No. 609,280. Patented Aug. 16, 1898.

F. KING.

SYRINGE NOZZLE.

(Application filed July 28, 1897.)

(No Model.)

FIG. 1.

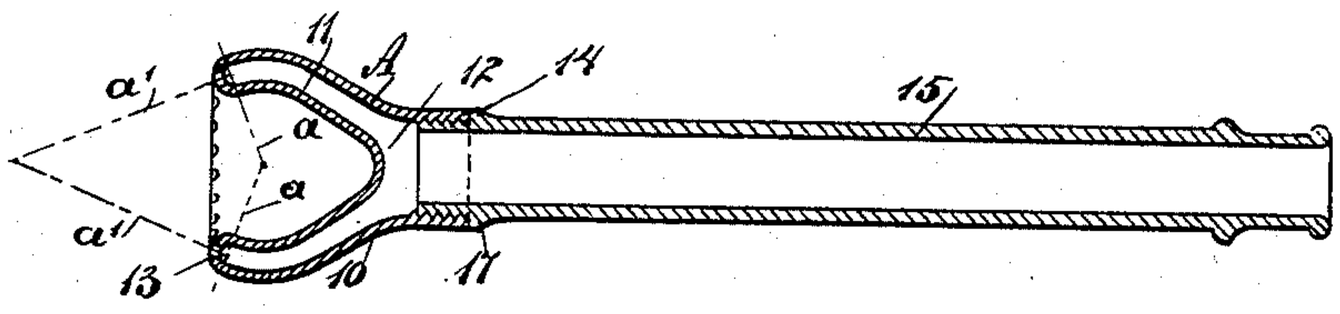


FIG. 2.

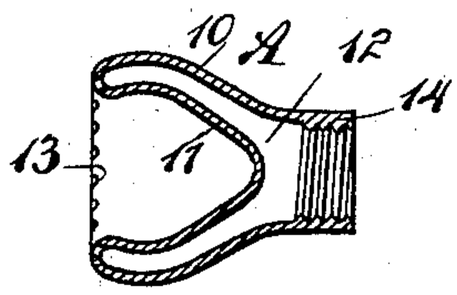


FIG. 3.

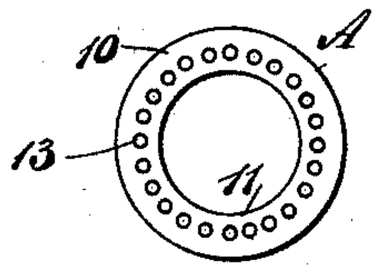
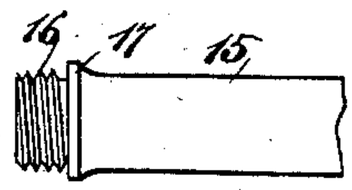


FIG. 4.



WITNESSES:

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SYRINGE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 609,280, dated August 16, 1898.

Application filed July 28, 1897. Serial No. 646,164. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND KING, of New York city, in the county and State of New York, have invented a new and Improved Syringe-Nozzle, of which the following is a full, clear, and exact description.

The object of the invention is to provide a syringe-nozzle so constructed that the spray delivered from the nozzle will remain substantially of semispherical form and will converge and meet at a point in front of the nozzle in substantially horizontal alinement with the center of the nozzle, thus providing for a thorough irrigation and cleansing of the mucous membrane of a canal or cavity into which the nozzle may be introduced or adjacent to which it may be held.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

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 figures.

Figure 1 is a longitudinal vertical section through the improved nozzle and tube connected therewith. Fig. 2 is a vertical section through the nozzle only. Fig. 3 is a front elevation of the nozzle, and Fig. 4 is a side elevation of a portion of the nozzle-tube.

The syringe-nozzle may be made of any desired material—as, for example, glass or hard rubber, the latter being preferably employed. The outer contour of the nozzle is semispherical, and the said nozzle comprises an outer wall or shell 10 and an inner wall or shell 11, the two being integral, and the inner wall or shell is so separated from the outer wall or shell as to form a space or annular chamber 12. Where the two walls or shells connect, which is at the front portion of the nozzle, a series of apertures 13 is produced. The inner shell is likewise semispherical, or it may have more or less of a pear shape or be dished in any suitable or approved manner. The front edge of the nozzle or that edge in which the apertures 13 are made is carried beyond the axial line of a sphere and is therefore curved inward to a greater or less extent.

The nozzle, at its inner end, is provided with an interiorly-threaded neck 14, into which a tube 15 is preferably screwed, although it may be otherwise attached to the nozzle, and the said tube may be connected in a suitable manner with a flexible tube and bulb. The forward end of the tube 15 is reduced in diameter and exteriorly threaded at 16 to enter the nozzle and to form a shoulder 17, which will engage with the nozzle and form a fluid-tight joint.

Owing to the inward curvature of the forward end of the nozzle and the fact that said end extends beyond what would be the axial or central line of a sphere the liquid forced out through the nozzle will take a direction which will practically complete the formation of a sphere, and the spray will converge or meet at a point which will be in advance of the nozzle and in alinement with the central portion of the nozzle. The direction of the spray is diagrammatically illustrated in dotted lines in Fig. 1, in which the inner lines a may be said to indicate the angles of inclination, while the outer lines a' denote the angles of direction.

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

As a new article of manufacture, a syringe-nozzle, consisting of an approximately semispherical body having its outer or front end curved downwardly and forwardly, and then curved inwardly and extended within the body, to form an inwardly-extending projection, which is spaced from the body and forms therewith a longitudinally-curved annular chamber, the inwardly-curved front portion of the body being perforated, whereby the spray delivered from the nozzle will converge toward the longitudinal center of the nozzle and meet a short distance in front of the same, as set forth.

FERDINAND KING.

Witnesses:
J. FRED. ACKER,
F. W. HANAFORD.