

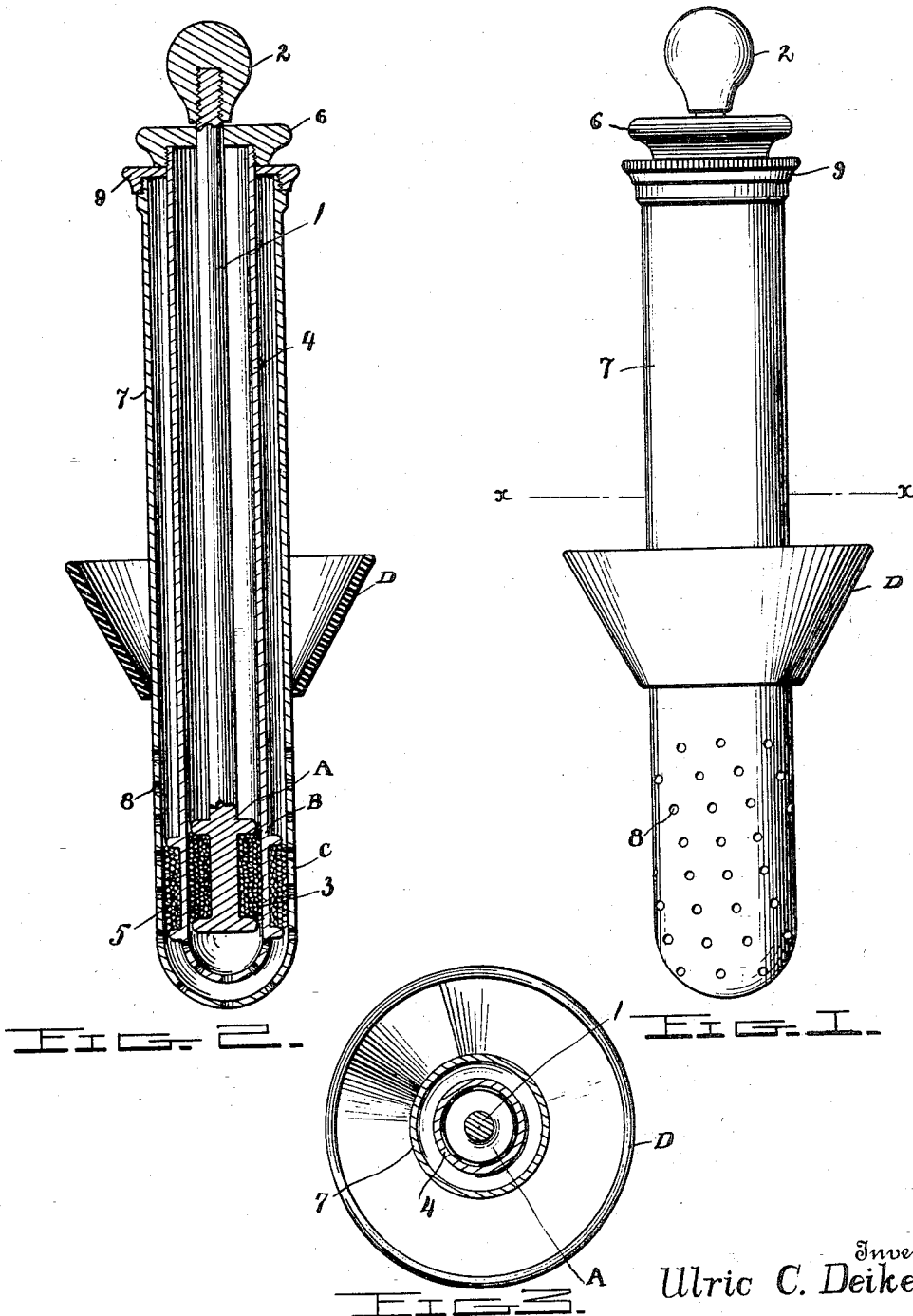
U. C. DEIKE.

SYRINGE.

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1,127,201.

Patented Feb. 2, 1915.



Witnesses

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SYRINGE.

