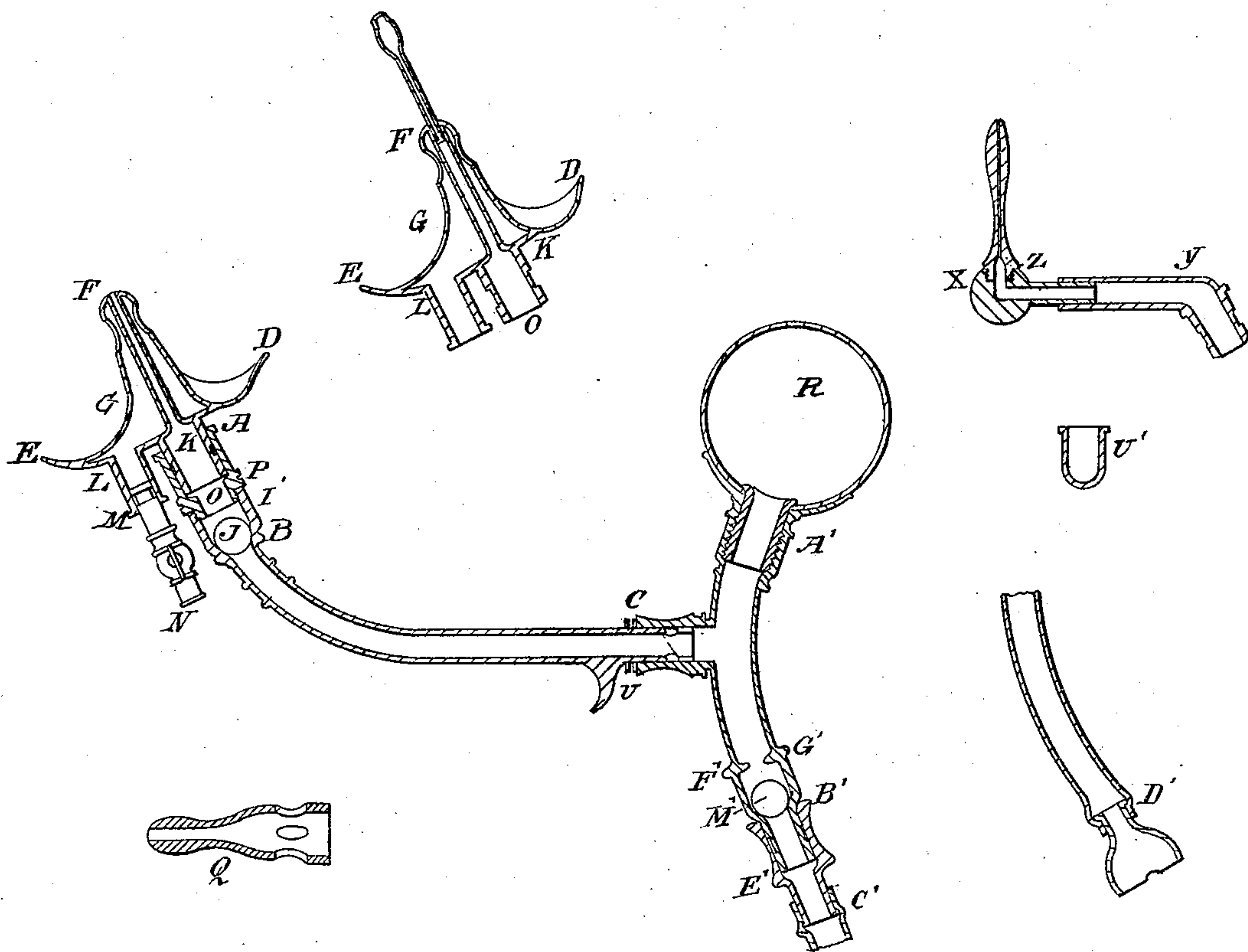


*C. A. Jozanski.*

*Syringe.*

*N<sup>o</sup> 39,348.*

*Patented July 28, 1863.*



*Witnesses*

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# UNITED STATES PATENT OFFICE.

CLAUDE ANDRE JOZANSI, OF ST. ROMAIN, FRANCE.

## IMPROVEMENT IN APPARATUS FOR INJECTIONS.

Specification forming part of Letters Patent No. 39,348, dated July 28, 1863.

