Jan. 13, 1953 D. MURPHY 2,625,430

MIXING AND DISPENSING DEVICE

Filed Aug. 28, 1951

Fig. 1

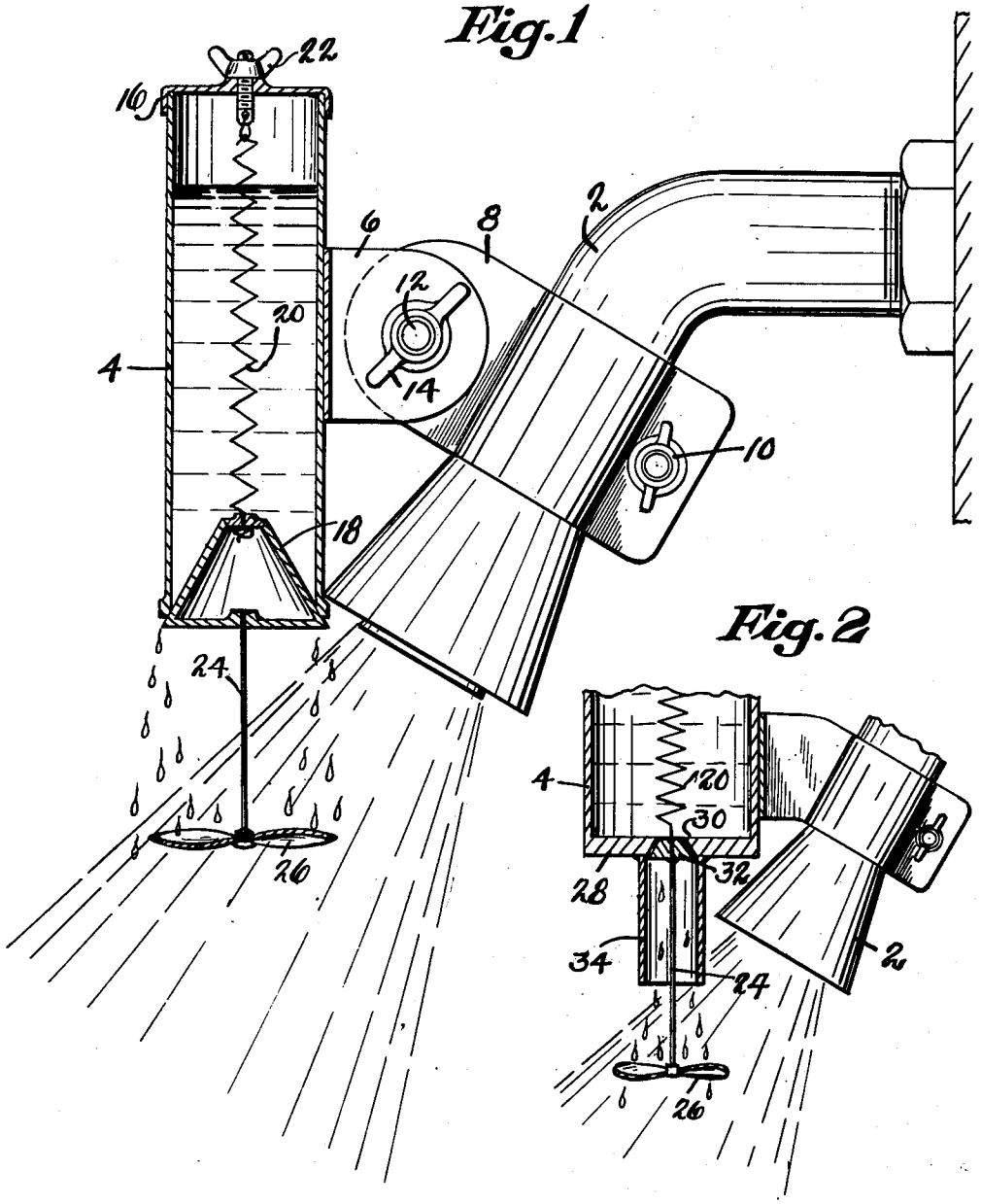

Fig. 2

INVENTOR.
DOROTHY MURPHY
BY
James G. Bethell
ATTORNEY

Patented Jan. 13, 1953

2,625,430

UNITED STATES PATENT OFFICE

2,625,430

MIXING AND DISPENSING DEVICE

Dorothy Murphy, Kent, Conn.

Application August 28, 1951, Serial No. 243,973

3 Claims. (Cl. 299—84)

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My invention relates generally to the art of dispensing liquids but more particularly is directed to providing a device, which is of simple and durable construction and adapted to be attached to a shower head, whereby various liquids, such as bath oils, water softeners, soaps, perfumes, etc., can be discharged into the water issuing from the shower head and intimately mixed therewith.

My invention has for a further object to provide a device of this general character in which the action of the water from the shower head will open a discharge valve in the receptacle containing the liquid to be dispensed and will promote thorough mixing of the liquid with the water.

In general, my invention provides a receptacle or reservoir of any convenient size, adapted readily to be attached without the use of tools of any kind to the spray head of a shower bath fixture. This receptacle is equipped with a discharge valve, which normally is closed. Means are provided whereby the water discharging from the shower head will automatically open the receptacle valve, allowing the liquid therein to be discharged into the water and be mixed therewith.

In the drawings,

Fig. 1 is a sectional side elevational view of an embodiment of the invention; and

Fig. 2 is a similar view of a modified embodiment.

