Sept. 6, 1938. A. E. WHITETREE 2,128,977

SHEATH SYRINGE

Filed Feb. 11, 1936

Fig. 1.

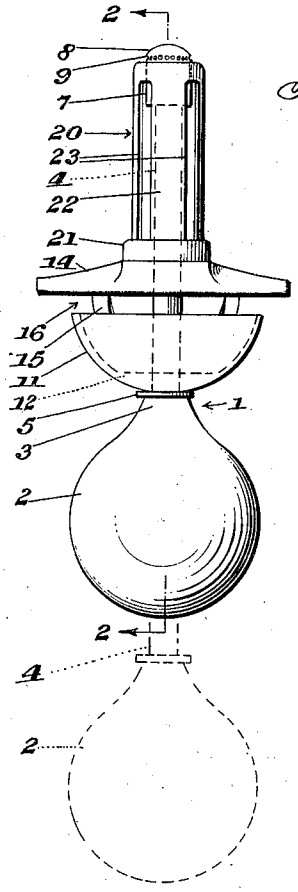


Fig. 2.

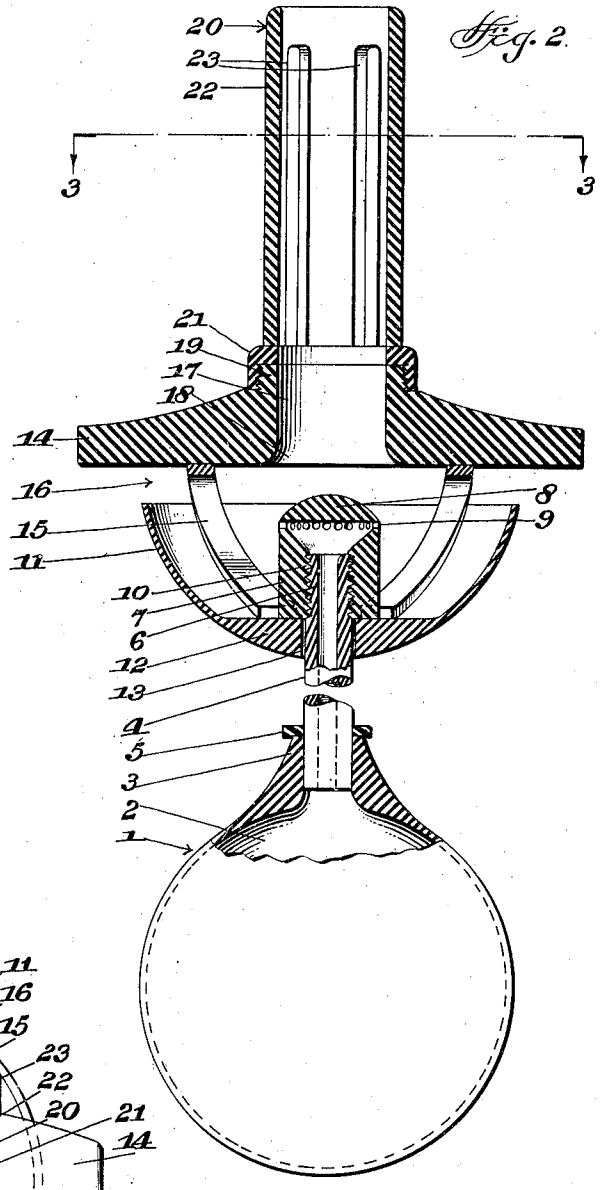
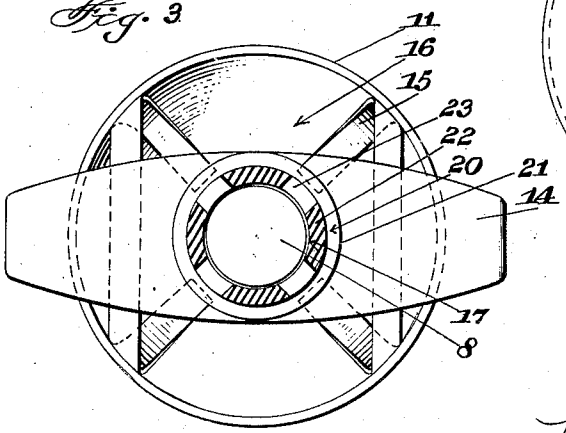