1,127,201.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ULRIC C. DEIKE, a subject of the King of Great Britain, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Syringes, of which the following is a specification.

The invention is primarily designed to supply a syringe to be used as a douche and which embodies concentric syringes, thereby admitting of a thorough cleansing with a comparatively small amount of antiseptic fluid.

A further purpose of the invention is the provision of a syringe of the type stated which is convenient to use, easily carried, free from valves, positive in action, efficient in operation with a small amount of fluid and which admits of the fluid used being wholly recovered together with secretions.

The invention consists of a syringe embodying concentric pistons, the outer piston forming a barrel for the inner piston, the arrangement being such as to provide two distinct syringes capable of independent or conjoint use.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawing, and pointed out in the appended claims.

Referring to the drawing, forming a part of the specification, Figure 1 is a side view of a syringe embodying the invention. Fig. 2 is a central longitudinal section thereof. Fig. 3 is a cross section on the line $x-x$ of Fig. 1.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawing, by the same reference characters.

The syringe comprises the main elements A, B, C and D. The element A consists of a rod or stem 1 having a knob 2 at one end and a piston 3 at the opposite end. The element B comprises a barrel 4 having a piston 5 at one end and a cap 6 at the opposite end. The cap 6 is connected with the barrel 4 by means of a screwthread joint and is formed centrally with an opening of a size to snugly receive the rod or stem 1 of the element A. The inner end of the barrel 4 is made rounding and provided with a plurality of minute openings. The element C is a barrel having one end made rounding

and provided with a plurality of openings 8 arranged spirally and extending for some distance along the sides of the barrel from the rounded end. A cap 9 is secured to the opposite end of the barrel 7 by means of a screwthread joint and has a centrally disposed opening of a size to receive the barrel 4, which obtains a close fit therein. The element D is conical and is slidable upon the barrel 7 and is flexible, being preferably formed of soft rubber to insure a tight closure.

When the parts are assembled the element A is arranged to operate within the element B, the knob 2 serving as a stop to limit the inward movement of the element and also forming a grip for the hand when withdrawing the element A from the element B. The elements A and B constitute in effect a syringe, which may be designated as the inner syringe in contradistinction to the outer syringe formed by the elements B and C. The element B is inserted within the element C, the cap 6 forming both a stop and a hand piece. As a stop the part 6 engages the part 9 and limits the inward movement of the element B.

The method of operation is as follows: Place the rubber guard on syringe so that the apex of the guard is not more than two and one-half inches from the tip of the syringe. Place the perforated end of complete syringe in water, antiseptic, or other fluid that may be used, preferably so that the perforations extending up the sides of the syringe are a little more than covered. Withdraw the two pistons A and B several times so as to expel the air and swell the plungers. Then compress A and B, and withdraw A so that the inner syringe is completely filled with fluid, and withdraw B, so that the larger syringe, or outer shell, is about half filled with the fluid to be used as a douche. The syringe is now ready for the douche, and care should be taken that the rubber guard is not more than half way up the syringe. (The reason for this is that most of the discharges and secretions lodge at the mouth of the womb, and this is never more than four inches inside, and usually from two and one-half to three inches). The pistons A and B are compressed after insertion, forcing the fluid into the vagina. Piston B is allowed to remain stationary, while piston A is operated half a dozen times or more. With each

