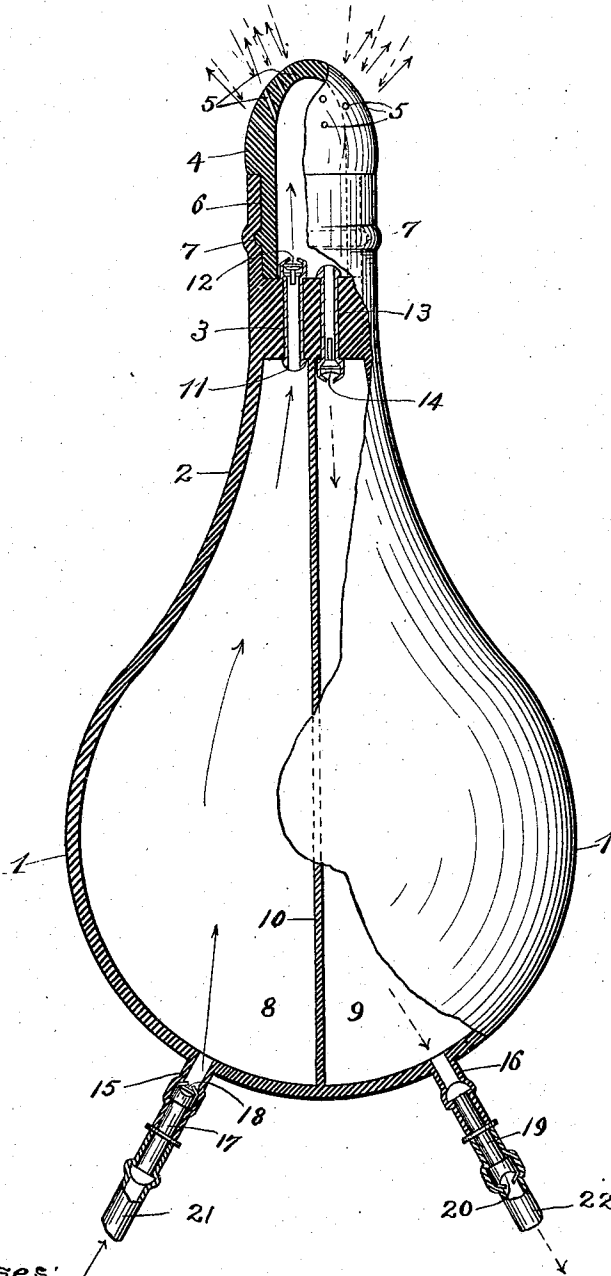


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PATENTED OCT. 1, 1907.

J. H. THAYER.
SYRINGE.

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SYRINGE.

No. 867,445.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES H. THAYER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Syringe, of which the following is a specification.

This invention relates to certain improvements in syringes or douches of the injection and suction type which are particularly designed for vaginal irrigation, and by means of which the liquid is caused to flow through the vagina and out again through the syringe, and has for its object to provide an improved and simplified device modeled in accordance with the anatomy of the vagina and of such size, shape and length as to facilitate its introduction and prevent injury to the delicate organs, and, further to so construct the syringe that when placed in position it will completely seal the entrance to the vagina, so that the liquid introduced will accumulate in the vaginal cavity and will inflate the folds thereof to promote effective cleansing.

A further object is to so construct the syringe that the discharge of liquid therefrom into the vagina will be ejected in oblique jets or small streams, and when the instrument is fully inserted, around the mouth of the womb, but not directly thereagainst, thus preventing injury of a more or less serious nature thereto.

Various other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

The invention consists in certain novel features of the construction, combination and arrangement of the several parts of the improved syringe, whereby certain improved advantages are attained and the device is rendered simpler and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawing, which serves to illustrate my invention—the figure represents mainly a central sectional view but partly in elevation.

The reference numeral 1 designates the bulb or body of the syringe, which is made of soft rubber, and substantially of the shape shown in the drawing; that is, its lower portion is formed almost spherical but has a tapered extension or neck 2, which is provided near its end with a transverse partition or wall 3, of any suitable thickness. The extension or neck 2 projects beyond the wall or partition 3 and is hollow to receive a portion of the discharging or distributing head 4, which is preferably made of hard rubber and tubular in form, yet with its outer end rounded and slightly elongated. The head 4 is provided near its outer end with a series of diagonally or obliquely disposed channels 5 for the passage of the liquid therefrom into the vagina and also

for the withdrawal of the same from the vaginal cavity. The inner portion of the head 4 is annularly reduced as at 6 to receive the outer portion of the extension 2, and preferably has on said reduced portion an annular bead 7 to prevent its accidental displacement or removal, for it is apparent that said bead will form an outwardly extending depression in the soft rubber neck, thus causing the latter to firmly hold the head in place.

