Feb. 20, 1923. 1,445,643.

A. PERON.

LIQUID DISPENSING DEVICE.

FILED JULY 18, 1919.

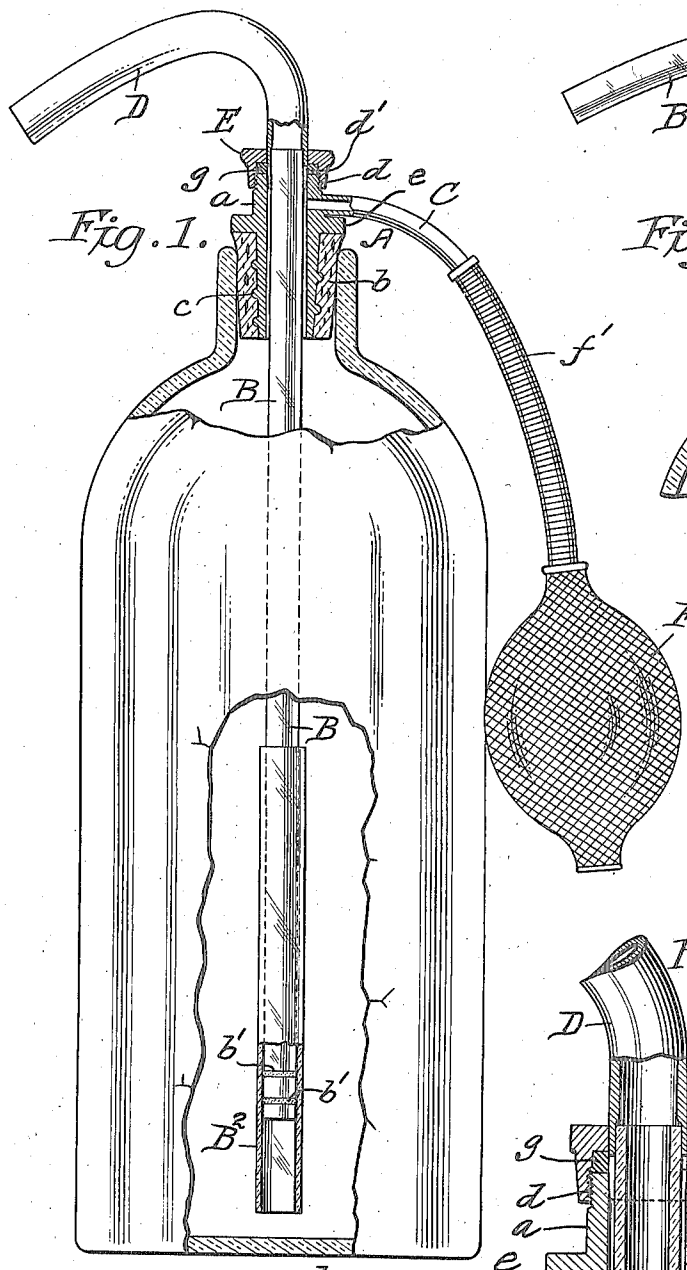


Fig. 1.

