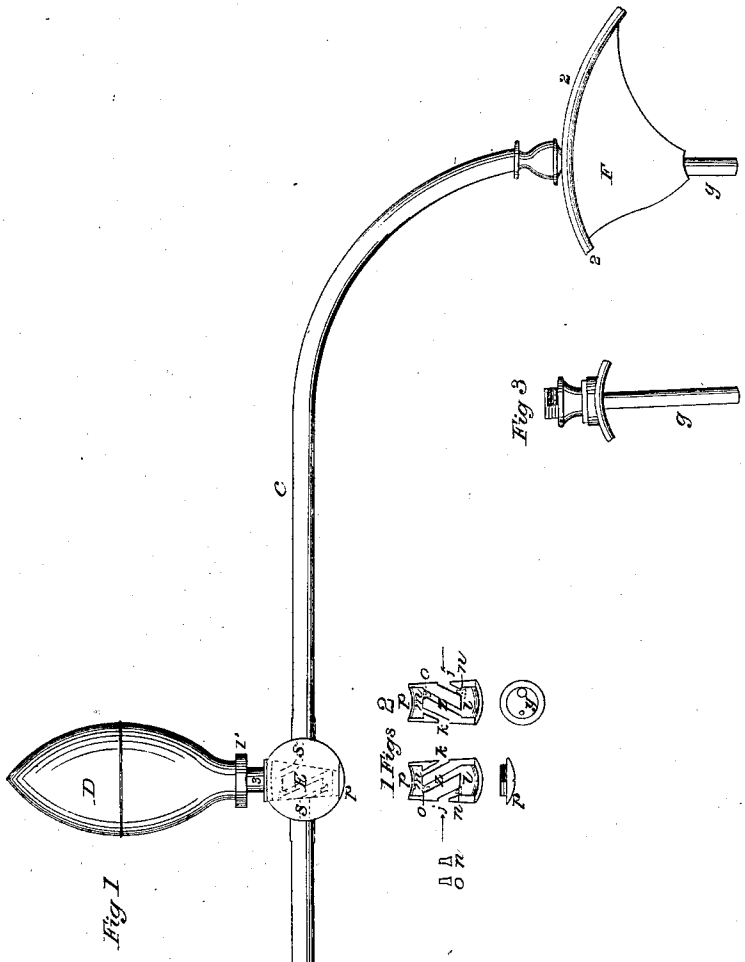
No. 31,634. PATENTED MAR. 5, 1861.

E. G. STEVENS.
SYRINGE.



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ELBRIDGE G. STEVENS, OF BIDDEFORD, MAINE.

ENEMA-SYRINGE.

Specification of Letters Patent No. 31,634, dated March 5, 1861.

To all whom it may concern:

Be it known that I, ELBRIDGE G. STEVENS, of the city of Biddeford, in the county of York and State of Maine, have made a new and useful Improvement in the Construction of Syringes; and I hereby declare that the following is a full, clear, and exact description of the same, reference being made to the accompanying drawings, forming part of the same, of which drawings—

Figure 1 is a perspective view of my improved syringe. Figs. 1′ and 2 are transverse sections and parts of my central transposing valve seat. Fig. 3 is a view of the nozzle or discharge pipe.

The nature of my invention will be seen from the following description.

In Fig. 1, A is a tank or reservoir made of tin or any suitable material for containing the injection. D is an elastic rubber bulb connected with the conical transposing valve-seat by the hollow neck *r*. B, C is an elastic rubber tube constructed with a bulb or enlargement in its center midway between its ends, in such a manner as to admit of the case containing the valve-seat being placed within it, B representing the induction end and C the eduction end of said tube, the bulb or enlargement having an opening through which the neck *r* passes when the case is in its place, and also, on the opposite side, one through which the screw *p* (hereinafter described) may be removed. F is a peculiarly constructed sheath or retainer for retaining vaginal injections at the will or option of the physician or patient, and through which the nozzle *g* passes. Within the enlargement E, is a metallic case containing a perforated, conical transposing valve-seat to which the neck *r* and bulb D are attached at the base or largest end, and which seat is held in its place by the screw *p* in such a manner as to be easily rotated in any direction by means of the bulb D and neck *r*.

