

[54] ENEMA SYRINGE

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Related U.S. Application Data

[63] Continuation of Ser. No. 150,988, June 8, 1971, abandoned.

[52] **U.S. Cl.**..... **128/235; 128/261**

[51] **Int. Cl.**..... **A61m 1/00**

[58] **Field of Search** 128/235, 232, 234, 260,
128/261, 218, 239, 227

References Cited

UNITED STATES PATENTS

2,862,496	12/1958	Hassler et al.	128/261
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2,863,453	12/1958	Gewecke	128/239 X
3,303,847	2/1967	Eaton.....	128/232
3,506,008	4/1970	Huck	128/235 X

3,303,847	2/1967	Eaton.....	128/232
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3,506,008 4/1970 Huck 128/235 X

Primary Examiner—Richard A. Gaudet

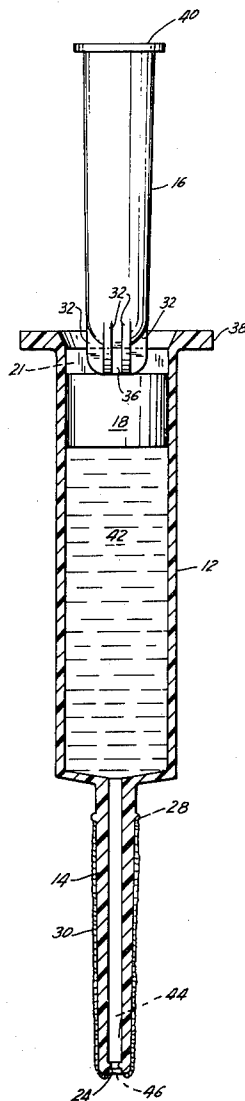
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[57]

ABSTRACT

A disposable enema catheter is provided which has an open end barrel and canula combination with a movable plug closing the barrel opening. The canula is enclosed in a cover and the cover protects a lubricant at least coated on the outer surface of the canula. The cover is removable and acts as a plunger to move the plug against an enema solution contained in the barrel so that the solution is expelled through a central bore in the canula.