Fig. 3



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SHEATH SYRINGE

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Application February 11, 1936, Serial No. 63,403

5 Claims. (Cl. 128—241)

This invention relates to improvements in syringes of the type employed by female persons in the maintenance of personal hygiene, and its objects are as follow:

First, to insure that the drainage water will not reenter the rubber bulb, thereby preventing the interior of the bulb from becoming contaminated by the suspended impurities.

Second, to provide an apertured sheath in which the feed pipe is reciprocable to first assume a stopping position as when the water is discharged against the part to be cleansed, second to assume a lowered position out of the sheath to expose the apertures for a drainage of the water with its impurities clear of the bulb.

Third, to provide a syringe with which the entire contents of the rubber bulb can be discharged into the cavity to be cleansed before any drainage flow commences, the latter not occurring until the nozzle is withdrawn from its stopping position at the inner end of the sheath to expose the apertures therein.

Fourth, to provide a syringe in which the nozzle serves the double purpose of directing the jets of water and of forming a stopper while doing so, thereby to prevent the escape of the water from the cavity to be cleansed before the rubber bulb is emptied to the extent desired.

In the drawing which forms part of this specification,

Figure 1 is a side elevation of the improved syringe, showing the discharging position in full lines and the draining position in dotted lines.

Figure 2 is a central, vertical section taken on the line 2—2 of Figure 1.

Figure 3 is a cross section taken on the line 3—3 of Figure 2.

One of the main faults in known syringes adapted to the purpose herein announced, is that of allowing some of the water already discharged to return to the interior of the rubber bulb whence it came, thereby eventually contaminating said interior because of the impurities which are bound to be deposited. This fault is definitely overcome in the improved syringe by a provision that prevents any water from draining from the cavity to be cleansed until the desired amount of water is pressed from the rubber bulb, and then so displaces the bulb that it is virtually impossible for any impure water to re-enter.

The syringe, generally designated 1, is approximately 9'' long from one extremity to the other when in the closed or discharging position, as in full lines, Fig. 1. It is made entirely of rubber of various degrees of hardness, but while rubber is named as the preferred material the statement of preference is not to be considered a limitation because other substances can be employed.

A soft rubber bulb 2 constitutes the fountain or reservoir into which water is drawn in the ordinary manner. The neck 3 of this bulb is suitably attached to one end of a hard rubber feed pipe 4. A hard rubber stop 5 is slipped onto the pipe to rest against the neck 3. At its other end the pipe 4 is externally threaded as at 6 so as to enable screwing into a rubber nozzle 7.

Said nozzle terminates in a soft tip 8. Immediately below the tip there is an annular series of holes 9. These holes are radial, and it is from these that jets of water are discharged into the cavity to be cleansed when the syringe is in the proper position and the bulb 2 is pressed. Also, it is at these holes that the water is drawn in when initially filling the bulb. Of necessity, the nozzle has an internally threaded opening 10 into which the pipe 4 is screwed.

A basin 11 is of rubber construction, made somewhat heavy at 12 to enable making a central passage 13 sufficiently long in wall distance to adequately guide the feed pipe 4 which is reciprocable therein. The basin catches the drainage water. It has a hard rubber shield 14 (Fig. 3) which is connected to the basin by a number of hard rubber braces 15 in such a way as to space the brim of the basin from the confronting bottom of the shield as at 16. The shield 14 is of generally oval shape (Fig. 3), this together with the space 16 providing ample room both for the inflow and disposal of the drainage water.

The braces 15 make the basin 11 and shield 14 a unit. The shield has a large central opening 17 which is desirably flared at 18 at one end, the other end extending through an externally threaded nipple 19 which surmounts the shield. The nozzle 7 is movable through the opening 17 like a plunger, and the flare 18 facilitates its entrance. When the nozzle is retracted into the basin 11 there is ample clearance for the water to drain directly into the basin with little possibility of its spilling over the brim.

