

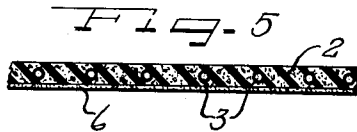
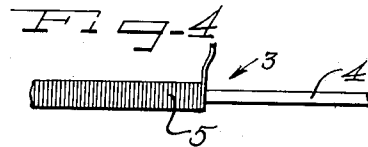
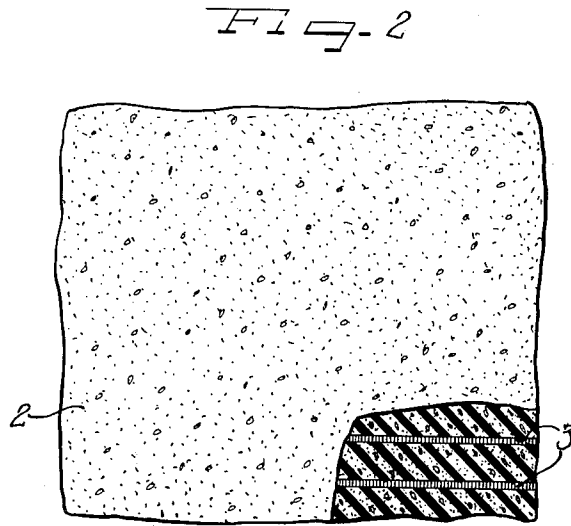
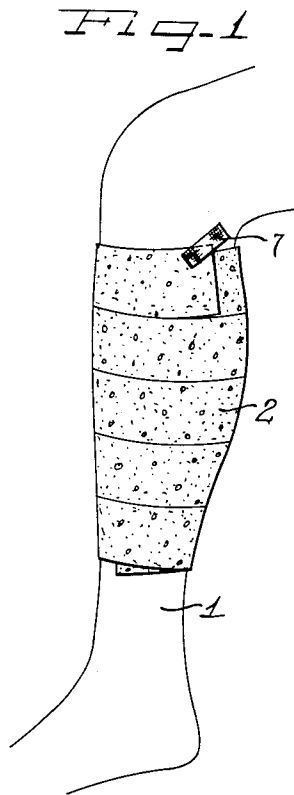
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STRETCHABLE AIR-PERVIOUS BANDAGE

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## STRETCHABLE AIR-PERVIOUS BANDAGE

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3 Claims. (Cl. 128—156)

This invention relates to improvements in a stretchable air-pervious bandage and more particularly to a bandage highly desirable for use in the treatment of leg varicosities, circulatory disturbances, sprains, injuries to joints and muscles, and in various cases where a compression or constriction bandage is desired, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

In the past, many and various types of compression bandages have been developed, but these formerly known bandages have been objectionable in a number of respects. For example, in most cases they were objectionably expensive. In other instances, they were not as cool as desired, were not porous, were not controllable as to applied tension in the bandage, and in many instances were subject to slippage.

With the foregoing in mind, it is an important object of the instant invention to provide a bandage that is long lived and durable, and wherein the amount of stretch utilized in the application of the bandage may be controlled so as to govern the amount of compression on the part of the body around which the bandage is applied.

Also a feature of this invention is to provide a stretchable porous bandage.

Still another object resides in the provision of a stretchable bandage that is cool and comfortable to the wearer, and may be laundered when desired.

It is also a feature of this invention to provide a stretchable bandage comprising a sheet of foam latex interiorly reinforced with elastic elements.

Another feature of the invention resides in the provision of a stretchable or compression bandage comprising a sheet of foam latex pervious to air, and interiorly reinforced with rubber-like stretchable elements to give the foam latex sheet strength to withstand both stretching and compression throughout repeated usage.

It is also a feature of the invention to provide a stretchable bandage of foam latex or the like having stretchable reinforcing elements embedded therein sufficiently deeply as not to appear on either surface of the bandage, there being a thickness of foam latex on each of the opposite sides of the reinforcing elements.

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 diagrammatic illustration of a bandage embodying principles of the instant invention, showing the same in operative position around a human leg;

Figure 2 is an enlarged fragmentary face view of the bandage itself, with parts broken away to illustrate the interior construction of the bandage;

Figure 3 is an enlarged fragmentary vertical sectional view through the bandage;

Figure 4 is a greatly magnified fragmentary showing of one of the reinforcing elements utilized in the bandage; and

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Figure 5 is a view similar in character to Fig. 3, but showing the application of an adhesive surface to the bandage.

As shown on the drawings:

In Fig. 1, the illustrated embodiment of the instant invention is shown applied around a human leg 1 in the manner in which it would be utilized to correct and relieve varicosities of the leg. The bandage itself comprises a sheet or strip of foam latex 2 which provides an exceptionally comfortable soft and yielding contact with the body of the user. At the same time, the foam latex provides a clinging action against the flesh of the user, that is not uncomfortable, but is yet sufficient to prevent slippage of the bandage even when applied under tension. Likewise, one surface of the foam latex will not slip against another surface of the same bandage where overlapping occurs.

