

W. S. BARNEY.
DISPENSING DEVICE.

APPLICATION FILED MAR. 28, 1912. RENEWED OCT. 27, 1914.

1,133,698.

Patented Mar. 30, 1915.

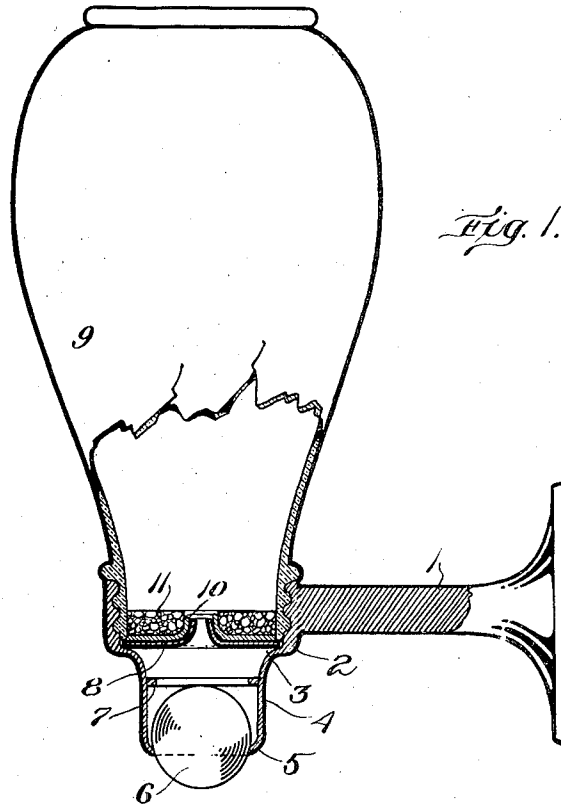


Fig. 1.

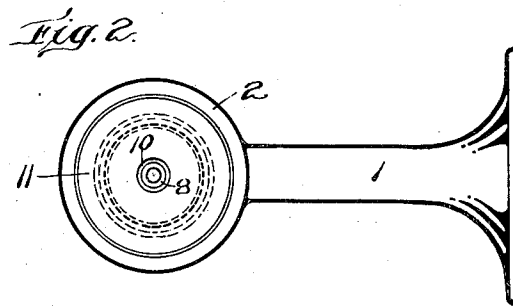


Fig. 2.

Witnesses:

James R. Hodder

Edward Maxwell

Inventor:

Walter S. Barney

by Geo. H. Maxwell
Att'y.

UNITED STATES PATENT OFFICE.

WALTER S. BARNEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO W. S. BARNEY CO., OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

DISPENSING DEVICE.

1,133,698.

Specification of Letters Patent.

Patented Mar. 30, 1915.

Application filed March 28, 1912, Serial No. 686,959. Renewed October 27, 1914. Serial No. 868,917.

To all whom it may concern:

Be it known that I, WALTER S. BARNEY, a citizen of the United States, and resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Dispensing Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is particularly applicable to a dispensing apparatus adapted to be secured to the side of a stand or wall, and comprising a nozzle portion and a supply reservoir capable of being readily attached to and detached from the nozzle portion.

An important feature of my invention consists in the novel arrangement of means in one portion, preferably the nozzle, co-operating with means in the other portion,—viz., the supply reservoir, so that the supply reservoir may be kept corked and sealed while it and the nozzle are being united, and whereby the seal is automatically broken by the completion of the uniting operation and the nozzle and reservoir thereby rendered automatically ready for use. An important advantage of this feature of my invention is that I can affix the nozzle to a bracket and have it permanently attached to a table, stand, side wall, etc., to which a supply reservoir, (and hence new and successive reservoirs) may be applied in inverted position, the cork or seal of such reservoir being unbroken until it and the nozzle are united.

A further feature of importance consists in the nozzle arrangement, as will be described hereafter.

I have herein shown my invention as applied to a device for dispensing a saponaceous or cleaning liquid, though it is to be understood that it is not limited to use in such devices.

Further objects of my invention are to produce an inexpensive, practicable liquid-dispensing device, capable of being manufactured and sold at a minimum price, and capable of being replaced by a reservoir which remains sealed until actually ready for use, thereby preserving its contents in a sterile state, preventing contact of the air therewith and eliminating all danger of spilling during the operation of renewing the supply reservoir.

Referring to the drawings illustrating a preferred embodiment of the invention, Figure 1 is a side view, partly in cross section, of a dispensing device illustrating the reservoir, nozzle, etc.; and Fig. 2 is a plan view of the nozzle and bracket without the reservoir attached thereto.

