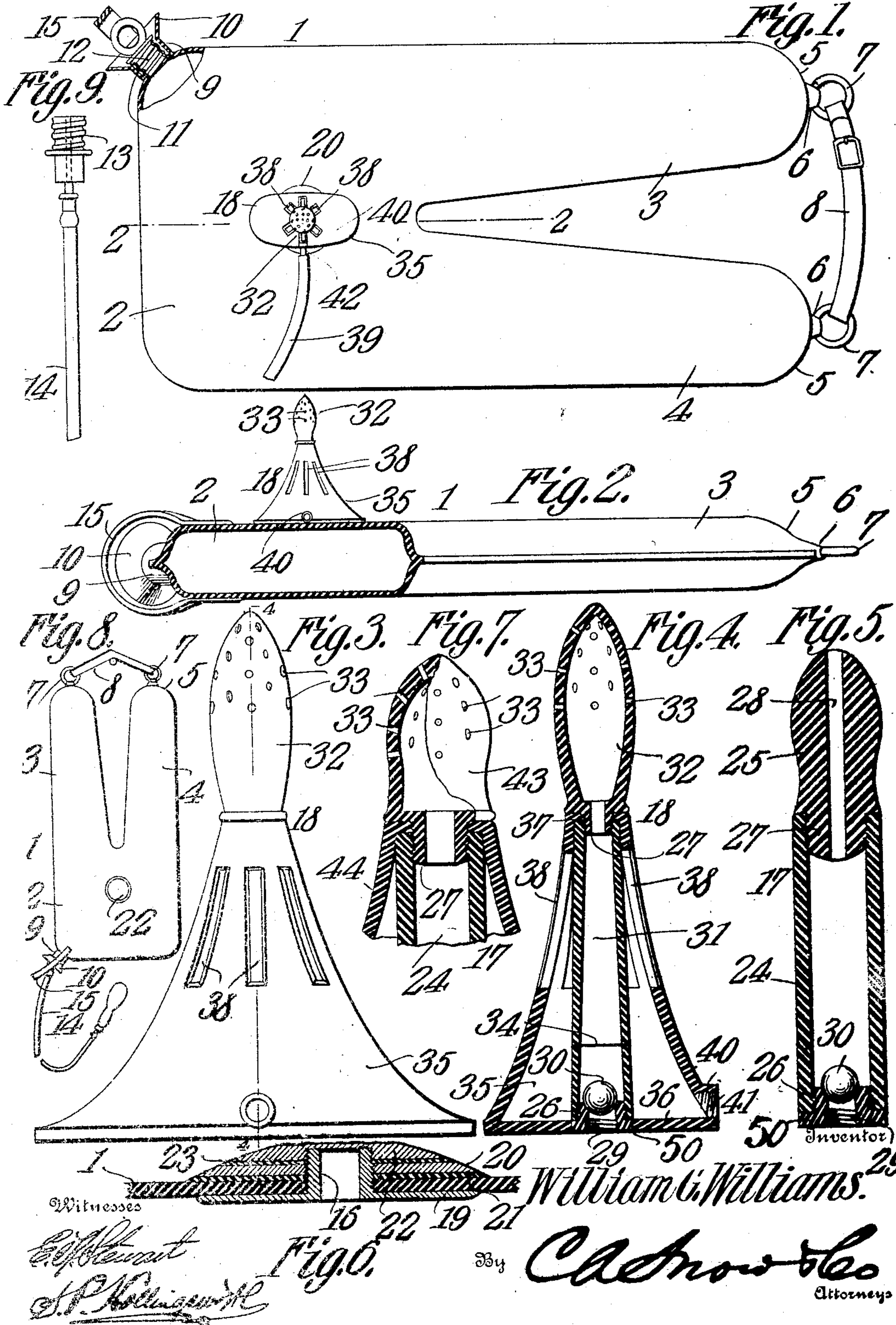


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 COMBINED WATER BAG AND SYRINGE.
 APPLICATION FILED MAR. 19, 1908.

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UNITED STATES PATENT OFFICE.

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COMBINED WATER-BAG AND SYRINGE.

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Specification of Letters Patent.

Patented Aug. 3, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM G. WILLIAMS, a citizen of the United States, residing at Vinita, in the county of Craig and State of Oklahoma, have invented a new and useful Combined Water-Bag and Syringe, of which the following is a specification.

This invention relates to a device for applying water and liquid medicaments to the surface of the body and certain interior passages thereof; and has for its main object to provide in simple and convenient form a novel water bag to which may be attached means for applying water alone or with some chemical or medical substance in solution, to the surface of the body, the vagina, and the rectum.