Referring to the drawings in detail and first to Fig. 1:

2 designates a shower head which, it will be understood, is of conventional design.

4 designates a refillable reservoir or container for the liquid to be dispensed, such as bath oils, water softeners, etc. The liquid in the reservoir may be under slight pressure, if desired. This container is equipped intermediate its ends with a bracket 6 at one side thereof. This bracket may be permanently or removably attached to the reservoir or container.

8 designates a clamp, adapted to be removably attached to the spray head 2 and held in place by a wing nut and bolt 10.

The container bracket 6 and the clamp 8 are pivotally attached to each other at 12, so that the angularity of the reservoir or container 4 to the spray head may be varied as desired. A wing nut and bolt 14 are provided for holding the reservoir in adjusted position.

The reservoir 4 at its upper end is conveniently provided with a cap 16, which may be readily removed for refilling the reservoir.

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At its lower end the reservoir is closed by a spring-loaded valve 18. The loading spring is designated 20, and its lower end is permanently attached to the top of the valve 18, while its upper end extends through the cap 16 and is equipped with a wing nut 22, whereby the tension of the spring 20 may be varied as desired.

Depending from the lower face of the valve 18 is a rod 24, carrying at its lower or outer end a valve-opening and liquid-mixing device 26. This device 26 is rotatable on the rod 24 and has been illustrated as propeller-shaped, although it is quite obvious that the same may take other forms or shapes.

The equipment may be left attached to the shower head at all time, if desired, or may be readily removed simply by removing the wing nut 10. When in place but not in use, it is merely necessary to pivot the reservoir 4 about the clamp 8, so that the device is completely out of the path of water issuing from the shower head 2.

When in use, the reservoir is swung or pivoted into the approximate position shown in Fig. 1, so that the valve-opening and mixing device 26 will be in the path of the water issuing from the shower head and so that liquid flowing out of the reservoir will fall into the water stream.

The tension on the valve-closing spring 20 is so adjusted that, while it will hold the valve 18 closed normally, yet, when the shower head is operated, the force of the water striking 24 will be sufficient to open the valve 18, allowing liquid to flow from the reservoir and drop into the water stream, where it is mixed with the water, aided by the action of the rotary mixer 26, so that one is assured that the water and the liquid from 4 will be thoroughly mixed. Of course, when the shower head is shut off, the valve 18 will snap closed under the action of the spring 20.

While the adjustability of the spring 20 adapts the device for use with shower heads having different water pressures, it also provides for varying the extent of valve opening, so that the amount of liquid discharged past the valve may be varied. This is of advantage where, for example, a perfume is being used on one occasion and a water softener on another occasion. In the first instance, the spring 20 would be adjusted for but slight opening of the valve, while in the second instance a much larger valve-opening movement would probably be required or desired.

In the embodiment illustrated in Fig. 2, I provide a reservoir 4 adapted to be attached to a shower head the same as in Fig. 1.

The lower end of this reservoir, however, has

been changed somewhat in construction. In this embodiment of the invention, the reservoir **4** is equipped with a bottom or end member **28**, which is ported at **30**. This port **30** is closed by a spring-loaded valve **32**, the valve spring being the same as the spring **20** of Fig. 1 in that it is attached to the valve, projects through the top of the reservoir **4**, and is adjustable as to tension.

Permanently attached to and projecting downwardly from the bottom **28** of the reservoir is a tube **34**, which is concentric with the valve port **30**. Attached to the valve **32** is rod **24**, corresponding to the rod **24** of Fig. 1, this rod projecting for a substantial distance beyond the lower or outer end of the tube **34**. On the lower end of this rod is rotatably mounted the valve-opening mixer **26**.

The operation of this embodiment of the invention is similar to that of Fig. 1, except that in this instance the liquid discharging from the reservoir, due to the provision of the sleeve or tube **34**, is discharged into the approximate center of the water stream.

It is to be understood that changes may be made in the details of construction and arrangement of parts without departing from the spirit and scope of my invention.

What I claim is:

1. In a mixing and dispensing device for shower baths, the combination of a reservoir for the liquid to be dispensed and mixed with the water of the shower bath, means for adjustably attaching the same to a shower head, a valve in the reservoir, and a rotary valve opener and mixer at the exterior of the reservoir adapted to be impinged by the water issuing from the shower head, thereby to open the valve to permit the discharge of liquid from the reservoir into the shower stream and to mix the same with the shower stream.

2. In a mixing and dispensing device for shower baths, the combination of a reservoir for the liquid to be dispensed and mixed with the water of the shower bath, means for attaching the reservoir to a shower head, a discharge valve in the reservoir, an adjustable spring for closing said valve, and a valve opener attached to the valve and exterior of the reservoir so as to lie in the path of the water issuing from the shower head, thereby to open the valve to permit the discharge of liquid from the reservoir into the shower stream.

3. In a mixing and dispensing device for shower baths, the combination of a reservoir for the liquid to be dispensed and mixed with the water of the shower bath, means for attaching the reservoir to a shower head, a discharge port on the bottom or lower end of the reservoir, a spring-loaded discharge valve for said port, a tube surrounding said port attaching to and depending from the outer face of the reservoir bottom, a rod attached to said valve and extending along the interior of the tube and beyond the outer end of the tube, and a rotary valve opener and liquid-mixer rotatably attached to the outer end of said rod.

DOROTHY MURPHY.

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