5 Claims, 4 Drawing Figures



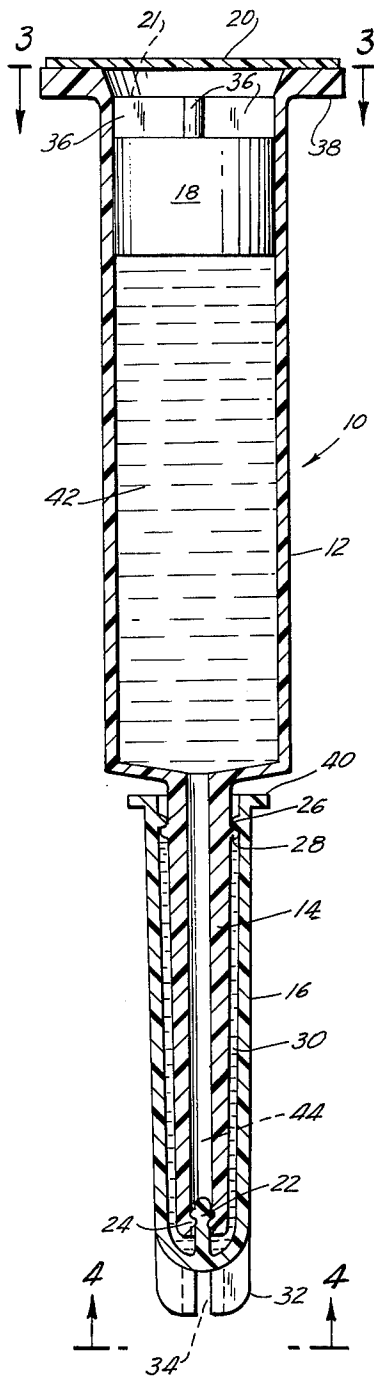


FIG. 1

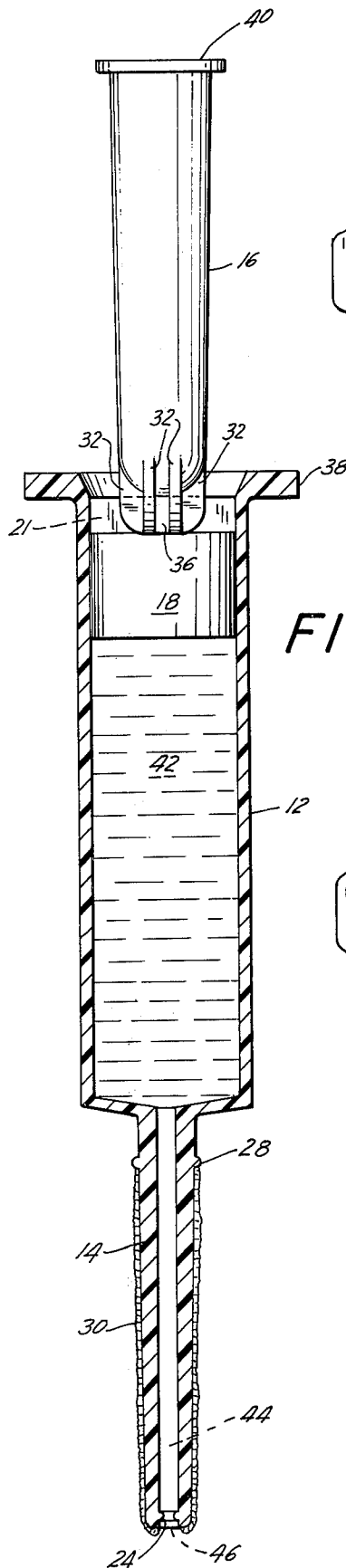


FIG. 2

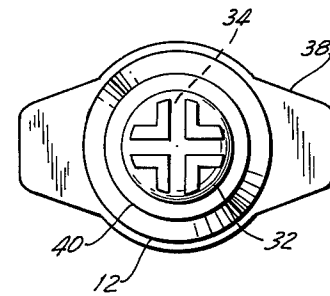
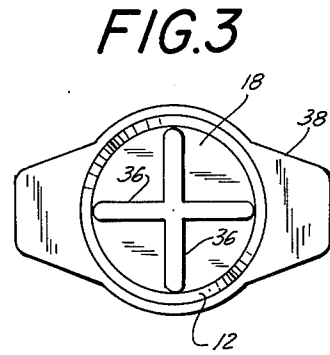


FIG. 4

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ENEMA SYRINGE

This is a continuation of application Ser. No. 150,988 filed June 8, 1971, now abandoned.

SUMMARY OF THE INVENTION

This invention relates to disposable enema catheters and more particularly to a catheter of the syringe type with a prelubricated canula.

Heretofore, it has been a common practice to use a permanent type of enema-containing solution bag and catheter for use with the human body or with animals. Disposable enema devices have been suggested by others. One type is shown in U.S. Pat. No. 2,863,453, issued Dec. 9, 1958, to Gewecke. The device shown in that patent consists of a storage envelope for the enema solution, a tube attached to the envelope and a nozzle inserted into a recess in the envelope. The nozzle in the Gewecke disclosure may be self-lubricating. A similar unit is shown in U.S. Pat. No. 2,784,716, issued Mar. 12, 1957, to Broman. Still another type of disposable unit is found in U.S. Pat. No. 3,303,847, issued Feb. 14, 1967, to Eaton. In the Eaton disclosure there is shown a tube-like container into which the solution is placed and it is expelled through a catheter tube by squeezing the flexible sides of the container.

As far as it is presently known, the prior art disposable enema units have all had the shortcoming of not providing simple and easy means of expelling substantially all of the enema solution from the container. In addition, they have not provided simple compact units which are easily packaged for shipment while still providing a lubricated insertion nozzle.

