

[54] **MEDICAL TUBE HOLDER**
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[51] Int. Cl. **A61m 25/02**

[58] Field of Search 128/348, 349 R, 350 R, 128/214 R, 215, 133, DIG. 26; 24/73 R, 73 VA, 81 B, 129 B; 248/74 R, 74 A, 205 A

[57] **ABSTRACT**

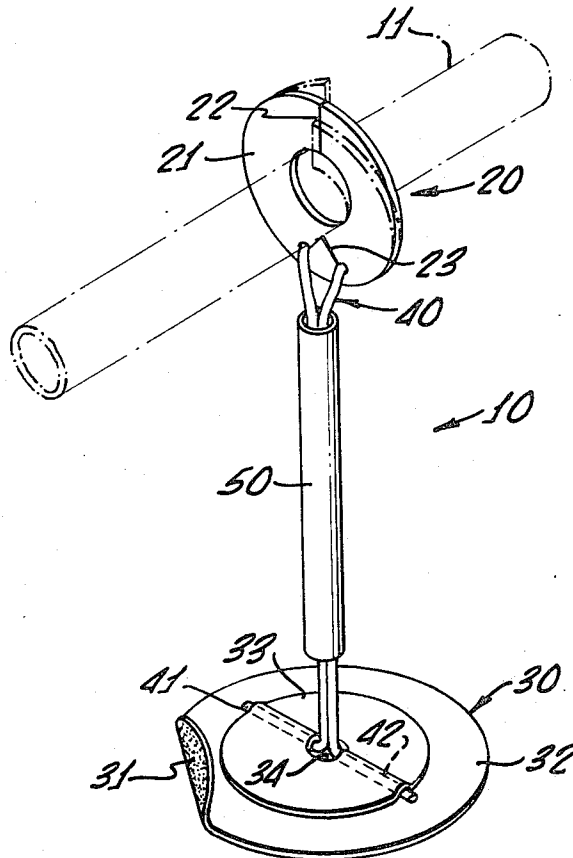
An article for attaching a medical tube to the body of a patient comprising a clip releasably connectable to the medical tube, a pad having an adhesive on one side thereof for adherence to the body of the patient, and a flexible, stretchable band connected between the clip and the pad.

[56] **References Cited**

UNITED STATES PATENTS

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8 Claims, 2 Drawing Figures



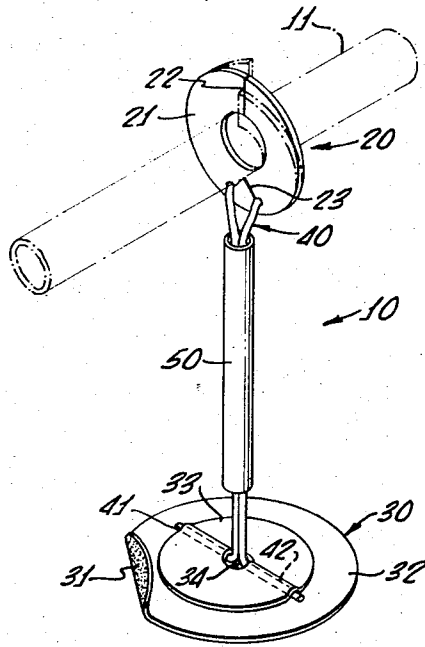


FIG. 1.

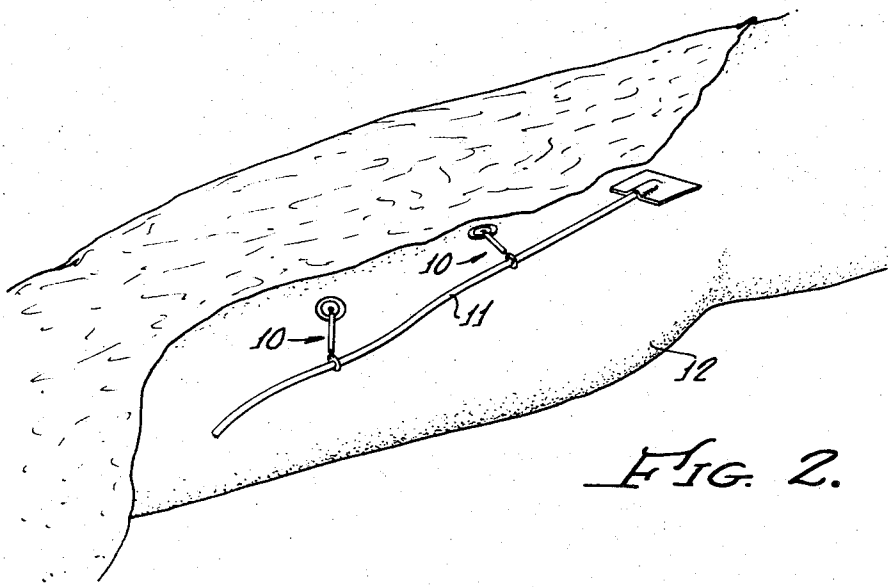


FIG. 2.

