Nov. 14, 1939. A. O. McKINLEY 2,180,063

SYRINGE

Filed March 31, 1937

Fig. 1.

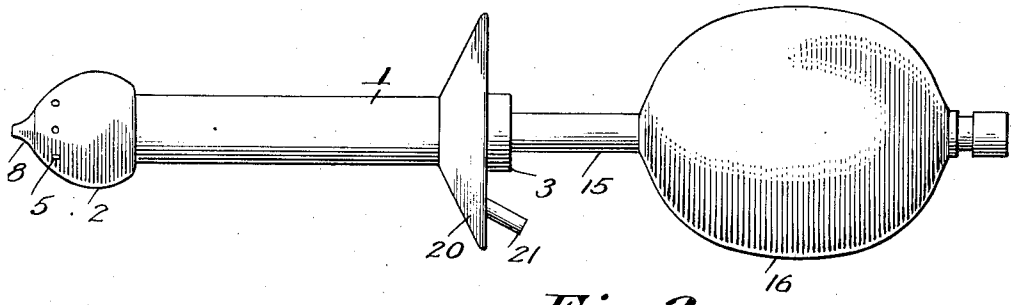


Fig. 2.

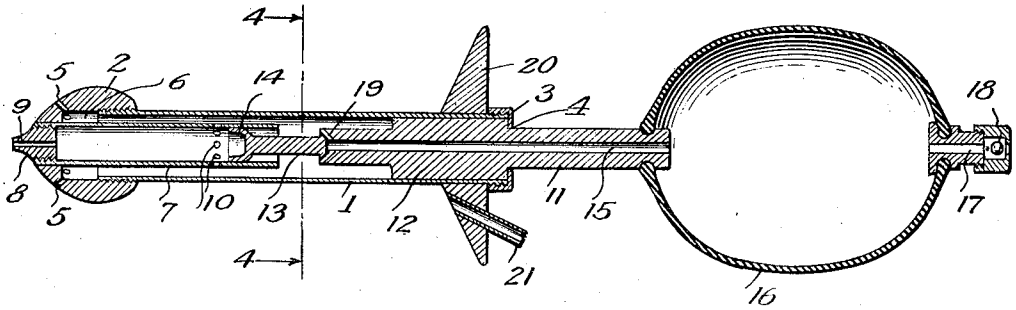


Fig. 3.

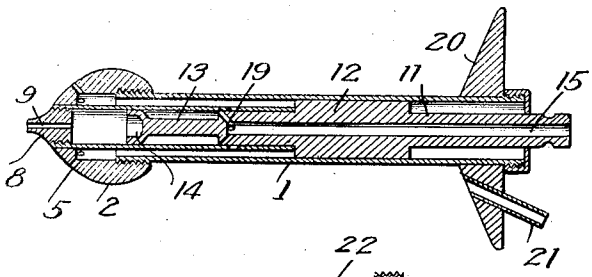




Fig. 5.

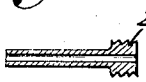


Fig. 6.

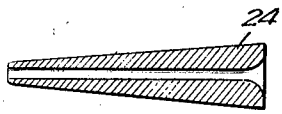


Fig. 7.

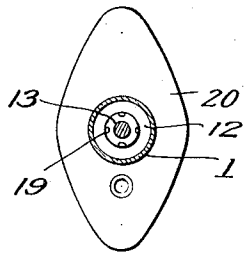


Fig. 4.

Aubrey O. McKinley
INVENTOR

BY Victor J. Evans & Co.
ATTORNEYS

Patented Nov. 14, 1939 2,180,063

UNITED STATES PATENT OFFICE

2,180,063

SYRINGE

Aubrey O. McKinley, Barnett, Mo.

Application March 31, 1937, Serial No. 134,166

2 Claims. (Cl. 128—231)

This invention relates to syringes and has for the primary object the provision of a device of this character whereby a fluid for cleaning or medical treatment may be introduced into a passage of a human in a series of fine streams with the streams closely related and extending from the device in substantially radial directions and also from one end of said device to assure contact of the fluid with the walls of the passage and which may be easily adjusted to discontinue the radial streams when desired.

Another object of this invention is the provision of means for opening the womb in the vaginal passage of a human and directing the end stream of fluid therein for cleansing or medical treatment.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a side elevation illustrating a syringe constructed in accordance with my invention.

Figure 2 is a vertical sectional view illustrating the same.

Figure 3 is a fragmentary vertical sectional view illustrating the device adjusted to discharge streams in a radial direction from the device and also from one end of said device.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Figure 5 is a detail vertical sectional view illustrating a form of nozzle for the syringe.

Figure 6 is a view similar to Figure 5 illustrating another form of nozzle for the device.

Figure 7 is a vertical sectional view illustrating an attachment or auxiliary nozzle for irrigating human ears and the like.

Referring in detail to the drawing, the numeral 1 indicates a body of the syringe preferably in the form of a cylinder and threaded to one end of the latter is a head 2 and threaded on the other end is a cap 3 centrally apertured, as shown at 4. The head 2 is substantially spherical shaped and is provided with a plurality of radially arranged passages 5 opening outwardly through the outer face of the head and also opening into a bore 6 of the head and the latter is in direct communication with the body or cylinder 1.

