Sept. 19, 1950 W. M. SCHOLL 2,522,842

TUBULAR BANDAGE

Filed May 22, 1947

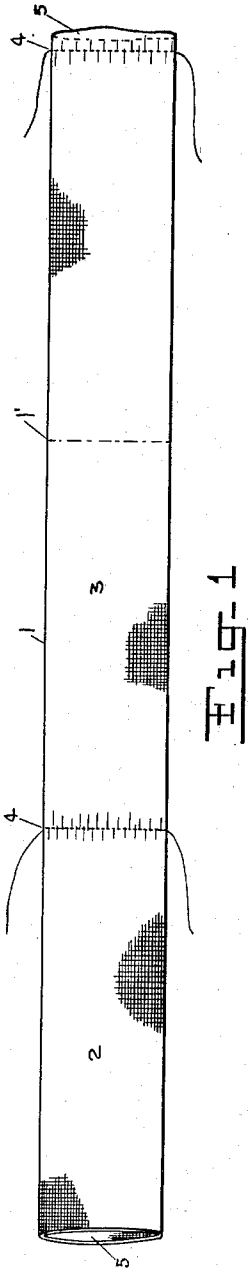


FIG-1

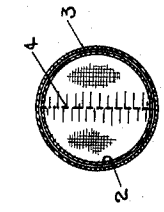


FIG-4

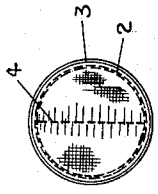


FIG-3

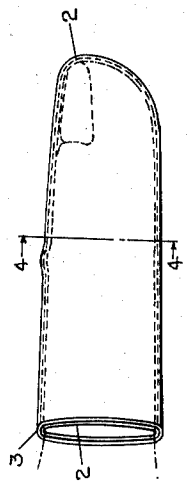


FIG-2

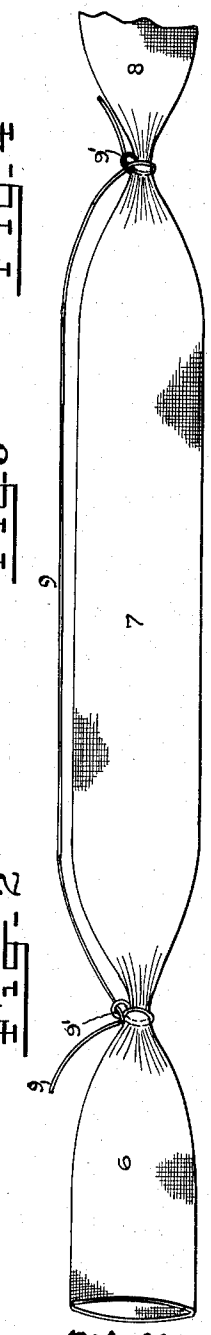


FIG-5

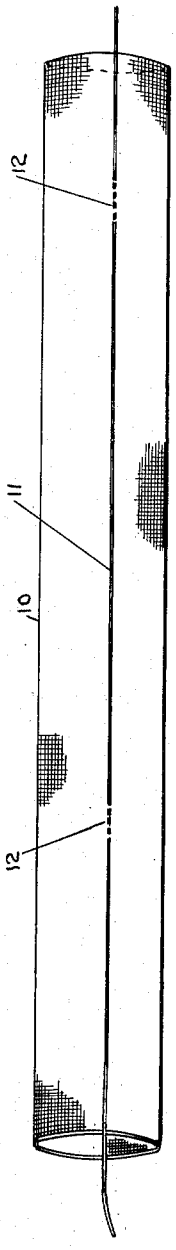


FIG-6

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TUBULAR BANDAGE

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The improvements relate to surgical and medical bandages and more particularly to bandages made in tubular form, such as are commonly called stockinette, and are usually employed to cover and protect the extremities of the human body, such as toes, feet, fingers and hands after surgery has been performed thereon or medication applied thereto or abrasions or other injuries treated, and also to protect the garments of the wearer and other things with which the extremity may come in contact after such treatment. In amputations, tubular bandages are used to cover and protect the stump, the foot or other remaining part. The uses of the improvements, however, are not limited to such purposes and may be extended to normal extremities for any desired purposes such as protection against heat, cold or abrasives and to protect and prevent undue wear upon the feet of hosiery. They may also be applied to both man and beast.

The primary objects of the improvements are to provide a stall or sheath of more or less resilient material such as knitted or woven fabric, by making a tube of indefinite length of such material and providing it with suitable closures at convenient intervals, so that it can be applied to the toe, finger or other extremity and closed at the end thereof, then turned back on itself to form a double ply or thickness, without twisting or tying the material and thus forming a projecting and objectionable lump, or by simply cutting off the length needed for the particular use beyond the closure and employing a single thickness; to provide it with means for securing the stall to the hand, wrist, foot or ankle; to make possible the use of triple or quadruple ply stalls or sheaths; and to secure other advantages and adapt the article to other uses which will appear from the following description and the accompanying drawings.

