

[54] **TABBED ANCHORING TAPE MEANS**

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[52] **U.S. Cl.** .....128/348, 128/133, 128/DIG. 26, 24/67 AR, 24/DIG. 11, 248/205 A

[51] **Int. Cl.** .....A61m 25/02

[58] **Field of Search** .....128/348-351, 133, 128/214 R, 215, DIG. 26, 346, 206, 208, 157, 169-171; 248/205 A; 24/67 AR, DIG. 11; 229/52 A

[57] **ABSTRACT**

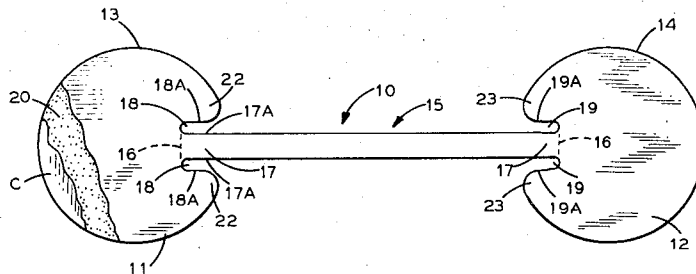
Adhesive tape for anchoring to a given substrate, elongated members such as surgical tubing or the like, consisting of at least one anchoring tab portion with strap means extending from the tab portion for wrapped engagement with the tubing; the strap means being connected to the tab portion in a manner to prevent peeling and separation of the tab portion from the substrate upon tensioning of the strap means; the tape being selectively used in a manner to (1) restrain the tubing against both lateral and longitudinal movement relative to the substrate; or (2) restrain the tubing only against lateral movement while permitting longitudinal movement relative to the substrate.

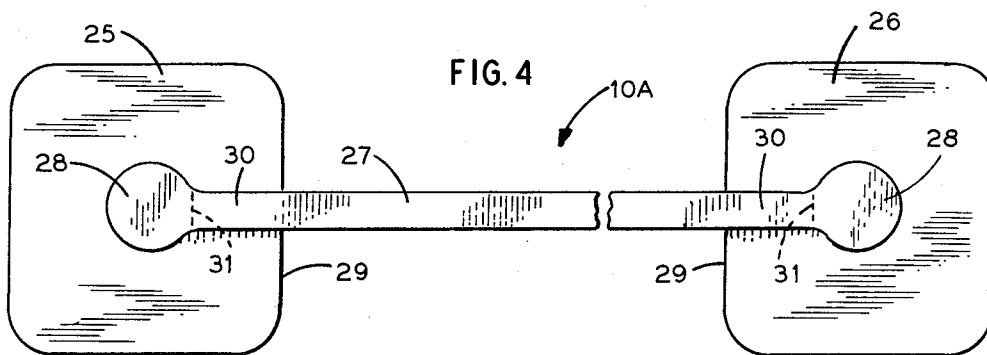
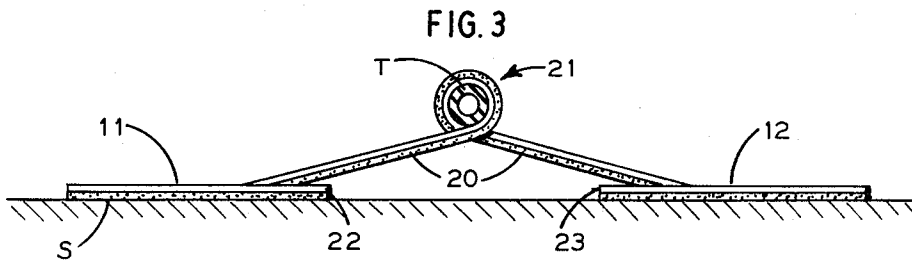
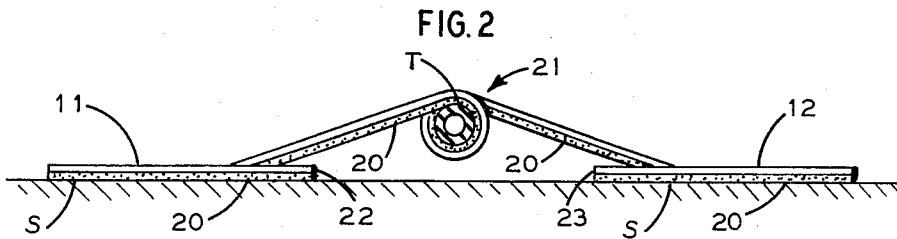
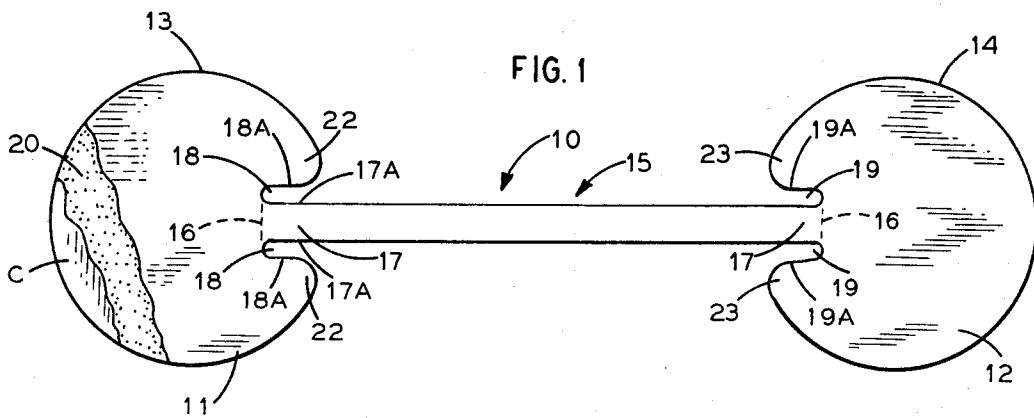
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**10 Claims, 10 Drawing Figures**