A valve housing 7 is mounted in the head and extends into the body 1 and is in the form of a cylinder with one end opening outwardly through the head and internally threaded to have a screw threaded end of a nozzle 8 threaded therein. The nozzle has a passage 9 for directing a stream of fluid from one end of the device. The valve housing 7 has a series of ports 10 placing the interior of the valve housing in communication with the interior of the body or cylinder 1.

A stem 11 is slidably received in the body or cylinder 1 by way of the aperture of the cap 3 and includes an enlarged portion 12. The enlarged portion has a frictional fit with the interior surfaces of the body 1. One end of the stem is reduced to form a shank 13 which enters the valve housing 7 and on which is formed a piston-like valve 14. The stem 11 has a passage 15 extending from the shank 13 through the other end of the stem. The latter-named end of the stem has removably mounted thereon a bulb 16 equipped with a vent 17 arranged opposite the stem 15 and provided with a check valve 18. The bulb 16 is of the collapsible type and may be readily filled with a liquid by compressing the bulb causing a vacuum suction through passage 15. By compressing the bulb the liquid therein will be forced through the passage 15. The passage is in communication with the body or cylinder 1 by a series of ports 19 located adjacent the shank 13. The stem may be slid in opposite directions within the body 1 and is limited in said endwise movements by the cap 3 and valve housing 7 being engaged by the enlarged portion 12 of said stem. By positioning the piston-like valve 14 between the ports 10 and the nozzle 8, the fluid will be cut off to the nozzle and only may escape by way of the radially disposed passages 5. However, when the stem 11 is adjusted to position the piston-like valve 14 between the ports 10 and the inner end of the valve housing fluid may enter said valve housing from the body 1 and escape by way of the nozzle 8 thereby permitting a stream of the fluid to escape at one end of the device along with the streams of fluid escaping in a radial direction from the head.

Slidably mounted on the body 1 is a stopper 20 capable of being adjusted into engagement with the mouth of a passage after insertion of the body and head in the passage and is provided with a drain tube 21 to which a flexible hose (not shown) may be connected for carrying off the liquid forced into the passage by the contraction of the bulb 16.

The nozzle 8 may be readily removed from the head 2 and a nozzle of the character shown at

22 substituted therefor. The nozzle 22 is of a greater length than the nozzle 8 so that it can be employed for inserting into the mouth of a womb of a female sex. If desired, a nozzle 23 may be attached to the valve housing 7 in lieu of either the nozzles 8 and 22. The nozzle 23 is of a size to permit rectum douches to be carried out. If desired, an attachment 24 may be applied to the nozzle 23 for the purpose of irrigating passages of the human ear. The nozzle 23 is inserted in the enlarged end of the nozzle 24. The nozzle 24 tapers from one end towards its opposite end.

The syringe arranged as shown in Figures 1 and 2 is especially adapted for irrigating the vaginal passage of the female sex where it is desired to cleanse the walls of the passage and when it is desired to inject a fluid also into the womb the nozzle 22 is employed in lieu of the nozzle 8 so that a stream of fluid may be directed into the womb. When cleansing or otherwise treating the vaginal passage, the end stream need not be employed and to discontinue the use of the end stream the piston-like valve 14 is positioned between the nozzle and the ports 10.

The valve 14 may be reciprocated in the valve housing 7 and will act as a plunger for forcing liquid from the nozzle 8 by way of the passage 9. By drawing the valve 14 in the direction of the inner end of the valve housing 7 with the nozzle 8 positioned in a medicated solution the solution may be drawn into the valve housing and expelled therefrom on the reverse movement of the valve 14. With warm water in the bulb 16 and compressing said bulb at the same time with the forward movement of the valve 14 warm water may be introduced along with the medicated solution. The head 2 may be threaded on the cylinder 1 until said cylinder closes the passages 5 when it is desired to discontinue the use of said passages for the escape of liquid from the device.

What is claimed is:

1. A syringe comprising a cylinder-like body, a head having a chamber secured on said body and having a plurality of annular passages opening outwardly to permit the discharge from the said body substantially radially from the body, a valve housing secured in said head and extending into the body and opening outwardly through one face of the head, a discharge nozzle detachably secured in said valve housing, a hollow stem slidable in the body and extending exteriorly thereof at one end and having secured to said end a fluid dispensing medium and provided with openings placing the stem in communication with the body when positioned outwardly of the valve housing and closed by the latter when said stem occupies another position, and a piston-like element carried by the other end of the stem and operating in the valve housing, said valve housing having ports communicating with the cylinder and controlled by the piston-like element.

2. A syringe comprising a cylinder, a head secured on said cylinder and including a plurality of ports communicating with the cylinder and opening outwardly through the exterior faces of the body to permit a discharge therethrough substantially radially from the body, a valve housing secured in said head and extending into the body and opening outwardly at one end through the head, a discharge nozzle connected with the last-named end of the valve housing, said valve housing having ports communicating with the cylinder, a hollow stem operating in said cylinder and extending exteriorly thereof at one end and provided with openings placing the stem in communication with the body when positioned outwardly of the valve housing and closed by the latter when said stem occupies another position, a fluid dispensing means connected to the last-named end of the stem, and a piston-like valve element connected with the other end of the stem and entering the valve housing for opening and closing said valve housing to the cylinder by way of said ports.

AUBREY O. McKINLEY.