

July 28, 1953

W. M. SCHOLL

2,646,797

STRETCHABLE STOCKING OR BANDAGE

Filed Feb. 2, 1950

Fig. 1

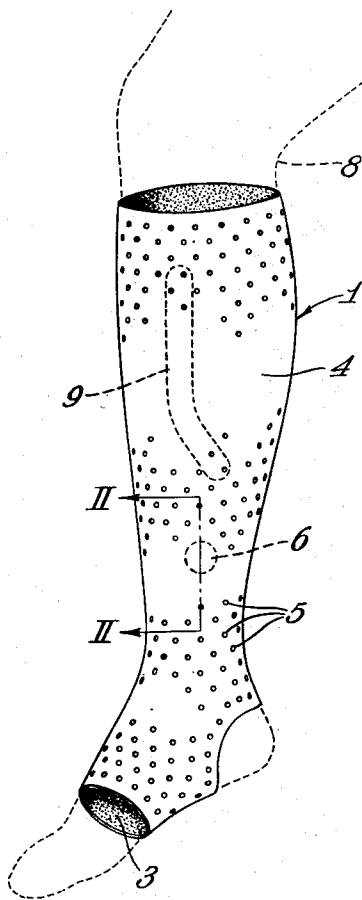


Fig. 2

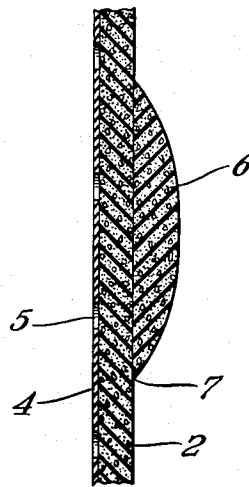
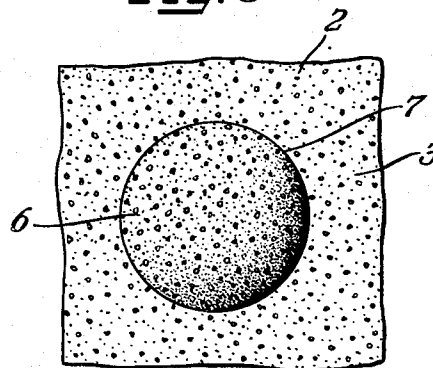


Fig. 3



Inventor
William M. Scholl

by *John D. Scholl*

Attys

UNITED STATES PATENT OFFICE

2,646,797

STRETCHABLE STOCKING OR BANDAGE

William M. Scholl, Chicago, Ill.

Application February 2, 1950, Serial No. 142,026

7 Claims. (Cl. 128—165)

1

This invention relates to improvements in a stretchable stocking or bandage, and more particularly to a tubular stocking or bandage of stretchable or elastic material applicable over the arms or legs of a wearer to exert a yielding pressure against the parts of the body embraced, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

A stocking or bandage of the character herein set forth is highly desirable in the corrective treatment of varicose veins and other afflictions where a soft yielding yet positive pressure correction is indicated.

In the past many and various types of elastic bandages or stretchable stockings have been developed and utilized in the treatment of varicose veins and other afflictions requiring a pressure correction. In every instance of which I am aware, such bandages were difficult to maintain in a sanitary condition, and wherein a stocking or tubular device was employed, the device applied equal pressure to all parts embraced by it, with no concentration of pressure at certain points or areas where additional pressure is clearly desirable. Further, devices of this character heretofore known were prone to lose their elasticity after an objectionably short time and this was especially true if they were removed and replaced frequently. In addition, devices heretofore developed and utilized for the same general purpose were objectionably difficult to launder, if at all capable of such treatment, were easily discernible when worn, and in many cases were objectionably expensive as well as uncomfortable to the user.

With the foregoing in mind, it is an important object of the instant invention to provide a stretchable stocking or bandage made entirely of a resilient stretchable material.

Another object of this invention is the provision of a stretchable stocking or bandage having a smooth exterior surface whereby the bandage will offer no drag to articles of wearing apparel put on or taken off over the bandage.

