T. R. McNERTHNEY.

SYRINGE.

APPLICATION FILED MAR. 20, 1908.

946,256. **Patented Jan. 11, 1910.**

FIG. 1.

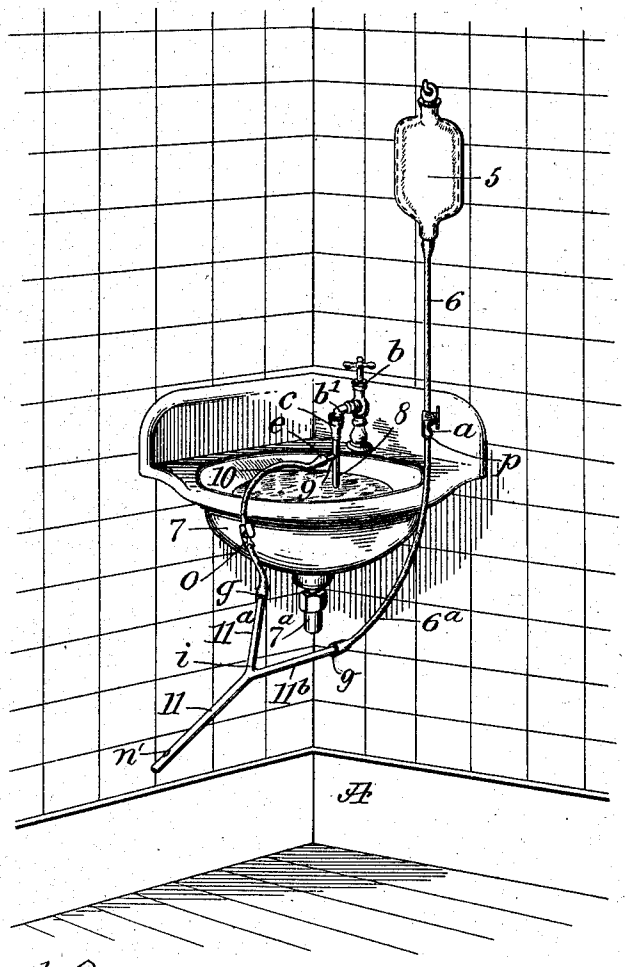
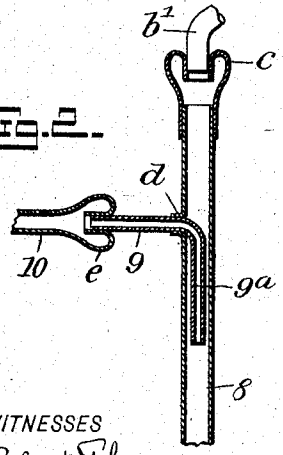


FIG. 2.



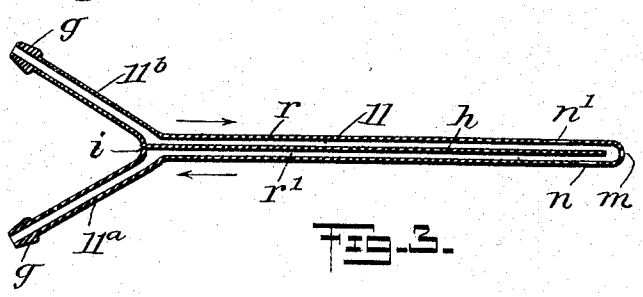


FIG. 3.

WITNESSES

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SYRINGE.

946,256. Specification of Letters Patent. **Patented Jan. 11, 1910.**

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To all whom it may concern:

Be it known that I, THOMAS R. McNERTHNEY, a citizen of the United States, and a resident of Tacoma, in the county of Pierce and State of Washington, have invented a new and Improved Syringe, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide novel details of construction for a combined douche and syringe, which by the action of gravity and subsequent production of a partial vacuum, effect a thorough but gentle embrocation of diseased walls of the "os," uterus and vagina, with a medicinal liquid, and then remove the medicament, together with pus or other unhealthy secretions, by a free liquid irrigation of the diseased tissue, this result being effected by the establishment of a partial vacuum in parts of the device.

The invention further comprehends the application of a suitable medicament and a subsequent irrigation and ejection of the medicament to and from the ear, nose or other diseased cavity in the body, by means of the improved syringe.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view showing the device arranged for service in connection with a source of water supply under pressure; Fig. 2 is an enlarged longitudinal sectional view of novel parts; and Fig. 3 is a longitudinal sectional view of another novel detail of construction.

