

J. T. MONTGOMERY.  
SYRINGE NOZZLE.

APPLICATION FILED JUNE 27, 1901. RENEWED DEC. 2, 1902.

NO MODEL.

Fig. 1.

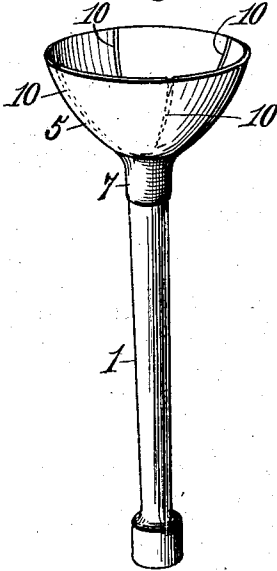


Fig. 2.

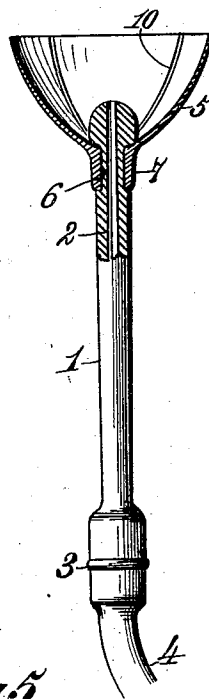


Fig. 4.

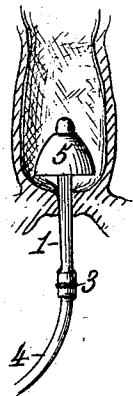


Fig. 5.

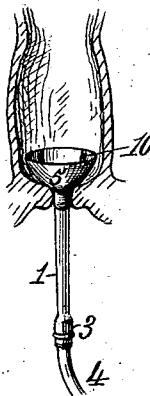


Fig. 6.

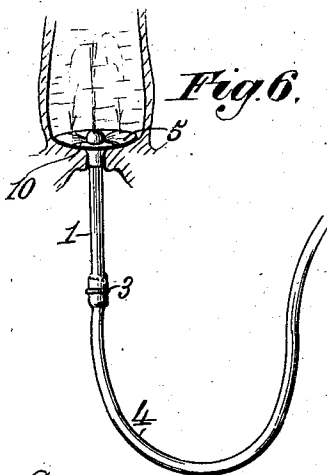


Fig. 3.

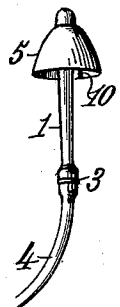


Fig. 7.

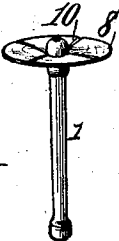


Fig. 8.



Witnesses.  
*Robert Emmett,*  
*Lucy B. Hille.*

Inventor:  
*John T. Montgomery,*  
*by Allen, Doyle & Bryan,*  
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# UNITED STATES PATENT OFFICE.

JOHN THEODORE MONTGOMERY, OF CHARLESTON, ILLINOIS.

## SYRINGE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 724,913, dated April 7, 1903.

Application filed June 27, 1901. Renewed December 2, 1902. Serial No. 133,636. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN THEODORE MONTGOMERY, a citizen of the United States, residing at Charleston, in the county of Coles and State of Illinois, have invented certain new and useful Improvements in Syringe-Nozzles, of which the following is a specification.

My invention relates to syringe-nozzles, and more particularly to that class intended for use in the rectum, and has for its object the provision of an efficient means for preventing the escape of the liquid during its injection into the bowel by the device, said object being accomplished by providing a flexible disk on a syringe-nozzle adapted to be readily inserted into the rectum above the sphincter ani, against which it will be automatically seated by the pressure of the liquid above it during the use of the syringe, thus effectually preventing the escape of the liquid until the nozzle and attached disk are withdrawn.