*To all whom it may concern:*

Be it known that I, CLAUDE ANDRE JOZANSI, M. D., of St. Romain de Benet, Charente-Inférieure, France, have invented a new and Improved Surgical Injecting Apparatus; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

My improved injecting apparatus or "irrigator" is represented on the annexed sheet of drawings; and it consists of the following parts:

First. An elliptic plate, D E, made of metal, and of any suitable dimensions, measuring—say four inches on the axis major and two and one-half inches on the axis minor. This plate has two hubs or projections on one side. The upper one, K, receives the tube A B C, the lower one, L, carries the end of the tap M N. On the opposite face the plate carries a conical pap, F G, about two and one-half inches long. This pap is fully united with the base-plate, and is rounded off at the top, which is perforated with four, say, oval apertures. A pipe, F K, passes through the pap, uniting its top end with the hub K, and in said pipe another tube, F H, is made to slide, which may be drawn in or out at pleasure, so as to allow changing the length. The end H of said pipe F H carries the usual "olive," which distributes the liquid through a central and lateral hole. The plate may also be made without the movable tube F H, and in that case the end of the pap has to be perforated with a central and side holes, and for lengthening the same gutta-percha canulas of different dimensions are used.

Second. This apparatus consists, also, of a metallic tube, A P B C, about eight inches long, but at the upper part, and measuring about one and five-eighths inch in circumference, the bore being about one-fourth inch. This tube has an enlarged diameter from A to B, containing a ball, J, of marble or other suitable material, acting as a clack-valve on its seat, I, so as to prevent the liquid from returning into the tube B C. A rib placed at I' prevents the ball from closing the pipe upward. At P the tube A P B C is screwed, in order that it may be easily taken to pieces, and the

ball J removed, as may be required. The tube A P B C is provided near its end with a spur-like projection, U, which is intended to act as a rest for the left-hand thumb of the patient.

Third. A' B' is a metallic tube, slightly bent, and about four inches long and one-quarter inch bore. This tube is tapped at A' for receiving the metallic neck of the collapsible ball R. At B' there is a union for passing on the suction-tube C' D'. Near the upper end of said tube there is a branch for joining the lower end of the tube A P B C. At its lower end this tube forms a valve-box, containing a spherical valve, M', of marble or any other suitable material, which allows the liquid to rise from the suction-pipe C' D' into the tubes, but prevents the same from returning. The projections F' G are intended to limit the rise of the valve M'.

Fourth. R is a hollow india-rubber ball, measuring about ten inches in circumference, which is fastened on the end A' of the tube A' B' in such manner as to form a tight joint, as shown on the drawing. A piston or other pumping apparatus may be used instead of the elastic collapsible ball; but I generally prefer the latter, being more easily worked and less liable to get out of order.

Fifth. C' D' is a flexible or india-rubber suction-pipe of suitable length and diameter, which, at its upper end, is passed on the union C', thereby communicating with the tube A' B'. At its lower end the tube carries a glass or porcelain suction-cup, which dips into the liquid.

Sixth. M N is a brass tap or cock, which fits into the tubular projection L on the plate D E. An india-rubber pipe may be passed on the lower end of the tap, as the case may require.

Seventh. U' is a small metallic thimble for closing up the orifice B' of the tube A' B', as may be required in some cases.

Eighth. X Z is a canula of the ordinary shape for clysters, which, by means of its end Y, may be fitted on the tube A B C, the injector F G D E having previously been removed.

All the metallic parts above described are made of some alloy not subject to rapid oxidation, such as Britannia metal.



The different parts having been put together, as represented on the drawing, the apparatus is used in the following manner for vaginal injections: The subject either cowers down, leaning her back against a support, or else seats herself on the edge of a low chair. In case the subject is in bed, she straddles her thighs, and a basin is placed under her seat, and another basin containing the injecting-liquid is placed about twelve inches farther in front. She then takes hold of the apparatus with her right hand by placing the face of the thumb against the concave part of the spur U, and the other fingers of the same hand in the concave portion of the tube, and introduces the mouth-piece or pap F G into the vulvovaginal orifice, taking care to exactly adapt the plate D E to the labiæ, and during this operation the end D' of the pipe C' D' is not yet immersed in the liquid. The subject then grasps the ball R with the right hand, and causes it to collapse by pressing it, and lowers the end of the suction-pipe into the injecting-liquid. Thus, by allowing the ball to expand and compressing it again several times following a pumping action is obtained in the following manner: By collapsing the ball R the air it contained is driven out, and by expanding again the liquid contained in the basin rushes in through the tubes C' D' and A' B', the mucous membrane of the vagina forming an air-tight joint with the orifices of the tubes H F K A B C. The ball R is thus filled with liquid, and the next following pressure drives this liquid into the tube A' B', the spherical valve closing the orifice E'. The liquid thus rushes into the tube C B A, passes through the small tube K F H, and enters the vagina. By repeating the operation the subject may force into the organ the quantity required for distending the mucous membrane and taking out all the wrinkles. When this result has been obtained, she opens the tap M, the liquid contained in the vagina is forced out by the elastic reaction of the vagina, only a small portion returning through the holes of the olive or rose head into the tube A B C, where it is stopped by the valve J. The remaining and larger portion of the liquid passes through the oval holes of the conical mouth-piece into the interior space of the same and runs out through the tap M into a vessel provided for that purpose.