In constructing the syringe the case containing the valve seat is inserted through the opening made for the neck *r*, the elasticity of the tube causing it to close around it air and water tight. The arrangement of the valves is best seen in Figs. 1′, 2, in which the same characters indicate corresponding parts. In these figures *o* and *n* are small pin valves, or valves having guides or projections extending into the openings which they are designed to close, for the purpose of keeping them in a proper position. *k* and *j* are apertures or openings communicating with or opening into the pipe B, C, through the apertures *s*, *s*′, (Fig. 1). *l* is a space or open chamber immediately under the neck, *r*, into which the aperture *j* opens by the valve *n* and which is connected by the opening *z* with a corresponding chamber, *m*, under the screw, *p*, and into which (the chamber *m*) the aperture *k* opens. The openings of the apertures *z* and *k* into the chamber *m* is shown at *y*, (Figs. 1′, 2.)

The whole of the case with its conical valve-seat should be constructed of metal with all the parts so nicely adjusted as to work air and water-tight. The sheath or retainer F is constructed of glass, hard rubber, or metal, and of a proper form to fit the parts to which it applies when in use, and is easily adjusted to or detached from the nozzle *g*.

From the foregoing description it will be seen that when it is desired to use my improved syringe or apparatus for administering injections into the vagina, the tank A (Fig. 1) is filled with the injection and connected with the end B of the pipe or tube B, C, and the sheath or retainer F is adjusted to the nozzle *g*. The hollow neck *r* is then turned until apertures *j*, *k*, (Figs. 1′, 2,) correspond with the openings *s s*′ which lead into the induction and eduction ends of the pipe B, C, through the valve-seat case (Fig. 1,) the aperture *j* in the valve-seat being opposite the opening into the end B, and the aperture *k* opposite that into the end C. A small spring catch 3 holds it in this position. Then by compressing the bulb D the air is driven from it, closing the valve *n* and passing through the opening *z*, valve *o*, chamber *m*, apertures *k*, and *s*′, (Fig. 1,) and escapes through the eduction end C. On the pressure being removed from the bulb D, it expands, tending to form a vacuum within itself, thereby causing the valve *o* to be closed and the injection in the tank A to be forced by atmospheric pressure through the end B, opening *s*, aperture *j*, valve *n*, chamber *l*, and neck *r*, into the bulb D. When the bulb is filled with the injection, by again compressing it the fluid is forced into the chamber *l*, closing the valve *n*, and passed through the opening *z*, valve *o*, chamber *m*, aperture *k*, opening *s*′, end C, and nozzle *g*.

In administering vaginal injections it is sometimes of the greatest importance that

the injection should be retained in the vagina much longer than is possible where the common female syringe is used, and that the injection should then be withdrawn without wetting or soiling the bed or linen of the patient, which cannot be accomplished especially in cases of extreme debility where the patient cannot leave her bed. This objection is entirely overcome by my improvement by means of which an injection may be given, retained at pleasure and then withdrawn. The sheath or retainer F, (Fig. 1,) is so constructed as to completely close the entrance to the vagina. The nozzle *g* passes through it, fitting water tight. Before administering an injection the retainer F is adjusted in a proper position to retain the injection. After the injection has been administered and the proper results obtained, and the physician or patient desires to withdraw the injection, the conical valve-seat is released from the spring 3 and reversed or turned half way around by means of the bulb D or neck *r*, so that the aperture *j*, which was opposite the opening *s* and the induction end B, shall correspond with the opening *s'* and the eduction end C. It will then be seen that by operating the syringe by means of the bulb D that its action will be exactly reversed, and the fluid or injection will be withdrawn through the end C and passed through the end B into the tank A.

The sheath or retainer F has a lip 2 turned upwardly entirely around its outer edge or border, by which the labia or parts with which it comes in contact are gathered up as the sheath is pressed into the proper position and the injection is thus more securely confined and retained.

Having already obtained a patent dated July 10th, 1860, for this sheath or retainer, and in which the same is more particularly described, I do not therefore herein claim the same when alone and of itself considered. I am also aware that the bulb D has been before used combined with a connector or joint connecting an arrangement of separate pipes and valves in the construction of syringes, an arrangement entirely different from mine and which I do not claim or use, and one by which the current of the injection cannot be reversed or the injection withdrawn; but I am not aware that a mechanism such as described and which I denominate a "central transposing valve-seat," for reversing currents, has ever been used either separately or in combination with a sheath or retainer, or with the other parts necessary to form a syringe.

I therefore consider as of my invention and desire to secure by Letters Patent as follows, viz:—

The valvular mechanism described for reversing the currents, consisting of the valve-seat case with its openings *s*, *s'*, the conical valve-seat with its valves, *o*, *n*, as shown in Figs. 1', 2, the screw, *p*, and neck, *r*, when used in combination with the pipe, B, C, and bulb D, or their equivalents, substantially in the manner set forth and specified.

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Witnesses:

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