

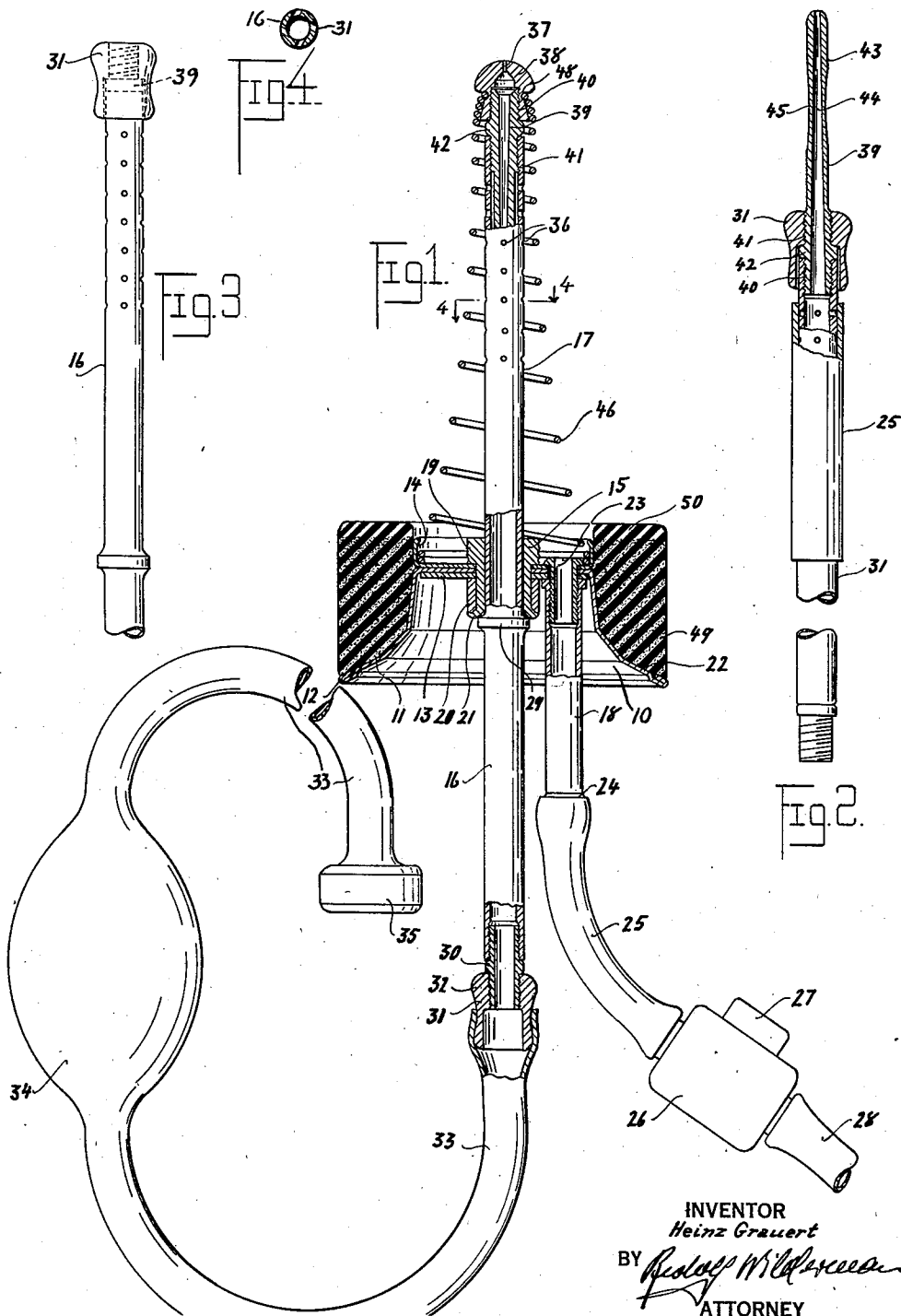
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H. GRAUERT

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SYRINGE

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INVENTOR
Heinz Grauert
BY *Reedley Wilder*
ATTORNEY

UNITED STATES PATENT OFFICE

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SYRINGE

Heinz Grauert, Elmhurst, N. Y., assignor, by
direct and mesne assignments, to Frank Platt-
ner, Elmhurst, N. Y.

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This invention concerns a syringe, spray or douche, as used for washing cavities of the human body. Its principal field of application is in female hygiene.

One of the objects of the invention is to facilitate the introduction of the applicator of a syringe, and to distend mucous membranes thereby, so that they are exposed for a thorough ablation.

According to another object of this invention the tract to be rinsed or washed is distended spacedly relatively to an irrigating spray stem or nozzle, so as to permit free play of a cleansing solution upon the surfaces or membranes to be cleansed.

