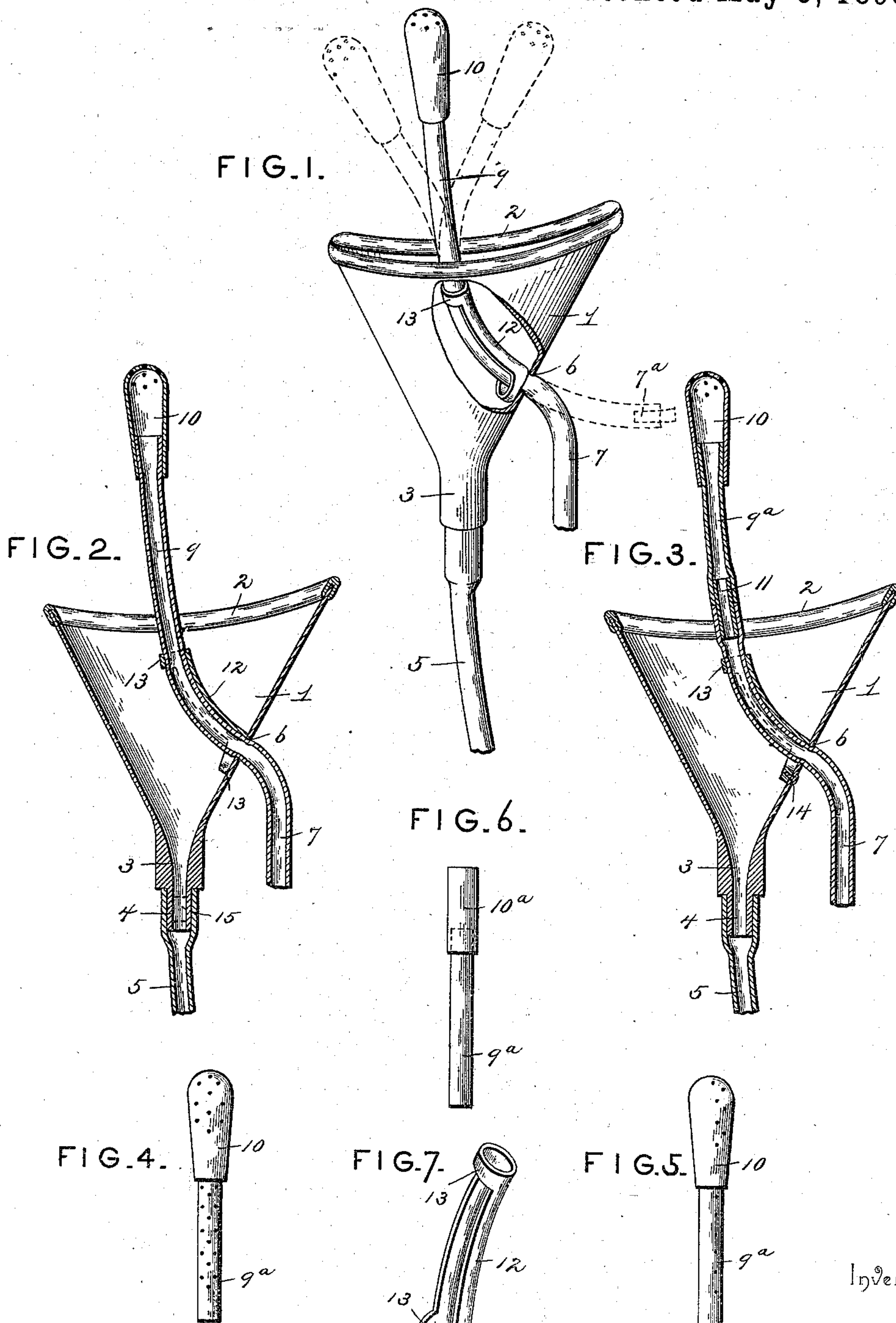


(No Model.)

W. B. SPENCER.
SYRINGE.

No. 559,417.

Patented May 5, 1896.



Witnesses
Harry L. Amer.
D. T. Thompson

By His Attorneys.

William B. Spencer.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WILLIAM BARTON SPENCER, OF CHICAGO, ILLINOIS.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 559,417, dated May 5, 1896.

Application filed January 17, 1895. Serial No. 535,266. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BARTON SPENCER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Vaginal Syringe, of which the following is a specification.

This invention relates to vaginal syringes; and it has for its object to effect certain improvements in syringes of this character whereby the same shall be rendered safer to use and more efficient in operation.

To this end the main and primary object of the invention is to provide a vaginal syringe in which the injecting-nozzle thereof shall be sufficiently yielding and adjustable so as to be adapted for use in different cases without the slightest degree of pain or injury to the patient, and the invention therefore contemplates a construction of syringe that may be easily and readily assembled, taken apart, cleaned, disinfected, and the nozzle of which can be adjusted almost universally, so as to meet all requirements, and thereby obviate the disadvantages of vaginal syringes having stiff unyielding nozzles, which are often injurious in inexperienced hands. In the attainment of the objects noted the syringe is designed as an improvement upon the class of syringes shown in my former patent, numbered 474,506.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view, partly in section, of a vaginal syringe constructed in accordance with this invention, showing in dotted lines some of the possible adjusted positions of the flexible nozzle. Fig. 2 is a central vertical sectional view thereof. Fig. 3 is a view similar to Fig. 2, showing a modified construction of nozzle. Figs. 4, 5, and 6 are detail elevations of different forms of the modified construction of nozzle shown in Fig. 3. Fig. 7 is a detail in perspective of the rigid nozzle-supporting arm.