The nozzle portion is preferably of metal and conveniently formed with a bracket 1 intended to be attached to the side of any suitable support. The nozzle portion includes a threaded socket 2, having an annular shoulder 3 and a neck 4 terminating in a narrowed orifice at 5 of appropriate diameter to retain the member 6, shown as a ball in Fig. 1, though a cone or a similar freely movable member to fit the orifice in the neck 4 would serve equally as well. An annular rim 7 may be provided if desired to limit the inward movement of the movable member 6.

At the shoulder 3 in the base of the socket 2 is arranged a metallic ring 8 having its central portion in the shape of a truncated cone with an aperture in the top of the cone. This ring fits loosely within the socket 2 and may be easily removed for cleaning.

A supply reservoir 9, of metal, glass, pressed paper, or the like, is provided with a lower threaded neck portion, adapted to screw into the socket 2.

A thin metal or a paper cork or seal 10, backed by a heavier cork 11, having a central aperture of slightly larger diameter than the cone portion of the ring 8, serves as a stopper to the receptacle or reservoir 9. The thin cork or seal 10 will be perforated by the conic portion of the ring 8 as the reservoir 9 is screwed into the socket 2, but not until the member 9 is sufficiently joined to the socket portion 2 so that the contents will not be spilled.

It will thus be seen that I have provided a simple and efficient dispensing device with automatic means to open the cork or seal of the reservoir during the operation of joining the reservoir and the nozzle, and this construction enables me to apply the filled reservoir upside down to the nozzle portion and establish an open communication between said reservoir and nozzle without losing any of the contents from the reservoir and without permitting said contents to be contaminated or exposed to the air until actually delivered from the nozzle.

In practice I have found that the operation of the ball nozzle herein shown is very efficient and automatic, as the contents of the device are fed on the "vacuum feed" or barometric feed principle when the ball 9 or equivalent member is held so as to allow the contents to feed, and as only a slight amount of air is admitted into the reservoir through the narrow opening in the cork each time the ball is moved upward, the contents cannot descend even though the ball is loosely fitted in the neck portion and is held upward away from the narrowed opening 5. It should be noted that the small opening through the ring or diaphragm 8 is of so small diameter that air and water cannot pass at the same time, so, as a bubble of air is admitted, the opening is effectively closed by the inflow of liquid. Also as the ball is moved upward, displacing an amount of liquid and as it is permitted to again seat itself, an equivalent amount of air will flow around its periphery and be caught below the under surface of the ring or diaphragm 8, which air will be therein retained until the ball is again operated to withdraw a charge, when the air will force its way through the conical opening into the reservoir to permit another supply to flow from said reservoir to the nozzle portion.

I believe that the provision of means to automatically open or break a cork or seal during the operation of joining a nozzle to a sealed supply reservoir is a distinct novelty in the art to which this invention relates, and I therefore desire to claim this feature broadly, as it will be manifest that such a construction is of decided advantage in many cases, particularly in permitting the nozzle to be permanently attached and successive supply reservoirs to be applied thereto without danger of spilling the contents.

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

1. A liquid soap dispensing apparatus, comprising a reservoir having an externally threaded neck and a thin seal of penetrable material closing said neck, a support for the

reservoir having a dispensing nozzle and a socket provided with internal threads cooperating with those on the neck of said reservoir to support the same while filled and in inverted position, in combination with means carried by the socket constructed and arranged to penetrate automatically the seal of said reservoir during the operation of joining said neck and socket.

2. In a device of the class described, the combination of a permanent support and a liquid soap reservoir adapted to be detachably connected to the support, said support comprising a dispensing nozzle having a threaded socket and a movable member below said socket operative to dispense a liquid from the reservoir, said reservoir having a threaded neck arranged to be screwed into said socket while the reservoir is in inverted position and closed, and a loosely fitting member in the nozzle portion of said support between the threaded socket and the movable member, said loosely fitting member having means to open the closure in the neck of the reservoir, as said reservoir and nozzle are united.

3. A liquid-soap dispensing device, comprising a nozzle and socket member adapted to be permanently attached to a support, a closed supply reservoir detachably secured to said member and supported solely thereby, and cooperative means on the socket and the supply member permitting the reservoir to be secured to and supported by the said nozzle while closed and in inverted position, said means permitting further relative movement of the reservoir and socket, in combination with a hollow metallic member to penetrate the closure of the reservoir, whereby said reservoir is opened automatically during such further relative movement.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WALTER S. BARNEY.

Witnesses:

CHARLES T. CAHILL,
JAMES R. HODDER.