MEDICAL TUBE HOLDER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a medical tube holder and, more particularly, to an article for attaching a medical tube to the body of a patient which greatly enhances patient comfort and safety during a variety of medical procedures.

2. Description of the Prior Art

Many medical and surgical procedures require use of drainage or injection tubes. Such tubes include Foley catheters, bladder catheters, nose tubes, drainage tubes, intravenous tubes, and the like. In use, such tubes extend from the body of a patient to a fluid source or drainage receptacle. Between the ends of the tube, it is necessary to provide support to prevent dislodging of the tubes or fittings.

The usual procedure for supporting a medical tube is to tape the tube directly to the body of the patient. As a result, the connection is rigid and inflexible. This rigid, inflexible connection becomes more uncomfortable as it remains in place and is a frequent source of patient complaints. Furthermore, if the patient moves too far or in the wrong way, the medical tube or fitting may become dislodged. These dislodgings can result in leakage or drainage. The result is a hazardous and unsafe condition, especially if a patient is in a critical condition.

SUMMARY OF THE INVENTION

According to the present invention, there is provided an article for attaching a medical tube to the body of a patient which not only provides patient comfort but prevents the easy dislodgement of all types of medical tubes. The present medical tube holder eliminates the rigid, inflexible attaching technique of the prior art and replaces it with a holder having a built-in stretch which permits relative movement between the medical tube and the body of the patient.

Briefly, the present medical tube holder comprises a clip which is releasably connectable to a medical tube, a pad having an adhesive on one side thereof for adherence to the body of a patient, and a flexible, stretchable band connected between the clip and the pad so that slight patient movement is permitted without discomfort or the possibility of catheter or tube dislodgement.

OBJECTS

It is therefore an object of the present invention to provide a medical tube holder.

It is a further object of the present invention to provide an article for attaching a medical tube to the body of a patient which permits slight patient movement without discomfort or the possibility of tube dislodgement.

It is a still further object of the present invention to provide a simple, inexpensive, disposable medical tube holder.

It is another object of the present invention to provide a flexible attachment between medical tubes and the body of a patient.

Still other objects, features, and attendant advantages of the present invention will become apparent to those skilled in the art from a reading of the following detailed description of the preferred embodiment constructed in accordance therewith, taken in conjunction

with the accompanying drawings, wherein like numerals designate like parts in the several figures and wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a medical tube holder constructed in accordance with the teachings of the present invention; and

FIG. 2 is a schematic representation of a patient showing the medical tube holder of FIG. 1 in use.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, there is shown an article, generally designated **10**, for attaching a medical tube **11** to the body of a patient **12**. Tube **11** may be any one of the many available types of drainage or injection tubes such as Foley catheters, bladder catheters, nose tubes, drainage tubes, intravenous injection tubes, and the like. Holder **10** is adapted to connect tube **11** to patient **12** with a sufficient amount of flexibility or "give" to permit some slight movement of patient **12** without discomfort or the possibility of dislodgement of tube **11**.

Holder **10** comprises a clip portion **20** which is adapted to be releasably connectable to tube **11**. According to the preferred embodiment of the present invention, clip portion **20** comprises a resilient annulus **21** which may conveniently be made from a plastic material. Annulus **21** has a slot **22** therein to permit opening thereof to receive tube **11**, as shown in phantom in FIG. 1. Preferably, the plastic material of which annulus **21** is formed is sufficiently flexible to permit opening thereof to receive tube **11**, but sufficiently resilient so that annulus **21** returns to a substantially planar configuration when released. Plastic or rubber materials meeting these requirements are well known to those skilled in the art.

According to the embodiment of the invention shown in FIG. 1, annulus **21** is a solid, substantially flat member. However, annulus **21** could obviously be doughnut-shaped, either solid or hollow, depending upon the materials used therefor.

Holder **10** further includes a pad **30** having a suitable medical adhesive on one side **31** thereof to permit pad **30** to adhere to the body of patient **12**. The adhesive on side **31** of pad **30** may be protected from inadvertent adherence by positioning thereon a removable protective sheet in a manner well known to those skilled in the art.

Clip **20** and pad **30** are interconnected by means of a flexible, stretchable member, generally designated **40**. According to the preferred embodiment of the present invention, member **40** is a conventional rubber band of sufficient stretchability to provide up to two inches of expansion. Alternatively, member **40** may be a single length of stretchable band, or may be in the form of a ribbon of stretchable, flexible material. In any event, one end of member **40** is connected to clip **20** and the other end is connected to pad **30**. Such connections may be made in any suitable manner. For example, annulus **21** may be provided with a V-shaped cutout **23**, spaced from slit **22**, whereby one end of rubber band **40** may be positioned over cutout **23**, as shown. By positioning the apex of cutout **23** away from band **40**, stretching of band **40** will not tend to remove band **40** from cutout **23**. Other means for connecting mem-

ber 40 to clip 20 will be obvious to those skilled in the art.

