No. 694,541. Patented Mar. 4, 1902.

A. R. GORDON.

VAGINAL SYRINGE.

(Application filed Mar. 28, 1901.)

(No Model.)

Fig 1

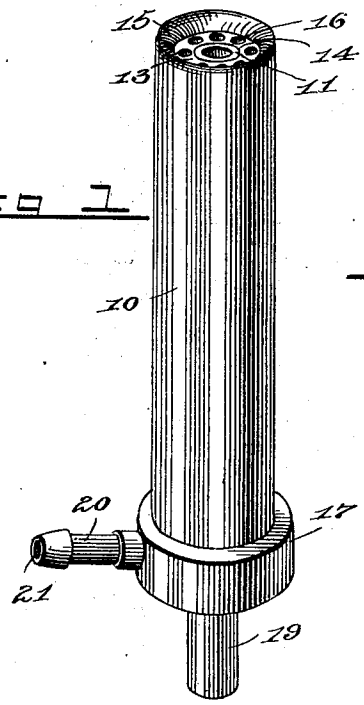


Fig 2

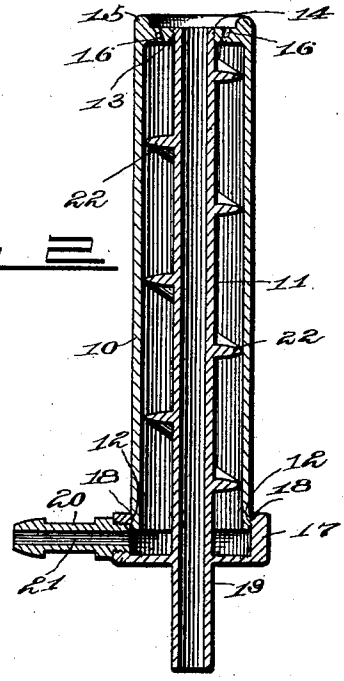


Fig 3

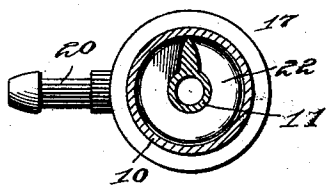


Fig 4

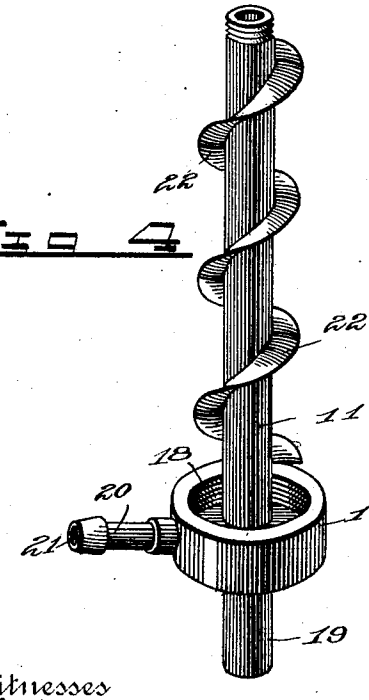


Fig 5

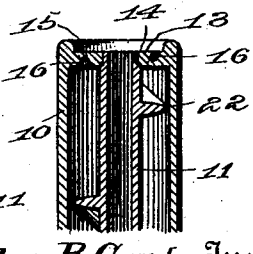
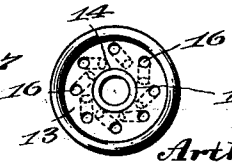


Fig 6



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UNITED STATES PATENT OFFICE.

ARTHUR ROSCOE GORDON, OF TOLEDO, OHIO.

VAGINAL SYRINGE.

SPECIFICATION forming part of Letters Patent No. 694,541, dated March 4, 1902.

Application filed March 28, 1901. Serial No. 53,247. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR ROSCOE GORDON, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Vaginal Syringe, of which the following is a specification.

This invention relates to syringes, and more especially to that class which are employed in cleansing the vagina, in which the liquid is introduced through one passage-way and is discharged through another. It will of course be understood that it may be used for any other purpose for which it may be found suitable. In these syringes as ordinarily constructed an outer tubular casing is provided having a nipple at one end to which the supply-pipe is attached and an annular series of perforations at its other end through which the liquid is ejected into the vagina. A discharge-tube is arranged longitudinally within the outer casing and has its passage-way open at both ends, so that the liquid after having performed its function may freely discharge without interfering or being interfered with by the inflowing supply. The inner tube and the outer casing are either made integral or fastened together in such a manner that they cannot be separated. It is therefore practically impossible to thoroughly cleanse the device after use. A further objection to this construction is the arrangement of the ejection perforations, which are ordinarily placed directly in the end of the casing, so that the folds of the wall of the vagina very often cover and either completely stop them or else direct the ejecting liquid inwardly, so that it immediately discharges without performing any function whatever.