Referring to the accompanying drawings, 1 designates a conico-elliptical backflow-re-

ceiver that is made of hard rubber or other suitable material. The shape of the receiver 1 is such as to adapt it to conform to the anatomy of the body at the point of application, whereby the syringe may be employed with the patient in a standing or reclining position without wetting or staining clothing, bedding, &c. The receiver 1 has fitted to the upper edge thereof a soft-rubber or similar annular cushion 2, that provides an easy and soft contact with the body, and at its lower tapered end the receiver is provided with an extended discharge-pipe 3, that is exteriorly reduced to form an attaching-neck 4, to detachably receive one end of the flexible discharge-tube 5, which provides for conducting the liquid discharge from the backflow-receiver to any suitable receptacle.

The receiver 1 is provided at an intermediate point between its upper and lower ends with a side tube-opening 6, in which is adapted to be fitted the flexible supply-tube 7, that leads from an ordinary bulb, fountain, or other injection syringe, and said tube 7 may either be a continuous tube, as a part of the bulb or other syringe, or may be a separate section of tubing, as illustrated in one of the figures of the drawings, and provided at one end with an attaching-nipple 7^a, on which is adapted to be fitted the circulating-pipe of the bulb, fountain, or similar syringe. The flexible supply-tube 7 is slightly greater in diameter than the side tube-opening 6, in which it is fitted, so that the tube will be pinched sufficiently tight in said opening to hold it firm in its adjusted position, and the said supply-tube extends into and above the receiver 1 to form an adjustable flexible nozzle portion 9, that is adapted to be inserted into the vaginal canal to give the desired injection or douche. The nozzle portion 9 of the tube 7 is adapted to have fitted on its upper end a bulbous perforate nozzle-tip 10, which may be made of any suitable material, and is adapted to distribute or spray the liquid within the vaginal canal to reach the affected parts, and the said nozzle-tip may be made in various lengths or sizes to provide for lengthening or shortening the nozzle portion of the syringe and with any desired number or character of perforations to suit a particular case.

By reason of forming the nozzle of a syringe of a portion of the flexible supply-tube it will be obvious that the nozzle can be moved, bent, or adjusted in various positions, as shown in Fig. 1 of the drawings; but this form of the nozzle is susceptible to slight modifications, as illustrated in Figs. 3, 4, 5, and 6. In Fig. 3 of the drawings the upper end of the supply-tube 7, that is projected from within the receiver 1, is provided with an attaching-nipple 11, onto which is adapted to be fitted the lower end of a flexible nozzle-tube 9^a, consisting of a short length or section of soft or flexible tubing and corresponding in use and adjustment to the nozzle-tube portion 9, previously referred to. The nozzle-tube 9^a may be made in various lengths and sizes, according to the character of the work required of the syringe, and said tube may be imperforate throughout its length, as shown in Fig. 3, perforated throughout its length, as shown in Fig. 4, or perforated throughout its length at one side only, as illustrated in Fig. 5, to provide, by turning the nozzle-tube, for directing the douching-jets to any special ulcer or spot. In the several modified forms of nozzles the same are all provided with the separate detachable nozzle-tips 10, previously referred to, and in Fig. 6 is illustrated a modified construction of nozzle-tip 10^a, that is imperforate and open at both ends to provide for attachment to the nozzle-tube and for directing a steady unbroken stream of liquid into the vaginal canal.

In all forms of the syringe the portion of the flexible supply-tube 7 within the backflow-receiver is maintained centrally positioned therein by means of the rigid curved nozzle-supporting arm 12. The curved nozzle-supporting arm 12 is made of hard rubber or other suitable stiff material and is semicircular in cross-section, so as to embrace one side of the tube 7, and at its opposite upper and lower end the said curved semicircular arm 12 is provided with the clamp rings or collars 13, the upper of which is slightly smaller in diameter than the tube 7, to provide for tightly gripping the same. When the parts of the syringe are properly adjusted, the lower end of the arm 12 rests against the inner side of the receiver 1, directly over the side opening 6 therein, and owing to the tight fit of the tube 7 in said opening 6 it will be obvious the said arm will be retained in its upright position for properly supporting the nozzle and will withstand any tendency of the tube 7 to collapse downward within the receiver, and while the disposition of the arm 12, resting at its lower end against one side of the

receiver, will ordinarily be sufficient to hold said arm properly in position a screw or other suitable fastener 14 may be engaged with the lower end of the arm to secure the same to the receiver, as illustrated in Fig. 3 of the drawings.

The specific manner of supporting the flexible nozzle-tube within the receiver provides also for the length adjustment of said nozzle-tube irrespective of the length of the tip 10 or in the modification of the tube-sections 9^a, and this adjustment is secured by drawing the nozzle-tube 7 in either direction through the supporting-arm 12 and the opening 6, it being again noted that the pinching or gripping of the tube 7 at the points 6 and 13 provides for holding the same tight in its adjusted position.

The use of the herein-described syringe will be well understood by those skilled in the art; but attention may be directed to the fact that by placing the supply and discharge tubes 7 and 5 in the same receptacle a continuous circulation through the syringe may be provided for, which is very desirable in certain cases, and by detaching the tube 5 and plugging the pipe 3, as at 15, (shown in dotted lines in Fig. 2,) the liquid, such as hot water, may be backed up to and held at the very seat of disease. Other uses of the syringe will suggest themselves.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

In a vaginal syringe, the combination of a backflow-receiver having a side opening, a flexible supply-tube adjustably fitted in said opening and having an extended flexible nozzle portion, and a curved semicircular rigid nozzle-supporting arm arranged within and sustained at its lower end against the inner side of said receiver, said nozzle-supporting arm being provided at its upper end with a clamp ring or collar of a less diameter than and tightly embracing said supply-tube, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM BARTON SPENCER.

Witnesses:

ASA. A. BURNHAM,
E. M. DYER.