

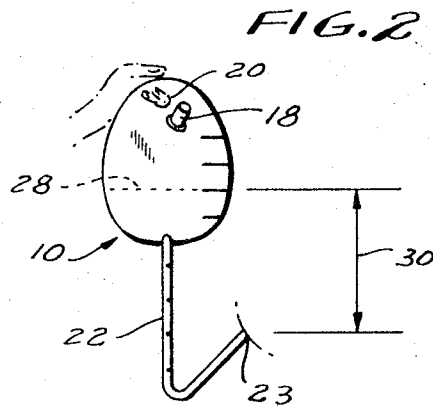
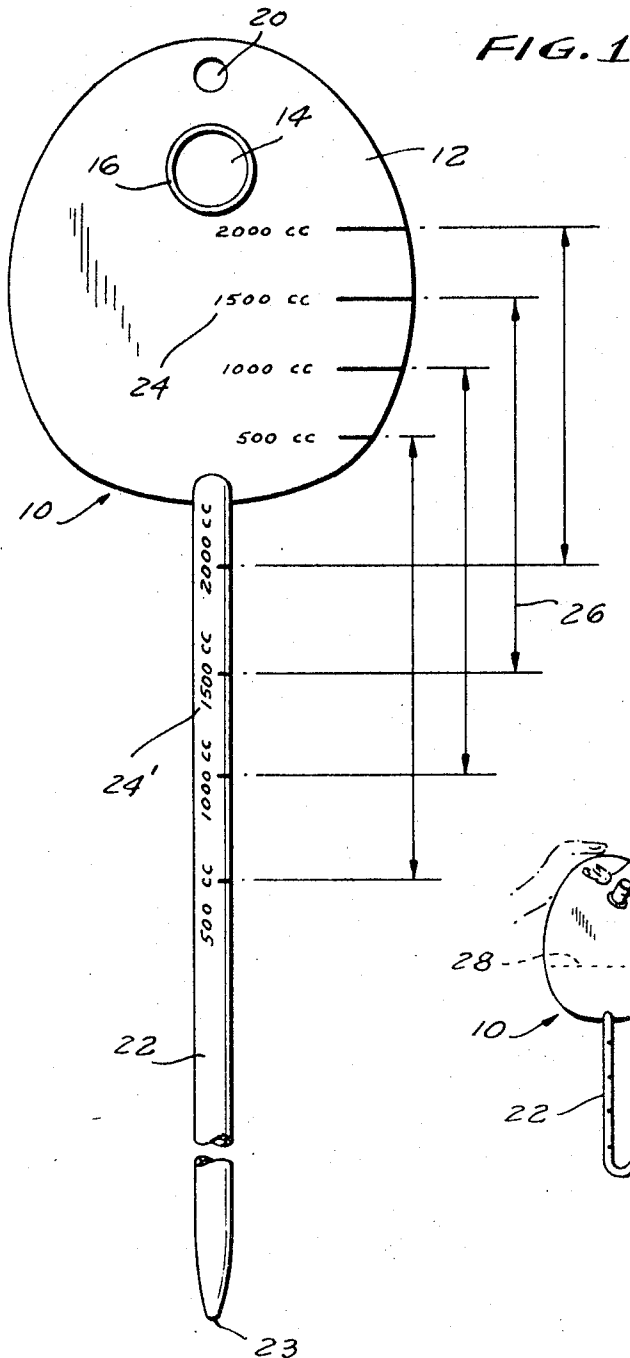
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FLUID HEAD INDICATOR FOR ENEMA ADMINISTRATION SET

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## FLUID HEAD INDICATOR FOR ENEMA ADMINISTRATION SET

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4 Claims

### ABSTRACT OF THE DISCLOSURE

An apparatus in the form of a container for holding a quantity of cleansing enema fluid and an elongated tube at the container fluid outlet. Indicia markings indicating volumetric capacity of the container disposed on both the container and tube being separated by a set distance which allows maintenance of the fluid head at the prescribed elevated distance from the injection site prior to and during the enema administration.