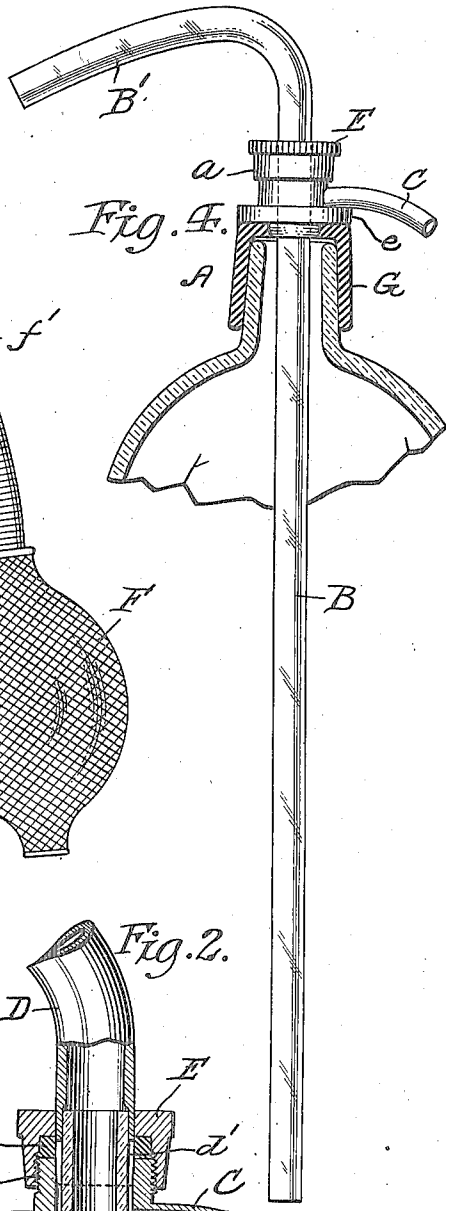


Fig. 4.

Fig. 2.

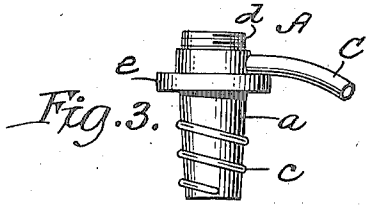


Fig. 3.

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UNITED STATES PATENT OFFICE.

ANTHONY PERON, OF NEW YORK, N. Y.

LIQUID-DISPENSING DEVICE.

Application filed July 18, 1919. Serial No. 311,781.

To all whom it may concern:

Be it known that I, ANTHONY PERON, a citizen of the United States, residing at the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Liquid-Dispensing Device, of which the following is a specification.

This invention is a device for dispensing liquids from containers, and it pertains, more particularly, to that class of devices wherein the liquid is forced out by pressure whereby the necessity of decanting the liquid by inverting the container is obviated.

The dispensing device of my invention is unitary in construction so that it may be applied to a container and dismounted therefrom at will, thus enabling the device to be used in connection with a number of containers similar in character but varying in dimensions. For hygienic and sanitary purposes it is preferred to employ a liquid eduction tube composed of glass, or similar non-corrosive and non-porous material; but in the production of a dispensing device for hotel and restaurant service a glass tube is liable to be broken at the delivery spout, due to rough handling by waiters and other employees, hence in devices for this class of service I prefer to use a composite eduction tube, the same being composed partly of glass and partly of metal. In such a case, the metal and glass parts of the tube are fitted accurately together at their meeting ends, and the required air-tight connection is obtained by a gland and a packing which cooperate with a stopper or other closure, all as will be hereinafter set forth.

In my device, provision is made for the adaptation of the eduction tube to containers of variable height by making said tube telescopic, thus allowing the tube to reach to the bottom of the container. Again, the closure may be either male or female in construction so as to fit within the mouth of the container or to be positioned exteriorly thereto, as will hereinafter appear.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein—

Fig. 1 is an elevation, with parts broken away and in section, illustrating one form of my dispensing device applied to a container such as a water bottle.

Fig. 2 is an enlarged sectional view through the stopper and the parts directly associated therewith.

Fig. 3 is an elevation of the metal part of the stopper.

Fig. 4 is a sectional elevation of another embodiment of the dispensing device, a part of the container being shown.

Referring more particularly to Figs. 1 to 3 inclusive, the stopper A is constructed to enter the mouth portion of a container and to have tight frictional contact therewith in order to minimize the escape of air pumped or otherwise forced into said container for the purpose of displacing the liquid by pressure through the eduction tube B. Said stopper is shown as comprising a body member *a* composed of hard material, such as metal, and a compressible member *b*, the latter being composed of cork, rubber, or other appropriate material. The metal body member tapers slightly and is provided with a spiral flange or coarse male thread *c*, the same being encased by the compressible member *b* and interlocked therewith, whereby the metal part and the compressible material are locked together so that in withdrawing the stopper from the mouth of a container the compressible material *b* will not pull away from the metal body *a*. At the upper end of the metal body is a screw thread *d*, below which said body is provided with an external flange *e* with the under face of which flange contacts the top edge of the compressible material *b*, and intermediate the thread *d* and flange *e* the metal body is provided with a short tube C. Said tube is unitary with the metal body and at one end it opens into the chamber *f* of the metal body, the latter being hollow.