In the drawings which illustrate the construction and arrangement of novel details for service, 5 indicates a liquid receptacle of ordinary form, such as is employed for holding liquid to be discharged as a spray or douche. As usual, the douche receptacle 5 is adapted for pendent support on a side wall of a room, such as a bath room, indicated at A in Fig. 1, and from the lower wall of the receptacle 5, a preferably flexible tube 6 is downwardly extended. In the tube 6, a valve *a* is introduced, which controls the flow of liquid from the receptacle 5. Preferably the lower end of the pendent tube 6, is located adjacent to the faucet *b* that controls the flow of water into a wash basin 7 that is provided with a discharge pipe 7^a, which extends from the bottom of the basin 7 in the ordinary way.

A flush pipe 8, that may be of metal, is furnished with an elastic coupling joint *c* that is fitted water tight but removably upon the nozzle end *b'* of the faucet *b*, and depends therefrom to a point near the bottom of the basin 7. On the flush pipe 8, below the upper end a suitable distance, a short tubular branch *d* is formed, affording an inlet passage for the insertion of a suction pipe 9 thereinto, and as shown clearly in Fig. 2, said pipe is bent into right angular form, one member 9^a thereof extending down within the flush pipe and the other member projecting laterally therefrom. Upon the outer end of the suction pipe 9, one end of a preferably rubber hose section 10 is removably mounted, the joint *e* between said ends being air and water tight.

An important detail of the improvement consists of a syringe barrel which is formed preferably of metal or hard rubber. This barrel 11 is mainly straight, but at one end is forked, thus producing two integral branches 11^a, 11^b thereon, which are about equal in length and at their free ends have slight enlargements *g* thereon. In the barrel 11, that is a true cylinder, a partition wall *h* is longitudinally and centrally secured extending from the angle or crotch *i* where the branches 11^a, 11^b, are joined to the end of the barrel 11, to a point near the other end of said barrel, as shown in Fig. 3. The free end of the barrel 11 is mainly closed with a convex wall, that is centrally perforated, as shown at *m* in Fig. 3, and directly opposite each side of the partition wall *h*, an orifice is formed in the cylindrical wall of the barrel, one orifice *n* being nearer the end of the barrel than the other orifice *n'*, but this is not material. Upon the enlargement *g* on the end of the branch 11^a, the remaining end of the hose section 10 is mounted removably, the joint therebetween being air and water tight, and in said hose section, a valve *o* may be introduced which affords control of the liquid flowing through said hose section. Upon the lower end of the tube 6, one end of a hose section 6^a is mounted, air and water tight, by a detachable connection *p*, and from said de-

tachable connection the hose section 6^a is extended for such a length as will permit the other end thereof to be mounted air and water tight but detachably, upon the enlargement g of the branch pipe 11^b.

In operation, it will be seen that liquid for application to a diseased membrane, such as the mucous lining of a female organ, is placed in sufficient quantity in the receptacle 5. Then, upon a proper insertion of the nozzle end of the barrel 11 within the diseased organ, the valve a is opened so as to permit the gentle flow of the liquid, that may be of an antiseptic nature, down through the hose section 6^a into and through the branch pipe 11^b of the barrel 11, from which the disinfecting liquid is conveyed by pressure of gravity through the conduit r in the syringe barrel 11, that is a virtual extension of said branch pipe. Alternately with the opening of the valve a, the valve o and faucet b are opened, which will cause a forcible discharge from the faucet down the flush pipe 8. The flow of water through the pipe 8 will produce a partial vacuum in the hose section 10, branch 11^a and passage r' in the barrel 11.

The exhaustion of air from the conduit or passage r' in the barrel 11 causes the liquid embrocation that pervades the vagina and uterus, to pass upward through said conduit r' and thence directly through the flush pipe and basin pipe 7^a to a point of discharge. The intake or flow through the valve a is alternated by the outtake or flow through the valve o. When the valve a is opened the antiseptic fluid passes out through the openings in the barrel 11 and remains in contact with the diseased or inflamed tissues for a second or two; then the outtake valve o is opened and by suction the antiseptic liquid with the pus, etc. is carried away. The intake valve a is again opened and the above operation is repeated during the entire progress of the treatment.

