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SURGICAL APPLIANCE
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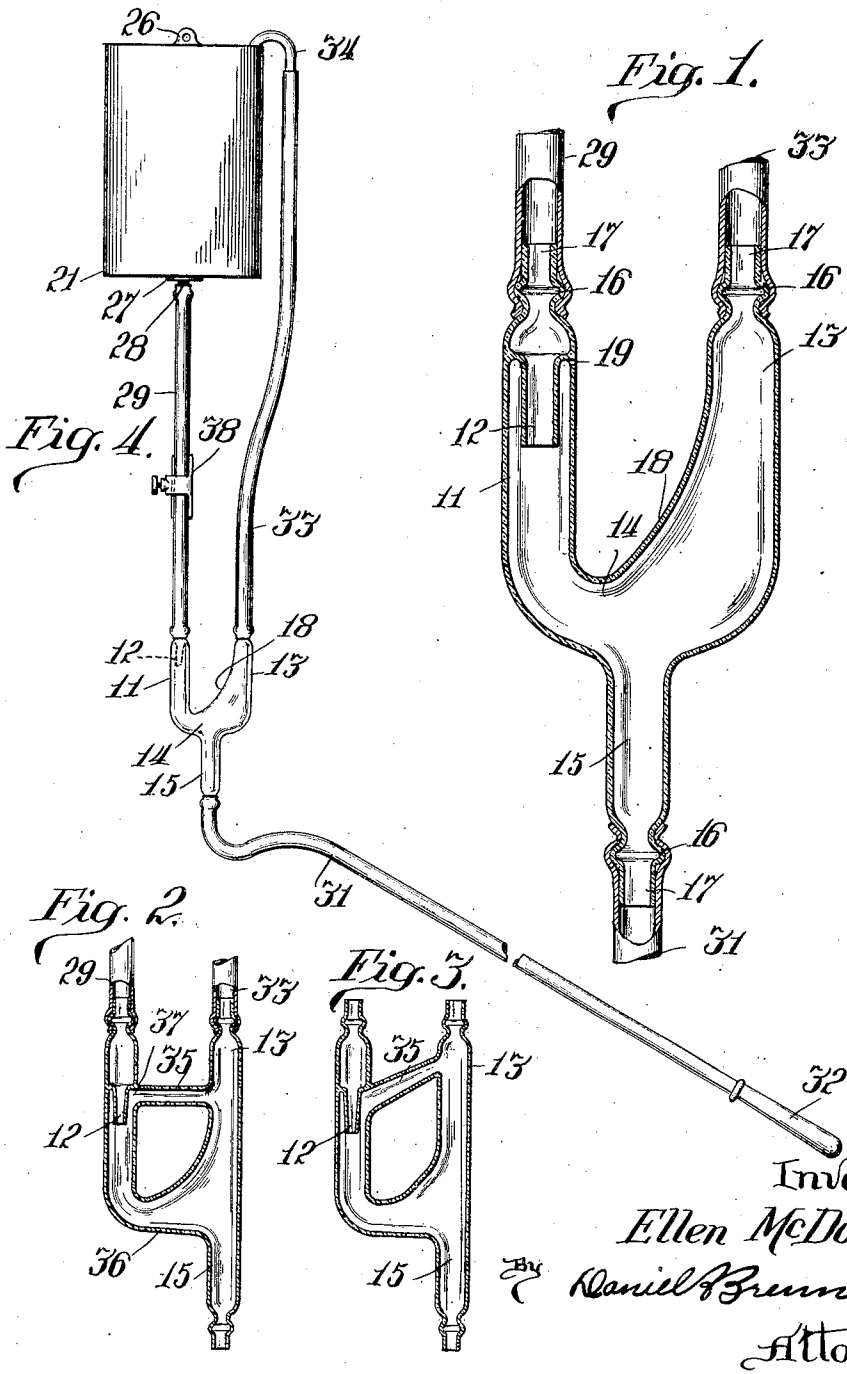


Fig. 1.

Fig. 4.

Fig. 2.

Fig. 3.