This invention further provides for dispensing means, which cause a regulated flow of cleansing fluid, along a preferred, e. g. helical path.

Another object of this invention provides for a construction and arrangements of the channels delivering a cleansing fluid to spray nozzles in such fashion, that a high velocity of flow of the fluid is obtained, yielding a high cleansing efficiency by way of dynamic action.

This invention also has the object to incorporate parts in a syringe particularly adapted for vaginal douches which allow a ready conversion for other syringing, such as enemas, if emergency should so require.

These and other objects of this invention will be better understood from the following description and the accompanying drawing, which shows a specific embodiment of the instant invention, but is to be interpreted as illustrative and not in limitation of the improvements.

In the drawing:

Fig. 1 shows a partly sectioned assembly of an embodiment of this invention.

Fig. 2 shows parts thereof converted for enema of a child.

Fig. 3 shows parts arranged for enema of a grown-up person.

Fig. 4 is a cross-sectional view taken at 4—4 in Fig. 1 of the stem of the applicator and illustrating a preferred inclined arrangement of the perforations.

Similar numerals refer to similar parts throughout the various views:

The device essentially comprises in a douche a shield and a contractile applicator extending therefrom. The applicator comprises an exterior tensile spreading member, into which a spray is spacedly placed.

The frame work of the shield 10 comprises an outer flared cup 11 having a beaded edge 12. It

may accommodate a reinforcing disc 13 at the bottom. The cup 11, together with disc 13 contained therein, is assembled end to end with a flat saucer 14 by a central guide bushing 15, which slidably accommodates the perforated hollow stem 16 of applicator 17, and by the drain nipple 18, which is laterally offset relatively to bushing 15.

The central guide bushing 15 rests with a shoulder 19 on the flat saucer 14 and extends with its shank through central openings in said saucer 14, the cup 11 and reinforcing disc 13 and then through a spacing sleeve 20 and is pressed, spun or peened over the latter, so that parts 11, 13 and 14 are pressed together and held in firm abutment.

Nipple 18 may be flanged at one end by a collar 22, and is engaged at that end by a hollow screw 23. Screw 23 serves as an outlet and extends through openings in parts 11, 13 and 14 and draws said parts into abutment with each other.

Over the other, thickened end 24 of nipple 18 is slipped a short hose 25, which connects with a cock or valve serving to control the draining of a liquid used in the device by way of manipulation. The drawing shows for such purpose a cock 26, which is controlled by a push-button 27. From the other end cock 26 extends a hose 28, which may lead, for instance, to a waste bowl (not shown). The irrigating stem 16 has a stop collar 29 upon its outside, said collar seating against the lower end of the central guide bushing 15, when the irrigating stem is in the top position shown in the drawing.

Opposite ends of irrigating stem 16 are tapped. In the lower threaded end of stem 16 is permanently mounted a double threaded bushing 30, on which a bulbous connector 31 is removably mounted. Bushing 30 is threaded on its interior to the extent to which it is engaged upon the double thread 30. The bulbous connector 31 is of a larger diameter at its upper end 32, is contracted below said upper end 32, and then larger again at its lower end, in order to offer a grip for a liquid supply conduit. As a supply conduit the drawing shows a rubber hose 33, which is enlarged into a bulb 34 intermediate its ends, and carries at its end a poppet valve 35, which permits a fluid to be taken in and to flow in one direction, after the bulb 34 has been squeezed and is released, the fluid taken in being ejected by way of the irrigating stem 16.

A syringing liquid taken in by way of poppet valve 35 will be readily ejected from the upper end of irrigating stem 16 by way of the small

openings 36 provided on all sides of said stem 16 as perforations, and by way of the central opening 37 in bulbous head 38, which is superimposed upon the irrigating stem 16 by way of the nozzle 39. Nozzle 39 is shown in full in Fig. 2, and comprises at the base threaded sections 40 and 41, which are separated from each other by the shoulder 42, and which are engaged in the arrangement of Fig. 1 upon the bulbous head 38 and the stem 16, respectively, thus constructively connecting the two parts. From the threaded end of the nozzle 39 extends a shank 43, which has a taper bore 44. Upon the outside the shank 43 has an intermediate constriction 45, but has substantially the same diameter at opposite ends, which predeterminedly and spacedly clears the inner wall of the irrigating stem 16, when the shank 43 extends into the irrigating stem 16 in the manner shown in Fig. 1.

Shank 43 restricts passage in stem 16 for the syringing liquid and causes it to flow at a comparatively high speed, when it approaches the openings 36 and 37. Thus the liquid leaves the openings at a considerable force of movement, being at the same time expelled with substantially the same force in a number of jets from all the openings.