The bulb or body 1 is divided into two compartments 8 and 9 by means of a longitudinally extending partition 10, which is also preferably made of soft rubber, and integral with the body or bulb. Located in the transverse wall or partition 3 in the neck or extension 2, and communicating at one of its ends with the compartment 8 and at its other end with the cavity of the head 4, is a valve-casing 11, which has seated in its outer end an outwardly opening valve 12.

Located in the wall or partition 3 and communicating at one of its ends with the compartment 9 and at its other end with the cavity of the head is another valve-casing 13, which has seated in its inner end an inwardly opening valve 14, of any desired kind. That portion of the body or bulb 1 opposite the neck or extension 2 is provided with two tubular extensions 15 and 16, preferably of soft rubber, which communicate with the compartments 8 and 9, respectively.

Fitted in the extension 15 is a valve-casing 17, which has seated in its inner end an inwardly opening valve 18, and located in the tubular extension 16 is a valve-casing 19, which has seated in its outer end an outwardly opening valve 20, which, as well as the valve in the casing 17, may be of the same construction as those shown in the valve-casings 11 and 13 and above mentioned. Fitted on the outer ends of the valve-casings 17 and 19, respectively, are flexible tubes 21 and 22, the former of which may lead to a supply of water and the other to a vessel or receptacle into which the used liquid may be discharged.

The operation of the syringe is simple and as follows: by compressing the walls of the bulb or body 1, the air contained in the compartments 8 and 9 will be forced therefrom through the valve-casings 11 and 19, for it is evident that the valves in said casings will open outwardly under pressure so as to allow the air to escape. As soon as the pressure is removed from the bulb the resiliency of the material will cause its walls to expand, which operation will draw a supply of water through the tube 21 and valve-casing 17 into the compartment 8, thus filling or partly filling the same, when the head 4 and neck 2 may be inserted into the vagina until the enlarged portion of the neck closes the entrance thereto, after which, by again pressing the bulb, the water contained in the compartment 8 will be forced out through the valve-casing 11 and channels 5 of the head 4 into the vaginal cavity, when by releasing the bulb, it will

again expand and withdraw the water or liquid from the vagina through the openings 5 in the head and valve-casing 13 into the compartment 9, for it is apparent that in this operation the valve 12 will be closed 5 and the valve 14 opened. By again applying pressure to the bulb the valve 14 will be closed and the valve 20 opened, thus permitting the used liquid to be discharged into the vessel for its reception, and at the same time supplying the compartment 8 with fresh 10 liquid and discharging the same through the valve-casing 11 and head 4 into the vagina.

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

- 15 1. In a syringe, the combination with a soft rubber bulb having a neck portion integral therewith and reduced towards its outer end and provided near said end with a transverse wall so as to afford a socket in the outer end of the said neck portion, of a partition extending from said 20 transverse wall to the end of the bulb opposite the same and dividing the bulb into two compartments, an outwardly opening valve in the transverse wall on one side of said partition and an inwardly opening valve therein on the other side of said partition, a tube communicating with 25 each of said compartments, a controlling valve in each of said tubes, and a hollow discharging head made of rigid

material and provided with a series of diagonally disposed channels for the passage of liquid therefrom and located at its inner end within the socket of the neck portion of the bulb, substantially as described. 30

2. In a syringe, the combination with a soft rubber bulb having a neck portion integral therewith and reduced towards its outer end and provided near said end with a transverse wall so as to afford a socket in the outer end of the said neck portion, of a partition extending from 35 said transverse wall to the end of the bulb opposite the same and dividing the bulb into two compartments, an outwardly opening valve in the transverse wall on one side of said partition and an inwardly opening valve therein on 40 the other side of said partition, a tube communicating with each of said compartments, a controlling valve in each of said tubes, and a discharging head having its inner portion annularly reduced to fit in the socket of the neck portion of the bulb and its outer portion provided with a series of diagonally disposed channels for the passage of 45 liquid, the said annular reduced portion of the head having on its outer surface an annular bead to engage the soft rubber neck portion, the said head being made of hard rubber to give rigidity to the neck portion of the bulb within which it is located substantially as described. 50

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