M. W. RICHARD AND E. CARLSON.

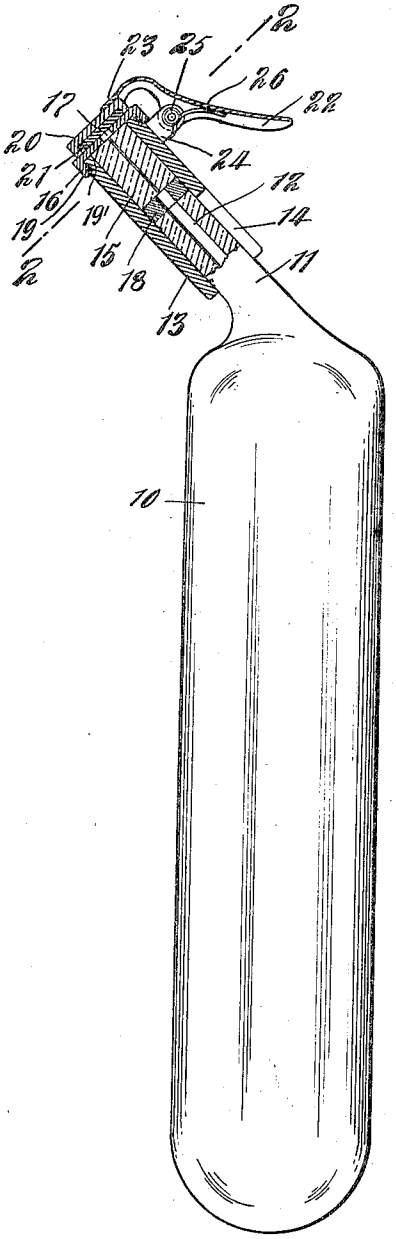
DISCHARGING DEVICE FOR FLUIDS.

APPLICATION FILED AUG. 26, 1918.

1,332,520.

Patented Mar. 2, 1920.

Fig. 1.



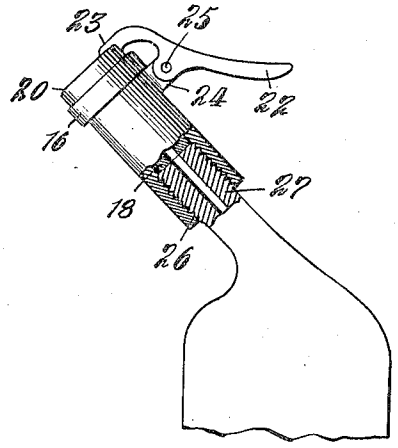


Fig. 3.

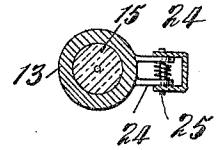


Fig. 2.

Mordecai William Richard

Emanuel Carlson

INVENTORS

BY Morris Finchstein

Their ATTORNEY

UNITED STATES PATENT OFFICE.

MORDECAI WILLIAM RICHARD, OF NEW YORK, AND EMANUEL CARLSON, OF YONKERS, NEW YORK.

DISCHARGING DEVICE FOR FLUIDS.

1,332,520. Specification of Letters Patent. Patented Mar. 2, 1920.

Application filed August 26, 1918. Serial No. 251,514.

To all whom it may concern:

Be it known that we, MORDECAI WILLIAM RICHARD and EMANUEL CARLSON, both citizens of the United States, and residents, respectively, of the city of New York, in the county of New York and State of New York, and the city of Yonkers, county of Westchester, and State of New York, have invented certain new and useful Improvements in Discharging Devices for Fluids, of which the following is a specification.

This invention relates to devices for discharging fluids in the form of a thin jet or spray.

Our main object is to provide a simple and easily operable means which may be readily attached to a tube, flask, or vessel, or any delivery means connected thereto to serve as a closure therefor, and adapted to be operated so as to discharge the contents thereof in the form of a thin jet or spray.

Receptacles have been made, such as the ethyl chlorid container in which provision is made for obtaining a thin spray of the liquid. This has been accomplished by forming the receptacle with a capillary neck, the capillary member being integral with the flask. This construction has, of course, many disadvantages. Thus, should the capillary become clogged the whole flask becomes useless and must be discarded. Similarly if the neck of the flask should be broken the whole receptacle can no longer be used. More particularly therefore, our object is to provide a separate attachment which may be applied to any form of tube flask, vessel or delivery means connected thereto whereby the liquid contained therein may be discharged in the form of a thin jet or spray and in which construction provision is made for an interchangeable capillary which may be easily removed for cleaning or replaced by another, without in any way mutilating or disturbing the container or its contents.