Tensile means like a coiled spring clear the space around stem 16 for play of the jets, and an open coil will cause the liquid to whirl in a tract. Thus a helical spiral spring 46 is seated at its large end by way of at least one complete convolution in the saucer 14; whereas its narrow, closely wound upper end 47 is fixedly engaged upon the tapered shank of bulbous head 38 and in groove 48 at the point of narrowest cross-section of said shank.

A suitable gasket facilitating closing around the orifice of a tract is placed around the parts 11, 14. The drawing shows for such purpose a sponge rubber annulus 49 having a solid top 50.

For use of the device assembled in accordance with Fig. 1, the valve end 35 is placed into a container holding the syringing liquid, whereas the hose 28 is connected to waste. In reaction against spring 46 the applicator is withdrawn and the device is placed in position, annulus 49 closing around the vulva. The applicator is then slowly released, so that the head 38 and the spring 46 enter upon and spread the vagina. The syringing is then effected by manipulating bulb 34, thus pumping the syringing liquid for the douching. During and after syringing the syringing liquid is drained by manipulation of push-button 27.

When the device is to serve as enema for children, nozzle 39 is connected to the irrigating stem 16 to extend out therefrom, instead of into it, as shown in Fig. 2. Bulbous connector 31 serves as a protective sleeve, and the short hose 25 may be slipped over the stem 16, in order to close the openings 36.

For an enema for a grown-up person the stem 16 and the nozzle 39 are assembled with each other in the same manner as shown in Fig. 1 and the bulbous connector 31 is placed thereover as indicated in Fig. 3.

Having thus described my invention in detail, yet I do not wish to be limited thereby, except as the state of the art and the appended claims may require, for it is obvious that various modifications and changes may be made in the form of embodiment of my invention, without departing from the spirit and scope thereof.

What I claim is:

1. A syringe comprising a shield, a helico-spiral

spring extensible to fit an orifice of the human body, a saucer forming part of said shield and seating the large end of said spring, a stem extending through an opening in said saucer, attached to the spring at the apex of said spring and adapted to be manipulated for extension of said spring, and an inlet and an outlet for passing a syringing liquid through the shield and saucer into and from the space circumscribed by said spring.

2. A syringe comprising a shield, a coiled compression spring larger at one end than at the other and seated at its large end upon said shield, and a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and being adapted at its other end for connection with a supply of syringing fluid.

3. A syringe comprising a shield, a coiled compression spring larger at one end than at the other end and seated at its large end upon said shield, and a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and having a stop limiting its sliding movement in said shield in the direction in which the stem is tensioned by said spring.

4. A syringe comprising a shield, a coiled compression spring larger at one end than at the other end and seated at its large end upon said shield, and a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and having a shank spacedly extending thereinto from said one end substantially to the distance, to which said stem is perforated.

5. A syringe comprising a shield, a coiled compression spring larger at one end than at the other end and seated at its large end upon said shield, and a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and having a shank reversibly attached thereto and spacedly extending thereinto from said one end substantially to the distance, to which said stem is perforated, said shank extending from said stem as a nozzle, when reversed.

6. A syringe comprising a shield, a coiled compression spring larger at one end than at the other and seated at its large end upon said shield, a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and having a shank reversibly attached thereto and spacedly extending thereinto from said one end substantially to the distance, to which said stem is perforated, and shank extending from said stem, when reversed, and a bulbous connecting sleeve for covering the end at which the said stem and shank are connected.

7. A syringe comprising a shield, a coiled compression spring larger at one end than at the other end and seated at its large end upon said shield, a hollow stem perforated near one end at which it is attached to the small end of said spring, said stem being axially slidably guided by said shield and having a shank reversibly attached thereto and spacedly extending thereinto from said one end substantially to the distance, to which said stem is perforated, said shank extending from said stem, when reversed, and a

sleeve adapted to be slid over said stem and to close the perforations in said stem.

8. A syringe comprising a shield, a compression spring larger at one end than at the other end and seated at its large end upon said shield, a hollow, perforated stem slidably extending through said shield, and a bulbous head engaged in the small end of the spring and on said stem.

9. A syringe comprising a shield, a compression spring larger at one end than at the other and seated at its large end upon said shield, a hollow, perforated stem slidably extending through said shield, and engaged upon the small end of said spring, and a yieldable annulus surrounding said spring on said shield and serving to close the shield around an orifice, into which said spring is extended. 15

10. A syringe comprising a closing shield, a stem extending substantially centrally through said shield, having a head at its end and perforated between said shield and said head, and an open coil spring, which is larger at one end than at the other, spacedly surrounding the perforated portion of said stem between said shield and said head, resting at its large end upon said shield, and engaged at its apex upon said head of the stem, said stem serving to admit a syringing fluid to the space surrounded by said coil, said shield having a drain extending there-through from the space surrounding said stem in said coil.

HEINZ GRAUERT.