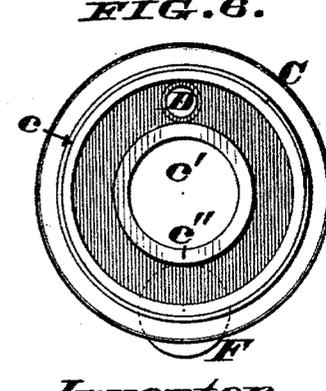
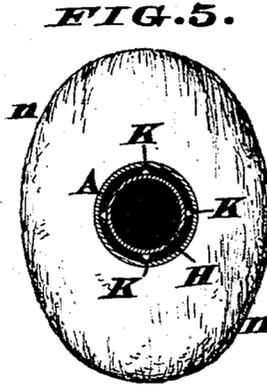
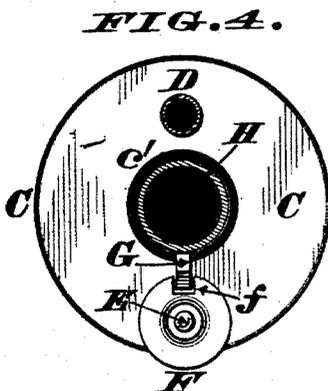
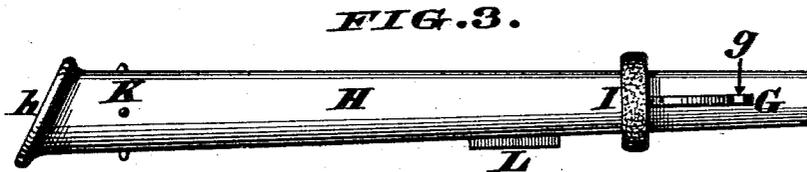
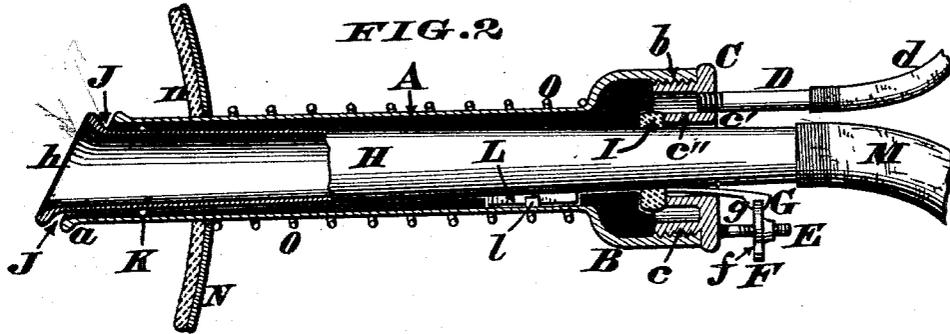
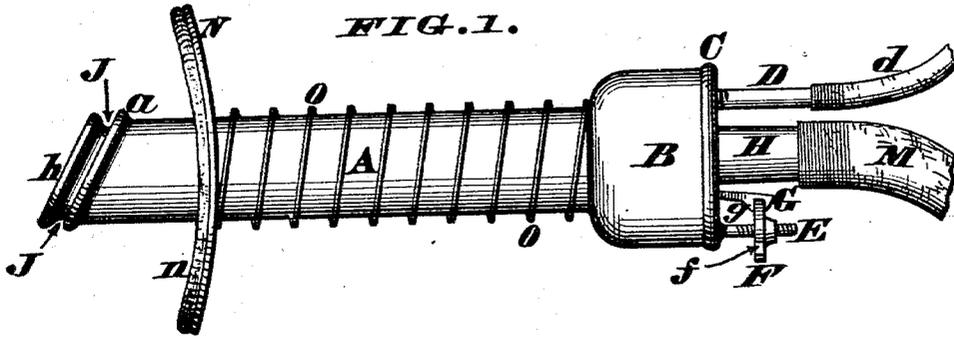


(No Model.)

J. SHEARER.  
SYRINGE.

No. 559,620.

Patented May 5, 1896.



Attest.  
Samuel M. Quinn.  
Geo. Heitz.

FIG. 7.  
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Inventor.  
Joseph Shearer.  
By James H. Layman.  
Atty.

# UNITED STATES PATENT OFFICE.

JOSEPH SHEARER, OF LOVELAND, OHIO, ASSIGNOR OF ONE-HALF TO JOHN J. TROUTMAN, OF SAME PLACE.

## SYRINGE.

SPECIFICATION forming part of Letters Patent No. 559,620, dated May 5, 1896.