The injecting operation thus described may be repeated several times in the same manner, according to the requirements of the case; and after the necessary number of injections has been administered by the subject, she allows the whole of the liquid contained in the vagina to run out, and withdraws the mouth-piece.

The whole operation, although long to describe, scarcely takes one or several minutes' time, and in practice it will be found imma-

terial whether the clearing-tap is left open and the suction pipe C' D' is immersed at once, as suction will nevertheless take place.

When it is desired to dispense a *clyster*, the *modus operandi* is the same, the *canula* being inserted into the rectum and the suction-pipe immersed in the liquid and the tap kept shut.

In cases of severe disease, when the subject cannot be moved, the same apparatus is used to advantage. In those cases the ball J is taken out of the tube A B, and the tap M, having been shut previously, I substitute for the tube C' D' the thimble V', which fits on and closes the end B' of the tube A' B'. The ball R having been collapsed, and the tube A B C removed from the plate, the end A of the same is immersed in the liquid, and the ball, being left to expand, fills with liquid. The tube A B C is then fitted again on the plate D E, the mouth-piece is introduced into the vagina, and pressure exerted on the ball R. Thus the vagina is filled with liquid, and the ball being allowed to expand again, the liquid returns through the tubes H F K and A B C. This operation has to be repeated several times, the same liquid entering the vagina at each operation. It will be found necessary to charge the ball afresh from time to time, and for that purpose I use a ball of larger diameter.

The following are the main advantages procured by the use of this improved irrigator or injecting apparatus: The subject can perform her own operations without any assistance, and without being forced to assume an uneasy position. She may fill the vagina and leave the liquid therein, as may be required, so as to distend all the rugæ and remove the whole of the mucous. She may pass into the organ any quantity of liquid desired without leaving or changing her position. The air-tight joint formed by the plate D E prevents the external and surrounding parts of the organ getting wetted.

I would further observe that with this apparatus the patient may take either local baths by allowing the liquid to remain in the vagina, or injections and irrigations or even douches, as the ball, being powerfully compressed, will throw the liquid to upward of twelve feet distance.

When it is desired to administer injections to a patient in bed without exposing her to moisture and disturbance, the suction-pipe and the return or blow-off pipe both have to be made sufficiently long to that effect, and a stronger suction-ball is used.

In case of much mucus being secreted, the tap M had better be removed to facilitate its passing out through the orifice L. The tube F H may be drawn in and out at will, so as to suit the length of the vagina and reach the neck of the uterus.

When it is desired to produce a single jet, the lateral apertures of the rose-head or olive



are filled with wax, or a gutta-percha canula may be mounted on the mouth-piece having one central aperture. Different canulas have to be used to suit the various positions of the neck of the matrix.

I claim—

1. The elliptical bent plate D E and pap or conoidal projection F G, forming part thereof, or their equivalents, constituting a mouth-piece which, when inserted into the organ, will form an air-tight joint, for the purposes set forth, and substantially as described, and represented on the annexed drawings.

2. The mode of making said conoidal mouth-piece D E F G hollow, and providing it with

an outlet, as at L and M, for the purpose of drawing off the spent liquid, substantially as described, and shown on the drawings annexed.

3. The arrangement of the pumping apparatus with the projection U on the pipe A B C, and with the pipe A' B', attached to the said pipe A B C in the form of a cross, in combination with the bent plate D E and conoidal projection F G, substantially as and for the purpose described.

C. A. JOZANSI.

Witnesses:

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CHAUDÉS DIGUELLE.