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2,782,784

SOLUTION APPLICATOR TUBE

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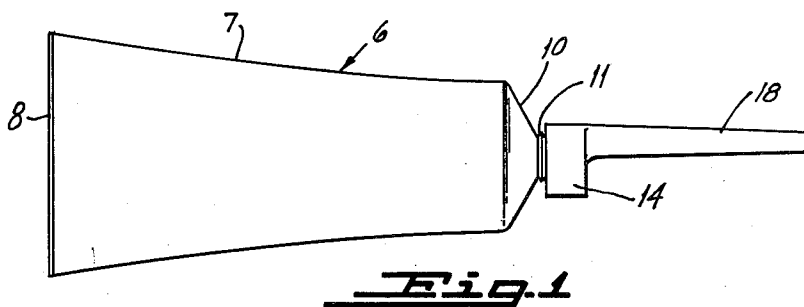


Fig. 1

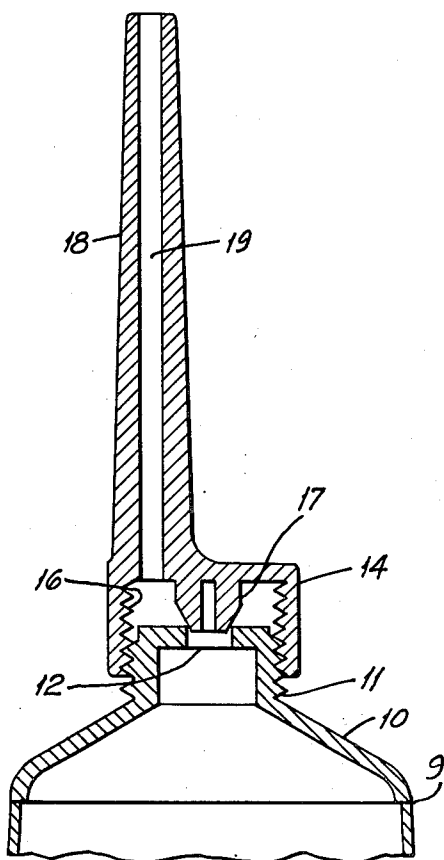


Fig. 2

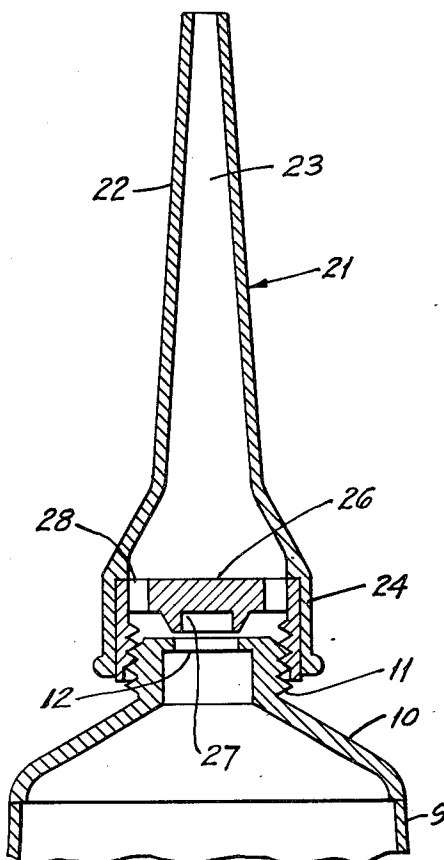


Fig. 3

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SOLUTION APPLICATOR TUBE

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2 Claims. (Cl. 128—232)

This invention relates to an improved container, particularly one adapted for the dispensing of fluid and its injection into the human body. Such containers are commonly utilized for the dispensing of various medicaments and medical solutions for various purposes, as in the administering of an enema to a patient.

It is in general the broad objects of the present invention to provide a simple, improved and inexpensive container for dispensing of a medicament or a medical solution and for the suitable discharge of such a fluid in a patient.

A further object of the present invention is to provide an improved dispensing container which can be manufactured relatively inexpensively so that the container can be utilized and then discarded.