Application filed May 16, 1895. Serial No. 549,482. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH SHEARER, a citizen of the United States, residing at Loveland, in the county of Clermont and State of Ohio, have invented certain new and useful Improvements in Vaginal Syringes; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

This invention relates to those vaginal syringes which are provided with longitudinally-adjustable outflow-tubes, and my improvement includes a specific combination of devices for shifting such tubes so as to increase or diminish the area of the instrument's ventage, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of my syringe. Fig. 2 is an axial section thereof. Fig. 3 is a side elevation of the outflow-tube detached from the barrel. Fig. 4 is an enlarged end elevation of the head of the instrument, a pipe and tube of the same being sectioned and the adjusting devices arranged to permit the detachment of a cap screwed to said head. Fig. 5 is a front elevation of the pad, the barrel and tube of the syringe being sectioned. Fig. 6 is an elevation of the inner side of the cap. Fig. 7 is a detail view.

The barrel of my syringe is a cylinder A, of any suitable size and material and having its front end chamfered off, as shown, and terminating with a bead or rounded swell *a*, that facilitates the insertion of the instrument within a vagina. The rear end of the barrel is enlarged, so as to afford a head B, having a female thread *b*, with which latter is engaged the male thread *c* of a cap C. In addition to this thread *b* the cap has a central circular orifice *c'* and an inwardly-projecting annular neck *c''*, as more clearly seen in Fig. 6. Projecting outwardly from this cap is a pipe D, to which is attached a rubber hose *d*, that conducts any desired wash or solution into the syringe, the flow being either continuous or intermittent, as circumstances may suggest. Again, this cap has a rearwardly-projecting screw-threaded stud E, that carries a disk nut F, whose periphery is notched at *f*, as more plainly seen in Fig. 4,

to enable a spring G to clear said nut when occasion requires. The free end of said spring is notched at *g* to permit the nut F to normally engage therewith, the opposite end of the spring being secured to the exterior of the outflow-tube H. This tube is usually of the tapering form shown, and has, near its smaller end, a compressible collar or packing-ring I, that bears against the inner end of the neck *c''* and prevents leakage at this joint of the instrument.

The front end of the tube has a flaring or bell mouth surrounded with a bead or swell *h*, the mouth being disposed at practically the same angle as the chamfered end *a* of the barrel. Furthermore, the front portion of this tube is somewhat less in diameter than the barrel, so as to afford an annular ventage J, the tube being centralized within said barrel by a set of small protuberances K, as more clearly seen in Fig. 5.

L is a tongue projecting from the tube and engaging with a guide *l* of the barrel, as represented in Fig. 7, the object of these devices L *l* being to permit longitudinal shifting of said tube and yet prevent it turning in either direction. M is a hose attached to the rear end of this tube.

N is an elliptical plate made slightly concave in front and adapted to move freely along the barrel A.

*n* is a soft pad or cushion attached to the front of plate N.

O is a coiled spring interposed between the plate N and head B.

Preparatory to using this instrument the patient is first laid upon her back, and the barrel A is then gradually inserted, the rounded swells *h a* enabling this entrance to be effected without causing unnecessary pain. The syringe is inserted its full length—say about four or five inches—at which time the soft pad *n* is in close contact with the mouth of the vagina and is held in this position by the action of the now compressed spring O. The proper solution is next allowed to flow through the hose *d*, pipe D, and barrel A and escape at the annular ventage J, so as to be brought into direct contact with the organ requiring treatment. Now while the solution is thus traversing the barrel the outflow

escapes through the tube II and hose M, the soft spring-pressed pad *n* preventing any material leakage at the mouth of the vagina. Consequently the patient's garments will not be soiled by the foul or noxious fluids washed out by the operation. By properly turning the nut F the tube II will be retracted and the area of ventage J reduced accordingly, the result being a very fine lateral spraying of the solution; but by manipulating said nut so as to advance said tube the size of the outlet will be increased, and the discharge from the barrel will then be more directly forward and in a heavier stream. A very slight shifting of the tube II is all that is necessary to produce these different results; but this shifting does not affect the packing-ring I, as its compressibility is sufficient to afford a perfectly tight joint under all circumstances, and thereby prevent the two currents of the solution mingling together in the syringe.

To cleanse the instrument, it is necessary only to unscrew the cap C and then turn the nut F until its notch *f* is in line with the spring G, as seen in Fig. 4, after which act said cap and its pipe D can be bodily detached, thereby leaving the rear end of head B open and affording ready access to the in-

terior of the syringe. Finally, the exact location of pipe D and nut F is immaterial; but they are usually diametrically opposite each other, as seen in Fig. 4.

I claim as my invention—

1. The combination, in a vaginal syringe, of the barrel A *a*, screw-threaded head B *b*, screw-threaded cap C *c c' c''*, pipe D, and longitudinally-movable tube II, which tube has a compressible collar I, that bears against the neck *c''*, of said cap, for the purpose described.

2. In a vaginal syringe comprising a barrel A, and longitudinally-movable outflow-tube II, the screw-threaded stud E, notched nut F *f*, and notched spring G *g*, arranged to operate as herein described.

3. In a vaginal syringe comprising a barrel A, and longitudinally-movable outflow-tube II, the tongue L, and guide *l*, for the purpose stated.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH SHEARER.

Witnesses:

JAMES H. LAYMAN,

ARTHUR MOORE.