compression of piston A, the fluid is forced against the walls of the vaginal canal, through the perforations provided, almost in the form of a wave which undulates and dilates the folds of skin so that the medicinal fluid is flushed thoroughly over every part. The rubber guard hermetically confines the fluid within, and when the piston A is withdrawn, the inner syringe is filled with fluid, thus supplying the douche for the next compression, and so on. This would not be possible with other makes of syringes for it is essential to withdraw the piston repeatedly that there be more fluid in the vagina than the syringe can contain. This is overcome by the positive suction syringe by the amount of fluid contained in the larger syringe serving as an extra fluid over that which can be contained in the inner syringe, and the additional fact that when holes are provided only in the extreme tip of syringes, as is usual, the fluid discharged, runs down the tube, away from the holes in the end, and when suction is applied the skin is drawn into the holes in the end of the syringe thus preventing the recovery of the discharged fluid. In the positive suction syringe, no matter how completely the inner piston is withdrawn there is still left in the vagina a quantity of fluid which serves the double purpose of keeping the skin from being withdrawn into the holes, and reduces the force with which the fluid is discharged, thus protecting the parts from sudden shock, and at the same time providing sufficient fluid disturbance to reach and cleanse every part thoroughly. So far as is known this "repeating action" is a peculiarity of the positive suction syringe, and not possible with any other make of syringe. Upon completion of this splashing and flushing of the fluid, piston A is withdrawn, and piston B is withdrawn slowly until every drop of fluid is recovered, together with all secretions. From the fact that the piston B gives three times the suction and holds three times the quantity of piston A, it will be seen that piston B cannot be entirely withdrawn without exerting more than sufficient suction to entirely recover all the fluid discharged and the extra secretions as well, which is another peculiarity of the positive suction syringe not incorporated in other syringes, since the usual syringe cannot recover more fluid than it can contain, and hence cannot recover secretions in addition to its own capacity without leaving an equal amount of discharged fluid. The holes running up the sides of the syringe insure an even and general discharge and an even and general suction from the entire inner surface, and as the diameter of the syringe is purposely made as large as possible, every fold is dilated in preparation for thorough cleansing

with but very little fluid. In ordinary syringes, the pipes are small and do not properly dilate the folds, and require much more fluid to do the same amount of cleansing. Also, the large diameter of the syringe makes improper insertion an impossibility for its large size guides it true. With the withdrawing of pistons A and B as far as is necessary to recover contents of the vagina, the operation of cleansing is completed, and the whole syringe may be withdrawn without soiling the clothing or leaking.

In size the outer shell will be not less than an inch in diameter as less than this would not properly distend the folds. The other dimensions of the syringe will be practically the same as shown in the drawing, but I do not want to confine myself to the exact sizes shown, as a variation of sizes may be a necessity for exceptional cases, (as well as for lengths) nor do I desire to confine myself as to the size of perforations or holes.

The favored material of manufacture is to be hard rubber, but I may also desire to manufacture of a combination of hard rubber and glass; or completely of glass, except the packing, or completely of nicked metal. In this respect, serviceability and cost of production will be considered, and the best article at a reasonable cost will be adopted.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention what is claimed as new, is:—

1. A syringe comprising a barrel having an end portion made rounding and provided with minute openings in the rounded end and in the sides adjacent thereto, a cap threaded to the opposite end of the barrel, a second barrel of less diameter than the first mentioned barrel arranged to reciprocate therein through an opening formed in the cap thereof, and having a space between its sides and the inner wall of the first mentioned barrel, the second barrel having its inner end made rounding and provided with minute openings and having a piston adjacent the rounded end to operate within the first mentioned barrel, a cap closing the outer end of the second barrel and threaded thereto and adapted to engage the cap of

the first mentioned barrel to limit the inward movement of the second barrel, a rod arranged to operate within the second barrel and through the cap thereof, a piston at the inner end of said rod, and a knob threaded to the outer end of the rod.

2. A syringe comprising an outer cylindrical barrel, an inner cylindrical barrel concentric therewith and a piston operating in the inner barrel, each of said barrels having a closed rounded end provided with minute perforations, and each of said barrels having a cap threaded upon the other end thereof; the inner barrel being spaced from the outer barrel and provided near its perforated end with annular flanges and with packing therebetween, one of said flanges combining with the cap of the outer barrel to form a stop against the withdrawal of the inner barrel.

3. A syringe comprising an outer cylindrical barrel, an inner cylindrical barrel

concentric therewith and a piston operating in the inner barrel, each of said barrels having a closed rounded end provided with 25 minute perforations and each of said barrels having a cap threaded upon the other end thereof; the inner barrel being spaced from the outer barrel and provided near its perforated end with annular flanges and with 30 packing therebetween, one of said flanges combining with the cap of the outer barrel to form a stop against the withdrawal of the inner barrel; said outer barrel being provided with perforations in its side walls 35 to permit drainage from the annular space intermediate the barrels.

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

ULRIC C. DEIKE.

Witnesses:

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