July 22, 1958 B. D. PERDUE 2,844,146

APPLICATOR FOR TUBULAR BANDAGE

Filed March 22, 1954

Fig 1

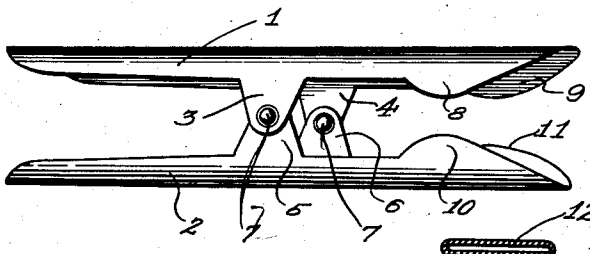
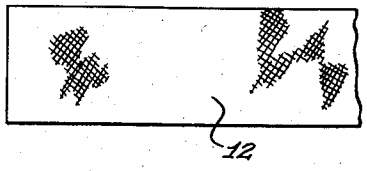


Fig 2



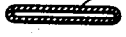
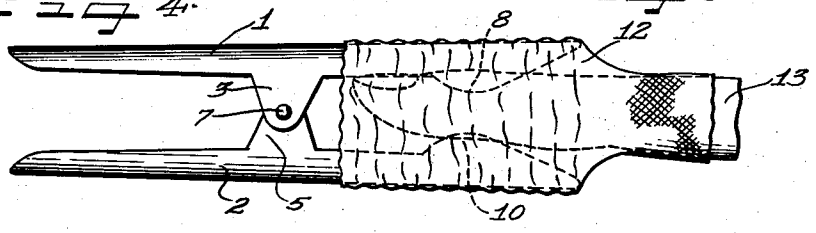


Fig 3

Fig 4.



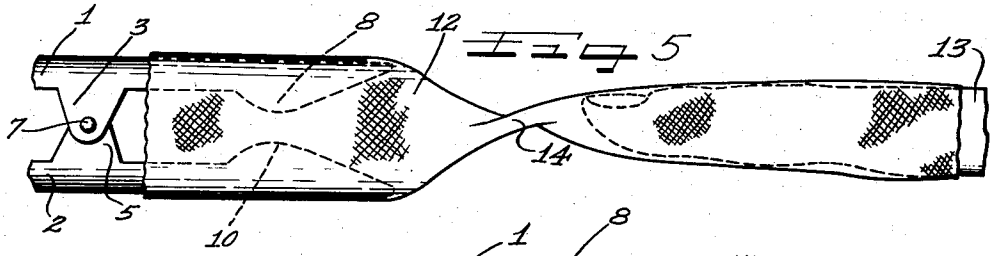


Fig 5

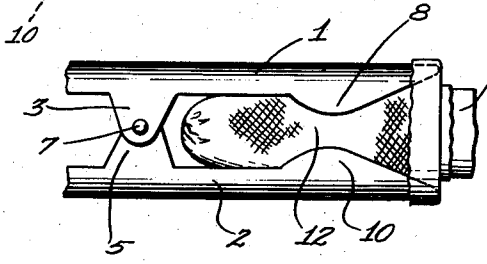


Fig 6

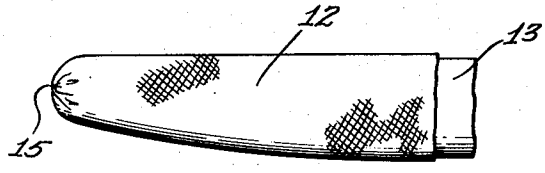


Fig 7

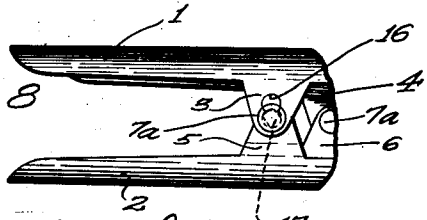


Fig 8

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APPLICATOR FOR TUBULAR BANDAGE

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Application March 22, 1954, Serial No. 417,837