It is also a feature of this invention to provide a stretchable stocking or bandage providing a soft yielding pressure to the part of the body enclosed in the device and which is so constructed as to provide adequate ventilation.

Still another feature of the invention resides in the provision of a stretchable stocking or bandage which may be easily put on or taken off, and which may be laundered or washed whenever and as often as may be desired with

2

no loss in the stretching and contracting powers of the device.

It is also an object of this invention to provide a stretchable stocking or bandage having added pressure padding on the interior thereof, shaped and sized to provide additional pressure in predetermined locations.

Still a further object of the invention is the provision of a stretchable stocking or bandage made entirely of rubber or rubber-like material, and so constructed as to be adequately ventilated, and adapted for the application of additional pressure in predetermined locations or areas as may be indicated by the particular affliction of a patient.

It is still a further object of this invention to provide a stretchable stocking or bandage that may be made of flesh colored material or the equivalent and be substantially invisible when worn.

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 fragmentary pictorial illustration of a device embodying principles of the instant invention, indicating the same applied to the leg of a patient;

Figure 2 is a fragmentary greatly enlarged vertical sectional view through the device of Fig. 1, taken substantially as indicated by the line II—II of Fig. 1, looking in the direction of the arrows; and

Figure 3 is a fragmentary inside face view of the section shown in Fig. 2.

As shown on the drawings:

In the illustrated embodiment of this invention, the device is shown in the form of a preformed tubular stretchable stocking for application to the leg of a patient. It will be understood, of course, that the device may equally as well be made as a preformed tube without any foot or instep strap, and applied over the legs or arms of the patient for the correction of varicose veins, ulcers, and various other types of afflictions requiring a corrective pressure for proper treatment.

A stocking or bandage, generally indicated by numeral 1, is preferably made up mainly of two initially separate pieces of material, namely an inside layer 2 of cellular rubber-like material, preferably foam latex, which is light in weight, and in which the cells intercommunicate with

3

each other and with the open cells on the surface and at the edges of the sheet. This inner layer or sheet 2 of foam rubber or the equivalent may be made of any desirable thickness, depending materially upon the character of the affliction it is designed to correct, and as to how much pressure is needed. The inside surface of the layer 2 will be in direct contact with the skin of the patient or user, and this surface will provide a light clinging action against the skin, not in the least degree uncomfortable, but which aids in maintaining the bandage properly in position against the rubbing of articles of apparel, sudden bumps or scrapes against the leg, and the like.

The device also includes an outer and usually thinner layer or covering 4 which is preferably a sheet of cured latex or other rubber-like material of a highly stretchable character. This material may satisfactorily be what is commonly termed a pure latex gum, of the general character of rubber or latex, utilized by dentists for rubber dams. Obviously, the outer layer 4 provides additional corrective pressure, and may be of any desirable thickness so as to vary the additional pressure as required.

As seen clearly in Figs. 1 and 2, the outer layer is preferably provided with numerous apertures 5 for the purpose of adequate ventilation, there being ample ventilation through the inner foam latex layer 2 by virtue of the intercommunication of the cells in its structure.

In the manufacture of the device, the inner foam latex layer may be fashioned from a flat sheet by cutting to a pattern, and then cementing the edges together, or it may be molded in tubular form in predetermined sizes and shapes. Either method is satisfactory, but in some cases the molded form may be more satisfactory because while there will be an adequate number of open cells on the inner surface of the molded layer for ventilation purposes, there will also be a smoother surface by virtue of the so-called skin effect provided by the mold, and this smoother surface may under many circumstances be more comfortable to the patient. Such a smooth surface would be in contrast to the rougher exposed surface resulting from the slitting of a flat sheet of material to provide an inner layer of the desired thickness.

The inner layer may readily be cemented to the outer layer 4 so as to permanently unite the layers into substantially an integral whole.

