

J. J. HOLLAND.
 SYRINGE.
 APPLICATION FILED NOV. 19, 1909.

1,076,425.

Patented Oct. 21, 1913.

FIG. I.

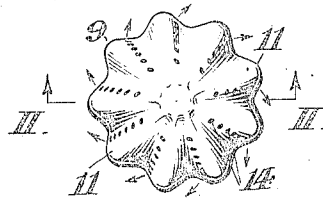


FIG. III.

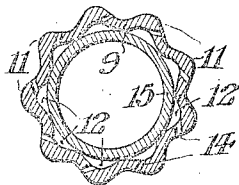


FIG. II.

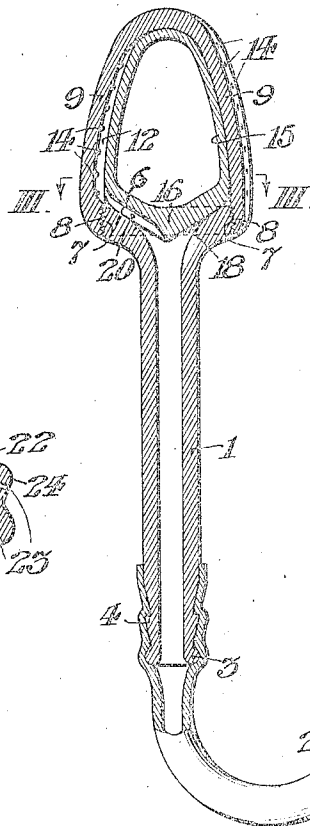


FIG. IV.

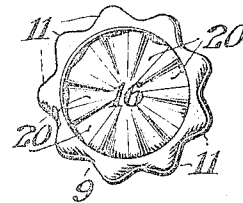
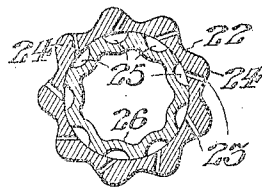


FIG. V.



WITNESSES:

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SYRINGE.

1,076,425.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES J. HOLLAND, of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Syringes, whereof the following is a specification, reference being had to the accompanying drawings.

My invention may be advantageously embodied in a syringe for vaginal use, but of course may be otherwise utilized.

As hereinafter described my invention includes the combination with a tubular stem; of an exterior ovoid shell carried by said stem and having a circumferential series of jet orifices extending through said shell; and an ovoid core in said shell, forming with said shell a series of separable channels circumferentially spaced in said shell and leading to the respective jet orifices, the outer walls of said channels being formed by said shell, and the inner walls of said channels being formed by said core; whereby water passing through said stem is equally distributed throughout the circumference of said shell.

My invention includes the various novel features of construction and arrangement hereinafter more definitely specified.

In the drawings:—Figure I is a front end view of a nozzle conveniently embodying my improvement. Fig. II is a longitudinal sectional view taken on the line II, II in Fig. I. Fig. III is a transverse sectional view taken on the line III, III in Fig. II. Fig. IV is an inner end view of the conical shell with the removable core. Fig. V is a transverse sectional view similar to Fig. III but showing a modified form of the invention.

Referring to Fig. II, the tubular stem 1 is provided at its inlet end with means to detachably engage a flexible tube 2 conveniently with the beads 3 and 4. The opposite outlet end of said stem 1 is provided with the annular flange 6 provided with the screw thread 7 fitting the screw thread 8 in the ovoid shell 9. As shown in Fig. III, said shell 9 has ridges 11 extending longitudinally on its external surface, inner channels 12 coinciding with said ridges, and jet orifices 14 arranged in series longitudinally in said shell 9, opening from said channels 12 through said ridges 11 at one side thereof. The arrangement described is such that water may be discharged through said jet orifices with a motion tangential to the pe-

rimeter of said shell. The liquid supplied through said stem 1 is distributed equally to said channels 12 and thence through said jet orifices 14 by the core member 15 which is conveniently formed as a hollow ovoid body having its inner end 16 fitting in the flaring seat 18 in the proximal end of said stem 1 and provided with a series of radial channels 20 leading from said stem to the channels 12 in said shell 9.

