Nov. 25, 1952 E. WYLDE 2,619,086

DISPOSABLE ENEMA APPLIANCE

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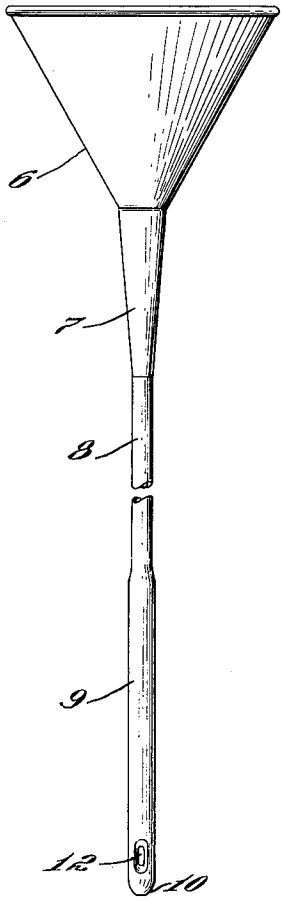

Fig. 1

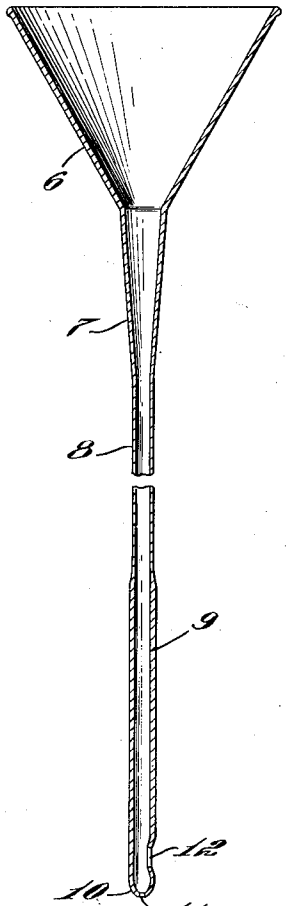

Fig. 2

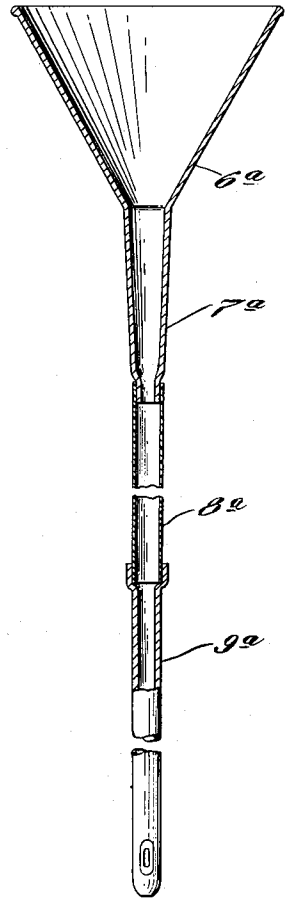

Fig. 4

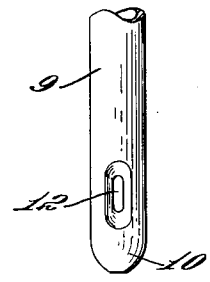

Fig. 3

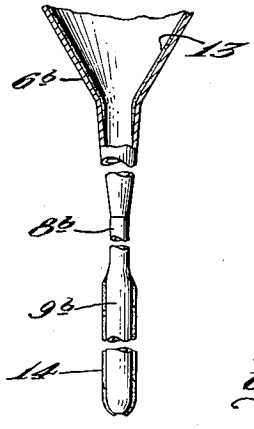

Fig. 5

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DISPOSABLE ENEMA APPLIANCE

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2 Claims. (Cl. 128—227)

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This invention pertains to appliances for use in giving enemas, more particularly to appliances of disposable type designed to be discarded after a single use.

Customarily, enemas are given by means of a flexible rubber enema tube one end of which is shaped to facilitate insertion and the other end of which is adapted to be attached to the delivery nipple of a fluid container or the small end of a filling funnel.

Enemas are given as a normal procedure preliminarily to rectal examinations and certain surgical operations; in cases involving inadequate functioning of the colon; as a step in X-ray examination of the abdominal region, and in many other hospital treatments, so that in a general hospital, and to a still greater extent in a military hospital, a nurse may be required to give many enemas in a day.