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SURGICAL APPLIANCE.

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The invention relates generally to improvements in surgical appliances, and particularly to an appliance adapted to be used in feeding post-operative patients by administration of liquid food through the rectum cavity to the larger bowels where it will be absorbed.

At the present day it is the best and common practice to feed all post-operative patients in the manner above referred to, notwithstanding whether or not the operation has been a major or minor one, in connection with which the invention disclosed furnishes a useful surgical appliance having a wide field of utility, and for other purposes such as to give nutritive enemas.

An object of the invention is to provide a surgical appliance in the form of a dripper or dropper that will dispense a liquid from an elevated container, drop by drop to a surgical instrument from where it is administered to the patient.

Another object of the invention is to provide means for regulating the number of drops per unit of time, and at the same time provide a sight feed arrangement so that the timing of the dropping can be readily determined by counting.

Another object of the invention is to provide a return flow branch arranged so that in the event that the patient is not retaining the liquid, it may be readily seen. Since the patient is not always conscious of not retaining the liquid, the return flow branch provides means of observing the retention, and the tube leading therefrom, normally hung over the liquid container, can be shifted to a bed pan, or other receptacle at such times to prevent the liquid from being expelled onto the bed and eliminating the necessity of moving the patient, an important point in that it is sometimes very dangerous to a post-operative patient to be moved.

Another object of the invention is to provide means for accumulated gases to escape, thereby making it possible for the patient to retain the food.

Another object of the invention is to provide means for preventing return gases from contaminating the liquid or food, and also means for preventing the pocketing of contaminated gases around the dropper.

With the foregoing and such other objects in view as will appear as the description proceeds, the invention resides in the combina-

tion and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:

Fig. 1 is a longitudinal sectional view of a preferred form of the invention.

Fig. 2 is a similar view showing a modified form of the invention.

Fig. 3 is a view similar to 1 and 2 showing a further modification.

Fig. 4 is a view showing the appliance attached to the liquid container ready for use.

The surgical appliance or sight feed dropper is preferably made of glass or other transparent sanitary material and comprises, as illustrated in Fig. 1, an inlet branch 11 having disposed therein a downwardly centrally substantially axially disposed dropper 12 adjacent its upper end.

A return flow branch 13 is disposed substantially parallel to the inlet branch 12, both being connected by a conduit or passage 14 from which extends downwardly a discharge branch 15. The ends of the branches 12, 13 and 15 are preferably reduced adjacent their ends and an annular flange or enlargement 16 is formed on each of said ends from where a nipple of reduced diameter 17 extends, said flange providing means for securely attaching a rubber hose or tubing, thereby preventing it from easily becoming disengaged therefrom and also providing a hermetically sealed joint.

The upper wall 18 of the conduit passage 14 is preferably formed by an enlarged radius so that gases passing upwards through the discharge branch will be deflected toward the return flow branch and consequently prevented from passing into the inlet branch. This large space formed by the enlarged area provides for holding discharged gas until it gradually passes out through the return flow outlet, thereby aiding the patient in retaining the liquid. A plurality of small apertures 19 may also be provided at the junction of the dropper 12 and the inlet branch 11 so as to provide for the escape of any stray gases that might inadvertently reach there and would probably later tend to contaminate the food.

The assembled device is illustrated in Fig. 110

4, in which 21 is an ordinary container having an ear 26, provided thereon for securing it overhead. At the bottom of this container, in a boss 27, an ordinary nipple 28 is provided to which a conduit or tube 29 is secured leading downwardly and connecting with the inlet branch 11 of the surgical appliance.

Another rubber tube or conduit 31 is secured to the end of the discharge branch 15, and has a suitable rectal tip or tube or other attachment 32 secured to its end adapted to be inserted into the patient.

Another tube or conduit 33 extends from the return flow branch 13 and has a hollow hook or bent member 34 secured thereto arranged to be hung over the receptacle 26, during the administration of the food to the patient.