Although I prefer to provide the nozzle shell 9 with internal channels corresponding with the external ridges thereof, I do not desire to limit myself to such construction. For instance, a shell 22 such as is shown in Fig. V and otherwise like the shell 9 above described may have a smoothly circular internal surface and the water be distributed to the respective orifices 23 in the ridges 24 by way of channels 25 in the core member 26 which otherwise may be like the core member 15 above described. Moreover, although I have shown the core member 15 fitting in the end of the tubular stem 1 and provided with a series of radial channels leading from said stem to evenly distribute the water therefrom, it is to be understood that said core may be otherwise shaped.

I do not desire to limit myself to the precise details of construction and arrangement above described as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

I claim:—

1. In a syringe, the combination with a rigid tubular stem having means at one end to engage a flexible tube and having an annular screw threaded flange at the other end with an outwardly flared seat concentric with the passageway through said stem; of a hollow ovoid shell detachably connected with said flange, by an internal screw thread at the larger end of said shell, having ridges extending longitudinally on its external surface, and jet orifices, arranged in series longitudinally in said shell, opening through the latter tangentially with respect to its axis, through said ridges at one side thereof; a hollow sealed ovoid core inclosed by said shell in separable relation therewith, having a series of radial channels in its larger end concentric with the axis of said stem and fitted in the outwardly flared seat of the latter; and, means

forming separate channels between said core and shell respectively in registry with the radial channels in said core and local to the respective series of orifices in said shell; whereby, water passing through said stem is distributed by said core in separate streams to the respective series of orifices to equalize the distribution of water throughout the circumference of said shell.

2. In a syringe, the combination with a rigid tubular stem having means at one end to engage a flexible tube and having an annular screw threaded flange at the other end with an outwardly flared seat concentric with the passageway through said stem; of a hollow ovoid shell detachably connected with said flange, by an internal screw thread at the larger end of said shell, having ridges extending longitudinally on its external surface, and jet orifices, arranged in series longitudinally in said shell, opening through the latter tangentially with respect to its axis, through said ridges at one side thereof; a hollow sealed ovoid core inclosed by said shell in separable relation therewith, having its larger end concentric with the axis of said stem and fitted in the outwardly flared seat of the latter; and, means forming separate channels between said core and shell respectively in registry with the respective series of orifices in said shell; whereby, water passing through said stem is distributed by said core in separate streams to the respective series of orifices to equalize the distribution of water throughout the circumference of said shell.

3. In a syringe, the combination with a rigid tubular stem having means at one end to engage a flexible tube and having an annular flange at the other end with an outwardly flared seat concentric with the passageway through said stem; of a hollow

ovoid shell detachably connected with said flange, at the larger end of said shell, having ridges extending longitudinally on its external surface, and jet orifices, arranged in series longitudinally in said shell, opening through the latter tangentially with respect to its axis; a hollow ovoid core inclosed by said shell in separable relation therewith, having a series of radial channels in its larger end concentric with the axis of said stem and fitted in the outwardly flared seat of the latter; and, means forming separate channels between said core and shell respectively in registry with the radial channels in said core and local to the respective series of orifices in said shell; whereby, water passing through said stem is distributed by said core in separate streams to the respective series of orifices to equalize the distribution of water throughout the circumference of said shell.

4. In a syringe, the combination with a tubular stem; of an exterior ovoid shell carried by said stem and having a circumferential series of jet orifices extending through said shell; and an ovoid core in said shell, forming with said shell a series of separable channels circumferentially spaced in said shell and leading to the respective jet orifices, the outer walls of said channels being formed by said shell, and the inner walls of said channels being formed by said core; whereby, water passing through said stem is equally distributed throughout the circumference of said shell.

In testimony whereof I have hereunto signed my name at Philadelphia, Pennsylvania, this tenth day of November, 1909.

JAMES J. HOLLAND.

Witnesses:

ARTHUR E. PAIGE,

GERTRUDE N. R. MATTSO.