For sanitary and health reasons as well as because in certain cases the enema solution may contain agents or medicaments which would not be permissible for use with other patients, and because the tube or tube tip frequently becomes clogged during use, the enema tube should be thoroughly cleansed and sterilized after the giving of each enema. However, the cleansing of the enema appliance is an unpleasant and time-consuming task and one to be shunned whenever possible. Usually enemas are given in the morning which is the busiest time in hospital routine and when, as is often the case, the nursing staff is inadequate, and there is a strong temptation to pass from one patient to the next in giving the enema treatments without taking the time and trouble properly to cleanse the enema appliance; a practice which may result in the transmission of disease from one patient to another, to say nothing of the aesthetic aspects of such a procedure.

As above noted the customary practice is to attach the rubber end of an enema tube to the small end of a filling funnel or to the delivery nipple of a fluid receptacle or reservoir but this end of the tube may become stretched or split after a time and thus may slip off from the funnel or container during use, thereby deluging the patient and bed with solution and causing trouble and annoyance to all concerned. Furthermore, if it be desired to observe the flow of fluid it is necessary to employ a special appliance comprising a length of glass tubing or equivalent, all of which adds to the trouble in using and in cleansing and sterilizing the appliance.

The principal object of the present invention is to provide an enema appliance of such a character and so constructed and arranged that its use substantially avoids all of the above enumerated difficulties. A further object is to provide an enema appliance which, as a practical matter, may be discarded after a single use. A further

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object is to provide an enema appliance of simple, but adequate type, very cheap to construct and which is light in weight and easy and time-saving to use and which may be made so cheaply that its adoption as a disposable article is readily possible. A further object is to provide an enema tube of thin, flexible material and sufficiently transparent to permit the flow of fluid through it to be observed. A further object is to provide a very thin-walled, flexible enema tube provided with means for thickening and stiffening it at its delivery end. A further object is to provide an enema appliance of unitary character wherein the tube, the fluid container and the tube tip are integrally joined so that they cannot become separated during use. A further object is to provide an enema appliance consisting of a cellulose derivative, for example paper or regenerated cellulose, sufficiently waterproof and heat-resistant to maintain its integrity during the period of a single enema application but which may be made so cheaply as to justify its disposal without any attempt at cleansing it preparatory to further use. Other and further objects and advantages of the invention will be pointed out in the following more detailed description and by reference to the accompanying drawings wherein

Fig. 1 is an elevation, with the mid-portion of the tube broken away, illustrating one desirable embodiment of the invention;

Fig. 2 is a diametrical section through the filling funnel and tube shown in Fig. 1;

Fig. 3 is a fragmentary, enlarged elevation of the tube tip;

Fig. 4 is a view similar to Fig. 2 but illustrating a modified construction; and

Fig. 5 is another view similar to Fig. 2 but illustrating a further modified construction.

Referring to the drawings, the numeral 6 designates a container for fluid to be used in giving an enema. This container, as illustrated, is an open topped funnel whose smaller end is continued downward in the form of a downwardly convergent nozzle or nipple 7. The numeral 8 designates a flexible tube which, as more clearly illustrated in Fig. 2, is integrally joined to the lower end of the nipple portion 7 of the funnel. This tube 8 may be made of any desired length, for example 30 inches and at its lower end, as illustrated in Fig. 2, merges integrally with the tip portion 9, the lower end 10 of which is smoothly curved and, as shown in Fig. 2, provided with a small delivery orifice 11 at its extreme end and with a larger delivery orifice 12 in its side just above its lower end. As above stated, the funnel, tube and tip are all integrally united so that there is no possibility of their becoming separated during use.

In accordance with the present invention the material employed in making this integral appli-

ance is of a kind such as to make it practical, from the cost standpoint, to discard the entire appliance after it has once been used in giving an enema. Rubber and similar materials are too expensive to be employed in devices of this kind which are intended to be discarded after a single use. However, other materials (cheaper than rubber) are available, which are so cheap as to make such disposal of the appliance practically possible. For example, the appliance may be made from a cellulose derivative such as paper stock, parchmentized paper, paper coated with a protective film, or regenerated cellulose (cellophane), and it is at least possible that some of the synthetic resins may eventually be producible at a cost such as to make their use practical in the manufacture of this appliance.

