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INSTRUMENT FOR TREATING THE MALE URETHRA

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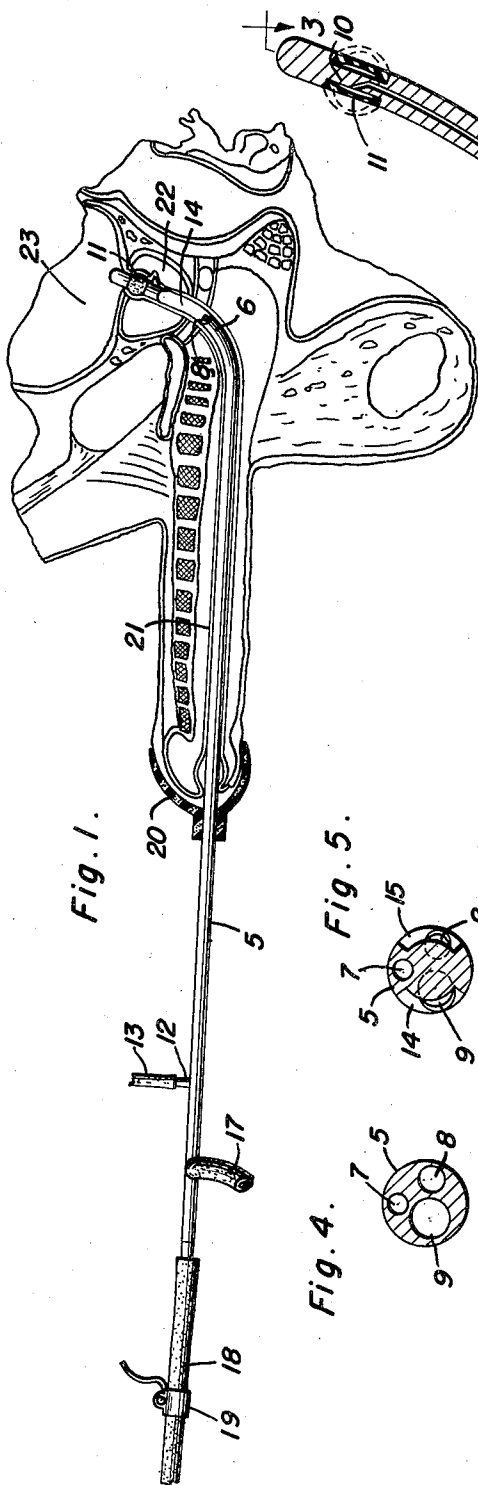


Fig. 1.

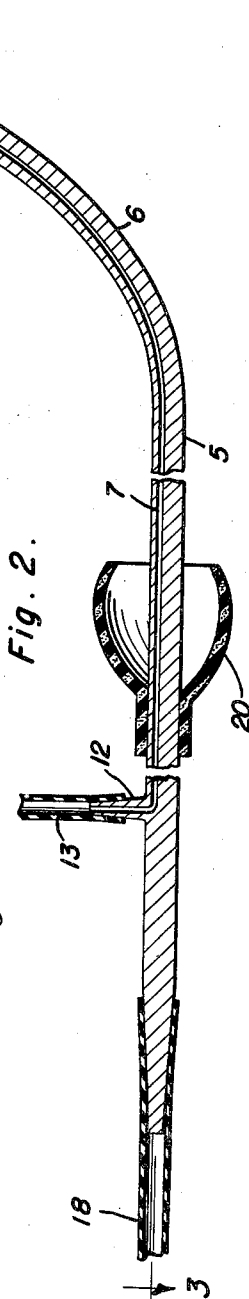


Fig. 2.

Fig. 3.

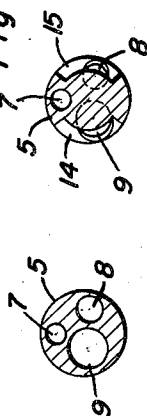


Fig. 4.

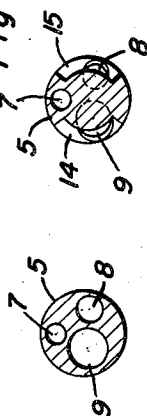


Fig. 5.

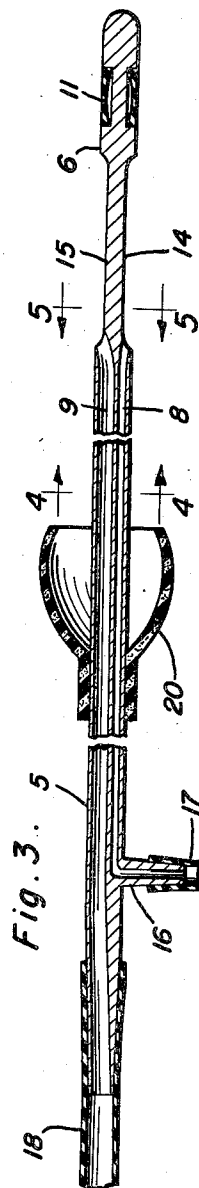


Fig. 3.

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## UNITED STATES PATENT OFFICE

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## INSTRUMENT FOR TREATING THE MALE URETHRA

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3 Claims. (Cl. 128—349)

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This invention relates to an improved instrument for supplying medicinal liquid to and draining the liquid or pus and the like from the male urethra.