An important feature of the instant invention is the fact that the foam latex sheet 2 is porous or pervious to air. Foam latex is of course cellular, and the cells are intercommunicative by virtue of the fact that the foam latex is initially made by a whipping process. Consequently, the apertures through the bandage may not pass in a straight line, but in many cases will be the result of the intercommunication of the cells. In most cases, the openings or pores through the bandage will be faintly visible to the naked eye when the bandage is in a non-stretched condition, and obviously the bandage will be more porous when stretched than when in its relaxed state. Thus, regardless of whether or not portions of the bandage overlap when applied to the body, there is ample porosity to admit the passage of air to the skin of the user through the bandage. This adds greatly to the coolness and comfortableness of the applied bandage and tends to eliminate any irritation to a patient having extremely sensitive skin.

In order to increase the strength of the bandage and render it more durable, reinforcing elements generally indicated by numeral 3 are incorporated inside the foam latex sheet 2. These reinforcing elements may be spaced as desired and may be of any desired thickness and any desired tension so as to provide whatever amount of stretch is desired in the resultant bandage. As shown in Figures 2 and 3, the reinforcing elements 3 are spaced elongated generally parallelly aligned uniplanar elastomeric members extending in one direction through the bandage. The reinforcing elements 3 are invisible from either surface of the bandage and do not affect the feel of the surface. They can, however, be felt to some extent when the bandage is compressed, in the event the bandage is not sufficiently thick to prevent that, but in any event the reinforcing elements cannot come in contact with the body of a user.

As seen in Fig. 4, each reinforcing element may satisfactorily comprise what might be termed rubber yarn, and embodies a central core 4 in the form of a strand of rubber or rubber-like elastic material. This core 4 is preferably wound with a soft thread covering as indicated at 5 to make up the entire reinforcing element.

Clearly, the reinforcing elements prolong the life of the latex sheet 2 indefinitely, and they also prevent any accidental overstretching or rupture of the latex sheet.

It will be understood that the bandage may be made in any desirable thickness, and with variations in the strength of the reinforcing elements, so that both heavy and light bandages may be provided for different afflictions.

In Fig. 5 I have illustrated an application of adhesive 6 to one surface of the bandage, in case such may be desired. This adhesive, although preferably of a porous variety, so as not to occlude the passage of air through

the bandage, may be of substantially any desirable material, and is further preferably of the pressure sensitive variety that adheres upon application. The use of the adhesive on one surface of the bandage would, in many cases, prohibit a reuse of the bandage especially if portions were overlapped in the application of the bandage, since the adhesive surface and possibly the non-adhesive bandage surface contacted thereby would be disrupted upon an endeavor to remove the bandage.

It will be especially noted that the bandage may easily and readily be applied at whatever tension is desired, remain affixed to the body at the desired tension, will not slip, provides ample air circulation to the body and the entire bandage is extremely cool and comfortable to the user. In the event the bandage is not provided with the adhesive surface, the bandage may be secured in position by a small adhesive tape anchor which is indicated at 7 in Fig. 1. The bandage may readily be cut to any desired length without resulting in frayed edges, and may be laundered whenever deemed necessary. Owing to its exceptional long life, the bandage is extremely economical.

The novel bandage embodied in this invention may be made by utilizing two initially separate foam latex sheets of substantially half the resultant desired thickness. The reinforcing elements are placed between the sheets, preferably in a non-stretched condition, and then the two sheets united between and around the reinforcing elements, as well as to them, by the use of a simple rubber cement or by a vulcanizing process.

It should also be understood that the bandage may be molded, if so desired, by fixing the reinforcing elements in proper position, in a suitable form of mold, then pouring the latex in the mold, and permitting it to cure around the reinforcing element.

The bandage may be made initially in a sheet of any desirable width, such as three to four feet, and then divided into various bandage widths by any suitable slitting machine.

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. A stretchable air-pervious bandage having intercommunicating cells, consisting of a foam latex air-pervious sheet, and a plurality of spaced elongated and unitary elastomeric members embedded within said sheet

to reinforce the same and so as to be substantially invisible from either side of said sheet, said elastomeric members being arranged parallel with one another and extending only longitudinally of said sheet to stretch therewith.

2. A stretchable bandage usable where a compression or constriction bandage is desired, which consists of an elongated strip of foam latex having intercommunicating cells rendered the sheet air-pervious, a plurality of substantially equally spaced unitary elastomeric members embedded within the strip, said members extending only in one direction paralleling each other and the longitudinal edges of said strip, and an adhesive surface of one side of said strip.

3. A stretchable bandage usable where a compression or constriction bandage is desired, which consists of an elongated strip of foam latex having intercommunicating cells rendering the sheet air-pervious, a plurality of substantially equally spaced unitary thread-like elastomeric members embedded within the strip, said members extending only in one direction paralleling each other and the longitudinal edges of said strip, and said members being separated individual strands of rubber yarn.

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