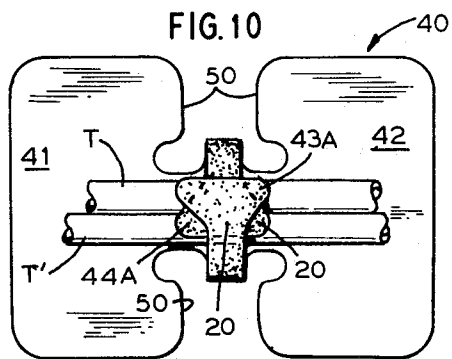
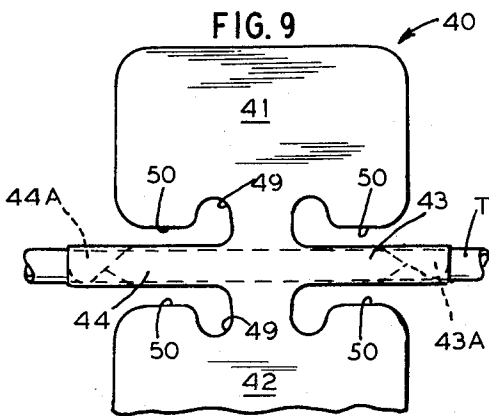
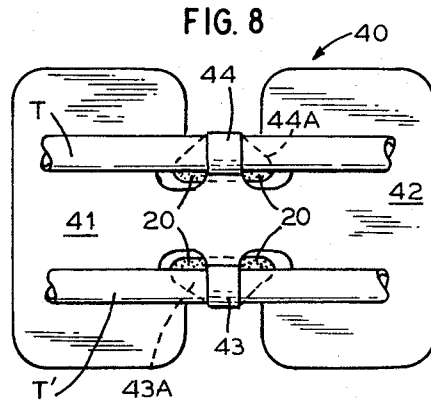
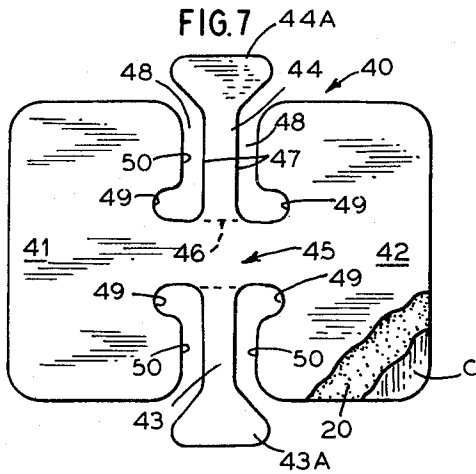
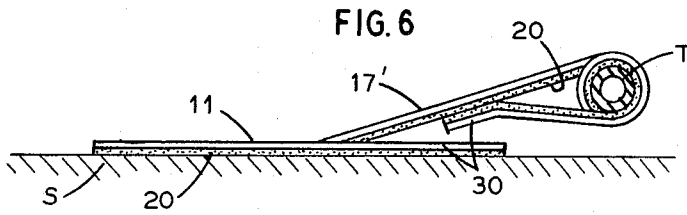
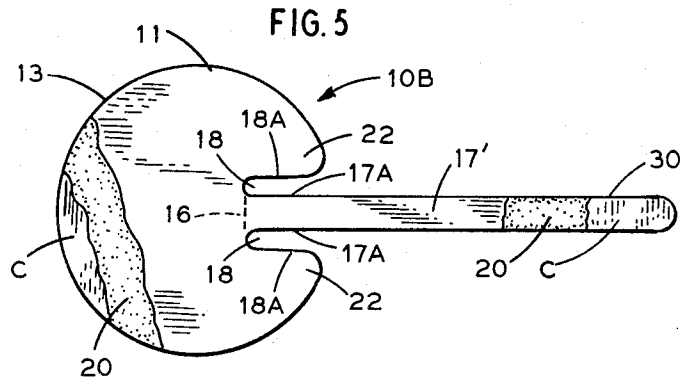
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## TABBED ANCHORING TAPE MEANS

