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INTRAVENOUS CATHETER PLACEMENT UNIT

Filed Oct. 6, 1961

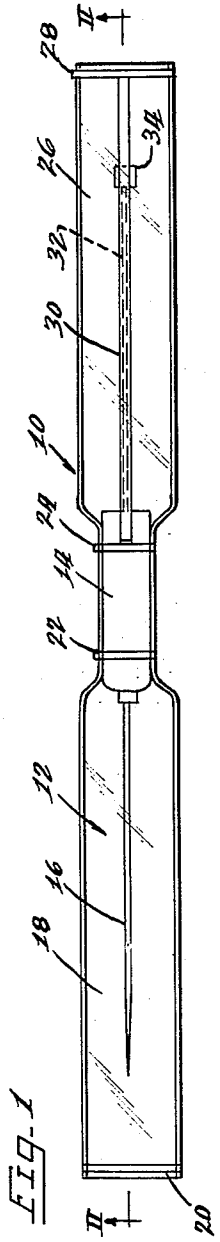

FIG. 1

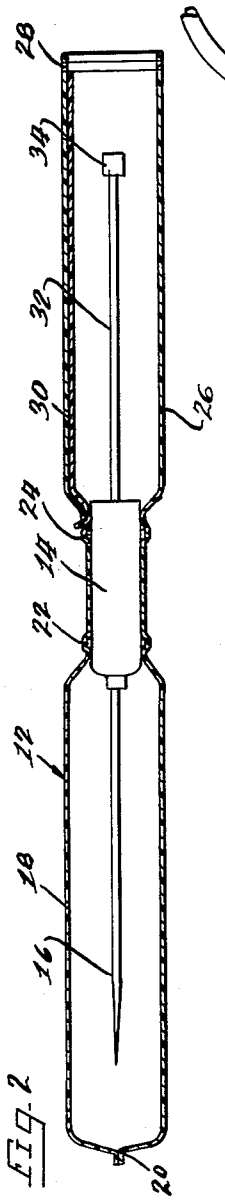

FIG. 2

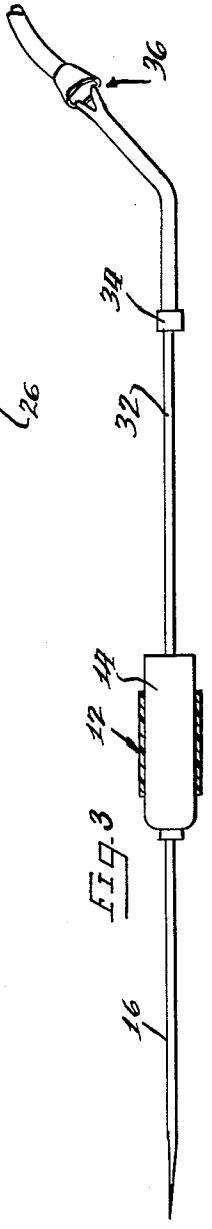

FIG. 3

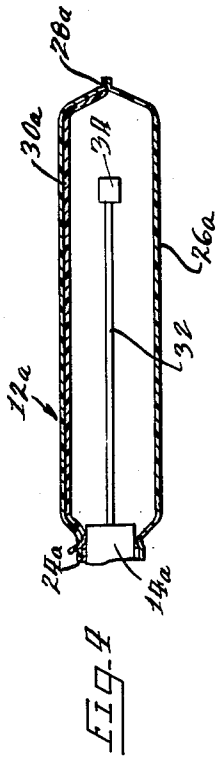

FIG. 4

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INTRAVENOUS CATHETER PLACEMENT UNIT

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1 Claim. (Cl. 128—214)

This invention relates to a sterile packaging construction, and more particularly to a sterile unit for making a veni-puncture and changing from a needle into a vein to a tube leading to the vein without the need for touching any of the parts that actually enter the body. The catheter placement unit thus afforded may be simultaneously connected to an intravenous feeding set.

In accordance with the invention, a sac or envelope such as a polyethylene cylinder is provided with two tear strips around a hub for the unit to permit selective removal of the forward flexible cylinder portion covering the needle or of the portion surrounding the catheter placement unit, and further, a rear tear strip is formed in parallel with the two tear strips on the hub and is interconnected by a longitudinal tear strip to one of the two hub tear strips, to allow complete elimination of the sac, as desired. This modification, of a tear strip at the rear end of the package and a connecting tear strip longitudinally from the end tear strip to an adjacent hub tear strip, permits combining a catheter placement unit with an intravenous feeding set in one package.

