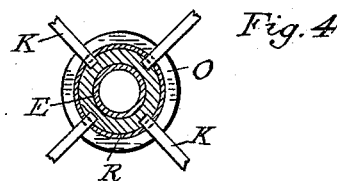
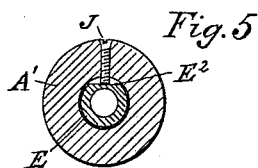
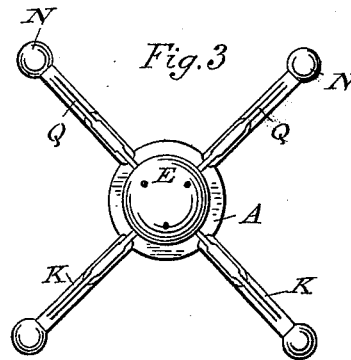
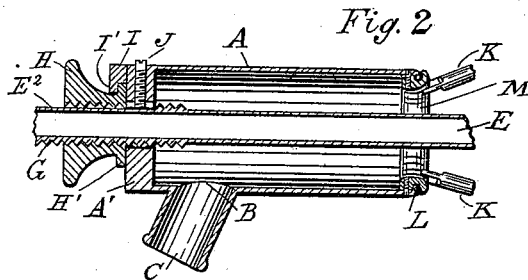
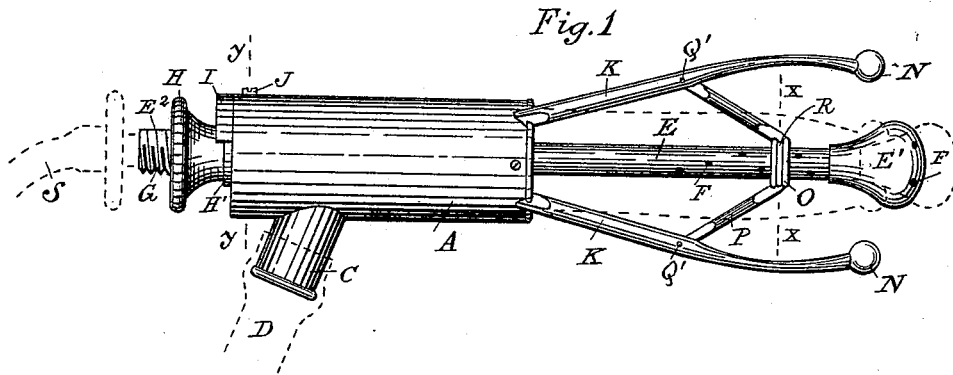


(No Model.)

E. JEANJAQUET.  
VAGINAL SYRINGE.

No. 458,022.

Patented Aug. 18, 1891.



Witnesses:  
J. Paul Mayer  
Th. B. O'Leary.

Inventor  
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Attys

# UNITED STATES PATENT OFFICE.

EUGÈNE JEANJAQUET, OF DETROIT, MICHIGAN.

## VAGINAL SYRINGE.

SPECIFICATION forming part of Letters Patent No. 458,022, dated August 18, 1891.

Application filed May 27, 1891. Serial No. 394,305. (No model.)

*To all whom it may concern:*

Be it known that I, EUGÈNE JEANJAQUET, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Vaginal Syringes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of vaginal syringes in which means are provided for dilating the vagina and for educting the injected liquid; and my invention consists in the novel construction and arrangement of the means provided by my improved construction of syringe, all as more fully hereinafter described, and shown in the drawings, in which—

Figure 1 is an elevation of my improved syringe, with the dilating fingers shown partly opened and showing in dotted lines their closed position. Fig. 2 is a vertical central longitudinal section through the rear portion thereof. Fig. 3 is a front end elevation of Fig. 1. Figs. 4 and 5 are cross-sections on lines *xx* and *yy* in Fig. 1, respectively.

A is a cylindrical eduction-tube open at the front end and closed at the rear end by a centrally-apertured head A'.

B is an outlet formed at the under side of the eduction-tube near the rear end.

C is a nipple formed around this outlet for connecting it to a suitable drainage-tube D. (Shown in dotted outlines.)

E is an induction-tube passing through the eduction-tube and projecting out in front.

E' is an enlarged hollow bulb formed on the front end of the induction-tube.

F are perforations in the tube E and bulb E'.

G is a screw-threaded portion formed on the rear end of the induction-tube and passing loosely through the aperture formed in the head A'.

H is a nut engaging with the screw-threaded portion of the induction-tube and provided with an annular flange H' on its base.

I is a keeper secured to the head A' of the eduction-tube and arranged to engage with its lip I' over the flange H' of the nut to keep the latter loosely against the head A'.

J is a set-screw passing through the head

A' against a flattened portion E<sup>2</sup>, formed on the screw-threaded portion G of the induction-tube.

K are dilating fingers inwardly curved at their front ends and pivotally secured in the front end of the eduction-tube by means of a wire loop L, passing through eyes formed in said fingers.