It will be noted from Fig. 2 that the walls of the funnel, including its upper part and the nipple 7, are thicker than the wall of the tube 8, the latter being intended to be very thin and flexible whereas the funnel should be sufficiently stiff and rigid to retain its shape when filled with fluid. Likewise the tip portion 9 also has a thicker wall than the tube 8 so that the tip portion 9 is sufficiently stiff to maintain its shape during insertion.

It is contemplated that this device may be made by a molding operation in properly shaped molds or dies or by dipping a form into a fluid bath of the selected material, the coating of fluid which adheres to the form being stripped off from the latter after the coating has set. It is further contemplated that the appliance may be made from sheet stock cut to proper shape and rolled or wound about a suitable mandrel in a manner similar to that employed in the formation of paper tubes.

While the arrangement shown in Fig. 2 is preferable, wherein all of the parts of the appliance are integrally joined and of the same material, it is contemplated that under some circumstances it may be desirable to make the flexible tube 8 of one material and the funnel and tip of another material or materials. Thus, as shown in Fig. 4, the flexible tube 8^a may have very thin walls and may be made of any suitable cheap material such as above suggested, and since this tube 8^a is of uniform diameter it is contemplated that it may be produced by an extrusion process as well as by any of the procedures above suggested. In this instance the funnel 6^a may be of a different material, for example a stiff paper rolled or molded to shape, and the tip 9^a may be of a different type of paper or other cellulose product. In this instance it is contemplated that the upper end of the tube will be permanently secured to the lower end of the nipple 7^a of the funnel, for example, by cement or other adhesive, and likewise that the lower end of the tube will be permanently fixed to the upper end of the tip 9^a by the use of cement or the like. If the funnel, tip and tube are of materials capable of being interfused, then the joints between these parts may be produced by fusion, employing heat and/or a solvent, together with pressure. Whatever the mode of uniting the parts, the union between them should be strong and permanent so that they will not become separated during use.

In Fig. 5 a further modification is illustrated wherein the funnel 6^b, tube 8^b and the tip 9^b comprise an integral length of thin, flexible material, for example cellophane or the like, but in this instance the funnel is stiffened by the application of one or more coatings 13 of some stiffening material, for instance shellac or the like, preferably of a waterproofing nature. Likewise the tip portion 9^b is stiffened by a coating 14 of a suitable stiffening material, preferably waterproof and which provides a smoothly polished outer surface. While the coatings 13 and 14 may be applied as shown in Fig. 5 to the interior and exterior respectively of the funnel and tip, it is to be understood that the coatings may be otherwise applied if desired.

If the material employed in making the flexible tubular portion 8 of the appliance is cellophane or the like, it will be sufficiently transparent so that the flow of liquid through the tube may be observed without resort to the insertion of a section of glass tubing or equivalent means.

While certain desirable embodiments of the invention have been herein illustrated and described by way of example, it is to be understood that the invention is broadly inclusive of any and all modifications and of all materials which may be found of practical utility in the formation of such a disposable device, but any permissible change must fall within the purview of the claims asserted herein.

I claim:

1. A disposable, single-use, sanitary enema appliance of the gravity pressure type comprising a tube of substantially uniform internal diameter and of a length of 20 inches or more, an open topped, downwardly tapering container permanently joined to the upper end of the tube and a tip permanently joined to the lower end of the tube, the tip being substantially cylindrical and of an external diameter appropriate for insertion in the rectum, the tip being smoothly rounded at its lower end and having a delivery orifice near its lower end, the entire tube being of very thin, flexible material substantially devoid of inherent resiliency and resistance to bend and sufficiently transparent to allow the flow of fluid through it to be observed at any point in its length, the receptacle and tip having thicker walls than the tube and being stiffer and more shape retaining than the tube, the tip having an axial bore of substantially the same internal diameter as that of the tube, the entire appliance, comprising the receptacle, tube and tip, being of moisture-resistant material which is tough and strong but substantially cheaper than rubber thereby to make practical the disposal of the entire appliance after one use.

2. An enema appliance according to claim 1 wherein the receptacle, tube and tip constitute portions of a single, seamless, continuous length of regenerated cellulose.

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