An object of the invention is to provide means for supplying the liquid to and retaining the same within the urethra for any desired period of time, for preventing the liquid from passing into the bladder, and for supplying the liquid to and retaining the same in contact with the prostate gland or any desired portion of the urethra.

A further object is to provide an instrument of the above kind which is simple in construction, easy to use, and efficient in use.

The exact nature of the present invention will become apparent from the following description when considered with the accompanying drawing, in which:

Figure 1 is a view showing the present instrument in use for treating the prostate gland, the instrument being partly in side elevation and partly in section.

Figure 2 is an enlarged longitudinal sectional view of the instrument, partly broken away.

Figure 3 is a view similar to Figure 2, taken on a line at a right angle to that on which Figure 2 is taken.

Figures 4 and 5 are enlarged transverse sections taken respectively on the line 4—4 and on the line 5—5 of Figure 3.

Referring in detail to the drawing, 5 indicates a slender cannula whose distal portion 6 is curved to facilitate insertion of the same, and which has three longitudinal passages 7, 8 and 9. Near its distal end, the cannula has an annular circumferential groove 10 into which the passage 7 opens at one end, and disposed in this groove is an elastic sleeve 11 whose ends are secured to the cannula so as to have an air and liquid tight joint therewith. The other end of passage 7 communicates with a lateral nipple 12 on the proximal portion of the cannula which may be connected by a flexible tube 13 to a source of air under pressure.

Inwardly of the sleeve 11, the distal portion 6 has external elongated longitudinal grooves 14 and 15 in the opposite sides thereof. The outer end of passage 8 opens into groove 14, and the outer end of passage 9 opens into groove 15. The inner end of passage 8 communicates with a lateral nipple 16 on the proximal portion of the cannula which may be connected with a source of supply of medicinal liquid by a flexible tube 17. The passage 9 opens through the proximal end of the cannula which may be connected by

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a flexible tube 18 to a drainage receptacle. Flow of liquid through the tubes 13 and 17 and of liquid, pus or the like through the tube 18 may be suitably controlled, as by means of conventional clamps like that shown at 19 on tube 18.

Slidably adjustable on the cannula inwardly of the grooves 14 and 15 is a flexible cap 20 adapted to fit over the head of the penis to prevent escape of fluid from the urethra about the cannula.

In use, the cannula is entered longitudinally of the penis in the urethra until the grooves 14 and 15 reach the region to be treated. The sleeve 11 is then inflated by air supplied through tube 13 and passage 7 to block the urethra beyond this region, and the cap 20 may be adjusted to engage over the head of the penis. At this time, medicinal liquid may be supplied to the region through tube 17 and passage 8, or pus or the like may be drained therefrom through passage 9 and tube 18. By leaving tube 18 open, the liquid may be circulated, and by closing it, said liquid may be retained in contact with the wall of the urethra in the mentioned region as long as desired. When the instrument is inserted as shown in Figure 1, treatment of or drainage of pus and the like from the prostate gland 22 may be effected, and passage of the liquid into the bladder 23 will be prevented by the inflated sleeve 11. Various uses of the instrument and its advantages will be apparent to those in the medical or surgical profession, and the same is true of possible modifications and changes in details of the device shown.

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

1. In a device of the class described, a slender cannula having its distal portion curved to facilitate its insertion into the male urethra and provided with three longitudinal passages, an annular circumferential groove near its distal end, and longitudinal grooves in opposite sides of said distal portion inwardly of said annular groove, an inflatable sleeve in said annular groove having its ends secured to the cannula so as to have an air tight joint therewith, one of said passages opening at one end in said annular groove and adapted for connection at its other end with a source of air under pressure to expand said sleeve and block the urethra beyond said longitudinal grooves, the other passages opening at corresponding ends thereof into the respective longitudinal grooves and respectively adapted for connection at their other ends to a source of medicinal liquid and to a drainage receptacle, and means carried by the cannula inwardly of said longitu-

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dinal grooves to prevent escape of the liquid from the urethra about said cannula.

2. In a device of the class described, a slender cannula provided with three longitudinal passages, an annular circumferential groove near its distal end, and longitudinal grooves in opposite sides of said distal portion inwardly of said annular groove, an inflatable sleeve in said annular groove having its ends secured to the cannula so as to have an air tight joint therewith, one of said passages opening at one end in said annular groove and adapted for connection at its other end with a source of air under pressure to expand said sleeve and block the urethra beyond said longitudinal grooves, the other passages opening at corresponding ends thereof into the respective longitudinal grooves and respectively adapted for connection at their other ends to a source of medicinal liquid and to a drainage receptacle, and means carried by the cannula inwardly of said longitudinal grooves to prevent escape of the liquid from the urethra about said cannula.

3. In a device of the class described, a slender cannula having its distal portion curved to facilitate its insertion into the male urethra and provided with three longitudinal passages, an annular circumferential groove near its distal end, and longitudinal grooves in opposite sides of said distal portion inwardly of said annular groove, an inflatable sleeve in said annular groove having its ends secured to the cannula so as to have an

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air tight joint therewith, one of said passages opening at one end in said annular groove and adapted for connection at its other end with a source of air under pressure, the other passages opening at corresponding ends thereof into the respective longitudinal grooves and respectively adapted for connection at their other ends to a source of medicinal liquid and to a drainage receptacle, and a cap slidably adjustable on the cannula inwardly of the longitudinal grooves and adapted to fit over the head of a penis in which the cannula is inserted.

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