### BACKGROUND OF THE INVENTION

Many surgical procedures require the use of tubings, as for example naso-gastric tubes, oxygen therapy tubing, drainage tubes, various catheters, intravenous administration, and the like.

Inasmuch as such tubings or tubes extend between the patient and a supply means or drainage vessel, it is important that the tubings or tubes be restrained against undesirable movement thereof, to insure proper surgical procedures as well as comfort of the patient.

To this end, adhesive tapes have been used to anchor the tubing or tubes directly to the patient, or to the bed linen, bed or other suitable substrate.

However, such known adhesive tapes exhibit a number of disadvantages, including bulkiness and uncomfotability for the patient; restraint against both lateral and longitudinal movements, to thereby prevent longitudinal movement; and a tendency to premature peeling and inadvertent release of the anchored tubing.

Since conventional adhesive tapes use pressure sensitive adhesives which allow peeling upon tensioning edge portions of the tape; known anchoring tapes have a tendency toward premature peeling as an incident to accumulated tensioning forces applied thereto. Such peeling action and release of the surgical tubing may jeopardize the therapy or surgical procedures involved.

Accordingly, an object of this invention is to provide improved anchoring tape means for securing surgical tubing and the like, to a selected substrate; the tape means including tab portions with a strap portion extending therefrom, the strap portion and tab portion being interconnected in a manner to isolate tensioning forces on the strap portion from the peripheral edge portions of the tab portions to thereby prevent premature peeling of the tab portions from the substrate.

Another object of this invention is to provide adhesive tape means of the character described wherein the strap portion is wrapped about the tubing and is adhesively engaged therewith to prevent either lateral or longitudinal movement of the tubing relative to the substrate, or is wrapped with its uncoated surface in contact with the tubing to prevent only lateral movement of the tubing relative to the substrate, while permitting longitudinal movement thereof.

A further object of this invention is to provide an improved adhesive anchoring tape which includes a relatively narrow strap portion which terminates in one or two enlarged anchoring tab portions, the juncture of the strap portion and the tab portions being at a point inwardly of the periphery of the tab portion whereby accumulated stresses due to tensioning of the strap portion will be concentrated at a point inwardly of peripheral edge portions of the tab portions to thereby avoid premature peeling of the edges of the tab portions.

Still another object of this invention is to provide adhesive anchoring tape of the character described, which is of minimized dimensions and bulk, thereby simplifying application procedures and maximizing comfort for the patient when the tape is applied to his skin.

Yet another object of this invention is to provide adhesive anchoring tape of the character described, which is of a simple construction, is fabricated of stock sheet materials in a manner to materially reduce production costs; and is readily and compactly packaged for shipment and storage.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

### DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of tabbed anchoring tape means embodying the invention;

FIG. 2 is a side elevational view thereof showing one mode of usage thereof with a tubing in respect to a substrate;

FIG. 3 is a view similar to that of FIG. 2, showing another mode of usage of the tape with the tubing and the substrate;

FIG. 4 is a top plan view of another embodiment of the invention;

FIG. 5 is a top plan view of a modified form of the tape having but a single anchoring tab;

FIG. 6 is a side elevational view showing the the strap in wrapped adhesive engagement with the tubing and anchored to a substrate; and

FIG. 7 is a top plan view of still another alternative form of strap construction.

FIGS. 8, 9 and 10 are plan views showing varied forms of utilization of the tape shown in FIG. 7.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

The tabbed anchoring tape of the instant invention comprises a strap portion of narrow width which terminates in one or two tab portions of relatively enlarged surface area. The tab portions may have various geometric configurations, as desired. The tape devices are conveniently stamped by suitable dies from sheet material which may be formed of plastic film of suitable gauge, which is coated on one side thereof with pressure sensitive adhesive, which adhesive layer is covered with a protective sheet, in the usual manner; the protective sheet being peeled away to expose the adhesive when the tape is to be used.