At the nipple 19 the sheath 20 is coupled on by means of an internally threaded, hard rubber flange 21. The remainder of the attached tubular part 22 of the sheath is made of semi-hard rubber. The internal diameter of the sheath is the same as that of the opening 17 so that the nozzle 7 can slip through without impediment. The wall of the tubular part 22 is slotted at 23 (Fig. 3) so that said part consists mainly of ribs. The slots, together with the open upper end of

the sheath, provide ample water passages for a thorough drainage.

The operation is readily understood. The syringe is closed or contracted as in Fig. 1, preparatory to filling the rubber bulb 2. The exposed holes 9 are submerged in water, whereupon the previously pressed bulb 2 is released.

The sheath 20 is inserted into the vaginal cavity, and the bulb 2 is pressed to discharge its contents. There will not be any drainage as long as the nozzle 7 stops the upper and inner end of the sheath. The holes 9 direct the water against the cavity walls. The position of these holes can be regulated with respect to the edge of the sheath 20 by adjusting the nozzle 7 on the threaded pipe end 6. These threads are desirably tight so that any adjustment of the nozzle will remain set.

Upon desiring to drain the cavity, the bulb 2 is lowered (dotted lines, Fig. 1). The sheath 20 and opening 17 are unstopped by the nozzle 7, the latter resting on the bottom of the basin 11 so as to provide an unimpeded passage into the basin. The basin is eventually emptied. Cleaning of the syringe is readily accomplished by unscrewing at 6 and 19. This separates the four parts of the syringe. The nozzle 7 is readily gripped for unscrewing when the syringe is closed as in Fig. 1.

I claim:

1. A syringe comprising a flexible bulb providing a water reservoir, a feed pipe attached to the bulb, a nozzle carried by the pipe, said nozzle having discharge holes, a sheath from which the nozzle is clear but into one end of which the nozzle is extensible until the holes are exposed at the opposite end of the sheath, said nozzle acting as a stopper, and means by which the sheath is loosely attached to the feed pipe.

2. A syringe comprising a flexible bulb providing a water reservoir, means carrying the bulb and through which the water is discharged into a cavity to be cleansed by pressing the bulb, means with respect to which the bulb and first-named means are moved into the discharging position, said first-named means then acting as a stopper in the second-named means to hold the water in the cavity, and a basin carried by the second-named means into and through which the first-named means is projectible to totally clear the bore of the second-named means and catch the drainage from said cavity.

3. A syringe comprising a flexible bulb, an attached feed pipe and a nozzle carried by the pipe, said nozzle having water-discharge holes, the foregoing parts constituting a reciprocable member, a basin having a central passage in which the feed pipe is guided and by which basin the nozzle is stopped in the withdrawn position thereof, an apertured sheath into which the pipe and nozzle are extensible until the holes are exposed at the edge of the sheath in the discharging position, and means attached to and mutually connecting the sheath and basin.

4. A syringe comprising a flexible bulb providing a water reservoir, a feed pipe attached to the bulb, a nozzle carried by the pipe, said nozzle having discharge holes, a sheath from which the nozzle is clear but into one end of which the nozzle is extensible until the holes are exposed at the opposite end of the sheath, said nozzle acting as a stopper, a catch basin suspended axially below the sheath by which the feed pipe is guided and loosely attached to the sheath.

5. A syringe comprising a flexible bulb providing a water reservoir, a feed pipe attached to the bulb, a nozzle carried by the pipe, said nozzle having discharge holes, a sheath having an attached shield, the sheath and shield having a common bore from one end of which the nozzle is clear but into which the nozzle is extensible until the holes are exposed at the opposite end of the sheath, said nozzle acting as a stopper, and a catch basin having means by which it is suspended from the shield and having a passage in line with the common bore, said passage slidably guiding the pipe.

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