5 Claims. (Cl. 128—157)

This invention relates to improvements in an applicator for a tubular bandage and to a method of utilizing that applicator to apply the bandage, the invention being highly desirable for the application of tubular surgical bandages to parts of the human body to cover various types of wounds, afflictions, or other injuries and ailments, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

In the past, certain forms of applicators for the application of tubular bandages to parts of the body, particularly bodily appendages such as fingers, toes, and in larger sizes to arms, legs, and even the head, have been developed. One form of such applicator is illustrated in the E. G. Hendrickson et al. Patent No. 2,456,507, issued December 14, 1948, and the instant invention is not only an improvement upon the type of applicator shown in that patent, but also an improvement upon the method of applying a bandage with the use of an applicator set forth in that patent.

Applicators for applying tubular bandages are of a type which telescope over the part of the body to which the bandage is being applied. Heretofore, applicators previously developed have proven objectionable in certain instances, owing to the fact that the applicator itself would contact the portion of the body over which it was telescoped, and while the contact may have been strictly unintentional, nevertheless it frequently resulted in aggravation of the particular injury or affliction being bandaged. The manner in which these formerly known devices were constructed rendered it extremely difficult at times to avoid direct contact between the applicator and the injured part of the body.

With the foregoing in mind, it is an important object of the instant invention to provide an applicator so constructed that it is a simple expedient during use to avoid contact of the injured part of the body by the applicator itself.

Another object of the invention resides in the provision of an applicator for applying a tubular bandage to a body part, which applicator is so constructed as to have an expandable or spreadable end portion which passes over the injured part of the body without contact therewith.

Also an object of this invention is the provision of an applicator for applying a tubular bandage to a part of the body, which applicator comprises a pair of elongated confronting shells, hingedly connected at an intermediate point, whereby the shells may be spread apart at the end portion telescoping over a part of the body, and thus avoid contact with the body part.

It is a further feature of the invention to provide an applicator for a tubular bandage, over which the bandage may be threaded, and the applicator being so constructed as to be easily and readily expansible inside the bandage, to avoid contact with the part of the body being dressed by the bandage.

Another object of the instant invention is the provision

of a new and novel method of applying a tubular bandage to a body part with the aid of an applicator.

Still a further object of the instant invention resides in the provision of an applicator for applying a tubular bandage to a body part, the applicator being so constructed as to pass over the injured part of the body without contact therewith, and being adjustable to increase or decrease both the initial spacing and possible spread so as to readily accommodate body parts of different sizes.

While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawing, in which—

Figure 1 is a side elevational veiw of an applicator embodying principles of the instant invention;

Figure 2 is a plan view of a tubular bandage with which the applicator may be used;

Figure 3 is a cross sectional view through the bandage;

Figure 4 is a fragmentary elevational view illustrating the first step in the application of the bandage to a part of the body;

Figure 5 is a fragmentary elevational view illustrating a succeeding step in the application of the bandage;

Figure 6 is a fragmentary elevational view illustrating a still further step in the application of the bandage;

Figure 7 is an elevational view of the finished bandage upon the body part; and

Figure 8 is a fragmentary side elevational view of an applicator embodying principles of the instant invention, but showing a slightly different form of construction.

As shown on the drawings:

For purposes of clarity and convenience, the instant invention will be described herein in connection with the application of a tubular bandage to a finger, although it will be understood that the same invention and the same method, with larger apparatus, may be employed for the application of the bandage to a foot, leg, hand, arm, and even other portions of the human body.

In the illustrated embodiment of the instant invention, with reference to Fig. 1, it will be seen that the applicator includes a pair of elongated confronting shells 1 and 2. These shells are laterally arcuate or concavo-convex in shape, and the concave faces confront each other. Intermediate the ends thereof, the shell 1 is provided with opposed inwardly extending ears or lugs 3 and 4, and the shell 2 is provided with a pair of similar lugs or ears 5 and 6. The ears 3 and 4 extend into overlapping engagement with the ears 5 and 6, and each pair of overlapping ears is hingedly connected together by a hinge rivet 7 extending through the overlapping portions, or in an equivalent manner. The hinge rivets 7—7 are preferably as flat as possible on the inside so that the part of the body over which the applicator telescopes never comes in contact with the hinge rivets or the respective ears.

