H. S. WILLIAMS.

VAGINAL SYRINGE.

APPLICATION FILED JUNE 17, 1912.

1,067,497. Patented July 15, 1913.

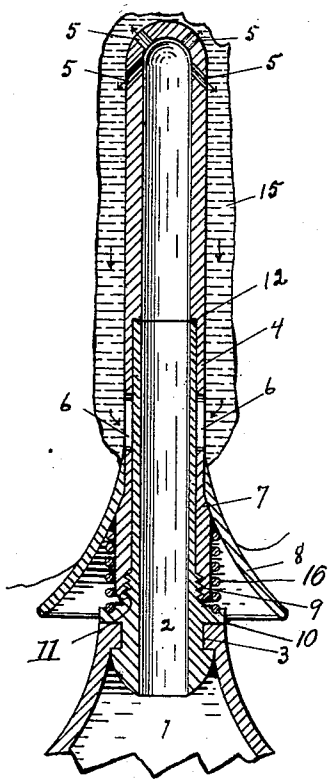


Fig. 2.

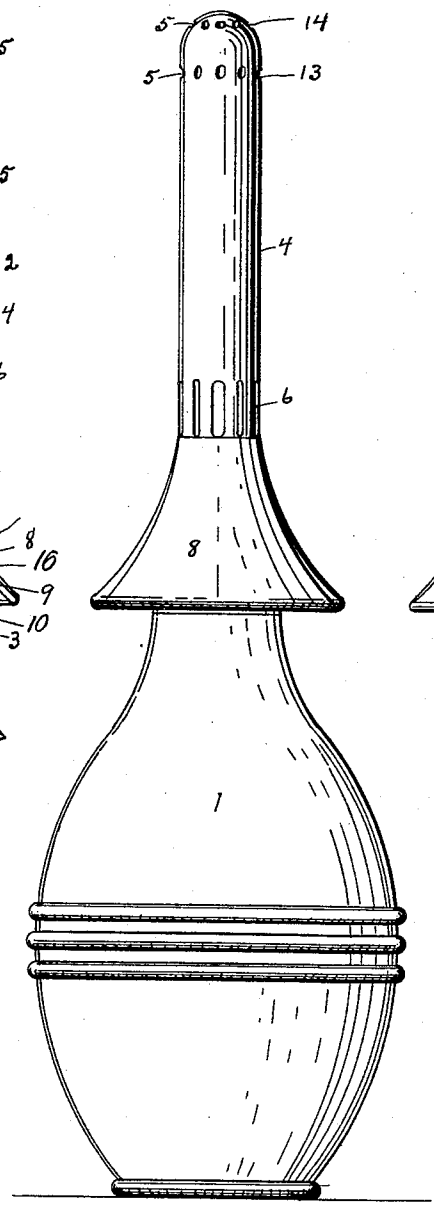


Fig. 1.

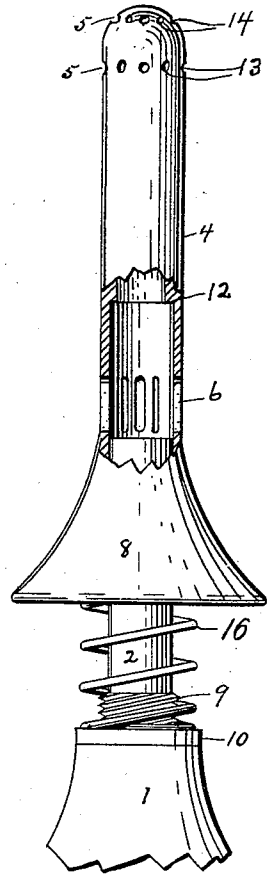


Fig. 3.

WITNESSES:

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VAGINAL SYRINGE.

1,067,497. Specification of Letters Patent. Patented July 15, 1913.

Application filed June 17, 1912. Serial No. 704,256.

To all whom it may concern:

Be it known that I, HARRY STANFORD WILLIAMS, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Vaginal Syringes, of which the following is a specification.

This invention relates to syringes, and some of the objects of my improvement are, effectiveness in accomplishing thorough cleansing, to avoid the obstructing of the orifices of the tube, to avoid leaking of the douche liquid, simplicity of construction and operation, and durability. These and other objects I accomplish by means of the device illustrated in the accompanying drawings, in which—

Figure 1 is an elevation; Fig. 2, a fragmentary central longitudinal sectional view; and, Fig. 3 is a fragmentary elevation partly in section.

