

(No Model.)

O. E. BOSWORTH.
SYRINGE.

No. 568,331.

Patented Sept. 29, 1896.

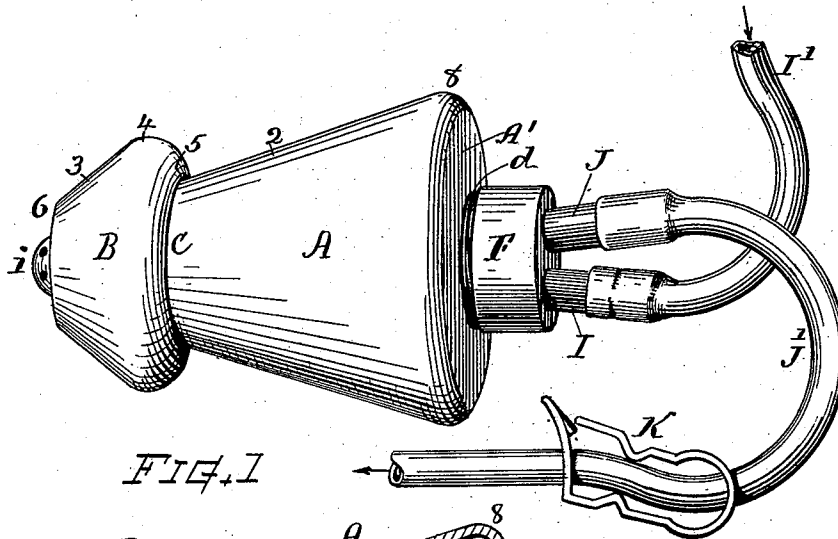


FIG. 1

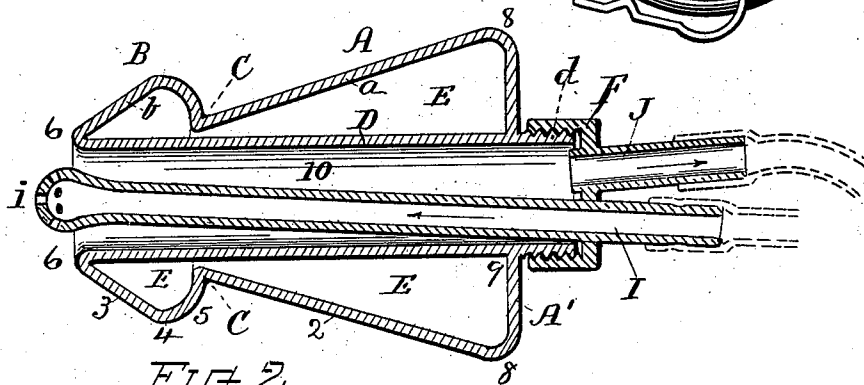


FIG. 2

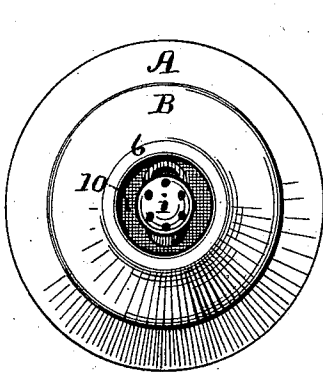


FIG. 3

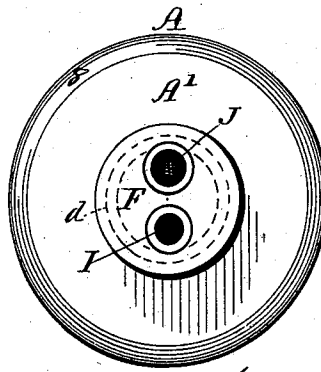


FIG. 4

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SYRINGE.

SPECIFICATION forming part of Letters Patent No. 568,331, dated September 29, 1896.

Application filed September 20, 1895. Serial No. 563,085. (No model.)