To overcome these objections of the prior art, it is an object of the present invention to provide an inexpensive disposable enema catheter with a prelubricated nozzle or canula portion which is easily packed for shipment and readily available for use, while permitting the user to have the advantage of obtaining all the solution packaged with the unit.

To obtain this objective and others which will be apparent from the drawings and the description herein, a disposable enema catheter is provided which has a barrel and canula combination with a movable plug closing the open end of the barrel. The canula portion is enclosed in a cover which protects the lubricant coating at least on the outer surface of the canula. When the unit is desired to be used, the cover is removed from its protective location about the canula and one end thereof is placed against the plug and acts as a plunger to expel the contained solution from the barrel and through a central bore in the canula permitting quick and easy use of the unit and insuring that substantially all of the solution is utilized.

Heretofore, in the hypodermic syringe art covers for needles have been suggested which can also serve as plungers for the syringe barrel. Typical syringes of this type may be found in U.S. Pat. No. 3,130,724 of Apr. 28, 1964 to Higgins et al., U.S. Pat. No. 2,735,430 of Feb. 21, 1956 to Huber, U.S. Pat. No. 2,661,740 of Dec. 8, 1971 to Hickey, and U.S. Pat. No. 2,550,394 of April 24, 1951 to Young et al. However, as far as it is known, no one heretofore has even considered a disposable enema syringe wherein the cover on a canula protects a prelubricated area and also functions as a plunger.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a partially sectional longitudinal view of a disposable enema catheter in accordance with the present invention;

FIG. 2 is a partially sectional longitudinal view of the disposable enema catheter of the present invention with a cover removed from the canula portion and placed in a position against the plug whereby it acts as a plunger;

FIG. 3 is a transverse sectional view along lines 3—3 of FIG. 1; and

FIG. 4 is a bottom view along line 4—4 of FIG. 1.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

Referring to the drawings and to FIG. 1 in particular, an enema syringe package 10 is shown. The package consists of a barrel portion 12, open at one end, and with a canula 14 affixed to the opposite end. Surrounding the canula is a cover 16. A plug 18 is fitted into the open end of the barrel 12.

The barrel and canula may be readily molded as an integral unit from a suitable organic plastic material such as polyethylene or polypropylene. The plug advantageously is in tight fitting relation with the inner surface of the barrel and yet must be movable through the barrel. Accordingly, a resilient rubber material is suitable for this use.

To insure that the plug will not be disturbed during shipment, a pressure sensitive seal 20 may be applied over the open end 21 of the barrel. The seal 20 has the further function of insuring that the contents of the syringe barrel have not been tampered with prior to the time that it is desired to use it.

In order to protect the canula in a substantially sterile condition as well as to fix it in place, a sealing tip 22 is provided on the lower inner surface of the cover. The tip 22 engages shoulders 24 in the canula and the lower portion of the cover is thus held in place. On the upper inner surface of the cover, protrusions 26 are provided and these cooperate with protrusions 28 on the canula providing engagement means for maintaining the upper portion of the cover in position.

A suitable lubricant 30, such as petroleum jelly, which may be filled in the cover 16 or merely applied as a coating to the outer portion of the canula 14 is provided. The lubricant 30 advantageously coats at least a substantial portion of the outer surface of the canula thus providing a prelubrication of the canula.

On the closed end of a cover a series of flanges 32 are provided which form an X-shaped opening 34. On the upper surface of the plug 18, upstanding flanges 36 are also provided and these flanges 36 mate and coact with the X opening 34. While the flanges 36 have been shown as part of the plug 18, it is to be understood that they may be separately molded or be part of a platform which overlies the plug 18. Such modifications will be apparent to those skilled in the art.

A pair of finger grips 38 are provided on the syringe barrel adjacent to the opening 21.

To use the syringe package 10, the cover 16 is withdrawn from the canula and the removed cover is fitted onto the flanges 36 by inserting these flanges into the X-shaped opening 34.

At the upper end of the cover is a thumb plate 40.