Referring to the accompanying drawings, Figure 1 is a substantially full-sized perspective view of a syringe-nozzle having my improved device attached thereto. Fig. 2 is a side elevation of the same, the upper end of the nozzle and the disk being shown in section. Fig. 3 is a smaller detail perspective view of the same, the disk being shown in position to be inserted into the rectum. Fig. 4 is a view showing the nozzle and disk just after their insertion into the rectum above the sphincter ani. Fig. 5 is a view similar to Fig. 4, the disk being shown in the position it will assume after being drawn down against the sphincter ani. Fig. 6 is a similar view showing the position assumed by the disk against the sphincter ani under the pressure of the liquid from above in the bowel. Figs. 7 and 8 are perspective views of slightly-modified constructions of the disk.

Similar numerals of reference denote corresponding parts in the several views. In the said drawings the reference-numeral 1 denotes an ordinary syringe nozzle or stem, the same being preferably composed of hard or vulcanized rubber and having the usual central orifice 2 for the passage of the liquid-douche. This nozzle or stem is connected by any desired form of coupling at 3 with a flexible supply-tube 4, leading to a suitable

source of supply, such as a fountain-bag or hand-power syringe, as will be readily understood. Attached to said nozzle or stem near its discharge end is a disk 5, formed of some soft flexible material, such as partially-vulcanized rubber, the same being preferably cup-shaped, as shown in Figs. 1 to 6, said disk preferably diminishing somewhat in thickness from its point of attachment to the nozzle or stem toward its outer edge, as clearly seen in Fig. 2. I have shown in Fig. 2 the nozzle or stem 1, provided with an annular recess 6, into which the thickened neck 7 of the disk seats to insure its retention thereon, though it will be understood that any suitable manner of connecting the two parts may be employed.

From the above description the operation of my improved device will be understood to be as follows: When it is desired to insert the device into the rectum, the disk 5 is inverted to the position shown in Fig. 3, in which position it may be readily forced past the sphincter ani to the position shown in Fig. 4. Now by slightly retracting said nozzle or stem the outer edge of said disk will come in contact with the inner surface of the sphincter ani and will cause said disk to spring back to the position shown in Figs. 1, 2, and 5. The admission of liquid into the rectum through the nozzle or stem 1 will create a downward pressure on the disk 5, thus flattening it out against the inner surface of the sphincter ani, as shown in Fig. 6, and effectually preventing the escape of the liquid from the bowel. When the syringing operation is completed, the nozzle or stem and disk may be readily withdrawn, thus permitting the escape of the liquid.

In Fig. 7 I have illustrated a slightly-modified form of disk, the same consisting simply of a flat circular piece of soft rubber 8, becoming thinner from its point of connection with the nozzle or stem outward in a manner similar to the disk 5, while in Fig. 8 is shown still another modification of the disk, the same consisting of a bell-shaped structure 9, constructed and operating in all respects similar to disk 5.

In order that the disk may more readily fold or contract while being inserted past the sphincter ani, I preferably provide the

upper surface of the same with a plurality of slight grooves or indentations 10, extending radially from the center to the circumference thereof, the same permitting the disk 5 to fold into smaller compass and to be more readily introduced without impairing its function when in position in the bowel.

Having thus described my invention, what I claim as new, and desire to secure by Letters 10 Patent, is—

1. A syringe-nozzle, consisting of a stem, and a flexible disk located thereon directly in rear of the head and of the discharge-orifice thereof, said disk adapted to be inserted 15 with the stem end into the orifice to be treated and to be automatically seated internally therein to close the passage therefrom, substantially as set forth.

2. A syringe-nozzle, consisting of a stem, 20 and a flexible disk thereon near the discharge-orifice thereof provided with a series of radial grooves or depressions, said disk adapted

to be inserted with the stem end into the orifice to be treated and to be automatically seated internally therein to close the passage 25 therefrom, substantially as set forth.

3. A syringe-nozzle, consisting of a stem, and a flexible cup-shaped disk engaging a groove near the end of said stem and immediately in rear of the discharge-orifice there- 30 of, the same adapted to fold in either direction to be inserted into or withdrawn from the orifice to be treated and to be automatically seated internally therein by the pressure of the liquid-douche above it to prevent the 35 escape of the liquid, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN THEODORE MONTGOMERY.

Witnesses:

MOSES SANDERS,  
R. H. CRAIG.