With this arrangement, it will be seen that the applicator, in effect, provides a tubular structure with open side portions for easy telescoping over the part of the body to which the bandage is to be applied. Preferably, at its leading end the shell 1 is tapered and is provided with an inward offset extension on opposite sides thereof, as indicated at 8 and 9, and the shell 2 is tapered and is provided with similar inward offset extensions 10 and 11. These extensions are not arranged for overlapping relationship, but the extensions 8 and 9 will abut the extensions 10 and 11, respectively, if the leading end of the applicator is closed to that extent. Thus, the extensions prevent too great a closing of the applicator and also provided a more complete contact of the applicator with a tubular bandage threaded thereover, so that the bandage is not unduly distorted by stretching as a result of spreading the shells 1 and 2 at the leading end.

Obviously, in use, compression of the shells at the rear end of the device results in a spreading of the shells at the leading end of the device, and vice versa.

The bandage itself is illustrated in Figs. 2 and 3, and comprises a tubular element 12 preferably made of a gauze-like material, inherently stretchable and elastic to a material extent.

In the use of the invention, a section of bandage 12, substantially twice as long as the part of the body to be covered, is taken and threaded over the leading end of the applicator as seen in Fig. 4. The rear portions of the shells 1 and 2 are then compressed, thus spreading the forward ends of these shells inside the bandage, stretching the bandage proportionally. The leading end of the applicator is then passed over a part of the body, such as a finger 13 without the shells coming in contact with the finger. The end of the bandage is slipped off the applicator, and held in place at the rear portion of the finger, and then the applicator is withdrawn beyond the end of the finger to the position seen in Fig. 5, and the bandage is pulled or stretched by drawing on the applicator, so as to insure a tight bandage around the finger. The applicator is then preferably turned so as to provide a twist 14 in the bandage beyond the end of the finger, and then the applicator is moved back over the finger, still without contacting the finger, to substantially the position seen in Fig. 6. This movement causes a retroverting of that portion of the bandage still on the applicator over the portion of the bandage already applied to the finger. When the applicator is fully returned over the finger until all of the bandage is stripped from it, the applicator may be removed, and the finger will be bandaged as indicated in Fig. 7. If there is a full turn of the applicator made to provide the twist 14, the end of the resultant double layer bandage will be closed as indicated at 15 in Fig. 7.

Stretching of the bandage the first time the applicator is withdrawn from the finger is not absolutely essential, since in most cases the bandage will contract into intimate contact with the finger, but such a stretching operation does insure the bandage being tight around the finger.

In this same regard, it will be noted that if during the return movement, or the retroverting operation, the applicator is turned during the movement over the finger a tension is given to the second layer of bandage by that turning. In this manner, the ultimate tightness of the bandage may be effectively governed.

In Fig. 8 I have illustrated a slightly different form of the instant invention, and wherein the spacing between the shells 1 and 2 may be initially selected, so that the distance between these shells may be selectively varied in order to fit body parts of different sizes. For example, if the device is sized in general for application of a tubular bandage to a finger, it is well known that with different patients the sizes of fingers vary considerably, and so with the structure shown in Fig. 8 the shells may be set closer together or farther apart as occasion may demand.

In this arrangement, the same shells are disclosed, with the same ears 3 and 4 on the shell 1, and 5 and 6 on the shell 2, in overlapping relationship. However, one of the shells, and in the illustrated instance it is the shell 1, is provided with an opening of the general character of a figure 8, as indicated at 16, through which the shank 17 of a pivot rivet 7a extends. It will be noted that the shank is flattened on opposed sides so that it is not perfectly round, but when disposed in a certain location will pass through the neck portion of the figure 8 opening 16, so that either circular portion of that opening may be engaged around the rivet, one rounded portion of the opening providing a greater spread between the shells 1 and 2 than the other. The same is true with the ears 4 and 6 on the opposite side of the structure. Thus, with a slip-joint pivot connection of this character, the spacing between the shells may be selectively varied at will.