To this end the water bag comprises a hollow resilient body forked at one end to form two arms and having at its opposite end a filling mouth and means for attaching a plug or an outlet tube thereto. One side of the body portion of the water bag is provided with a screw stem to which a rectal or a vaginal nozzle, each of peculiar construction, may be connected, fluid being forced through said nozzles by the weight of the user's body resting on the bag. This and other objects of invention relating to various details of construction will be fully disclosed in the description following, the appended claims and the accompanying drawing forming a part of this specification in which,

Figure 1 is a view of one side of the water bag with the vaginal nozzle attached showing in plan; Fig. 2 a longitudinal sectional view of the same on the line 2—2, the vaginal nozzle being represented in elevation; Fig. 3 an enlarged view in elevation of the vaginal nozzle detached from the bag; Fig. 4 a vertical sectional view of the same on the line 4—4; Fig. 5 a vertical sectional view of the rectal nozzle; Fig. 6 a sectional view, enlarged, of the stem on which the nozzles are screwed; Fig. 7 a modified form of the vaginal nozzle; Fig. 8 a view of the invention in use as a fountain syringe; and Fig. 9 is a view of a detail of the invention.

Similar reference numerals are used for the same parts in all the figures.

The water bag, indicated as a whole by the numeral 1 is preferably rectangular in form and made of soft rubber as usual, one

end constituting the body 2 and the opposite end divided longitudinally into two arms 3 and 4, preferably on the longer axis of the water bag. The arms 3 and 4 taper on their inner edges from the crotch outwardly at a slight angle to their ends 5 which latter are, from choice, made semi-circular. Attached to each end 5 by a flexible neck 6 is a ring 7 made of rubber, metal or metal covered with rubber. A strap 8 of rubber or leather connects the rings and constitutes the sustaining member when the water bag is used as a fountain syringe, see Fig. 8. A short tube 9 projects from one corner of the body 2 and has a funnel shaped mouth 10 through which the bag is filled. Within the tube 9 is fastened a threaded ring 11 for a water tight plug 12 or a tubular plug 13 carrying a flexible tube 14. A strap 15 preferably of rubber is secured on the same corner of the bag and is used to support the bag while being filled.

One side of the body portion of the bag is provided with a projecting threaded stem 16 on which the rectal nozzle 17 or the vaginal nozzle 18 may be screwed. The stem 16 is attached to a plate 19 within the water bag 1 and projects through a hole in the bag midway between the side edges; a threaded metal washer 20 screwed tightly on the stem holds the latter tightly and firmly in vertical position when the water bag is lying flat as in Fig. 2. A rubber washer or packing 21 may be placed between the metal washer and the wall of the bag to insure a water tight joint. When the water bag is used as such, or as a fountain syringe, a metal cap 22 is screwed over the end of the stem 16 to prevent the outflow of water therefrom, a soft ring 23 is placed between the cap and the metal washer to serve as a packing.

The rectal nozzle 17, see Fig. 5, comprises a cylindrical metal or hard rubber tube 24 interiorly threaded at each end, one thread for the tip 25, the other thread for the valve support 26. The tip 25 is made preferably of hard rubber, ovoid in shape at its outer end with a reduced plug 27 at its inner end threaded to screw into one end of the tube 24. A small hole 28 is made longitudinally through the tip for the escape of the contents of the water bag. The threaded projection 27 of the tip terminates in a cone for a purpose hereinafter described. The valve

support 26 comprises a short externally threaded tube screwed in the lower end of the nozzle tube 24 and provided with a laterally projecting flange 50 at its lower end to contact with the end of said tube 24 when screwed home. A passage 29 extends through the valve support and is threaded at its lower end to screw over the stem 16 on the water bag. The passage 29 is formed into a curved seat at its upper end for a spherical valve 30 smaller than the bore of the tube 24 and free to move from end to end thereof.

If the rectal nozzle be attached to the stem 16 on the water bag and pressure applied to the filled bag, the valve 30 will be raised and the water forced through the passage 28 in the nozzle tip 25; and as soon as pressure is removed from the bag the valve closes by gravity as it is preferably made of steel or other heavy metal to insure quick action. As the inlet opening in the stem 16 is larger than the outlet passage 28 in the tip, the proportionate diameters of these two passages in connection with the weight of the valve 30 regulates the operation of said valve and produces an automatic action.

Figs. 3 and 4 illustrate the vaginal nozzle 18 resembling in certain respects the rectal nozzle but differing somewhat in shape. The metal or hard rubber tube 31 tapers slightly toward the top, thus making the outlet end smaller than the inlet end. The tip 32 is hollow, ovoid in shape but longer and of smaller diameter than the tip 25 and has a number of small holes 33 passing through the shell of the tip in different directions. The valve support 26 and valve 30 are the same as those parts on the rectal nozzle but smaller. To prevent the ball valve catching in the tapered bore of the tube 31, a pin 34 extends across the tube as shown.

When using the device for vaginal treatment some means must be provided for carrying off the used liquid to give place for fresh, and also to seal the vagina against the escapement of liquid around the nozzle. For this purpose a shield 35, made by preference of hard rubber, is employed. This shield comprises a hollow receptacle, small at its upper end but increasing in size toward the bottom 36 where it is closed except for a central hole in which the lower end of the nozzle tube 31 tightly fits. The top of the shield is circular and provided with a central opening through which the threaded projection on the tip passes to enter the upper end of the tube 31. An inwardly projecting horizontal flange 37 is formed by the top of the shield, against the under side of which the upper end of the tube 31 abuts when the tip is screwed tightly in place. The sides of the shield 35 curve downwardly and spread outwardly from the small circu-

lar top to the relatively large elliptically shaped base 36 which has a length, for example about twice as great as its width. In the sides of the shield 35 are formed a number of elongated slots 38 that extend from near the upper end of the shield downwardly for a greater or lesser distance as conditions call for. Through the slots 38 the waste liquid passes into the shield and thence out through a pipe 39 into a vessel or other receptacle. On one side of the shield 35 is formed a lug 40 having a threaded opening 41 leading into the shield for a nipple 42 on which the waste pipe 39 is fastened.