To all whom it may concern:

Be it known that I, OSSEANA E. BOSWORTH, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Vaginal Syringes, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

This invention relates to the peculiar form and construction of a vaginal syringe or instrument for the irrigation, treatment, or cleansing of the vaginal canal and mouth of the uterus by liquid applications, the object being to provide an instrument that will be self-holding in its position of use, cleanly, convenient, and efficient for the administration of local remedies or washes in vaginal and uterine diseases, and which will avoid irritation or disturbance of the internal organs and the transmission of heat to the exterior person when hot liquid applications are employed. These objects are attained by an instrument of the peculiar form and structure illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view, Fig. 2 a longitudinal central section, Fig. 3 a front end view, and Fig. 4 a rear end view, of a vaginal syringe embodying my invention.

My improved vaginal syringe is externally shaped of the peculiar double conoidal form, proportioned in contour substantially as shown; that is, with a forwardly-tapering main body portion A, presenting a straight cone-surface 2, about two and one-half inches in length, and having at its smaller or truncated end and integral therewith a prominence or bulge B, the forward part of which presents a forwardly-tapering short cone-surface 3, while the periphery 4 and rear part 5 of the prominence is rounded over and inward and meets the cone-surface 2 of the main body A at an abrupt inward angle, as at C, thereby forming at the front of the cone-shaped body A an outwardly-protuberant annular shoulder around the instrument at about one inch from the extreme fore end 6, the neck at the junction-angle C being about

two-thirds the diameter of the prominence B across its greatest dimension. The parts A and B are best made as a thin uniform shell, as shown at *a* and *b*, Fig. 2. The rear end of the body A is formed with a head or disk A', perpendicular, or nearly so, to the longitudinal axis, said head joining the cone-surface 2 at its outer limit by a short rounded angle, as at 8. The entire syringe is formed of hard rubber, glass, or other suitable non-yielding material of non-absorbent nature, and presents, exteriorly, a smooth, solid, or unperforated surface.

A cylindrical tubular core D, about three-fourths of an inch in diameter and open at both ends, extends through the body axially coincident and concentric therewith, said core being integrally united to the outer shell at the fore end 6 and to the rear head at 9, thereby hermetically inclosing a vacant space or still-air chamber E between the outer shell and core-cylinder, as shown in Fig. 2. The end of the cylinder D projects at the rear and forms a nipple *d* to receive the tube-carrying cap F, as indicated. The front end opening corresponds with the truncation of the front cone and affords an outlet coextensive with the full dimension of the point of the syringe.

I indicates the injecting or douche tube, and J the outlet-tube, both fixed in the cap or thimble F, that fits upon the projection *d*, preferably fitted and secured by screw-threads, and is readily detachable together with the tubes I and J. The injecting-tube I extends through the hollow 10 of the body-core and is provided with a perforated bulb or douche nozzle *i* at a position slightly in advance of the front plane at 6, but within the limit of the truncation or space that would be included by a prolongation of the lines of the front cone-surface 3, so that the said douche-tube is protected from contact with the person by the smooth annular edge that surrounds the opening.

To the outer ends of the tubes I and J flexible pipes I' and J' are respectively attached, which are employed in well-known manner for the supply and removal of the water or irrigating fluid used in applications. The outlet-pipe J is preferably provided with a shut-off device K for controlling the outflow

therethrough, while the supply-pipe is connected with the usual fountain or pump (not shown) and furnished with suitable valve devices for regulating, in usual manner, the quantity and force of liquid delivered through the tube I.

In operation the patient is placed in recumbent position, preferably upon the back. The fountain-sack is suspended some four feet, more or less, above the level of the couch, the shut-off stops in both the supply and outlet pipes being closed, the air in the pipe and injector-tube having been previously forced out by a preliminary liquid flow. The short protuberant fore end B of the syringe is introduced into the vagina just far enough to permit the sphincter muscles to close into the neck or angle C and the outer lips to rest upon the conical surface 2 of the syringe-body in rear of the rounded prominence. The legs of the patient may then be placed straight or in restful position, and the syringe will be perfectly retained or self-held in operative position by the grasp of the sphincter muscles upon the annular rounded shoulder 5 at the abrupt inward angle C.