M is a bushing secured in the mouth of the eduction-tube and having a suitable annular groove in which the wire loop L is retained.

N are knobs formed on the front end of the dilating fingers.

O is a fixed collar secured upon the induction-tube near its front end.

P are braces pivotally connecting the fingers with the collar O.

Q are grooves in the inner faces of the fingers K, in which the braces P are pivotally secured by pins Q'.

R is a wire loop secured in an annular groove of the collar O and forming the pivotal connection of the braces P with the collar O.

S is a flexible induction-pipe connecting the rear end of the induction-tube with the pump or source from which the liquid is supplied.

The parts being arranged as described and shown are intended to operate as follows: By turning the nut H to screw upon the induction-tube the latter is longitudinally retracted, and consequently the fingers K will be opened out, and if the nut is turned in the reverse direction the induction-tube is projected and the fingers are closed. This closed position is shown in dotted lines in Fig. 1, and it will be seen that in this position the forward portions of the fingers converge upon the bulb E', with their front ends entirely retracted behind the bulb E', while the rear portions of the fingers slightly converge toward the eduction-tube. In this form the syringe is inserted into the vagina as far as the drainage-tube D will permit, the latter being of course placed on the under side. If a liquid is now forced in through the tube S, it will pass out through the perforations F in the tube E into the vagina and be carried off through the eduction-tube A into the drainage-tube, which discharges into a vessel

suitably placed. Thus a constant flow of liquid may be passed through the vagina.

In the operation of using the syringe no air is liable to be forced in with the liquid, as the mouth of the vagina is effectually closed by the eduction-tube A, which projects through the labia, say, about one-half the distance of that portion of the tube E which projects beyond the tube A. As the perforations F are distributed along the projecting end of the tube F, the liquid is directly applied to the whole portion of the vagina surrounding the tube E, and as the walls thereof are kept from collapsing by the fingers the irrigating effect is thorough. It will be materially increased, however, if the walls of the vagina are dilated. This is done by turning the nut H after the syringe is properly inserted.

As the nut H is held by the keeper I and the tube E is prevented from turning, the nut H when turned to the right must retract the tube E, and thereby cause an angular movement of the braces P, which results in spreading out the fingers K until a suitable stop on the tube E prevents its further withdrawal. Before the syringe is then withdrawn, after use, the fingers are made to collapse against the tube E by turning the nut H to the left.

The point to which I desire to call particular attention is the way in which the power is applied to spread the fingers. This, in my construction, makes the fingers levers of the third degree, and as the dilating of the vagina increases the angularity of the braces P becomes more and more favorable for transmitting the power.

The construction and operation have particular advantages over other constructions in that relatively long fingers are used, which very uniformly dilate a large portion of the vagina with very little power applied to the nut. As the braces P support the fingers about in the middle, the fingers can be made quite slender without any danger of breaking or bending them when the vagina is difficult to dilate, as is sometimes the case.

What I claim as my invention is—

1. In a vaginal syringe, the combination of an eduction-tube adapted to fit into and close the mouth of the vagina and having an open front end and an outlet in its rear, an induction-tube centrally and slidingly secured within and projecting through said tube, and a

series of dilating fingers pivotally secured to the front end of said eduction-tube and pivotally connected by braces with the induction-tube, substantially as described:

2. In a vaginal syringe, the combination of an eduction-tube adapted to close the mouth of the vagina and provided with a discharge-opening and an apertured head in its rear end and an open front end, an induction-tube slidingly passing with its rear end through said apertured head, a nut secured free to revolve to the rear end of the eduction-tube and engaging with a screw-threaded portion on the rear end of the induction-tube, and a series of dilating fingers pivotally secured at their rear ends to the front end of the eduction-tube and provided with braces pivotally connecting them with the front end of the induction-tube at a point between their front and rear ends, substantially as described.

3. In a vaginal syringe, the combination, with an induction-tube having a suitable perforated head, of an eduction-tube forming an annular eduction-passage around the rear portion of said induction-tube and having an open front end and a closed rear end provided with an aperture through which the rear end of the induction-tube slidingly projects, a screw-nut engaging upon the rear end of the induction-tube and secured to the eduction-tube free to turn, dilating fingers pivotally connected to the front end of the eduction-tube, and braces pivotally connecting them with a fixed collar upon the induction-tube, substantially as described.

4. In a vaginal syringe, the combination of the eduction-tube A, provided with the apertured head A' and drainage-outlet B, the induction-tube E, provided with the head E' and screw-threaded rear end E<sup>2</sup>, slidingly secured in the head A', the nut H, engaging upon said screw-threaded portion, the keeper I, securing said nut to the eduction-tube, the fingers K, pivotally secured to the eduction-tube, and the braces P, pivotally connecting them to the induction-tube, substantially as described.

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

EUGÈNE JEANJAQUET.

Witnesses:

N. L. LINDOP,

M. B. O'DOHERTY.