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RETAINING MEANS FOR FLEXIBLE TUBES

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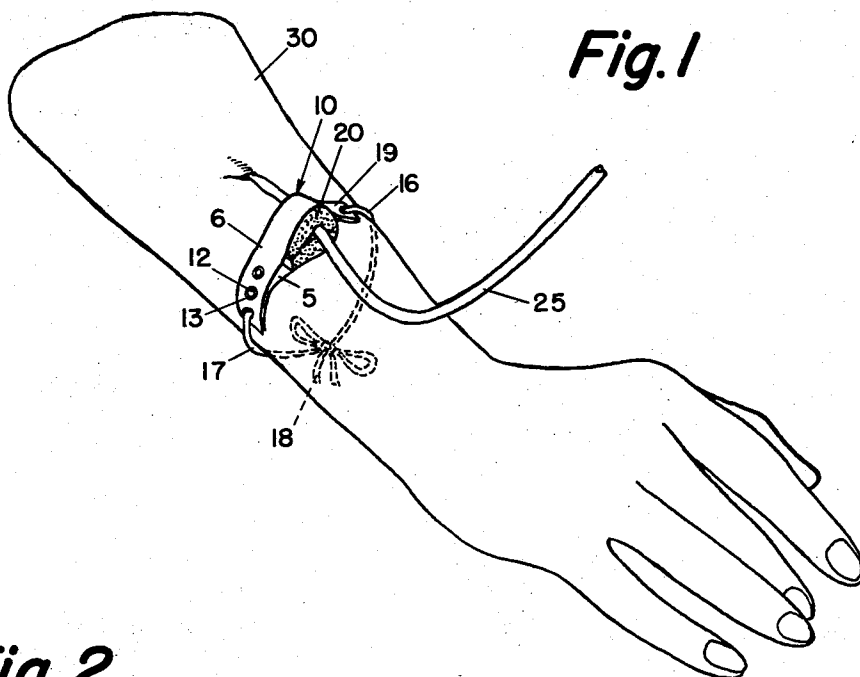


Fig. 2

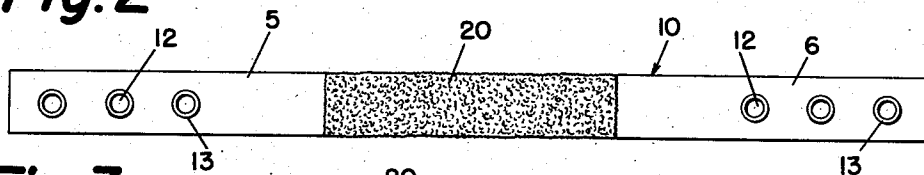


Fig. 3

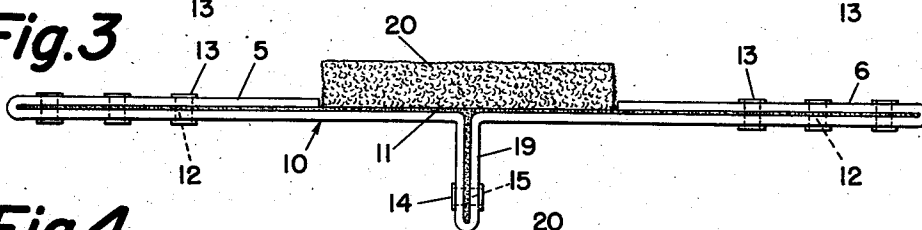
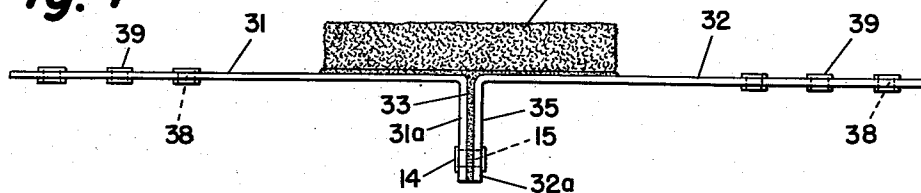


Fig. 4



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RETAINING MEANS FOR FLEXIBLE TUBES

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8 Claims. (Cl. 128-214)

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This invention relates to a retaining or anchor means for a tube to be retained on a human or animal body for drainage or other purposes. More specifically, the invention relates to a flexible and adjustable cuff for securely and removably retaining a flexible drainage tube on any part of a human or animal body.

