

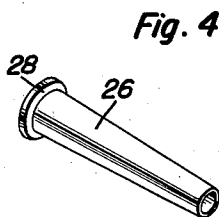
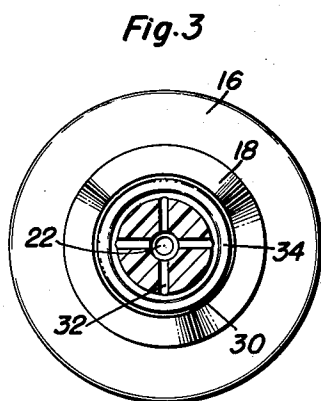
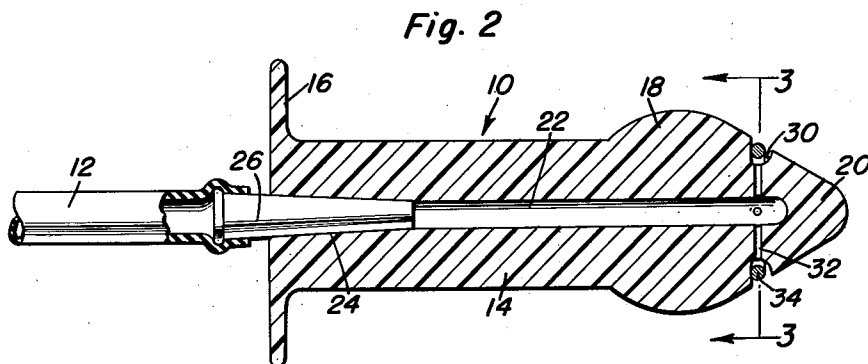
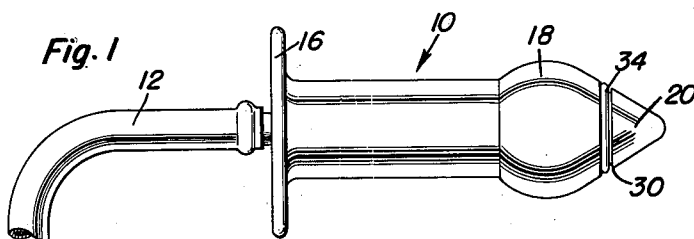
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2,631,586

RECTAL APPLICATOR AND DILATOR

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# UNITED STATES PATENT OFFICE

2,631,586

## RECTAL APPLICATOR AND DILATOR

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4 Claims. (Cl. 128—242)

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This invention comprises novel and useful improvements in a rectal applicator and more specifically appertains to a nozzle for more efficaciously applying medicaments to body cavities.

The primary object of this invention is to provide an improved rectal applicator for injecting and applying more efficaciously medicaments and fluids to the rectal and other body cavities.

A further object of the invention is to provide an applicator nozzle specifically applicable as a rectal applicator for injecting medicaments or other fluids into the rectal cavity in a gentle and diffused manner and wherein the injected fluid will be gently but widely applied to the adjacent tissues of the body cavity.

Yet another object of the invention is to provide an improved rectal applicator wherein the applicator nozzle may be detachably secured and be readily interchangeable with other nozzles upon a fluid supply conduit and connector.

These, together with various ancillary objects and features of the invention, which will later become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which has been illustrated, by way of example only, in the accompanying drawings wherein:

Figure 1 is a side elevational view showing one form of rectal applicator embodying therein the principles of this invention;

Figure 2 is a vertical longitudinal sectional view through the applicator construction of Figure 1;

Figure 3 is a vertical transverse sectional view taken substantially upon the plane indicated by the section line 3—3 of Figure 2; and

Figure 4 is a perspective view of a connector tube forming a part of the invention.

Referring now more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, there is disclosed in the attached drawings a form of applicator specifically designed for use as a rectal applicator, this applicator consisting of a nozzle indicated generally by the numeral 10 and which is adapted to be interchangeably used with other nozzles with a rubber hose or other flexible conduit 12 leading from a source of fluid or medicament to be supplied in treating the patient.