The invention includes other objects and features of advantage, some of which, together with the foregoing, will appear hereinafter wherein various structures embodying the present invention are disclosed.

Referring to the drawings accompanying and forming a part hereof, Figure 1 is a side elevation showing a dispensing container embodying this invention, while Figure 2 is an enlarged fragmentary view showing a preferred form of construction of the container and dispensing nozzle.

Figure 3 is a side elevation partly in section, showing another form of container and dispensing nozzle embodying the present invention.

Referring to Figures 1 and 2 in the drawings, a simple, flexible container is generally indicated at 6. Such a container generally comprises a length of flexible transparent tubing 7, sealed at one end as at 8, and having its other end 9 attached to a suitable end closure 10. The end closure 10 terminates in a threaded neck 11, having a central aperture 12.

To enable the contents of the container to be suitably contained and dispensed, a threaded hub 14 is provided, having an interior thread 16 adapted to be screwed upon the threaded neck 11 on the container 6. Disposed centrally of the hub 14 is a central conical plug 17 provided in such relation to the threaded hub 14 that when the hub is screwed into tight engagement with the threaded neck 11, the conical end 17 is in engagement with the central aperture 12 whereby the fluid contents of the container 6 are retained.

To provide for application of the liquid in the container 6, a tubular nozzle 18 is provided upon the hub 14. In that form of the invention shown in Figures 1 and 2, the nozzle is disposed eccentrically with respect to the hub and includes a fluid passage 19 therein leading from the hub through the nozzle. The nozzle is suitably formed for insertion in that region of the patient where application of the liquid is desired.

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In use, with the nozzle in position in a patient, the hub 14 is grasped tightly and the container is turned slightly with respect to the nozzle, to loosen the engagement between the plug 17 and aperture 12, and permit the fluid content of the container to flow past the conical plug through the nozzle. The flexible nature of the container enables the fluid contents to be ejected forcefully if this is necessary or desirable.

In that form of the invention shown in Figure 3, the nozzle structure utilized is generally indicated at 21 and includes a suitable tapered nozzle 22 having a central passage 23. A hub 24 is fitted within the lower end of the nozzle in tight engagement therewith. The hub includes a transverse portion 26 having a central conical plug 27 adapted to be moved with respect to the central aperture 12 of the container 6. A plurality of fluid passages 28 are provided in the transverse portion 26 to permit fluid to pass through this into the passage 23 and the nozzle when the threaded portion on hub 24 is moved on the threaded portion 11 so that the conical plug 27 does not seat in tight engagement with the central opening 12.

The entire structure can be made of a suitable flexible transparent plastic such as polyethylene. The material utilized for the container should be one having suitable characteristics with respect to the liquid packaged in the container 6. For example, in the case of aqueous solutions, the container should have a relatively low vapor transmission rate so that fluid is not lost from the container.

From the foregoing, I believe it will be apparent that I have provided a novel, simple and improved dispenser for medicaments and medical solutions.

I claim:

1. In combination, a flexible container having a screw-threaded end having a central aperture, and a nozzle for attachment to said screw-threaded end, said nozzle having a screw-threaded hub at one end thereof having a transverse portion extending across said hub with a conical plug disposed centrally of the hub and adapted to close the central aperture of the flexible container when the hub is screwed onto the screw-threaded end of the container and to open said central aperture when the hub is unscrewed slightly on the screw-threaded end of the container, and a plurality of passages disposed about the conical plug for movement of liquid from the container to the nozzle.

2. In combination, a flexible container having a screw-threaded end having a central aperture, a screw-threaded hub adapted to be attached on the threaded end of the container, a conical plug disposed centrally of the hub and adapted to close the central aperture when the hub is screwed onto the screw-threaded end of the container and to open said central aperture when the hub is unscrewed slightly on the screw-threaded end of the container, and a nozzle disposed eccentrically of the hub and adapted to pass fluid from the container.

References Cited in the file of this patent

UNITED STATES PATENTS

318,479	Kells	May 26, 1885
1,601,818	Fusay	Oct. 5, 1926
2,511,469	Hawks	June 13, 1950
2,618,800	Raab	Nov. 25, 1952