Accordingly, it is an object of the present invention to provide a catheter placement unit with an intravenous feeding set in one package.

Another object of the invention is to provide a device as described and utilizing a flexible plastic cylinder or the like, which affords complete elimination of this sac or cylinder as needed.

Another object of the invention is to provide packaging unit as described wherein part of the apparatus is within a sterile zone and can be manipulated through a soft pliant plastic bag into the body, without being touched by human hands and wherein the other part is outside of the sterile zone. The part of the apparatus outside of the sterile zone remains outside of the body veins or tissues and, in accordance with the invention, adapts on any transfusive means for medicants or the like.

Another object of the invention is to provide a device which is readily operable without special skills or techniques, unusually simple in construction, and which affords the advantages of surgical safety and immediate availability of catheter placement and regular intravenous units.

Other objects and advantages of the invention will become apparent as the description proceeds in accordance with the drawings in which:

FIGURE 1 is a top plan view of a packaging device according to the present invention;

FIGURE 2 is a vertical sectional view taken along the lines II—II of FIGURE 1;

FIGURE 3 is a showing of the structure of FIGURES 1 and 2 with the package completely removed in accordance with the invention, and in assembled relation to afford simultaneous connection of the catheter placement unit to the intravenous feeding set; and

FIGURE 4 is a fragmentary vertical sectional view of another embodiment of the packaging construction shown in FIGURES 1 through 3.

Referring now to the drawings, a packaging unit **10** is shown in accordance with the present invention which includes a plastic cylinder, envelope or sac **12** which may be formed of polyethylene or other flexible, preferably heat fusible material.

The cylinder **12** is formed either integrally or in snugly fitted, preferably adhesive relation to a hub or the like

14 retaining a catheter needle **16** within a front portion **18** of the plastic cylinder **12**. Thus the front portion **18** of the cylinder affords a sterile zone, by means of a seam **20** at the forward end thereof, which is preferably a heat-sealed seam.

Further in accordance with the invention, a pair of tear strips **22** and **24** are formed around the hub **14** in parallel, spaced apart relationship as shown, and are thus selectively removable for taking off the forward cylinder portion **18** or the rearward portion **26** as desired, and as hereinafter further explained.

Also in accordance with the invention, the rearward portion of the cylinder **26** is preferably provided with a tear strip **28**, and in order to allow combining a catheter placement unit with an intravenous feeding set into one package, a longitudinally extending or axially extending tear strip **30** extends between the tear strips **24** and **28**. It will thus be seen that eventual complete elimination of the sac or cylinder **12** is afforded so that one part, such as the needle **16**, is within a sterile zone as indicated and can be manipulated through the soft, pliant plastic sac into the body, without being touched by human hands; and wherein the other part may be outside the sterile zone. Thus it will be seen that the catheter placement unit **32** may be simultaneously connected to an intravenous feeding set **36** as shown in FIGURE 3, which illustrates also the complete removability of the sac or cylinder although this set may also be initially received within the sac portion **26**.

Referring now to FIGURE 4, another embodiment of the invention is shown wherein the rear portion **26***a* of the cylinder **12***a* has a heat seal seam **28***a*, rather than a tear strip, with the longitudinal strip **30***a* extending between the tear strip **24***a* on the hub **14***a*, and the said heat-seal seam **28***a*.

Accordingly, the invention provides for the first time a unit which is adapted for catheter placement and intravenous feeding as desired, with the hub **34** on the catheter placement unit **32** affording an adapter for any transfusive means or set **36** as shown.

Further, a sterile zone is afforded for elements entering the body proper, with full access to elements intended to remain outside the body. Thus a wide range of use in various applications is provided.

Although I have herein set forth my invention with respect to certain specific principles and details thereof, it will be understood by those skilled in the art that these may be varied without departing from the spirit and scope of the invention as set forth in the hereunto appended claim.

I claim as my invention:

A catheter placement unit comprising,
a hollow needle,
a hub on one end of said needle,
temporary protective means for said needle to maintain the same sterile until used,
a catheter having one end portion extending into said needle hub,
means on the other end of said catheter for positioning the same and connecting the catheter to an infusion system,
a flexible envelope intimately engaging said needle hub and enclosing the catheter outside said hub and said means,
said envelope being sealed at the end remote from said hub,
said catheter being positionable through said needle into the body of a patient while in said envelope, a tear strip around the sealed end of said envelope to open the same and permit connection of said means with an infusion system before removal of the envelope,

means to release said envelope from said hub, and a tear strip extending lengthwise of said envelope to disrupt the same lengthwise and permit complete removal of the envelope sidewise from the catheter and infusion system connection.

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