Referring now more specifically to Figure 2, it will be apparent that the nozzle 10 which may be formed of any desired suitable plastic, hard rubber, or other suitable material, consists of a generally cylindrical and tubular body portion 14

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having an integral flange 16 at its base end, and a bulbous enlarged head portion 18 at its other end, this head tapering to a blunt nose as at 20. The head 18, nose 20 and barrel or body portion 14 may of course be constructed in various sizes to form interchangeable nozzles for insertion in various sizes and types of body cavities as found necessary and desirable for treating patients. The flange base 16 constitutes a shield or guard which limits the insertion of the device into the body cavity and establishes a fluid tight seal with the entrance to the cavity to prevent the leakage of fluid when the body cavity is undergoing treatment.

A fluid supply passage 22 extends axially of the body 14 from its base into its head portion 18 and terminates adjacent the nose portion 20 thereof. The rear end of the discharge passage 22 has an opening which constitutes a conical bore 24 having its larger end at the rearmost end of the body. The bore 24 is adapted to frictionally receive and be retained upon a conical sleeve or tube 26 of metal, plastic or any suitable material, which tube, as shown in Figure 4, has at its enlarged end a lateral annular flange 28. By means of the flange 28, the conical tube 26 may be detachably secured in fluid tight engagement in the end of the flexible hose or conduit 12 to form a connector for the end of the same. In using the device, any one of a series of nozzles 10 may be detachably and frictionally secured upon the exterior conical surface of the tubular connector 26 in fluid tight engagement therewith, whereby medicament or other fluid under pressure from any suitable source may be supplied to the fluid supply passage 22.

Forwardly of the bulbous portion 18 and substantially intermediate the nose 20 and the enlarged portion 18, the exterior surface is provided with an annular channel or groove 30 which is adapted to dispense and discharge medicament or fluid from the nozzle into the body cavity and the tissues forming the same. A plurality of discharge passages 32 which may conveniently comprise bores which extend radially from the bottom of the groove or channel 30 and into the fluid supply passage 22 are provided, these passages establishing free and continuous communication between the supply passage 22 and the annular groove 30. In order to limit or restrict and diffuse the flow of fluid or medicament from the orifices or discharge ends of the passages 32 into the channel or groove 30, there is provided a combined flow restricting and diffusing means. This latter may conveniently

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comprise a ring 34 of any desired material, which ring is loosely received and retained in the channel 30 in proximity to the orifices of the passages 32.

When so positioned, the ring serves to break up the direct flow of fluid and medicament from the orifices of the passages 32, and cause this fluid to flow around both sides of the ring and to be thereby diffused as the fluid emerges from the groove or channel 30 and into contact with the interior or walls of the body cavity undergoing treatment. Thus, the direct force of the emerging fluid is diffused or broken up, and the fluid itself is dispersed and baffled in its flow to cause the same to emerge into the body cavity on both sides of the annular diffusion member 34.

It will now be readily understood that if desired, fluid or medicament may be discharged from the nozzle 10 as the latter is inserted in the body cavity undergoing treatment, thereby rendering more gentle and less painful the insertion of the nozzle into the body cavity; discharging the fluid or medicament in advance of the nozzle as the latter is inserted in the cavity; and thereby rendering less painful and more efficient the manner of treating the body cavity with the device.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

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

1. A rectal applicator comprising a nozzle having a fluid supply passage therein, discharge passages, each communicating with said supply passage and with the exterior of the nozzle and having a discharge orifice on the exterior of the nozzle, and means forming a part of the applicator and disposed adjacent said discharge

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passages for restricting and diffusing flow of fluid from said orifice.

2. A rectal applicator comprising a nozzle having a fluid supply passage therein, discharge passages, each communicating with said supply passage and with the exterior of the nozzle and having a discharge orifice on the exterior of the nozzle, and means at said orifices restricting and diffusing flow of fluid from said orifice, said nozzle having a channel in its exterior surface, said orifices intersecting said channel, said last means being disposed in said channel.

3. A rectal applicator comprising a nozzle having a fluid supply passage therein, discharge passages, each communicating with said supply passage and having a discharge orifice, means restricting and diffusing flow of fluid from said orifice, said nozzle having a channel in its exterior surface, said orifices intersecting said channel, said last means being disposed in said channel, and said channel comprising a circumferential groove.

4. A rectal applicator comprising a nozzle having a fluid supply passage therein, discharge passages, each communicating with said supply passage and having a discharge orifice, means restricting and diffusing flow of fluid from said orifice, said nozzle having a channel in its exterior surface, said orifices intersecting said channel, said last means being disposed in said channel, said channel comprising a circumferential groove, and said last means consisting of a ring loosely received in said groove.

JOHN F. REILLY.

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