The eduction tube B is composed of glass for sanitary purposes, and said tube may be a single continuous length with a discharge spout B′, see Fig. 4, but preferably it is a composite tube and of telescopic form, as in Fig. 1. The length B of the tube is partially encased by a sliding tube B^2, also of glass, the space between the parts B B^2 in Fig. 1 being rendered air-tight by the use of packings *b′*, the latter being seated in grooves provided in the lower part of tube B. The telescopic tube B B^2 can be lengthened or shortened as required by sliding the part B^2 upon the other part B, thus making provision for the use of the dispensing device in connection with containers the height of which is variable. The glass tube B co-

operates with a metal spout D, one end of which is split at d', Fig. 1, to fit over the upper extremity of the glass tube, the meeting parts of the metal spout and the glass tube being enveloped by the metal body a and a gland E which is screwed to the threaded part d of said metal body. A gasket or washer g is positioned around the meeting parts of tube B and spout D, and by screwing the gland E upon the metal body the gasket is compressed so as to secure an air-tight connection around the meeting parts B, D, thus precluding the leakage of air which is forced into the container to effect the displacement of the liquid through the eduction tube. Said tube has a loose fit within the chamber f of the metal body, (Figs. 1 and 2) so that a space is left between the tube and the body for the flow of air from the tube C to the container, a suitable forcing device being attached to tube C. As shown, the forcing device is a compressible bulb F attached by a flexible tube f' to the metal tube C, said bulb being covered by a fabric or net, as shown.

The closure heretofore described and shown in Figs. 1, 2 and 3 is a male stopper to be thrust into the mouth of the container, but in order to fit containers the mouth portions of which vary in size it is desirable to use a female closure G, composed of friction material, such as rubber, shown in Fig. 4. This closure is chambered to fit over or exteriorly to the container, and it is attached to a metal body a having the flange e and the metal spout C by which air is conducted from the forcing bulb to the metal body and thence to the interior of the container. Said metal body of the closure is threaded for the reception of the gland E by tightening which a gasket, such as g is compressed around the glass tube B, as hereinbefore described.

The operation and advantages of the invention will be apparent from the foregoing description taken in connection with the drawings.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A dispensing device comprising a closure embodying a rigid body provided with a neck portion extending upwardly therefrom, an eduction tube extending loosely within said rigid closure body, a delivery tube one end of which is split and loosely receives the upper extremity of said eduction tube, a gasket fitted to said split part of the delivery tube, and a gland screwed on the extended neck portion of said rigid body and operating to compress said gasket for effecting an air tight connection of the spout with the delivery tube and a similar connection of the eduction tube with said rigid body of the closure.

2. A dispensing device comprising a closure embodying a rigid metal body provided with an external flange and with a neck extending upwardly from the flange, a non-metallic eduction tube extending loosely within said rigid closure body, a metallic delivery tube one end portion of which is fitted to the upper extremity of said eduction tube, a gasket embracing the overlapping portions of the delivery tube and the eduction tube, and a gland coupled to the neck of the rigid body, said gland operating to compress the gasket for effecting an air tight connection between the delivery tube and the eduction tube and a similar connection of the eduction tube with the rigid body of said closure.

3. A dispensing device comprising a closure embodying a body composed of rigid material, an extensible eduction tube composed of glass the parts of which are fitted telescopically one to the other and are connected by an air tight joint so as to render the lower part of said tube shiftable with respect to said closure, the upper part of said glass tube being loosely received within said rigid body, a rigid delivery tube one end of which is fitted to the upper portion of said glass eduction tube, a gasket embracing the lapping portions of the eduction tube and the delivery tube, and a gland screwed to the rigid body and compressing the gasket for effecting an air tight connection of the delivery tube to the eduction tube and a similar connection of the eduction tube to the rigid body of the closure.

In testimony whereof I have hereunto signed my name.

ANTHONY PERON.