Further details and advantages of my invention will be apparent from the following specification and appended drawing, wherein,

Figure 1 is a perspective view of an anchor construction in use for retaining a flexible tube in position on a human arm for drainage purposes.

Figure 2 is a plan view of the anchor in flat open condition.

Figure 3 is an end view of the construction shown in Figure 2, and

Figure 4 is an end view of a modified construction of my anchor in flat open condition.

Referring to the drawings, the anchor construction consists of a flexible pliable base strip 10 made, for example, of woven cotton fabric of suitable length and coated with a layer of suitable adhesive 11, such as a tacky rubber cement on one entire surface thereof. The ends 5 and 6 of the base strip 10 are doubled back and folded over so as to bring the adhesive 11 into adherent face contact, as shown in Figure 2, thereby providing reinforced two-ply ends for the strip 10. The medial portion of the strip 10 is also folded outwardly in a re-entrant fold to bring the adhesive 11 into face contact, thereby forming a reinforced extending tab 19. The reinforced ends 5 and 6 of the strip are provided with a plurality of spaced perforations 12 which may be reinforced with metal eyelets 13 for receiving a fastening string or gear 14. Tab 19 is also perforated at 15 adjacent its end and may be reinforced with a metal eyelet 14 for receiving a fastening string or gear 17 as shown in Figure 1. A pad 20 of resilient material, such as sponge rubber or felt, is retained by adhesive 11 on the base strip 10. Pad 20 is preferably of the same width as the strip 10 and of a length to extend for about one-third of the medial portion of the base strip 10 as shown in Figure 2.

In using my anchor construction as described, the tab portion 19 is first located in place at any desired location, say on arm 30, by means of fastening string or tape 16 passing through the eyelet in tab 19. If desired, the string may be attached to a suitable adjustable gear carried on the adjacent body portion (not shown). The size and shape of this gear will vary with the

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site at which it is to be used depending whether on an adult or infant, and at nasal, oral, abdominal, renal, or genital region, etc. After the anchor is located and is preferably fastened directly to arm 30 by string 16, as shown in Figure 1, a flexible rubber tube 25 which is to be securely retained at the desired location on the arm 30 is first placed on the middle portion of the yieldable pad 20.

The anchor is then folded to bring the free ends 5 and 6 together in face to face relation in the manner shown in Figure 1, whereby the pad 20 will also be folded over on itself and thus frictionally embrace the tube 25 about its outer periphery under slight compression, but without restricting or closing off the interior tube channel or lumen to prevent flow of fluid therethrough. The free superimposed ends 5 and 6 of the anchor are then fastened together by passing a string 17 through a suitable opposed pair of openings 12 and tying the ends of same to string 16 in a bow knot 18, as shown in Figure 1, or to a suitable gear carried by the body.

Whenever it is desired to move the tube 25 the ends 5 and 6 are merely loosened by untying string 17. This relieves the frictional engagement of pad 20 on the outer periphery of tube 25 sufficiently to permit moving the tube a sufficient length in the desired direction and location.

It will be obvious that the rubber tube 25 can be securely retained at any desired location of a human or animal body. The tube may be fastened at any irregular contour such as adjacent the human mouth for insertion through the mouth into the stomach and can be readily released and moved at desired intervals further into the stomach without any discomfort to the patient or stripping of adhesive bandages and the like as in prior practice. The tube 25 may be retained at any other desired location of the body for drainage therefrom or feeding liquids thereto without cumbersome fastening gear or adhesive tape in common use previously. All adhesive contacts with the patient are thus avoided with elimination of skin irritation or allergic reactions which often occur due to prolonged contact of adhesive tape. The tube 25 may be easily and rapidly moved in or out of location. My anchor eliminates the use of adhesive tape previously used for fastening the tube in place, thereby eliminating adhesive contact between the tube and material fixing it in place, thereby obviating the need for cleaning the surface of the tube before movement thereof.

The dimensions of my retaining anchor may

vary with the site and size of tube or other article which it is desired to retain. The size may be varied for infant or adult use or for use on the nasal region, abdominal, genital or limbs and also for animal use.

