No. 826,685. PATENTED JULY 24, 1906.

J. A. NOBLE.

MEDICAL IRRIGATOR.

APPLICATION FILED FEB. 23, 1905.

Fig. 1.

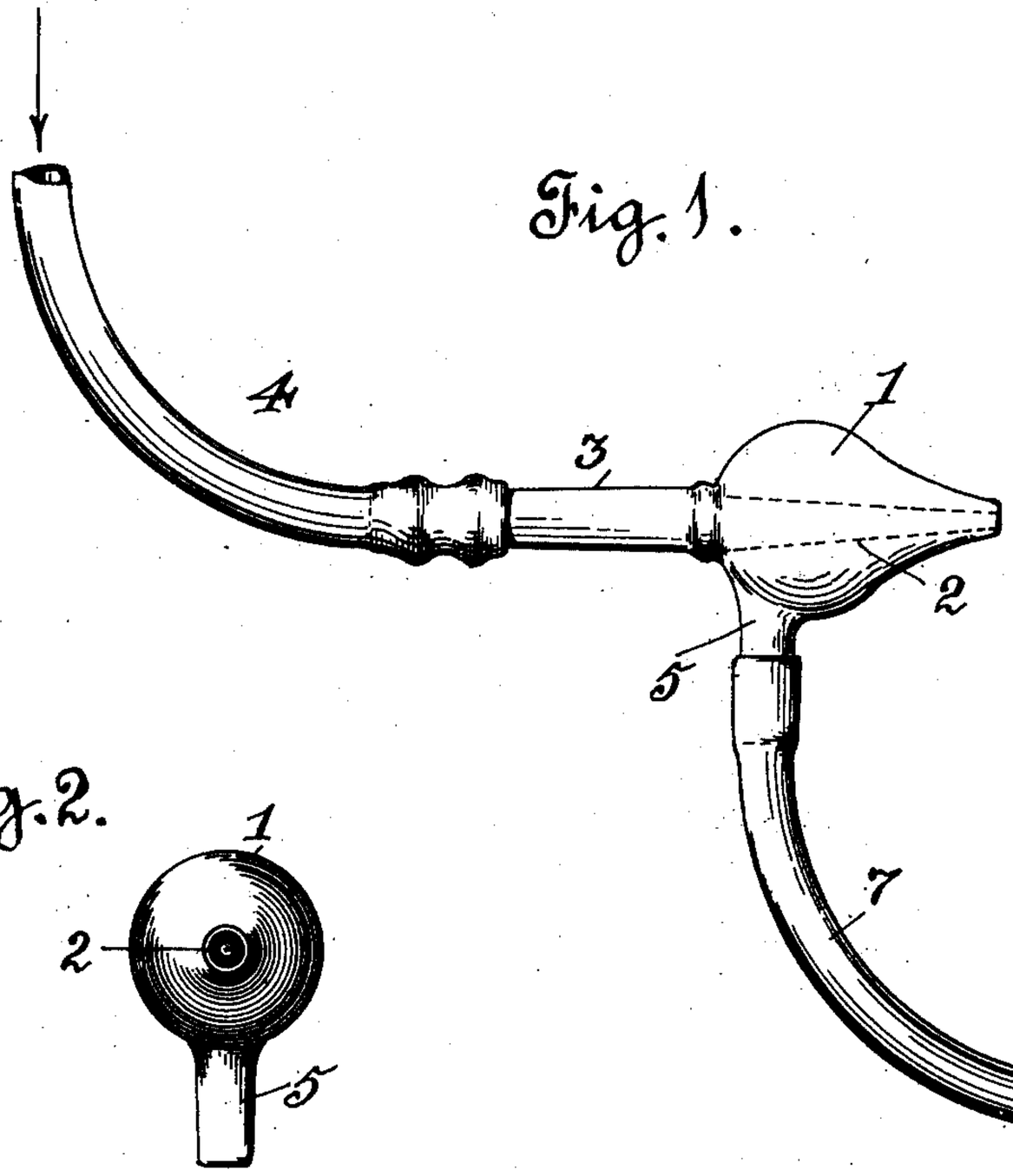
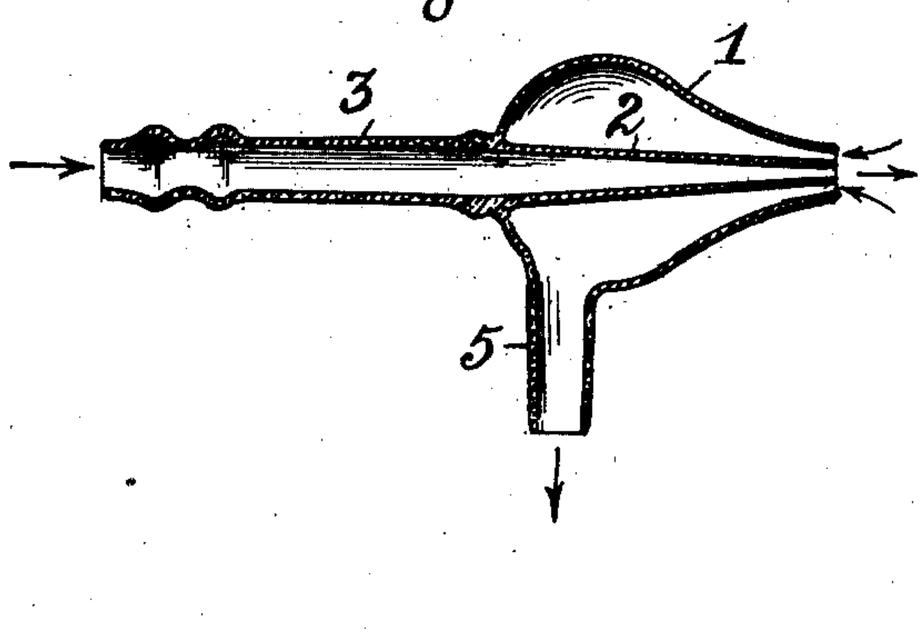