### Background of the invention

Enema administration sets have been used and are presently well-known in the medical field. These particular administration sets have gained acceptance in the industry but, until the present invention, have all suffered from one main disadvantage. Namely, there is no way, other than by estimating, to maintain a constant hydraulic head during the administration of a cleansing enema with present day administration sets. By failure to maintain a constant and prescribed fluid head during fluid administration the head may become excessively high, causing a fast flow rate which is often detrimental to the patient. In a similar vein detriment to the patient may be caused by an excessively low fluid head and consequently a slow flow rate. The latter may excessively prolong the administration due to the inability to administer the fluid within a reasonable time.

### Summary of the invention

In accordance with the foregoing discussion the present invention seeks to overcome the disadvantages which are found to exist in present day enema administration sets. In a broad sense the invention is directed to an apparatus for the controlled administration of a cleansing fluid enema. The apparatus generally includes a translucent container structure defining an internal chamber. The container is provided with an inlet port near one end and in communication with the chamber so that the cleansing fluid may be introduced therein. At a point removed from the inlet port the container carries fixedly attached thereto an elongated flexible tube through which the cleansing fluid passes thereby to be introduced to the patient. Both the container and the tube carry a plurality of volumetric markings which are respectively spaced from one another by a predetermined physical distance defining an indicator. Thus, both prior to and during administration of the cleansing fluid the prescribed hydraulic fluid head elevation is maintained at a relatively constant distance from the patient.

In accordance with the foregoing discussion it is a principal object of the present invention to provide, on an enema administration set fluid indicator indicia whereby the fluid head may be maintained at a prescribed distance from the injection site to maintain the hydraulic head relatively constant.

Other objects and advantages of the present invention will become apparent to those skilled in the art as the following description, read in conjunction with the appended drawing, is developed.

### Brief description of the drawing

The accompanying drawing illustrates a preferred embodiment of the present invention. By this drawing:

FIGURE 1 is an elevational view of the enema administration set provided with indicia markings by which a reasonably constant hydraulic head may be maintained during the administration of a cleansing enema; and

FIGURE 2 is a side elevational view of an enema administration set oriented in an operative administration position.

### Brief description of the preferred embodiment

In the figures the enema administration set is generally denoted by the numeral 10. The apparatus includes a container 12 defining an internal chamber which is supplied with a cleansing fluid to be used in an enema administration and an elongated flexible discharge tube.

The container may be formed of any suitable material, as for example, a rigid or flexible plastic or glass, or its equivalent which is preferably translucent or transparent so that the head level of the cleansing fluid is readily discernible from the exterior.

An inlet port 14 is formed in the upper body portion of the container 12. Port 14 is suitably in fluid communication with the internal chamber. A ring 16, preferably formed from a metallic material or rigid plastic, is provided within the opening to define its periphery. Thus, if the container is formed from a plastic which is flexible in nature the opening may be conveniently sealed. As shown in FIG. 2 a plug 18 is seated in the inlet opening. The plug, due to the provision of ring 16, is frictionally received and supported within the opening once the chamber has been filled to the prescribed volumetric level with a cleansing fluid.

A hanger 20, by which the container 12 may be gripped and elevated during the administration of a cleansing enema, as discussed above, is provided adjacent the opening 16. Thus, the administration set may be physically hand grasped during use, as shown by the representation of a hand holding hanger 20 in FIG. 2. Additionally, although not shown in the figures the container may be automatically elevated during administration.

The enema administration set also includes a flexible elongated discharge tube 22 which is connected at the lower portion of the container 12. The tube provides fluid communication between the tube distal end 23 and the internal chamber in which the enema fluid is disposed. The tube distal end is relatively inflexible for ease in introduction into a body opening.

