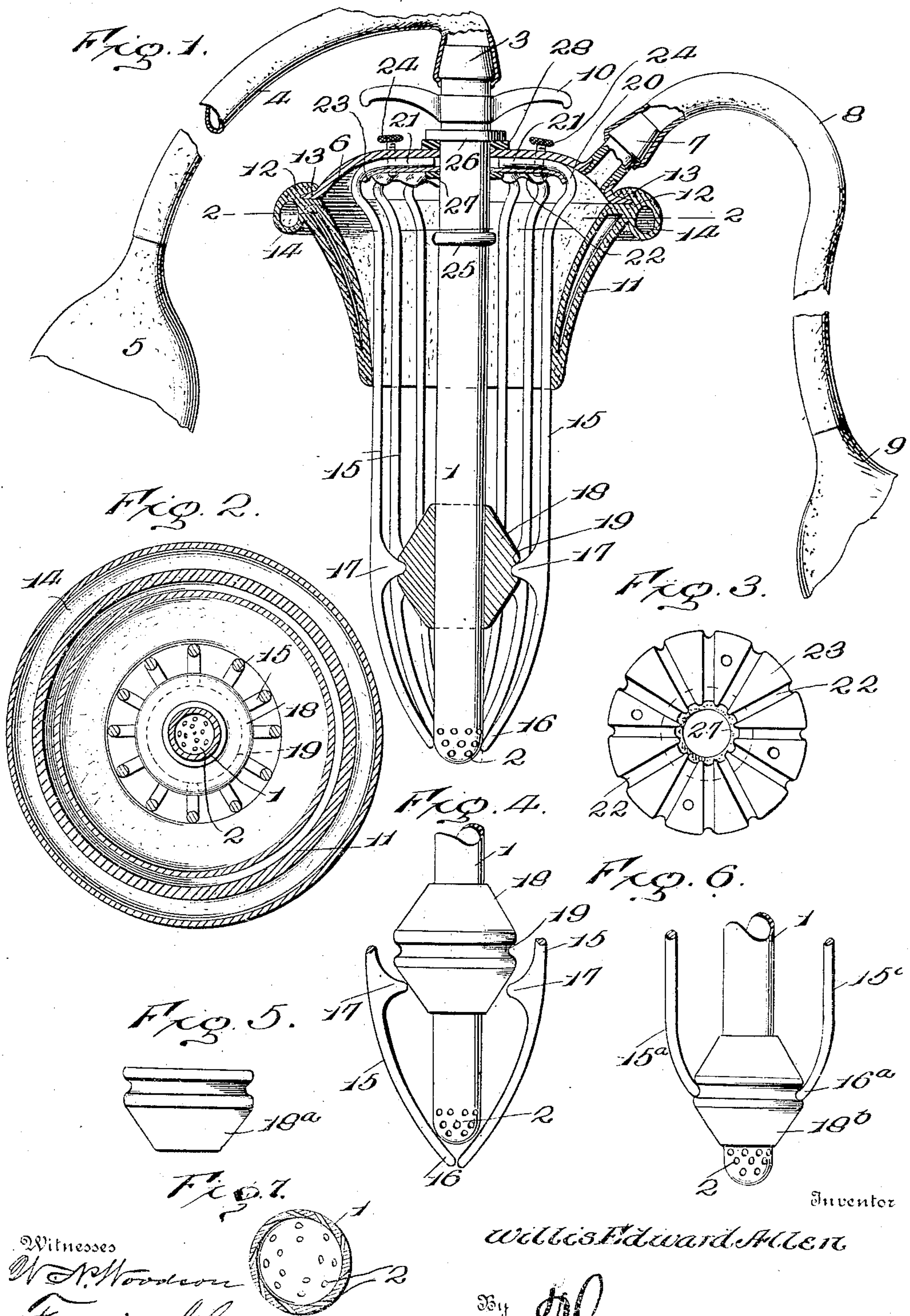


No. 898,300.

PATENTED SEPT. 8, 1908.

W. E. ALLEN.
VAGINAL SYRINGE.

APPLICATION FILED FEB. 20, 1908.



Witnesses
W. A. Woodson
Frederick S. Pitt

Inventor
Willis Edward Allen
By
Thos. B. Lacy, Attorneys

UNITED STATES PATENT OFFICE.

WILLIS E. ALLEN, OF SAN DIEGO, CALIFORNIA.

VAGINAL SYRINGE.

No. 898,300.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed February 20, 1908. Serial No. 416,869.