Referring to the modification shown in Fig. 2, it is to be noted that here the discharge element 15 is in substantial axial alignment with the return flow branch 13; that a communicating connection 35 joins the portion of the feed branch adjacent the dropper 12 with the over flow or return flow branch 13; that the lower wall 36 of said connecting conduit is substantially horizontal, and that the upper wall is formed with a decidedly large radius to form an enlarged space and deflector so that any return gases emanating from the discharge element that do not go directly out of the return flow branch will be deflected on this wall and caused to be directed toward the return flow branch and allowed to pass out at a rate of flow proportionate to the area of the outlet, thereby aiding the patient's retention.

The further provision for preventing the contamination of the food is provided for by the conduit 37 which will discharge any gases that are pocketed around the drip, into the return flow branch, thus making it practically impossible for any appreciable amount of gases reaching the food in the container.

The modified form shown in Fig. 3 is substantially similar in construction to that shown in Fig. 2, except that the dropper 12 is tapered toward its outlet end to form a restricted opening, and that the passage 35 is arranged to slant upwardly, and has its outlet end of restricted diameter also, so as to facilitate the direction of travel of gases in the pocket around the dropper 12 toward the return flow branch, and prevents any of the gases from the over flow branch finding their way to the inlet branch 12.

A clip 38 of any conventional form is provided on the tube 29 arranged for the regulating of the rate of drip.

The operation of the surgical appliance is substantially as follows:

The liquid to be administered to the pa-

tient is placed in the container 21 and the attachment 32 injected into the patient. The clip 38 is then adjusted to regulate the rate of flow or dropping of liquid from the container, which may be observed while dripping from the dropper 12 due to its transparency, thence passing through the discharge element into the tubing 31 and attachment 32 into the patient being fed.

In the event that the patient is not retaining the liquid of which fact a patient is not always conscious, it can readily be detected rising in the return flow branch 13 of the appliance in which case, the end 34 may be transposed to a bed pan or other receptacle, so that the unretained liquid will be expelled by the patient into said pan thus obviating the necessity of moving the patient, which is sometimes a practical impossibility due to the condition of the patient, thus preventing the soiling of the bed clothes which would otherwise occur.

It is thought that a further description of the means by which the contaminated gases are allowed to escape would be superfluous and that the real invention is apparent from the above and the appended claims.

I claim:

1. In an article of the class described, a transparent element having three branches, one of said branches being adapted to conduct liquid from a source of supply, another of said branches being adapted to discharge said liquid, the other adapted to conduct any return flow and a gas space between said branches.

2. In a sight feed article of the class described, an inlet branch, a dropper within said branch, a discharge branch arranged to receive the contents of said inlet branch, and a return flow communicating with both of said branches, all formed integral.

3. In a sight feed article of the class described, two substantially parallel communicating branches, a dropper formed in one of said branches, and a discharge branch arranged to communicate with both of said branches.

4. In an article of the class described, an inlet branch, a dropper in said branch, a discharge branch communicating with the lowest end of said inlet branch and extending upwardly toward said inlet branch to form a return flow conduit, and a conduit between said inlet branch and return flow conduit arranged to communicate with the space surrounding the dropper.

5. In an article of the class described, an inlet branch, a dropper in said branch, a communicating discharge and over flow element and a conduit extending from the lowest part of said inlet branch to said discharge and over flow elements, having a substantially horizontal lower wall and an upwardly extending upper wall, whereby a

deflector is formed to deflect any gas emanating from the discharge element out of the path of the inlet branch.

5 6. In combination with a receptacle having an outlet, a tube leading therefrom, a surgical appliance comprising an inlet branch, a dropper in said branch, an outlet branch and a return flow branch all integral and communicating, connected by said
10 inlet branch to said tube and another tube leading from said over flow branch adapted to communicate with said receptacle.

7. The combination with a surgical appliance comprising an inlet branch, a dropper in said branch, an outlet branch and a return flow branch, of a tube connecting said
15 feed branch and a receptacle, a tube connecting said discharge end with a nozzle, and a tube on said return flow end arranged to communicate with the upper part of said
20 receptacle.

In testimony whereof I affix my signature at 10 South La Salle St., Chicago, Illinois.

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