A further object of our invention is to provide a closure for a container which shall be simple in construction efficient in its operation, and cheap to manufacture.

Further objects and advantages of this invention will appear from the detailed description and the features of novelty will be particularly pointed out in the claims.

In the drawing accompanying this specification and forming a material part thereof, we have shown an embodiment of our invention applied to a container such as an ethyl chlorid receptacle. The drawing however, is merely illustrative of one simple application of our invention and it will be readily understood that our invention has the more general application hereinbefore set forth.

In the drawing,

Figure 1 is an elevational view of a glass container with an embodiment of our invention attached thereto shown in section,

Fig. 2 is a detailed sectional view cut along line 2—2 of Fig. 1, and

Fig. 3 is a broken away elevation showing a modified embodiment of our invention adapted for containers made of metal or other like suitable material.

Referring in detail to the drawing, 10 indicates a container terminating in a nipple 11 having a delivery opening 12. In the embodiment of our invention shown in the drawing we have disclosed a construction that may be applicable to the latter form of delivery means. This construction embraces a tube or sleeve 13 which may be fitted over the delivery nipple 11. A tight fit may be secured in any suitable manner. In the form shown in Fig. 1 we have split the tube as at 14 so that it may be sprung on to the nipple as will be readily understood. Within this tube 13 is removably held a separate capillary member 15 held in place and pressed down by the collar or cap 16 provided with an opening 17 against the gasket 18. This collar may have its inner surface threaded as at 19 for the threaded upper end 19′ of the tube.

It will be clear from the description thus far given that we have provided a device for discharging containers in the form of a thin jet or spray comprising an attaching member, such as the tube 13, which may be readily fitted to any delivery means and which is further provided with a separate capillary member removably held in place therein. To remove my discharge device one needs simply to pull the tube off the nipple or other delivery means, and to remove the capillary one needs only to unscrew the collar or cap 16, as will now be clear.

It is desirable in devices of this character to provide means for automatically closing the container when not in use. To this end we provide further automatic closing means

such as a cap 20 having sealing means such as a disk of rubber, cork or other such suitable material, 21. A thumb lever 22 is secured at one end as at 23 to the cap and is pivoted to the tube 13 by means such as the ears 24 and the pin 25. A spring member 26 is provided to keep the cap 20 normally closed against the opening in the collar 16.

In the modification shown in Fig. 3 the tube 13 is threaded as at 26 for the threaded nipple 27 of a metal container. Modifications will readily occur to any one skilled in the art whereby our invention may be applied to any other container or delivery means than that shown in the drawing. Thus for a hose delivery connection to the receptacle containing the fluid a glass tube may be provided for connecting tube 13 to the hose or the hose may be made to fit directly over or into our attaching tube. We, therefore, do not wish to limit ourselves to the construction shown in the drawing, since many variations and modifications thereof may be readily made within the scope of our invention.

We claim:

1. A device for discharging a container in a fine jet or spray comprising in combination with delivery means extending from the container, an attaching member adapted to be connected to said delivery means, a washer held in said attaching member in registry with said delivery means, a separate capillary member removably held in said attaching member in registry with said washer and pressed thereagainst by retaining means movable on said attaching member.

2. A device for discharging a container in a fine jet or spray comprising in combination with delivery means extending from the container, an attaching member adapted to be connected to said delivery means, a washer held in said attaching member in registry with said delivery means, a separate capillary member removably held in said attaching member in registry with said washer and pressed thereagainst by retaining means removable on said attaching member and a closure for said capillary for normally sealing the latter.

3. The combination with the nipple of a flask, of a tube which may be slipped over said nipple, a washer held in said tube over the mouth of the flask, and a capillary removably held in said tube over said washer in registry therewith, and pressed down thereagainst by perforated retaining means removably mounted on said tube.

4. A device for discharging a container in a fine jet or spray comprising in combination with delivery means extending from said container, a tube adapted to be connected to said delivery means, a perforated sealing member in said tube disposed over the mouth of said delivery means, a capillary held in said tube over said sealing member in operative relation thereto, and a perforated collar disposed over said capillary and threaded on the free end of said tube, adapted to keep said capillary in position to press the same into contact with said sealing means.

5. The combination with the nipple of a flask having a mouth of normal bore, of a tube which may be slipped over the nipple and a washer held in said tube over said bore, and a capillary held over said washer in registry with said bore and pressed down against said washer by a perforated collar threaded on said tube.

Signed at New York, in the county of New York and State of New York this 19th day of August, A. D. 1918.

MORDECAI WILLIAM RICHARD.
EMANUEL CARLSON.