Heretofore it has been the practice to employ continuous tubing for bandages of the kind herein referred to and to twist them beyond the extremity of the body to which they are applied after inserting it therein, then to turn a portion of said tube beyond the twisted part back over the portion in which said extremity has been inserted to form a double ply tube or stall with the twisted portion beyond the bandaged member enclosed in the bandage. This practice has numerous objectionable features, among them that the twist does not establish a definite end for the bandage so that it is of a length in excess of the necessary length; that it does not in itself form a tight closure and varies according

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to the tightness of the twist and the elasticity of the tubular material which tends to prevent the outer ply from slipping and working loose in the inner ply; that the twist forms a lump or obstruction in the end of the stall which will cause pressure on the end of the toe, finger or other extremity to which the bandage is applied when the same is brought in contact with the toe of the shoe or any other object, and thus causes irritation to the affected part if it is near the said twist; that the twist has a constant tendency to unwind and become loose on the part to which it is applied, requiring the employment of adhesive tape or other objectionable binding or tieing to hold it in place and prevent it from coming loose or slipping off.

There are other disadvantages which need not be mentioned, since the foregoing are sufficient to make the twisting method undesirable in many cases.

The present improvements are designed to correct and overcome the objections and disadvantages of tubular bandages applied by the twisting method or other methods, and to provide a tubular bandage which may be quickly, easily and accurately applied and which when so applied will maintain its position securely and afford protection as well as a certain degree of ventilation to the affected part.

In the said drawings,

Fig. 1 is a side view of a tubular bandage embodying the improvements;

Fig. 2 is a longitudinal medial section of the bandage of Fig. 1 applied to the human thumb or great toe and folded back on itself to form a double ply stall or sheath;

Fig. 3 is an outer end view of the bandage as shown in Fig. 2;

Fig. 4 is a vertical cross section of the bandage of Figs. 2 and 3, on the line 4—4 of Fig. 2;

Fig. 5 is a side view similar to that of Fig. 1 of a modified form of embodiment of the improvements;

Fig. 6 is a view similar to those of Figs. 1 and 5 of another modified form.

In the said drawings, 1 is the tubular bandage, which preferably is of knitted or otherwise resilienty woven fabric, is of indefinite length, so that it can be made up and sold in rolls or any other form and is therefore capable of being used for many successive operations or medications. It is divided into sections 2, 3, etc., by cross stitching 4, closing the otherwise hollow and unobstructed interior 5. This tube of material may be applied to the toe, finger or other affected

part by inserting the latter therein until its end reaches the first closure 4, then cutting it with shears or a knife as indicated at 1', then turning it back on the closure 4 to form a double ply sheath or stall, and without twisting or other securement.

The stitching or similar closing means 4 permits the end of the stall to be brought close to the extremity of the affected member, but if a cushion between such member and the said end is desired, a piece of absorbent cotton folded gauze or a cut off piece of the tube itself may be inserted to give just the right protection and absorbing function. If the stall is required to be longer than the sections 2 and 3 permit, the stitching may be removed with scissors or other implement and the next closure used for the end of the stall, cutting off the excess length, which will cause little waste. If desired or advisable, adhesive tape or thread or cord engaging the exterior of the stall near its base and an adjacent part of the body may be employed.

In the modification of Fig. 5, the tube is the same as in Figs. 1 to 4, and a piece of cord or strong thread 9 is tied rather loosely around it at regular intervals, to divide it into sections 6, 7, and 8, by means of a single bow knot 9' as shown, so that the closure may be moved along the tube to make the sections longer or shorter and then tied tightly before turning back the next section.

The pieces 9 may be made of sufficient length to extend from the closure to the base of the stall and beyond and to afford means for tieing it to an adjacent part of the body, such as the foot, ankle, hand or wrist if necessary or desirable.

The modification of Fig. 6 has the closing cord 11 of the open tube 10 disposed lengthwise of the tube and passed through the fabric thereof at intervals 12, so that it can be easily tied thereon and employed to form a closure or removed therefrom for adjusting the section lengths, with sufficient cord left beyond the knot to provide a securement of the stall to the body of the user.

It will be seen from the foregoing that the present improvements provide a tubular bandage in the form of a sheath or stall which may not only be quickly, easily and securely applied and with precision but will serve to protect the part which has been injured, operated on or treated for some abnormality, disease or infection, and also may be as quickly and easily removed and replaced. They also provide for the adjustment of the bandage to the length of the member to which it is applied by permitting the closure to be shifted lengthwise of the bandage if necessary. This applies to all three forms shown, as the stitching of the form of Figs. 1 to 4 may be removed very easily and its thread or cord employed to tie another closure. It is desirable, however, when this form is used, to make the tube sections of maximum required length and then trim off the open end if necessary to shorten it, and this will involve very little waste.