The construction of my anchor may be varied in numerous ways. For example, it may be made of two similar strips 31 and 32 made of suitable fabric, the mating ends 31a and 32a thereof being folded outwardly and united by adhesive 33 to form an outwardly extending tab 35. The tab is provided with an opening 36 which may be reinforced with a metal eyelet 37 for receiving fastening gear. The free ends of the strips 31 and 32 are provided with a plurality of spaced openings 38 which may be reinforced with metal eyelets 39 for receiving fastening gear. A sponge rubber pad 20 is adhered to the medial portion of the combined strips by suitable adhesive 33.

The free ends of my anchor construction instead of being provided with openings for receiving fastening means, such as string or tape, may be provided with spaced snap fasteners so that the ends may be retained in fastened condition by the snap fasteners in such position as to provide the requisite pressure and friction of the folded pad 20 on the tube 25 frictionally retained thereby.

The base strip 10 may be made of any flexible material, such as woven cotton, canvas, rayon, nylon and the like. It may also be made of strong paper such as kraft or parchment or paper reinforced with threads or gauze. Suitable synthetic films such as cellulose acetate, rubber hydrochloride, regenerated cellulose and the like may be used for the base strip. The resilient pad 20 may be made of sponge rubber, cellulose sponge, cotton, felt, mineral wool and the like. The pad 20 serves to act as a cushion and as a grip for frictionally engaging the outer surface of the article to be retained thereby. It is to be understood that although my anchor device is especially adapted for retaining flexible tubes, it may also be used for retaining rigid tubes of glass or metal or for retaining solid articles such as rods, implements, tools and the like. The free ends of the anchor may be held together by any suitable mechanical means if desired such as spring fasteners or clamps in place of the string or tape.

I claim:

1. An anchor construction for removably retaining a flexible tube without constricting same comprising a flexible base strip, the medial portion of said strip being folded outwardly to form an extending tab portion, a yieldable pad carried by said base strip, the free ends of said strip being foldable into face to face relation whereby said yieldable pad is folded on itself for frictionally engaging and releasably retaining a flexible tube therebetween.

2. An anchor construction for removably retaining a flexible tube without constricting same comprising a flexible base strip, the medial portion of said strip being folded outwardly to form an extending tab portion, a yieldable pad of sponge rubber carried by said base strip, the free ends of said strip being foldable into face to face relation whereby said yieldable pad is folded on itself for frictionally engaging and releasably retaining a flexible tube therebetween.

3. An anchor construction for removably retaining a flexible tube without constricting same comprising a flexible base strip, the medial portion of said strip being folded outwardly to form an extending tab portion, a yieldable pad secured by adhesive to said base strip, the free ends of said strip being foldable into face to face relation whereby said yieldable pad is folded on itself for frictionally engaging and releasably retaining a flexible tube therebetween.

4. An anchor construction for removably retaining a flexible tube without constricting same comprising a flexible base strip, the medial portion of said strip being folded outwardly to form an extending tab portion, a yieldable pad of sponge rubber secured by adhesive to said base strip, the free ends of said strip being foldable into face to face relation whereby said yieldable pad is folded on itself for frictionally engaging and releasably retaining a flexible tube therebetween.

5. An anchor construction as defined in claim 1 wherein the tab portion and free ends are provided with perforations for receiving fastening gear.

6. An anchor construction for removably retaining a flexible tube without constricting same comprising a flexible base strip, the ends of said strip being doubled back and folded over to provide reinforced plural-ply ends, the medial portion of said strip being folded outwardly to form an extending tab portion, a yieldable pad carried by said base strip, the free ends of said strip being foldable into face to face relation whereby said yieldable pad is folded on itself for frictionally engaging and releasably retaining a flexible tube therebetween.

7. An anchor construction as defined in claim 6 wherein the base strip is coated with adhesive on the entire face of one side thereof, the folded ends of said strip and the medial outward fold being adhered by said adhesive, and the yieldable pad retained on said base strip by said adhesive.

8. An anchor construction as defined in claim 6 wherein the pad portion is of the same width as the width of the base strip and of a length to extend at the medial portion of the base strip for about one-third its length.

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No references cited.