Thus, as shown in FIG. 1, 10 designates a tabbed anchoring tape embodying the invention. The same comprises a pair of similar tab portions 11, 12 which are of circular configuration; the tab portions having peripheral edges 13, 14 respectively.

The tab portions 11, 12 are integrally interconnected by a relatively narrow strap portion 15 which is joined at its opposite ends to the respective tab portions 11, 12 at a point indicated at 16, which is located inwardly of peripheral edges 13, 14 of said tab portions.

The terminal portions 17 of strap 15 are defined by side edges 17A which are laterally spaced from edges 18A of slots 18 extending inwardly of peripheral edges 13; and from edges 19A of slots 19 extending inwardly of peripheral edge 14.

The tapes 10 are formed by stamping out sheets of polyvinyl chloride of a selected gauge; the sheets being precoated on one side with conventional pressure sensitive adhesive and protected by the usual covers C; the adhesive being indicated at 20.

The tape 10 may be used to anchor a tubing T to a substrate S, which may be the skin of a patient, bed linen, bed portions or the like. As shown in FIG. 2, the cover C has been removed to expose the adhesive coated surface 20. The medial portion of strap 15 is wrapped about tubing T to form the single turn 21.

It will be apparent that in this case, the adhesive coating 20 will contact and engage the tubing T; and with the tab portions 11, 12 pressed against substrate S, the tubing T will be restrained against both lateral and longitudinal movement with respect to substrate S.

It has been found that with the tensile forces concentrated at points 16 as the juncture of strap 15 and tab portions 11, 12; the periphery 13, 14 and forward tab portions 22, 23 of the tab portions 11, 12, respectively will not peel prematurely and the anchoring means 10 will hold tubing T in place relative to substrate S as long as desired.

If tubing T is to be restrained only laterally but permitted to have movement longitudinally with respect to substrate S; then tape 10 is applied to tubing T and substrate S as previously described except that the strap portion 15 is wound about tubing T with its uncoated surface in contact with the tubing and the adhesive coated surface 20 outermost, as shown in FIG. 3. Thus, the tubing T may slide longitudinally in turn 21 of tape strap portion 15, while restrained against laterally movement relative to substrate S.

While tape 10 is shown as having its strap portion 15 integral with tab portions 11, 12; alternatively, as shown in FIG. 4; tape 10A comprises a pair of similar tab portions 25, 26 which are of rectangular configuration with rounded corners.

Tab portions 25, 26 are interconnected by a strap portion 27 of narrow width and slightly enlarged terminal portions 28.

The terminal portions 28 of strap 27 are suitably secured to central portions of tab portions 25, 26 by adhesive, welding or the like. Thus, the juncture points 31 of strap portions 30 and the tab portions 25, 26 are again located inwardly of the peripheral edge of said tab portions 25, 26. Here again tensile stresses are concentrated inwardly of the peripheral edge of tab portions 25, 26 to prevent premature peeling of said tab portions from any substrate, not shown, to which tape 10A is attached, in the manner previously described; the adhesive coating and cover sheet for the same, not being shown.

In some instances, but a single anchoring tab is necessary to secure tubing T to substrate S. In this case, as shown in FIG. 5, tape 10B comprises a single tab portion 11 with strap 17' extending therefrom, in the manner previously described. Thus, the juncture point 16 is located inwardly of peripheral edge 13 and edges 17A are laterally spaced from edges 18A defining slots 18 extending inwardly of edge 13.

Tape 10B is used to engage tubing T, as shown in FIG. 6, after cover C has been removed to expose adhesive layer 20 on tab portion 11 and strap 17'. The free end of tape 17', indicated at 30, is wrapped around tubing T and adhered to an inner portion of strap 17', thus locking tubing T against longitudinal movement while allowing limited lateral movement thereof.

In FIG. 7 is shown another embodiment of the invention wherein the tape 40 comprises adjacent, opposed tab portions 41, 42 with intervening, short strap portions 43, 44 extending in opposite directions from a central connecting portion 45, which also connects tab portions 41, 42.

The strap portions 43, 44 have their junctures 46 with central portion 45, located inwardly of the peripheral edges of tab portions 41, 42; the side edges 47 of strap portions 43, 44 being laterally spaced from edges 50 of said tab portions, to define slots 48 which terminate at their inner ends in enlarged portions 49. Adhesive 20 and a cover Sheet C is applied to one side of tape 40. The strap portions 43, 44 terminate at their outer ends in enlarged portions 43A, 44A respectively.