The other end of member 40 may be conveniently connected to the other side 32 of pad 30. For example, rubber band 40 may be split to form arms 41 and 42 which are positioned flat against side 32 of pad 30. A second pad 33 having an adhesive on one side thereof may then be used to connect arms 41 and 42 to surface 32 of pad 30. Pad 33 may be conveniently positioned concentrically with pad 30 and have a central opening 34 through which member 40 extends. Other means for connecting member 40 to pad 30 will be apparent to those skilled in the art.

If member 40 comprises a conventional rubber band, the two halves thereof may be positioned within a plastic or rubber cover or sleeve 50 for the protection thereof. The length of sleeve 50 should be approximately equal to the unstretched length of member 40 between clip 20 and pad 30.

In operation, article 10 may be used for attaching medical tube 11 to the body of patient 12. Assume, for example, and as shown in FIG. 2, that tube 11 is a bladder drainage tube. Tube 11 would, therefore, typically be draped over one leg of patient 12 and connected thereto at two locations. To use article 10, the removable protective sheet on side 31 of pad 30 would first be removed and one or more pads 30 attached to the body of patient 12, as desired. Thereafter, annulus 21 would be grasped and opened, in the manner shown in phantom in FIG. 1, to permit the insertion thereto of tube 11.

Once in place, clip 20 will securely grip tube 11 preventing movement thereof. Such firm connection may result in many different ways. First of all, the inner diameter of annulus 21 may be made slightly smaller than the outer diameter of tube 11 so that a slight pinching action occurs. Alternatively, annulus 21 may have a sticky surface thereof to achieve the same result. However, neither of these possibilities may be necessary because of the well known fact that a cylindrical member passing through a thin annulus, at an angle thereto, tends to be gripped by the inner edges of the annulus and to prevent axial motion relative thereto.

The resultant attachment of tube 11 to the body of patient 12 greatly enhances patient comfort and safety during a variety of medical procedures. With article 10, the rigid, inflexible attaching techniques of the prior art are eliminated and replaced by a holder having built-in stretch which permits relative movement between medical tube 11 and the body of patient 12. As a result, slight patient movement is permitted without discomfort and the possibility of catheter or tube dislodgement is significantly reduced. Article 10 is simple and may be manufactured and sold inexpensively so that it may be used only once and thereafter discarded.

While the invention has been described with respect to a preferred physical embodiment constructed in accordance therewith, it will be apparent to those skilled in the art that various modifications and improvements may be made without departing from the scope and the spirit of the invention. Accordingly, it is to be understood that the invention is not to be limited by the specific illustrative embodiment, but only by the scope of

the appended claims.

I claim:

1. An article for attaching a medical tube to the body of a patient comprising:
 - clip means releasably connectable to said medical tube;
 - pad means having an adhesive on one side thereof for adherence to the body of a patient; and
 - flexible, stretchable elastic means connecting said clip means and said pad means, said connecting means being sufficiently flexible to permit orientation of said clip means in any position relative to said pad means, said connecting means also being sufficiently stretchable to permit expansion thereof and a significant increase in the spacing between said clip means and said pad means.
2. An article according to claim 1 wherein said clip means comprises:
 - a resilient annulus having an inner diameter greater than the diameter of said medical tube, said annulus having a slit therein permitting opening thereof to receive said tube, said annulus returning to a substantially planar configuration when released.
3. An article according to claim 2 wherein said annulus is a solid, substantially flat member.
4. An article according to claim 2 wherein said annulus is a doughnut-shaped member.
5. An article according to claim 1 wherein said clip means comprises:
 - a resilient annulus having an inner diameter slightly smaller than the outer diameter of said medical tube, said annulus having a slit therein permitting opening thereof to receive said tube.
6. An article according to claim 1 wherein said connecting means comprises:
 - a rubber band, one end of said rubber band being connected to said clip means, the other end of said rubber band being connected to said pad means.
7. An article for attaching a medical tube to the body of a patient comprising:
 - a solid, substantially flat, resilient annulus releasably connectable to said medical tube and having a slit therein permitting opening thereof to receive said tube, said annulus further having a V-shaped cutout therein;
 - pad means having an adhesive on one side thereof for adherence to the body of a patient; and
 - a flexible, stretchable rubber band connecting said annulus and said pad means, one end of said rubber band being positionable over said cutout in said annulus, the other end of said rubber band being connected to said pad means.
8. An article for attaching a medical tube to the body of a patient comprising:
 - clip means releasably connectable to said medical tube;
 - pad means having an adhesive on one side thereof for adherence to the body of a patient;
 - flexible, stretchable means connecting said clip means and said pad means; and
 - sleeve means surrounding said connecting means and extending from said clip means to said pad means.

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