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MEASURING AND PROTECTIVE DEVICE FOR USE WITH ENEMA UNITS

Filed Dec. 13, 1963

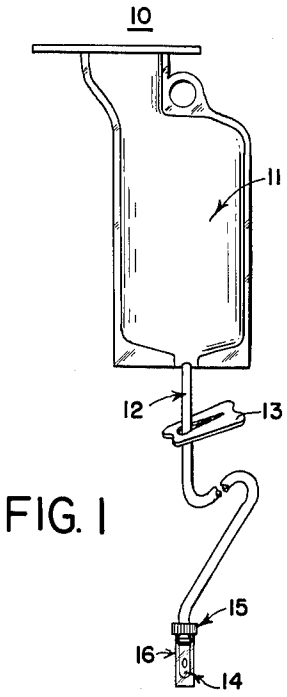


FIG. 1

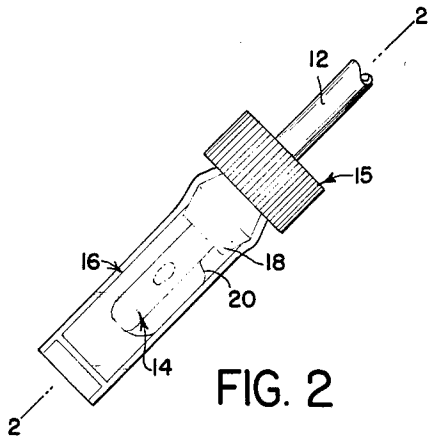


FIG. 2

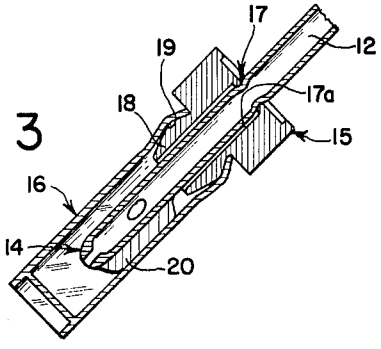


FIG. 3

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MEASURING AND PROTECTIVE DEVICE FOR USE WITH ENEMA UNITS

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1 Claim. (Cl. 128—227)

The present application is a continuation-in-part of our earlier application Serial No. 199,702, filed June 4, 1962, now abandoned.

The present invention relates to a novel measuring and protective device for use with enema units.

In the past, it was customary and necessary to lubricate enema nozzles immediately prior to use. This act consisted of spreading white petrolatum, or the like, along the enema nozzle to facilitate its insertion. With the introduction of the disposable plastic enema units, which eliminated the need to wash and sterilize reusable units, various attempts were made to effect even greater time savings by supplying such units with prelubricated enema tips. Such attempts have been uniformly unsuccessful with the result that most of the disposable enema units still require the manual administration of lubricant prior to use.

Another unsolved problem which accompanies the use of both the conventional and the recently introduced disposable plastic enema units is that of determining depth of insertion in cases where the so-called "high enema" is administered. In such cases the enema tubing is inserted into the body cavity of the patient much further than in conventional practice e.g. up to and exceeding 6 inches.

It is an object of the present invention to disclose a novel device that overcomes the previously mentioned deficiencies of the prior art devices.

It is further an object to disclose a novel protective device which prevents the contamination of the enema nozzle prior to use.

These and still other objects will be apparent from the drawings and description which follows.

In the drawings:

FIGURE 1 is an elevational view of an enema unit with an embodiment of the invention in place.

FIGURE 2 is an enlarged view showing the preferred embodiment of the present invention.

FIGURE 3 is a cross sectional view taken along line 2—2 of FIGURE 2.

In the embodiment of the invention illustrated in the drawings a disposable plastic enema unit **10** includes a bag portion **11**, a length of flexible resilient tubing **12** of substantially uniform outer diameter, a clamp **13** and a tip portion **14**.

Overriding the flexible resilient plastic tube **12** adjacent the tip **14** is a retaining member **15**. The member **15** is shown in FIGURE 1 in engaged relationship with vial-like member **16** to form the complete protective means.

In FIGURES 2 and 3 it is seen that the member **15** is circular shaped with a circular central aperture **17** and passageway **17***a*. The aperture **17** is slightly smaller in diameter than the tubing **12** so that although the member **15** may be moved along the tubing **12** it will nevertheless retain its newly selected position. The member **15** is preferably further provided with a downwardly dependent skirt **18**, an annular portion **19** which is slightly larger in diameter than the inner diameter of the vial-like protective member **16**, thus providing a surface which will frictionally engage the inner surface of said member **16**.