The tubing may be formed of a plastic material, as above, and while this material may be translucent or transparent this consideration is not of extreme importance.

As shown in FIG. 1 the tubing 22 is connected adjacent the lower portion of container 12 and is preferably located so that the entire amount of cleansing fluid within the chamber may be dispensed.

Referring now to FIG. 1 it is apparent that the container 12 and the discharge tube 22 is provided with a plurality of indicia markings, only one of which is denoted by the numeral 24. These markings are provided on the structure to both indicate a volumetric capacity and also to provide means by which the fluid head may be located at a predetermined elevation above the injection site. Thus, as noted by the dimension 26 the 1500 cc. level on the container 12 and the 1500 cc. line on the discharge tube 22 is separated by a distance equal to approximately 18". This distance has been decided upon since clinical observation has indicated that the fluid head, of the introduction of a cleansing enema to a normal patient, should be located above the injection site by a distance equal to

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approximately 18"-20". Thus, for each volumetric indicia marking on the container 12 there is a corresponding marking on the discharge tube 22 and each of the respective markings are separated by the distance, which has been indicated above as 18".

The device is rather easy to operate and the operation is readily seen from FIG. 2. Therefore, the container is initially filled with a cleansing fluid enema to the level 28 and the container is sealed by means of plug 18. The distal end of the discharge tube is inserted into the body cavity and for each volumetric filling the corresponding indicia marking on the tube 22 is located in the horizontal plane of the body opening. This orientation of the enema administration set is indicated by the dimensional arrow 30.

As seen in FIG. 2 the enema administration set is gripped by both hands, one hand holding the distal end of the discharge tube in position within the body opening as the other hand grips the hanger portion 20.

As the cleansing fluid drains from the container 12 into the patient and correspondingly the fluid head falls from, for example, the 1500 cc. line to the 1000 cc. line, the container should be elevated so that the 1000 cc. indicating line on the discharge tube now lies in the horizontal plane of the body opening. FIG. 2 shows that this elevating procedure may be carried out manually. As discussed, the elevating procedure may otherwise be carried out by automatic means which continually functions to raise the container 12 as the liquid drains from its internal chamber so that the fluid head within the container is always elevated from the body opening by the preferred distance of 18"-20".

Having now described the invention I claim:

1. An apparatus for the controlled administration to the human body of a cleansing fluid enema comprising a translucent container having an internal chamber and an inlet port communicating therewith, said port being located near one end of the container and adapted to receive a prescribed amount of said cleansing fluid, an elongated flexible discharge tube having a bore in fluid communication with the chamber, said tube being connected to said container other end in a position so that said pre-

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scribed amount of cleansing fluid may drain therethrough, said tube distal end adapted to be introduced into a body opening, and a plurality of first indicia markings on said container representative of fluid volume, a second plurality of like markings on said discharge tube, each marking of said first plurality being functionally related to and equidistantly spaced from a similar marking in said second plurality thereby to define an indicator whereby the volumetric quantity of said cleansing fluid may be constantly monitored during administration and the falling fluid head maintained at a predetermined elevation above said body opening causing the fluid discharge to be relatively constant.

2. The apparatus of claim 1 wherein said container is flexible and provided with a hanger for gripping and elevating the same during administration.

3. The apparatus of claim 1 comprising a closure means, said means being received in said inlet port to close said chamber.

4. The apparatus of claim 1 wherein said discharge tube distal end is relatively inflexible for ease in introduction to said body opening.

#### References Cited

##### UNITED STATES PATENTS

2,090,273	8/1937	Wagner	128—214 XR
2,619,086	11/1952	Wylde	128—227
3,100,487	8/1963	Bathish	128—227
3,163,164	12/1964	Waldman	128—227
3,239,096	3/1966	Buono et al.	128—227 XR

##### FOREIGN PATENTS

6,424	1892	Great Britain.
975,012	11/1964	Great Britain.

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