After the prelubricated canula is inserted into the body, its insertion being expedited by the lubricant 30, a solution 42 is expelled from the barrel 12 by forcing the cover, now acting as a plunger, against the plug 18. The solution moves from the barrel 12 and through a bore 44 in the canula. At the end of the bore 44 a canula opening 46 is provided through which the solution finally passes. It is into the opening 46 that the sealing tip 22 is inserted when the cover is functioning as a protector for the canula and a holder for the lubricant 30.

It is to be understood that for added safety, the finger plate 40 may be located on the cover 16 at a point below the canula protrusions 28 and a tear strip provided at the upper end of the cover. By having the projections 28 26 in tight-fitting relation, it will be necessary to first sever the tear strip in order to remove the cover 16. by this means, added protection is provided against tampering with the packaged enema syringe further insuring the safety of the contents.

It is claimed:

1. A disposable catheter for use in flushing a body cavity comprising:

1. a syringe barrel open at one end and a cannula fixed thereto at the other end thereof;
2. said barrel adapted to have placed and contained therein a flushing solution;
3. a through bore in said cannula communicating with said barrel and the solution therein;
4. a movable plug positioned to close off the open end of the barrel and having engageable means at one end thereof facing said open end of the barrel;
5. a cannula cover mounted on said cannula, said cover having an innercross section along its entire length which is greater than the cross section of the cannula to define a discreet annular space between the cover and the cannula along its entire length, and an inner plug formed in one end of said cover and inserted in said through bore of said cannula when the cover is positioned thereon for sealing said bore;
6. a lubricant contained in said cover and surrounding and coating the outer surface portion of the cannula in the space between the cannula and cover, said cover having first and second cooperating means formed thereon, one of which is located in the end of said cover remote from said inner plug and the other of which is located on said cannula adjacent said barrel for removably securing the cover to the cannula without disturbing the lubricant thereon; and
7. means on the outer surface of said one end of said cover, adjacent said inner plug, adapted to engage the engageable means of said plug in said barrel,

whereby said cover may be removed from said canula exposing the lubricated portion thereof and said cover may function as a plunger for the plug to expel the enema solution through the cananula opening.

2. A disposable catheter as defined in claim 1, wherein the barrel and the canula are integrally formed from an organic plastic material.

3. A disposable catheter as defined in claim 1 and also including finger grips on said barrel to facilitate movement of the plug through the barrel.

4. A disposable catheter as defined in claim 1 including seal means removably mounted over the open end of the barrel to seal the barrel prior to use of the catheter.

5. A disposable catheter for use in flushing a body cavity comprising, a hollow syringe barrel having an opening at one end with an integrally formed elongated cannula at its opposite end, said barrel being adapted to have placed and container therein a flushing solution, and said cannula having a longitudinally extending through bore formed therein providing communication between the interior of the barrel and the exterior thereof to permit discharge of said solution; a movable plug having engageable means at one end thereof facing said one end of said barrel and being positioned in said barrel in slidable relation thereto for closing the opening at said one end thereof; and a cover removably mounted on said cannula, said cover having an innercross section along its entire length which is greater than the cross section of the cannula to define a discreet annular space between the cover and the cannula along its entire length, and an inner plug formed in one end of said cover and snap fitted in the longitudinal bore of said cannula when the cover is positioned thereon for sealing said bore; a lubricant contained in said cover surrounding and coating the outer surface portion of the cannula in the space between the cannula and cover, said cover having engageable first and second cooperating means formed thereon, one of which is located in the end of said cover remote from said inner plug and the other of which is located on said cannula adjacent said barrel for removably securing the cover to the cannula without disturbing the lubricant thereon; and means on the outer surface of said one end of said cover, adjacent said inner plug, for engaging the engageable means of said plug in said barrel when the cover is removed from the cannula whereby the lubricated cannula is exposed for use and the cover is adapted to function as a plunger for the plug in said barrel to expel the solution through the longitudinal bore in the cannula.

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