It will be evident that the passage of the antiseptic and detergent liquid into and out of the female organ, as hereinbefore explained, will remove pus and all unhealthy secretions from the diseased membrane, and thoroughly cleanse the same. Furthermore, if found desirable, a healing embrocation of the diseased parts, may be effected by charging the receptacle 5 with a suitable medicinal fluid compound and passing the same through the described apparatus, so as to further embrocate the inflamed and diseased membrane.

It is to be understood that any other source of water supply under pressure may be utilized and effect the same results; as for example, the supply faucet for a bath tub, or for a sink basin, may be substituted for a faucet that is a fixture for a fixed wash bowl.

The operation of the improved device is under complete control, avoids injurious pressure on diseased parts, and is cleanly in operation, as there need be no escape of liquid therefrom, thus eliminating all danger of contaminating the nurse or medical attendant who administers the treatment to a patient.

The improvement may by a proper proportion in diameter of the barrel 11, be used as a catheter for application to the male organ, either to embrocate diseased lining tissue or for the irrigation of the prostate gland and inner wall of the bladder, for relief of stricture or like ailments.

One of the most important uses of the device as a catheter is in treating chronic posterior gonorrheal urethritis, *i. e.* chronic gonorrhea that has extended far back into the urethra. Here the disease has diminished the amount of blood supply. By the use of a small amount of irrigation, (cutting off intake,) with a marked degree of evacuation, (opening wide to outtake) there is an increased blood supply to the part (called suction hyperemia of Bier).

The device may also be used to allay fever in the uterus or rectum, by its insertion within the latter and the introduction of a cooling liquid thereinto. It is also adapted for the embrocation of the interior walls or sinuses of the ear or nose, in the treatment of diseases of these organs, as it enables the application of an antiseptic or healing liquid directly to the diseased tissue, and a removal of pus or other unhealthy secretions from such cavities in the body.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an apparatus for irrigating diseased tissue in cavities of the body, with a medicinal liquid, the combination with an elevated receptacle for the medicinal liquid, and a flush pipe adapted to be connected with a source of water supply under pressure, of a syringe barrel having a longitudinal partition dividing said barrel into two longitudinal conduits of equal size that communicate at the nozzle end of the barrel, said barrel having openings in its wall that respectively intersect the conduits, and tubular connections respectively connecting the ends of the conduits with the interior of the flush pipe and with a discharge opening in the receptacle.

2. In a device of the character described, the syringe barrel, comprising a cylindrical tube nearly closed at one end providing a nozzle, the opposite end of said barrel being forked, affording two similar diverging branch pipes of equal length thereon, the said branch pipes having enlargements at their free ends, and a central longitudinal partition in the barrel extending from the

angle where the branches are joined to the end of the barrel to a point near the free end or nozzle of the barrel, and dividing the barrel into two conduits equal in size, the side wall of the barrel near the nozzle end having perforations therein respectively intersecting the two similar conduits formed in the barrel by the introduction of the central partition wall.

3. In a device of the character described, the combination with a faucet that controls a water supply, and a pendent flush pipe having an elastic coupling joint for removable connection with the nozzle end of said faucet, of a suction pipe bent at an angle and having one member thereof inserted laterally and downwardly into the flush pipe, a forked syringe barrel, a hose connecting the other member of the suction pipe with one forked member of the syringe barrel, and a receptacle for liquid having a pipe leading from its lower end and connected with the other forked member of the syringe barrel.

4. The combination with a receptacle for liquid having a valve controlled discharge tube leading from its lower end, of a syringe barrel having two conduits therein that communicate with each other at the nozzle end of the barrel, the barrel having openings in its wall near the nozzle end, a flush pipe having an elastic coupling joint at its upper end for removable attachment to a faucet controlling a water supply under pressure, an angular suction pipe having one member extending downward centrally within the flush pipe and the other member extending outwardly through the wall of the flush pipe, a valve controlled pipe connecting the outer member of the suction pipe with one conduit of the syringe barrel, and a tubular connection between the other conduit of the syringe barrel and the discharge tube of the liquid receptacle.

5. In a device of the character described, a cylindrical tube having a nozzle end, the opposite end of said tube being forked forming two integral diverging branch pipes and a central longitudinal partition wall in the tube extending from the angle where the branch pipes meet each other and terminating short of the nozzle end of the tube, the said partition dividing the cylindrical tube into two conduits of equal size, the tube being provided in its cylindrical wall near its nozzle end with perforations located directly opposite the sides of said partition wall.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS RAY McNERTHNEY.

Witnesses:
JOHN B. McNERTHNEY,
M. J. McNERTHNEY.