Similar reference numbers refer to similar parts throughout the several views of the drawings.

The collapsible rubber bulb, 1, is of conventional form and is adapted to expand with some force when released. An inner tube, 2, made preferably of hard rubber or other rigid and noncorrosive material, is inserted in the neck of bulb 1, with an air-tight and liquid-tight joint, as shown at 3. Over tube 2 is telescoped, slidably, an outer tube, 4, which is provided with orifices, 5 and 6, for injection and drainage of the douche liquid. Outer tube 4 is formed with a shoulder, 7, near its base, and against this a shield, 8, of conventional form is placed, over the outer surface of the tube, so as to form a liquid-tight joint with the tube. Inner tube 2 telescopes about half the length of tube 4, and its free end is turned true and smooth. Near its base it is provided with an external, preferably multiple screw thread, 9, and a flange, 10. Outer tube 4 is provided with an internal screw thread, 11, corresponding to thread 9. Tube 4 is also formed with an internal shoulder, 12, turned true and smooth, against which the free end of tube 2 fits with a liquid-tight joint when the two tubes are fastened together. The inner bore of the two tubes is of the same diameter, so that the joint at 12 is flush, leaving no obstruction to the free passage of liquid.

The orifices 5, through which the liquid is forced by compressing the bulb 1, are preferably arranged in two annular rows, 13 and 14, the row 13 being slanted (Fig. 2) so as to direct the liquid downward, and the row 14 being slanted so as to direct the liquid upward. These orifices are preferably round and comparatively small, so that some momentum may be imparted to the streams of liquid issuing therefrom and thorough flushing of the vaginal walls may be accomplished.

The orifices 6 are for the return of the liquid to the bulb after it has accomplished its purpose. These orifices are preferably elongated longitudinally of the tube, in order to provide openings of maximum capacity and yet leave sufficient body and surface to the lower part of the tube to give requisite strength and at the same time prevent the membrane of the vaginal wall from being drawn into the orifices by the suction of the bulb and thus avoid any danger of injury. In Fig. 2 these orifices are shown securely closed by tube 2 blocking them and being forced tightly against shoulder 12 by threads 9—11. In this condition the syringe is ready for flushing, and the liquid must pass through orifices 5. If bulb 1 were now released the liquid 15 would have to return through orifices 5, and since these are small the return would be slow and the orifices would be liable to obstruction by patches of sloughed tissue or other solid particles, thus rendering quick and thorough draining impossible.

In Fig. 3 orifices 6 are shown open. It will be seen that this is accomplished by withdrawing tube 2 somewhat from tube 4 till the free end of tube 2 reaches a point just below orifices 6. It will be understood that before tube 2 can be withdrawn it must be rotated a little to release threads 9—11. There are now two avenues of escape for liquid 15, and the freest is through orifices 6. It will be appreciated that the wash need not now return to the upper end of the tube but is kept moving on in the initial direction and may be quickly and thoroughly removed. This feature is especially desirable when the syringe is used in approximately vertical position (Fig. 2). In the absence of orifices 6 the liquid about the lower part of the tube, in order to return to the bulb, would have to be raised to

orifices 5, which could not be accomplished, and consequently would be left to constitute undesirable leakage when the restraining shield 8 and the tube are removed.

A spring, 16, is provided, placed under shield 8, to hold tubes 2 and 4 normally telescoped together and to limit the amplitude of their motion relative to each other.

Having thus described my invention, so that its construction and use may be understood, I claim—

1. In a syringe, a bulb, an inner tube, and an outer tube slidably mounted over said inner tube and provided with injecting orifices at its outer end and drain orifices at its base, said inner tube being adapted to close the drain orifices of said outer tube.

2. In a syringe, a bulb, a tube, a shield on said tube, said tube being formed with injecting orifices at its outer end and drain orifices at its base, and sliding means within said tube for closing and opening said drain orifices.

3. In a syringe, a bulb, a tube formed with injecting orifices and drain orifices, sliding means within said tube for closing said drain orifices, and means for securing said closing means.

4. In a syringe, a bulb, a tube formed with injecting and drain orifices, sliding means for closing said drain orifices, and means for actuating said closing means to normal closed position.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY STANFORD WILLIAMS.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."