Fig. 2.

Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN ALBERT NOBLE, OF SAN FRANCISCO, CALIFORNIA.

MEDICAL IRRIGATOR.

No. 826,685. Specification of Letters Patent. Patented July 24, 1906.

Application filed February 23, 1905. Serial No. 246,973.

To all whom it may concern:

Be it known that I, JOHN ALBERT NOBLE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Medical Irrigators, of which the following is a specification.

My invention relates to apparatus for injecting liquids medicinally in order to internally irrigate parts of the body, and particularly the urethral canal.

The object of my invention is to properly irrigate the canal and to do it more thoroughly, completely, and effectively than has heretofore been practicable.

An embodiment of my invention is shown in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a front elevation of the nozzle. Fig. 3 is a longitudinal section of the nozzle.

A bulb 1, of glass, hard rubber, or other suitable material and of a general pear shape, tapers down to a reduced end adapted to be inserted into the canal, and owing to the increasing size behind the nozzle the said bulb acts as a positive stopper to close the mouth of the canal. This bulb is formed integrally with a central tube 2, which extends through it and terminates at and within the main orifice of the bulb, leaving around it an annular outlet. This tube 2 is continued beyond the bulb, as shown at 3, and is corrugated to provide means for connecting the rubber tube 4, which leads from any suitable supply, such as an elevated flask or jar containing the irrigating solution, which is thus supplied by its own head or pressure. Extending downwardly from the bulb is an integral discharge-outlet 5, adapted to receive the waste-pipe 7, composed of rubber tubing. This tubing might be closed and the discharge cut off by one of the ordinary wire clips which pinch the tube; but as it is desirable to carefully regulate the discharge relatively to the supply I have invented the simple little clip shown in Fig. 1. A piece of metal is bent into a three-faced clip, of which the upper, 8, has a threaded hole to receive the screw 9. The end face 10 has a hole through which the tube extends, while the lower face 11 is curved upwardly to bear upon the hose and form a backing which enables the screw to act against the hose. It is evident that a very careful and accurate regulation of the discharge can be accomplished by means of this screw. In the ordinary apparatus for this purpose, where a single tube of about the same diameter is employed, the escape of liquid from the canal must be around the nozzle or else the tube must be withdrawn intermittently to permit such escape. In the present case the irrigation can be carried on so long as the operator may desire and without changing the position of the apparatus, for it will be seen that the liquid is carried into the canal in a direct line through the central nozzle and is permitted to escape back into the bulb through the surrounding orifice, as shown by arrows in Fig. 3.

In the operation of the apparatus the small end of the irrigator or bulb is caused to enter the canal, and it is then pressed firmly against the mouth of said canal, so as to close it. The inflow of water is of larger volume than the outflow, and consequently there is a distention of the canal or a complete "ballooning out." Nevertheless there is a sufficient outflow to keep the liquid in circulation while the canal is distended. The extent of distention is regulated at will by adjusting the outlet-controller by means of the screw 9. The object of this distention is to smooth out the folds in the walls of the canal, so that the liquid can come into contact with every portion of the smooth surface or membrane thus produced. This distention and its resulting advantages are not producible by the single-tube irrigating apparatus in general use.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An irrigating apparatus comprising a hollow stem 3 ending in a tapered nozzle 2, a substantially pear-shaped hollow member 1 surrounding the nozzle 2 and being integral with the stem and an outlet-tube made integral with the pear-shaped member, the small end of said member forming a concentric space around the end of the nozzle and the ends of the nozzle and said member being in the same plane.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 16th day of January, 1905.

JOHN ALBERT NOBLE.

Witnesses:
L. W. SEELY,
M. R. SEELY.