The free ends of the cord or the like, extending away from the knot, will run down between the two plies of material and beyond the stall, so that they can be used to tie the stall in place and tie the outer ends of the plies together. Or one or both of them may be cut off at the knot and used for the purpose just stated. One of the advantages of the improvements is that they provide a stall bandage which requires no additional means to apply it and secure it in place.

What I claim is:

1. In a device of the character described, a tube of elastic material of relatively great length and small diameter, means for closing said tube at intervals comprising cord or the like attached to said tube at intervals and engaging the material thereof so as to be definitely positioned with respect thereto but being longitudinally adjustable thereon, said tube being severable at various places spaced from said closing means, and said tube closing means constructed and arranged to close said tube at definite points along its length.

2. In a tubular bandage of the character described, a tube of elastic fabric of relatively great length and small diameter, means detachable from said tube for closing said tube at intervals comprising cord or the like attached to said tube at intervals and engaging the material thereof so as to be definitely positioned with respect thereto but not incorporated in said fabric, said tube being severable at various places spaced from said closing means, and said tube closing means constructed and arranged to close said tube at definite points along its length and to permit severed portions of the tube to extend beyond them on both sides and forming the closed end of a stall constructed and arranged for application to an extremity of the body when one extending portion is folded back over the other.

3. In a device of the character described, a tube of elastic material of relatively great length and small diameter, means detachable from said tube for closing said tube at intervals comprising cord or the like removably attached to said tube at intervals and engaging the material thereof so as to be definitely positioned with respect thereto but adjustable thereon lengthwise thereof, said tube being severable at various places spaced from said closing means.

4. In a device of the character described, a tube of elastic material of relatively great length and small diameter, means for closing said tube at intervals comprising cord or the like attached to said tube at intervals and engaging the material thereof so as to be definitely positioned with respect thereto, said tube being severable at various places spaced from said closing means, and said tube closing means constructed and arranged to close said tube at definite points along its length and to permit severed portions of the tube to extend beyond them on both sides and forming the closed end of a stall open at the opposite end for an extremity of the body when one extending portion is folded back over the other, and said cord or the like having extending portions of a length sufficient to extend beyond the open end of said stall and adapted to engage said end and a part of the body adjacent but beyond said open end.

5. In a tubular bandage of the character described, a tube of elastic fabric of relatively great length and small diameter, means for closing said tube at intervals comprising cord or the like attached to said tube at intervals spaced away from its extremities but being detached therefrom between and extending from one of said points of attachment to another and engaging the material thereof so as to be definitely positioned with respect thereto but not incorporated in said fabric, said tube being severable at various places spaced a substantial distance from said closing means and foldable on said closing means to form a two-ply tubular bandage with an open and a closed end.

6. In a tubular bandage of the character described, a tube of elastic fabric of relatively great length and small diameter, means for closing said tube at intervals comprising flexible material tenuous in form but of relatively great tensile strength attached to said tube at intervals spaced away from its extremities and engaging the material of the tube so as to be definitely positioned with respect thereto but not incorporated in said fabric, said tube being severable at various places spaced a substantial distance from said closing means and foldable on said closing means to form a two-ply tubular bandage with an open and a closed end.

7. In a tubular bandage of the character described, a tube of resilient fabric of relatively great length and small diameter, means for closing said tube at regular predetermined intervals comprising strong material of tenuous form attached to said tube at intervals spaced away from its extremities having relation to the length of a terminal member of the human body and engaging the material thereof on a plurality of sides so as to be definitely positioned with respect thereto but not incorporated in said fabric, said tube being severable at various places spaced a substantial distance from said closing means and foldable on said closing means to form a two-ply tubular bandage with an open and a closed end.

8. In a device of the character described, a tube of elastic material of relatively great length and small diameter, means for closing said tube at intervals comprising strong material tenuous in form attached to said tube at intervals spaced away from its extremities and engaging the material thereof so as to be definitely positioned with respect thereto, said tube being severable at various places spaced from said closing means, and said tube closing means being slidable longitudinally on and constructed and arranged to close said tube at predetermined points along its length.

9. In a tubular bandage of the character described, a tube of elastic fabric of relatively great length and small diameter, means for closing said tube at intervals comprising cord or the like attached to said tube at intervals spaced away from its extremities and engaging the material thereof so as to be definitely positioned with respect thereto but not incorporated in said fabric, said tube being severable at various places spaced from said closing means, and said tube closing means constructed and arranged to constrict and close said tube at definite points along its length and to permit severed portions of the tube to extend beyond them on both sides and forming the closed end of a multi-ply stall for an extremity of the body when one extending portion is folded back on said means over the other.

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