The syringe effects complete and efficient occlusion, so that none of the liquid application can escape except by way of the outlet-pipe. The wash is then injected through the douche-tube, caused to fill and distend the vaginal cavity before opening the outlet-pipe, and controlled to afford any desired degree of pressure by adjustment of the height of the supply-fountain and regulation of the flow through the outlet-pipe.

The front coned surface 3 affords easy insertion. The protuberance B and inward angle C afford absolute and easy self-retention of the syringe in position of use, and these, in connection with the cone-surface give complete occlusion at the entrance. The short limit of entrance and peculiar formation of the fore end peculiarly adapts the instrument for use in case of great tenderness and inflammation without pain or irritation, as the instrument comes in contact with none of the interior membranes other than those immediately within or near the mouth of the vagina, but the wash, by gentle pressure and distention, acts thereon and thus accomplishes the complete and thorough irrigation of the tissues, the vitiated liquid readily passing off through the cylindrical space 10, and the instrument, by reason of its peculiar structure, being absolutely self-holding, the operation can be continued for any desired length of time without fatigue to the patient and without requiring constant attention and assistance of the nurse.

The inclosed vacant space E between the outer shell and tubular core especially adapts the instrument for administration of hot washes, said space serving as a non-conductor to prevent the transmission of heat to the external parts, the inner tissues being capa-

ble of receiving considerably greater heat without painful effect than are the outer parts of the person. This feature, in connection with the peculiar form of the instrument, is of much practical importance, as it facilitates the use of very hot washes without discomfort to the patient.

The body and tubes being readily separable by removal of the cap F, the syringe can be conveniently and thoroughly cleansed, scalded, and disinfected, and affords no opportunity for the lodgment and retention of disease-germs.

As various syringes of a different structure employ an inlet and outlet passage, it will be understood that I do not broadly claim such feature.

What I claim, and desire to secure by Letters Patent, is—

1. The syringe-nozzle herein shown and described, comprising a main portion externally shaped as a forwardly-tapering right cone, provided at its smaller front end with a short non-yielding truncated conical prominence adapted for embracement by the sphincter muscles, said prominence rounded inward at its peripheral rear edge and meeting the conical surface of the main portion, to which it is integrally joined, by an inward angle, its truncated fore end being open into an axially-disposed cylindrical hollow extending through the body, the whole presenting a smooth, non-jointed, rigid exterior, substantially as and for the purpose set forth.

2. A vaginal syringe having a non-yielding prominence at its fore end shaped as a short forwardly-tapering truncated conoidal enlargement, with a cylindrical opening entering its truncated fore end, the periphery of said enlargement being rearwardly rounded inward and joining the body portion by an inward angle, in combination with an exit-tube and a douche-pipe having its delivery end disposed within the prolongation of the front cone-surface at the cylindrical opening of the fore end, as set forth.

3. The syringe-nozzle constructed as shown, and consisting of the non-yielding outer shell formed of the two coned portions connected by a rounded shoulder and abrupt inward angle, and the hollow cylindrical core, its forward end integrally joined to the fore end of the outer shell and its rear end extending through and joined to the head portion of said outer shell with a hermetically-closed vacant space between said outer shell and cylinder, substantially as described.

4. A vaginal syringe comprising the rigid hollow conical body having at its front end the conoidal enlargement joining the body-cone with a rounded periphery and an inward angle, the cylindrical tubular core extending axially through said body from the truncated open fore end with a hermetically-inclosed space between said core and the body-shell, the removable cap secured to the projecting

rear end thereof, said cap having the injecting-tube and exit-tube fixed therein, said injecting-tube extending to the front within the tubular core, and having a perforated
5 bulbous end or discharge-nozzle partially projecting from the cylinder-opening, substantially as set forth.

Witness my hand this 18th day of September, A. D. 1895.

OSSEANA E. BOSWORTH.

Witnesses:

EDWIN C. POTTER,
GILMAN E. JOPP.