

J. I. KLEPPER.

SYRINGE.

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1,055,188.

Patented Mar. 4, 1913.

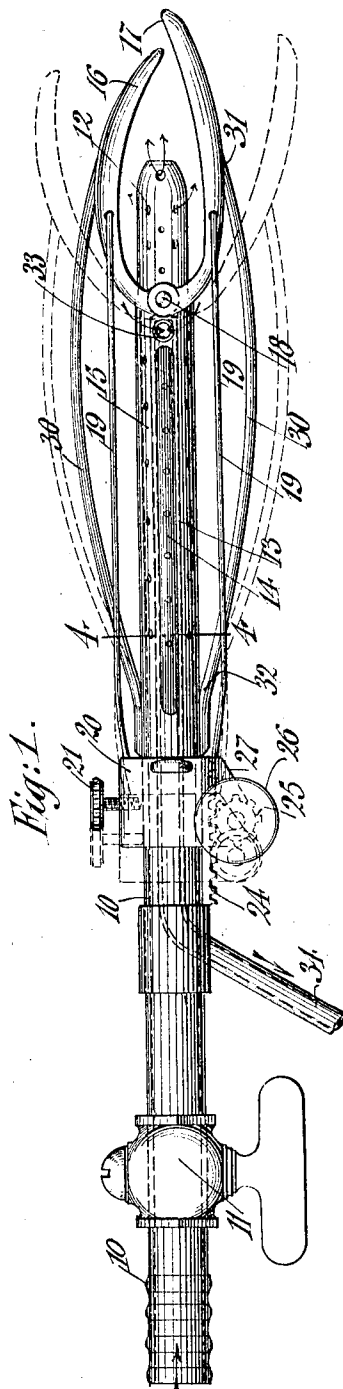


Fig. 1.

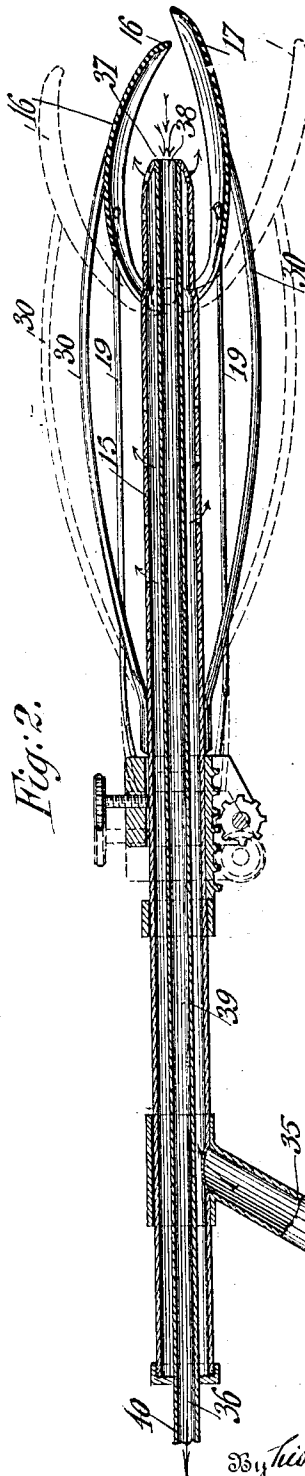


Fig. 2.

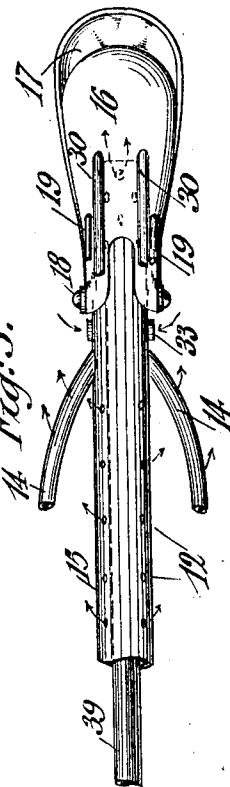


Fig. 3.

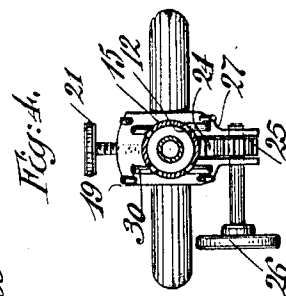


Fig. 4.

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SYRINGE.

1,055,188.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS I. KLEPPER, a citizen of the United States, residing in New York, borough of Manhattan, State of New York, have invented certain new and useful Improvements in Syringes, of which the following is a specification.

This invention relates to syringes, and more particularly to vaginal syringes intended for therapeutical purposes.

The object of the invention is to provide a syringe which will properly expand the vagina so as to insure the entrance of the cleansing solution to all parts of the same, and more particularly has for its object to provide special means for holding the cervix and expanding the tissue around the cervix. For this purpose the invention consists of a syringe provided with suitable openings for the passage of the fluid, dilators, positioning lips, and means for operating the positioning lips and the dilators.