A very important additional feature of the instant invention resides in the provision of means for applying still more pressure over and above that provided by the layers 2 and 4 at predetermined points or areas in accordance with the needs of a particular patient. In the case of a varicose vein, for example, where there is a badly congested or swollen area of the vein or where it is desired to apply additional pressure along a length of the vein, an added pressure pad may be provided inside the stocking or bandage. By way of example, in Figs. 1, 2 and 3, I have illustrated the application of a pressure pad 6 which also may satisfactorily be formed of foam latex. In the illustrated instance, the pad 6 is of generally circular contour, but is thicker in the central region than elsewhere, tapering in all directions from the center to a relatively fine circumscribing edge 7. This pad may be removably or permanently attached at the proper and predetermined location to the inside face of the inner layer 2, adhesively or in any other

4

equivalent manner. Obviously, the pad may be of any desired thickness depending upon the degree of additional pressure desired. With this arrangement, there will be a noticeable additional pressure applied to a badly congested area of the body beneath the pad 6.

Another example of added pressure padding is illustrated generally in Fig. 1 of the drawings wherein the bandage is shown in the form of a stocking embracing a leg indicated by dotted lines 8. In the case of a varicose vein wherein additional pressure is indicated in a manner following the course of that vein for some distance, an elongated irregular shaped pad 9 may be used, this pad 9 being satisfactorily made of the same material as the pad 6, and secured in position in the same manner. Thus, there will be additional pressure over an elongated area as may be needed.

Obviously, pads of any desirable shape and size may be utilized to provide such additional pressure wherever needed.

It will be especially noted that the stocking or bandage will retain its elasticity indefinitely by virtue of its all-sheet construction as distinguished from the woven or knitted stockings or stretch bandages used heretofore. The stocking or bandage is also easily removed and replaced without loss of elasticity, and may be washed or otherwise laundered or sterilized whenever it is deemed necessary. It will also be noted that the entire device may be made flesh colored so as to be substantially invisible when in use. The device is economical to manufacture, and highly economical in use by virtue of its long life. Further, the device may readily be manufactured to provide a light or strong pressure, but the pressure will be soft and yielding in character regardless so that the device is extremely comfortable to the patient, and additional pressure may be provided wherever needed in particular areas or locations in a simple and ready manner.

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

I claim as my invention:

1. A tubular bandaging device, including an inner layer of foam latex, and an outer layer of impervious latex sheet having numerous apertures therein.

2. A bandaging device, including an inner layer of foam latex with intercommunicating cells, and an outer layer of rubber-like sheet material having numerous apertures therein for ventilation in conjunction with the cells in the inner layer.

3. A tubular bandaging device, including an inner layer of elastic and resilient material, and an outer smooth-surfaced layer of impervious rubber-like sheet material having numerous apertures therein.

4. A tubular bandaging device, including a pre-formed tube of elastic material, and a pad of the same material as said tube permanently connected to the inside of the tube at a predetermined location to provide additional pressure at such location.

5. A tubular bandaging device, including a pre-formed tube of elastic material, and a pad of the same material as the tube attached to the inner face of the tube at a predetermined location to provide additional pressure at such location, said pad having an area and shape in accordance with

the region of the body requiring additional pressure.

6. In a pressure applying bandaging device, a tubular inner layer of foam latex, an outer layer of resilient sheet material apertured for ventilation and united with said inner layer, and a pad of the same material as and disposed inside said inner layer in a predetermined location.

7. In a pressure applying bandaging device, a tubular inner layer of foam latex, an outer layer of resilient sheet material apertured for ventilation and united with said inner layer, and a pressure pad disposed inside said inner layer in a predetermined location, said pad having a shape consistent with that of the region of the body where concentrated pressure is indicated.

WILLIAM M. SCHOLL.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
315	Thompson -----	July 29, 1837
1,066,480	Finlay -----	July 8, 1913
1,916,298	Brohman -----	July 4, 1933
2,100,029	Gammeter -----	Nov. 23, 1937
2,356,354	Rodman -----	Aug. 22, 1944
2,449,410	Polinsky -----	Sept. 14, 1948

FOREIGN PATENTS

Number	Country	Date
206,271	Great Britain -----	Nov. 8, 1923