To all whom it may concern:

Be it known that I, WILLIS E. ALLEN, 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 comprehends certain new and useful improvements in vaginal syringes of the expanding type and the invention has for its object a simple and durable construction of syringe of this character which will be efficient in operation and not liable to injure the walls of the vagina, the syringe being composed of comparatively few parts which may be cheaply manufactured and readily assembled. And a further object of the invention is a syringe of this character in which the dilating fingers may be easily adjusted at both ends as may be required, and securely held in adjusted position.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and then point out the novel features in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a longitudinal sectional view of a syringe constructed in accordance with my invention, parts being shown in side elevation. Fig. 2 is a horizontal section thereof, on the line 2—2 of Fig. 1. Fig. 3 is a detail plan view of a part hereinafter mentioned. Fig. 4 is a detail view of the inner portion of the spray tube, with the dilating fingers shown in closed position. Fig. 5 is a detail view of a modified form of expander. Fig. 6 is a detail view of another modification. Fig. 7 is a detail sectional view through the discharge end of the spray tube.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates the spray tube of my improved syringe, said tube being formed at one end with a series of jet orifices 2 which are preferably obliquely disposed so that the fluid issuing therefrom will produce a whirling spray or discharge. The other end of the spray

tube 1 is formed with the usual nipple 3 by which it is designed to be detachably secured to one end of a supply tube 4 leading from the force bulb 5.

6 designates a dished cap piece which encircles the spray tube 1 and which is provided with a nipple 7 to which the suction tube 8 may be detachably secured, said tube leading to the suction bulb 9.

10 designates the operating handle secured to the outer end of the spray tube 1, as shown.

My invention comprises, in addition to other features hereinafter specifically referred to, a shield 11, which serves with the cap piece 6, as a return chamber for the fluid discharged from the spray tube 1, said shield being composed of soft rubber that will adapt itself to the inner walls of the vagina, without injury to the walls and which is formed at its outer rim with a substantially sharp interior groove 12 in which the corresponding rim 13 of the cap piece 6 fits, so as to detachably secure the shield and cap piece together. The body portion of the shield 11 may either be formed of spongy rubber or may be inflated or of a pneumatic character, as illustrated in the drawing, and it is preferably provided at its outer rim with an encircling flange 14 also of spongy or soft rubber, or inflated, said encircling rim 14 being adapted to fit around the outer walls of the vagina so as to insure against any leakage of the cleansing and healing fluid.

The dilating fingers 15 of my improved syringe are of spring material and are preferably straight throughout the main portion of their length, being curved inwardly at their innermost ends, as indicated at 16. The said fingers 15 may be formed just above their inwardly curved ends 16 or at any predetermined point, with flanges 17, the edges of which are preferably angularly disposed as shown, or rounded. These flanges 17 are designed to ride upon the walls of a single or double turbinate expander 18 preferably secured in a detachable manner to the spray tube 1 so that one expander may be removed and another of different size substituted therefor, in order to vary the degree of expansion or dilation of the fingers 15 in the operation of the device. The flanges 17 are designed to fit in a groove 19 which may either be an annular groove extending entirely around the expander 18 or a series of sockets or depressions for the several flanges, and when the

fingers are dilated by the relative movement of the spray tube 1 in one direction, as will be evident from the drawing, the several flanges 17 ride downwardly upon the expander 18, the latter forcing them apart, and the flanges finally lodging in the depression or groove 19 so as to hold the fingers expanded until it is again desired to contract them.

The fingers 15 are at one end turned or offset in an outward direction as indicated at 20 and are thence returned upon themselves as indicated at 21, the inwardly turned extremities 21 being designed to rest in radial corrugations 22 in a retaining plate or disk 23. This plate 23 is adapted to fit underneath the cap piece 6, the extremities 21 being interposed between said plate and cap piece and held thereby at the desired lateral adjustment by means of set screws 24 secured to the plate 23 and extending outwardly from the cap piece 6.

The spray tube 1 is formed near its outer end with an inner and an outer preferably rounded bulge or band 25 and 26, the band 25 being adapted to set against a soft rubber or cork washer 27 formed at the center of the plate 23 when the spray tube is drawn outwardly to contract the device, and the band 26 being adapted to fit against a corresponding band or washer 28 formed at the center of the cap piece 6, when the spray tube is pushed inwardly to expand the device, this construction preventing any leakage around the spray tube, while at the same time avoiding the unpleasant effects of washers secured to the tube and so liable to injure the walls of the vagina.