In the accompanying drawings, Figure 1 shows a side elevation of my improved syringe, with the lips in normal and in expanded position, Fig. 2 is a vertical longitudinal section of Fig. 1, Fig. 3 is a detail side view of the lips, and Fig. 4 is a vertical transverse section on line 4-4 of Fig. 1.

Similar numerals of reference indicate corresponding parts throughout the figures.

Referring to the drawing, the pipe 10 is provided with a valve 11, which governs the entrance of the fluid to the syringe, and which fluid is adapted to pass out openings 12 in the tubular portion of the syringe, and openings 13 in lateral curved pipes 14 of the syringe. The tubular portion 15 which forms the vaginal portion is provided with lips 16 and 17 pivoted at 18 to the tubular portion 15, and these lips 16 and 17 are operated by rods 19 secured to a reciprocatory sleeve 20 surrounding the portion 15 and adapted to be held in position by a thumb-screw 21. The body of the syringe or pipe 10 is provided with a rack 24 adapted to be engaged by a pinion 25 to which is secured a handwheel 26. By the rotation of the handwheel 26 the pinion 25 moves the sleeve along the rack 24, since the pinion is supported by an extension 27 of the sleeve 20. By the movement of the sleeve 20, the rods 19 draw the lips 16 and 17 rearwardly and thereby open the same from normal position shown in full lines in Fig. 1,

to the position in full expansion for catching the cervix as shown in dotted lines in Fig. 1.

To the lips 16 and 17, dilators 30 are applied, which have one end secured at 31 to the lips and their other ends 32 secured to the tube 15. By the opening of the lips the dilators are expanded to circular position shown in dotted lines in Fig. 1, and thereby serve to expand the vagina. The tubes 14 with holes 15 serve to give special and additional means for irrigation.

In the operation of the syringe shown in Fig. 1, the fluid enters as shown by the arrow and passes out of the tubular part 15 through the holes 12, while the fluid that has performed its useful function reenters the syringe at 33 and is discharged by means of the pipe 34 from the syringe.

In the modification shown in Fig. 2 the operation of the fluid is somewhat different in that the fluid enters the pipe 35 controlled by a valve 41 and is discharged by the pipe 36, this embodiment having its free end provided with a central opening 38 which is in line with an inner tube 39, the end of which is shown at 40. The lips 16 and 17 and the dilators 30 are similar to those shown in Fig. 1.

My improved syringe has the great advantage of insuring the expansion of the vagina and mucosa around the cervix and more especially irrigating the front of the cervix when in action, so as to insure the fluid passing to all parts thereof, and thereby greatly adding to the hygienic and antiseptic features of the treatment.

The instrument described may be used by physicians specially as a gynecological instrument.

Having thus described my invention, I claim as new:

1. An improved syringe, comprising a main portion having openings forming a vaginal portion, short lips each having its inner end pivoted to the vaginal portion a short distance from its free end, sliding means, and rods connecting the sliding means with the lips at a point between their free and pivoted ends.

2. An improved syringe, comprising a main portion having openings forming a vaginal portion, short lips pivoted close to the free end of the vaginal portion, one of said lips being larger than the other, rods secured to the lips, and operating means on

the syringe connected with the rods for moving the lips.

3. An improved syringe, comprising a vaginal portion, lips pivoted at the end of the vaginal portion, one of said lips being larger than the other, rods secured to the lips, a sleeve having a rack, a pinion engaging the rack, and a thumbscrew for moving the rack and thereby the lips.

4. An improved syringe comprising a vaginal portion having openings, pivoted lips at the ends of the vaginal portion, dilators secured to the lips and to the vaginal portion, and means for operating the lips and thereby expanding the dilators.

5. An improved syringe comprising a main portion having an opening at its free end, an inner tube in line with the opening, an outer tube surrounding the inner tube, and provided with openings, lips at the end of the tubes, dilators on the lips, and means for operating the lips and the dilators.

6. In an improved syringe, a vaginal portion having openings, lateral tubes having openings arranged on the vaginal portion, lips on the end of the portion and beyond the lateral tubes, and dilators operated by the lips and extending over the lateral tubes.

7. In an improved syringe having a main-portion with openings, lips at the end of the portion and pivoted thereto, rods connected with the lips, a movable sleeve connected with the other ends of the rods, and means for moving the sleeve for moving the rods and lips.

8. In an improved syringe, a main-portion having openings, lips pivoted to the main-portion, rods pivoted to the lips, a sleeve connected with the free ends of the rods, a rack on the sleeve, a pinion engaging the rack, and means securing the sleeve in fixed position.

9. In an improved syringe, a main-portion having openings, lips pivoted near the free end of the main-portion, rods pivoted to the lips, means for moving the rods, means for fixing said means in position, and dilators operated by the lips on the movement of the sleeve.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JULIUS I. KLEPPER.

Witnesses:

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L. M. DORMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."