It will be seen that the applicator is very simple in construction, highly durable, easily manipulated, since the leading end may be compressed while threading on the bandage, and then expanded after the bandage is on for application to the finger. Thus, if reasonable care is utilized there is no need for the applicator to intentionally or accidentally contact the finger at any time during the application of the bandage. Also, the applicator may be readily adjusted to accommodate body parts of different sizes within a moderate range. By the new method herein involved, it is a simple expedient to apply the bandage under varying degrees of tightness.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. An applicator for applying a tubular bandage to a part of the body, comprising a pair of elongated confronting shells, means hingedly connecting said shells intermediate of their ends, said shells each having a tapered terminal at one end thereof to provide clearance for manually gripping the tubular bandage when applying the same to the body part and with the terminals joined with inwardly offset extensions on the sides of each shell to increase the bandage gripping area to minimize distortion thereof.

2. An applicator for applying a tubular bandage to a part of the body, comprising a pair of elongated generally parallelly extending confronting shells each being of a substantially uniform cross-section along its length and defining channel segments and together forming an uninterrupted channel extending the length of the shells for telescoping cooperation with a body part, ears intermediately located on opposite sides of the channel with the ears lapped, hinge means connecting each of the lapped ears together on opposite sides of the uninterrupted channel and with said shells being otherwise spaced from one another except at the locale where the lapped ears are connected and said shells also being generally in parallel relation along the length thereof and on opposite sides of the extensions, said shells being rockable on said hinge means to move said shells into and out of parallel relation to vary the width of the channel to accommodate body parts having variable thicknesses and said shells having along the lengths thereof laterally outwardly arched inside and outside peripheral surfaces each extending along the length of each of said shells for close cooperaion with the tubular bandage and with the body part.

3. The applicator of claim 2 further characaterized by the shells at one end having rearwardly tapered terminals providing clearance for holding the bandage against the body part in its application thereto, said shells also having offset extensions adjacent the tapered terminals for increasing the bandage gripping area to minimize distortion thereof.

4. The applicator of claim 2 further characterized by each of said hingedly connected lapped ears having slip joint means enabling adjustment of the channel width to accommodate body parts having variable thicknesses.

5. In an applicator for applying a tubular bandage of guaze-like inherently elastic and stretchable material about an elongated part of the body, a pair of elongated generally complementary coactive applicator shell members intermediately pivotally connected and having normally spaced apart rear portions arranged to be manipulated toward one another and respective forward portions arranged to be spread apart as a result of movement of the rear portions toward one another, said forward portions being of confronting channel-form cross-section and providing therebetween in the spread apart relationship a generally tubular clearance for receiving endwise therebetween and in spaced clearance relation an elongated body member to be bandaged, said forward

portions being receptive thereabout of a tubular bandage characterized as aforesaid threaded thereover from the tips of said forward portions and the spreading apart of said forward portions by compressing of the rear portions toward one another stretching the bandage proportionally for telescoping over the member that is inserted freely between the spread apart forward portions, said forward portions having thereon side structure to increase the bandage gripping area and thus assure proper spreading of the tubular bandage for free telescopic reception of the body member, the applicator being adapted to be withdrawn relative to the body member while the end of the tubular bandage is held in place about the body member after being slipped off of the ends of said forward portions and the bandage being grippingly tensionable about the body member by drawing on the applicator during withdrawal of the bandage onto the body member while maintaining the bandage spread apart by said compression of said rear portions and spreading apart of said front portions of the applicator, the applicator being movable in a bandage retroverting telescoping movement relative to the bandaged portion of said body member and during such retroverting movment being turnable to tension the retroverted portion of the bandage as it is applied over the first layer of the bandage to thereby tighten the bandage in place on the body member.

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