In the preferred practice of the present invention the member **15** is formed of polypropylene, polyethyelne or the like. The aperture **17** when intended for use with

French No. 24 tubing has a diameter of .300 inch which is slightly smaller than that of the tubing. This enables the member **15** to be relatively easily placed upon the resilient flexible tube **12** and positioned at a desired point along said tube. The downwardly extending skirt **18** preferably has a maximum diameter of .500 inch at the annular portion **19**. The diameter of the aperture **17** can vary considerably but, of course, should not be so small as to restrict flow through the tubing.

The protective member **16** is preferably of a slightly resilient material such as polyethylene butyrate or propionate or the like and is in the form of a cylindrical vial with a uniform inner diameter of .481 inch and a length of 2–4 inches. This size vial when used in conjunction with the preferred member **15**, deforms slightly to result in a fine close fitting leak-proof unit which contains sufficient lubricant **20** such as white petrolatum in addition to the tip **14** to allow adequate lubrication for even a "high enema." Generally for ease in filling with petrolatum and subsequent handling, a flat bottom vial is preferred. However, if desired a suitable vial-like protective member may be formed by closing one end of a length of thermoplastic tubing by heat sealing or the like.

The unique cooperation of the retaining member **15** with the vial-like protective member **16** and the tube **12** with the undersized aperture **17** of the retaining member **15** and with the lubricant forms a structure which is airtight and absolutely leak-proof. Therefore, it is possible when employing the structure of the present invention to dispose with the use of a clamp, such as the clamp **13**, if desired, or the clamp **13** is merely included to provide a convenient means of controlling flow of the enema solution through the tube **12**. A clamp is not even necessary to prevent the leaking of the solution from a prefilled enema bag when the novel measuring and protective device of the present invention is employed as the entire unit is leak-proof making it unnecessary to use bead valves, clamps or similar type structures such as those which have been used conventionally in the past.

Prior to use the vial-like member is rotated to insure proper lubrication of the enema tip and disengaged from the member **15**. The vial-like member **16** is then compressed with the fingers to afford a firm grip on the flexible tube **12** and the member **15** moved along the tube **12** to any desired position. The vial-like member is then discarded and the tubing is grasped with the fingers immediately behind the member **15**. The enema tip is then inserted into the body cavity. With the depth of insertion having been predetermined by the positioning of the member **15** it is relatively simple to insure the administration of the proper type of enema i.e., normal or "high enema." Furthermore, the entire operation is accomplished with minimum contamination and inconvenience to the administrator of the enema.

While for purposes of illustration a specific type of enema unit has been described it will be readily understood that the device of the present invention may be utilized and commercialized in other forms. For example, if desired a length of flexible plastic tubing with the device of the present invention in place may be sold for use with non-disposable metal enema cans or the like. Still further, of course, the device of the present invention may be used with rubber tubing if desired.

It will likewise be recognized by those skilled in the are that because of its leak-proof fit the device provides substantial advantages during the storage and shipping of prelubricated units. In the past one of the drawbacks to the use of prelubricated devices has been the leakage of lubricant during storage especially at elevated temperatures. The unique device of the present invention, however, has proved to be leak-proof even when containing

a liquid lubricant under conditions of elevated storage temperatures.

A wide variety of changes and variations may be made without departing from the spirit and scope of the present invention.

What we claim is:

In an enema unit comprising an enema solution container provided with an outlet, a resilient flexible tube of substantially uniform outer diameter connected to one end of said outlet and provided at the other end with a rounded tip and tip protecting means, the improved tip protecting means which comprises a relatively rigid generally cylindrical vial-like member open only at one end and positioned in protective manner about said tip, said vial-like member containing a lubricant for said tip and retaining means for retaining said vial-like member in protective manner over said tip, said retaining means comprising a generally cylindrical member provided with a central aperture and overriding said tube, said central aperture being smaller in diameter than the resilient tubing so that it forms a leak-proof seal with said tube and so that said retaining means normally retains its position upon said tube but can be manually moved along the entire length of said tube if desired, said retaining means being further provided with a downwardly extending skirt provided with an annular portion which is slightly larger in diameter than the inner diameter of the vial-like protective member, providing a surface engaging the inner surface of said protective member to form a leak-proof unit.

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