In the practical operation of my improved vaginal syringe the device is inserted in the vagina in the contracted condition with the spray tube 1 in an outward position relative to the dilating fingers, and after the device has been properly inserted with the soft rubber shield 11 in the mouth of the vagina and the soft or air-cushioned encircling flange 17 fitted against the outer walls so as to effectually prevent leakage, the spray tube is pushed inwardly and the bulb 5 squeezed to force the cleansing or healing fluid out of the discharge end of the spray tube 1 in a whirling spray. The manipulation of the suction bulb 9 will draw the cleansing or healing fluid out of the vagina as such bulb will form a partial vacuum by being collapsed just before forcing the liquid into the vagina and its manipulation for this operation may be repeated as often as necessary, without removing the syringe. When the tube 1 has been once pushed in to effect the proper dilation of the fingers, the flanges 17 will engage with the depression 19 and serve to effectually prevent the accidental contraction of the device. As before stated, it is clear that my peculiar means for securing the outer ends of the

fingers provides for the lateral adjustment of the fingers as the requirements of the case may demand, and the degree to which the other ends of the fingers are dilated, may be varied by slipping one expander 18 from the spray tube and applying another one of a different size.

As one modification to which my invention is adaptable, reference is to be had to Fig. 5, wherein the expander 18^a is shown as of single turbinate form, and as another modification, reference is to be had to Fig. 6, wherein the expander 18^a is illustrated as at the tip end of the spray tube, the inwardly turned ends 16^a of the fingers 15^a taking the place of the flanges before mentioned.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very simple, durable and efficient construction of vaginal syringe which will not be unpleasant to use and which may be safely used without injury to the tender walls of the vagina, by reason of the absence of unnecessary projecting parts and the provision of the soft rubber or air-cushioned shield 11 with its encircling flange 14.

Having thus described the invention, what is claimed as new is:

1. In a device of the character described, the combination of a spray tube, a series of dilating fingers surrounding said tube, means for rigidly and immovably holding said fingers at one end at different lateral adjustments around the tube, and means for expanding the opposite ends of said fingers upon the relative movement of the tube in one direction.

2. In a device of the character described, the combination of a spray tube, a series of dilating fingers surrounding said tube, a plate and a cap piece encircling said tube and in which said tube is mounted to move, means for holding said fingers rigidly at one end in laterally adjusted positions between said parts, and means for dilating the opposite ends of said fingers upon the movement of the tube in one direction.

3. In a device of the character described, the combination of a spray tube, a series of dilating fingers encircling said tube, means for dilating the fingers at one end upon movement of the tube in one direction, a radially corrugated plate encircling said tube, a cap piece also encircling said tube outside of the plate, the fingers being provided with inwardly turned extremities adapted to fit in the corrugations of said plate and between the latter and the cap piece, and means for holding said plate and cap piece together to secure the fingers in place at different lateral adjustments.

4. In a device of the character described, the combination of a spray tube, a series of

dilating fingers encircling said tube and formed at one end with inwardly turned extremities, a radially corrugated plate encircling the tube, the extremities of the fingers fitting in the corrugations of said plate, a cap piece encircling said tube outside of said plate and adapted to hold said extremities in the corrugations, and set screws secured to said plate and working through the cap piece, and means for expanding the opposite ends of said fingers.

5. A device of the character described, comprising a spray tube, a series of dilating fingers encircling said tube, means for expanding said fingers at their inner ends, a plate encircling said tube, a cap piece encircling said tube outside of said plate, the fingers being held between said plate and cap piece, both the plate and cap piece being provided with washers where they encircle the tube, and the tube being provided with spaced bulged portions adapted to engage said washers upon the movement of the tube in one direction or the other, as and for the purpose set forth.

6. A device of the character described, comprising a spray tube and a series of dilating fingers encircling said tube, means for securing said fingers thereto at their outer ends, and an expander adapted to be slipped on said tube and frictionally held thereon and arranged to engage portions of said fingers to

expand the same upon the movement of the tube in one direction.

7. A device of the character described, comprising a spray tube, a series of dilating fingers encircling said tube, means for securing said fingers at one end, and an expander adapted to be slipped on said tube and removably held thereon, and provided in its body portion with an annular depression arranged to engage portions of said fingers and hold the same expanded upon the movement of the tube in one direction.

8. In a device of the character described, the combination of a spray tube, a series of dilating fingers encircling said tube, means for dilating the fingers at one end upon the movement of the tube in one direction, a plate encircling said tube, a cap piece also encircling said tube outside the plate, the fingers being provided with angularly turned extremities adapted to fit between the plate and the cap piece, and means for holding said cap piece and plate together to secure the fingers in place at different lateral adjustments.

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

WILLIS E. ALLEN. [L. s.]

Witnesses:

THOMAS O'HALLARAN,
B. FORBES.