, that portion of said stem extending from the valve member to a point adjacent the inner end of said delivery tube being of reduced cross section to provide clearance between such portion of the stem

and the walls of said bore, a valve actuating member mounted upon the upper end of said stem, and spring means interposed between said valve actuating member and the upper end of said body portion for normally maintaining said movable valve member in closing engagement with said stationary valve member.

DANIEL MICHEL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,040,226	Lukacsevics	Oct. 1, 1912
1,062,112	Petro	May 20, 1913
1,306,150	Kessler	June 10, 1919
1,508,635	Woodham	Sept. 16, 1924
1,591,726	Neuls	July 6, 1926
1,614,532	Mobley	Jan. 18, 1927
2,324,648	Roeder	July 20, 1943
2,325,920	Rigby	Aug. 3, 1943