Under certain conditions a larger vaginal tip is required than the standard one 32. In such cases a tip such as 43, see Fig. 7, is furnished; but, as this tip is too large for the vaginal tube 31, it is made to fit the rectal tube 24 with a shield 44 of corresponding size at its upper end.

The bag 1 made as described is exceedingly convenient as a hot water bag, its construction permitting it to be hung around the neck by the strap 8 and rest on the chest or back; placed between the legs and drawn up so that the arms 3 and 4 of the bag rest on the abdomen and back; beneath the arm and in other places where its shape permits of more convenient application than the bag in present use. When employed to give a rectal or vaginal enema or injection, the proper nozzle is screwed on the stem 16 and the bag laid flat, as represented in Fig. 2, the tip having been previously unscrewed and the ball valve removed. The bag is then filled through the nozzle tube, and after replacing the valve and tip, the device is ready for use. The bag is placed on a chair or other seat of suitable height and the patient, stooping down, inserts the tip of the nozzle in the rectum or vagina, whichever is to be treated, and sits on the bag, the arms of the latter being placed under the legs of the patient. The weight on the bag unseats the valve which rises in the nozzle tube, through the pressure of the liquid, as high as possible; in the case of the rectal nozzle to the threaded projection 27 of the tip, in the vaginal nozzle to the pin 34, in either case automatically regulating the outflow of liquid. When the pressure is greatest the valve partly closes the outlet in the rectal tip, the tapered end of which keeps the ball valve against the side of the tube to prevent the outlet being wholly closed thereby. The vaginal nozzle tube having a tapering bore it follows that when the ball valve is raised the space around it is decreased. If less weight is placed on the bag the pressure of the liquid will not be so great and the ball valve will not rise so high in the tube.

When using the vaginal nozzle, the skirt or lower portion of the shield below the slots presses tightly against the vulva and prevents

the escape of the injected fluid around the shield, the fluid therefore flows out through the slots 38 into said shield and away by the waste pipe 39. The device may be further employed to posture the body to enlarge or diminish the opening of the vagina; and by using different sizes of rectal tubes the invention may be converted into a rectal dilator for the cure of hemorrhoids, constipation etc.

The water bag may be used for bathing purposes by suspending it as in Fig. 8 and attaching to the outer end of the tube 14 a brush provided with perforations for the escape of water, a sponge, or some other object suitable for the purpose.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described comprising a flat compressible liquid receptacle, a nozzle adapted to be removably attached to one side thereof, a valve support removably mounted in the lower end of the nozzle, a hollow shield having a plurality of longitudinal slots opening thereinto near the upper end thereof and having a central opening arranged to receive the upper terminal of the nozzle, a hollow tip removably mounted in the top of the nozzle and arranged to hold the shield to the nozzle, a valve wholly within the nozzle and retained therein by the valve-support.

2. A device of the character described comprising a flat compressible liquid receptacle, a nozzle adapted to be removably attached to one side thereof, a perforated tip removably attached on the upper end of the nozzle, an automatic valve wholly within said nozzle, a support for said valve within the bottom of the nozzle, and a hollow shield having a circular top and a closed elliptical bottom connected to the tip of said nozzle by

said removable tip, said shield having inlet slots in the side near the top and an outlet near the bottom.

3. A device of the character described comprising a compressible liquid receptacle, a nozzle having a separable tip adapted to be removably attached to one side thereof, an automatic valve in said nozzle at its lower end and a hollow shield attached by its upper end to said nozzle below the tip and tightly fitting said nozzle at the bottom, said shield having inlet openings at its upper end and an outlet at its lower end.

4. A device of the character described comprising a compressible liquid receptacle, a short stem projecting from one side thereof, a nozzle tube removably attached to said stem, an automatic gravity valve in said nozzle tube, a separable tip screwed to the upper end of the nozzle tube, a hollow shield having an elliptical base surrounding said nozzle tube and held thereon by said tip, the sides of said shield having longitudinal slots near its upper end and a drainage tube on its lower end.

5. In a device of the character described, a nozzle comprising a tube having a valve in its lower end and a perforated tip on its opposite end, a hollow shield adapted to be placed over said tube and secured thereon by said tip, said shield having a circular top and curved sides extending downwardly to an elliptical base having a central hole for said nozzle tube, said sides having a plurality of longitudinal inlet slots at its upper end and an outlet opening near its base.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM G. WILLIAMS.

Witnesses:

G. P. CARROLL,
R. G. COWAN.