It is the aim of this invention to overcome these objections by producing a syringe that may be readily taken apart, so that all the parts and portions are accessible for the purpose of cleaning. Furthermore, by the construction of the inner or nozzle end of the syringe the walls of the vagina are held away from the discharge-orifices and the liquid has a free passage-way and is thrown outwardly and forwardly in all directions.

A still further object is to so construct the inlet passage-way that the liquid will be given a spiral motion and is especially useful with medicated baths or washes, as it insures a thorough and even mixture of the ingredients.

To the accomplishment of these several objects the following-described construction is preferably employed, said construction being also illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a syringe embodying the improvements. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a horizontal cross-section, and Fig. 4 is a detail perspective view of the inner tube removed. Fig. 5 is a detail sectional view of a slightly-modified form of connection between the inner end of the tube and the casing. Fig. 6 is a top plan view more clearly illustrating the arrangement of the discharge-orifices.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In carrying out the invention an outer casing 10 is provided, within which is removably secured the discharge-tube 11. The outer casing is cylindrical in form, its interior bore being preferably of the same diameter throughout its length. One end of the casing is open, and the exterior face contiguous to said open end is provided with screw-threads 12. The opposite end is partially closed by a diaphragm 13, having a central opening 14, the inner edge of which is preferably screw-threaded. This diaphragm is inset from the edge of the casing to form a forwardly-projecting annular flange 15 and is provided with a plurality of discharge-orifices 16, that are arranged in divergent relation from their inner ends and also incline in a direction substantially tangential to the edge of the central opening 14.

The discharge-tube 11 is located longitudinally within the outer casing 10, with its outer walls spaced from the inner walls of said casing to provide the necessary passage-way. The inner end of the tube is screw-threaded and is screwed into the central opening 14 of the diaphragm 13. In Fig. 5 is shown a slightly-modified joint between the diaphragm and the tube. In this form the central opening of the diaphragm has no screw-threads and the end of the tube fits tightly therein to provide a liquid-tight joint. The opposite

end portion of the inner tube carries a cup-shaped cap 17, that is arranged to fit over the open end of the casing 10 and has screw-threads 18, that engage those of the casing. This cap is inset from the end of the tube to form a projecting discharge-stub 19. A nipple 20 is screwed into the side wall of the cap and has an interior passage-way 21, that leads into the interior of the same. Arranged upon and around the tube 11 is a spiral flange 22, that extends from a point near the base of the cap 17 to a point contiguous to the screw-threads of the opposite end. The outer edge of this flange fits snugly against the inner wall of the casing 10, and thus forms a spiral partition, which provides a spiral outer passage-way between the tube and the casing.

The advantages of this construction are various. In the first place the liquid passing through the outer passage-way is given a spiral movement and is projected in a whirling spray that is ejected outwardly against the walls of the vagina. The spiral partition also serves to thoroughly commingle the medicinal ingredients of the liquid passing through the passages, so that they are evenly mixed when ejected. The projecting flange 15 surrounding the orifices 16 serve to hold the folds or walls of the vagina away from said orifices, thus preventing the stoppage of the same or the deflection of the liquid inwardly to the discharge-tube. A further and important advantage resides in the construction whereby the casing and discharge-tube may be detached. As different medicaments are employed during different treatments, it thus permits complete access to the walls of the outer passage-way for the purpose of thorough cleansing and sterilizing.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a syringe of the class described, the combination with an outer casing open at one end and provided with a diaphragm having an opening at the other, of an open-ended tube located longitudinally within the casing and having a detachable engagement at one end in the opening of the diaphragm, a cap arranged at the other end of the tube to close the open end of the casing, a nipple located upon the cap and having a passage-way that communicates with the space between the tube and casing, and a spiral flange secured to the exterior face of the tube and fitting snugly within the space between the tube and casing to form a spiral passage-way therethrough.

2. A syringe of the class described, comprising an outer casing, a cylindrical tube located longitudinally within the casing, said tube and casing being connected at one end by an annular diaphragm which surrounds the tube and is provided with an annular series of discharge-orifices, said orifices being arranged in divergent relation from their inner ends and also inclined in a direction substantially tangential to the peripheral walls of the inner tube, and a spiral partition extending across the space between the inner tube and the outer casing and extending substantially from end to end thereof.

3. In a syringe of the class described, the combination with an outer casing open at one end and provided with a diaphragm having a central opening at the other, said diaphragm being inset from the end edge of the casing and provided with an annular series of inclined openings, of an open-ended tube located longitudinally within the casing and having a detachable engagement at one end in the opening of the diaphragm, said tube being provided contiguous to its opposite end, with a cap arranged to close the open end of the casing, and a spiral flange secured to the exterior face of the tube and fitting snugly within the space between the tube and casing to form a spiral passage-way therethrough.

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

ARTHUR ROSCOE GORDON.

Witnesses:
R. B. WASHBURN,
C. W. F. KIRKLY.