In using tape 40, in one case, as shown in FIG. 8, separate tubings T, T' may be anchored against longitudinal or transverse movement by the respective strap portions 43, 44 which are wrapped around and adhered to said tubings T, T'. Or, as shown in FIG. 9, a single tubing T is anchored in place by the oppositely extending strap portions 43, 44 adhesively secured to said tubing T which overlies said strap portions. Further, as shown in FIG. 10, a pair of tubings T, T' in side by side relation are held together by strap portions 43, 44 extending toward each other with their enlarged portions 43A, 44A in overlapped, adhesively secured relation, allowing only limited lateral movement while permitting longitudinal movement since the uncoated surface of said strap portions are in contact with the tubings.

While the devices 10, 10A, 10B and 40 set forth herein are formed from synthetic resin sheeting such as polyvinyl chloride or the like; other sheetings of textile woven and non-woven fabrics, as well as sheetings of various suitable materials may be used.

It is understood that the tabbed anchoring tape means of the instant invention can be used for anchoring a variety of medical and surgical adjuncts; including nasal oxygen cannula, urinary drainage catheter, urinary drainage tubing, intravenous administration tubing, intravenous indwelling arterial catheter, and the like; as well as for securing surgical dressings in place.

Further, such tape means may be used for anchoring elongated articles such as wiring or the like, to various substrates; thus avoiding premature separation of the anchored article from its substrate.

I claim:

1. Anchoring means for securing an elongated member to a substrate, said means comprising a flexible tab element and a strap portion extending from said tab element, the juncture of

said strap portion and said tab element being located inwardly of the periphery of said tab element, a second tab element, said strap portion having a terminal end extending from said second tab element, the juncture of said second tab element and of said strap portion being located inwardly of the periphery of said second tab element, and means on said tab elements for securing said tab elements to said substrate.

2. Anchoring means as in claim 1, wherein said tab element is formed with a pair of slots extending inwardly of the periphery thereof, said slots defining side edge portions of the terminal portion of said strap portion.

3. Anchoring means as in claim 1, wherein a terminal end portion of said strap portion is bonded to a limited surface portion of said tab element.

4. Anchoring means as in claim 1, wherein said securing means comprises an adhesive coating on one surface of each of said tab elements, an adhesive coating on at least a medial portion of said strap portion, said strap portion being adapted to be wound around said elongated member to selectively present coated or uncoated surface portions of said strap portion in contacting relation to said elongated member, whereby said elongated member is restrained against both lateral and longitudinal movement thereof relative to the substrate, or is restrained against lateral movement relative to said substrate but is movable longitudinally relative to said substrate.

5. Means for anchoring surgical tubing to a substrate, said means comprising a pair of tab elements, flexible strap means interconnecting said tab elements, the juncture of the opposite ends of said strap means and the respective tab elements being spaced from the peripheral edge of said tab elements, the terminal portions of said strap means overlying the plane of said tab elements and being free thereof; and an adhesive coating on one side of said tab elements and said strap means.

6. Means as in claim 5, wherein said tab elements include tab portions extending forwardly of the juncture of said strap means and said tab elements.

7. Anchoring means for securing an elongated member to a substrate, said means comprising a tab element having side edges and a strap portion extending from said tab element, the juncture of a terminal portion of said strap portion and said tab element being located inwardly of a peripheral portion of said tab element adjacent the opposite side edges of said terminal strap portion, the side edges of said terminal strap portion being spaced throughout the length thereof from opposed edge portions of said tab element, said strap portion being provided with a free terminal end extending beyond the side edges of said tab element, and means on said tab element for securing said element to said substrate.

8. Anchoring means comprising a pair of flexible tab elements having side edges and strap means interconnecting said tab elements and integral therewith, the terminal end portions of said strap means comprising a limited portion of said tab elements extending inwardly of the periphery thereof, the terminal end strap portions having side edges thereof in spaced relation throughout the length thereof to opposed edge portions of said tab elements, and an adhesive coating on one side of said integral tab elements and strap means.

9. Anchoring means for securing an elongated member to a substrate, said means comprising a pair of opposed adjacent tab portions having side edges, a central portion interconnecting said tab portions, and a pair of strap portions respectively extending from opposite sides of said central portion, said strap portions having side edge portions in spaced relation throughout the length thereof to opposed edge portions of said tab portions, said strap portions further being provided with free terminal ends extending beyond the side edges of the tab portions, said tab portions being provided with means thereon for securing said tab portions to said substrate.

10. Anchoring means as in claim 9, wherein said strap portions terminate at their free terminal ends in enlarged head portions, said strap portions being selectively adapted to (1) respectively engage separate elongated members; (2) engage an extended longitudinal portion of a single elongated

member; and (3) engage a plurality of adjacent elongated members.

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