

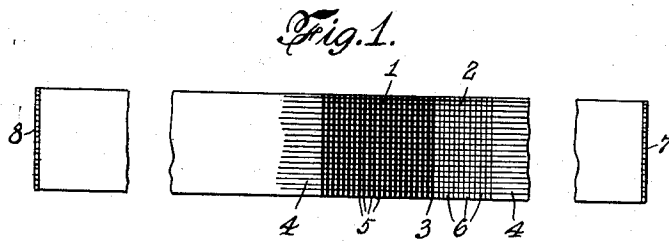
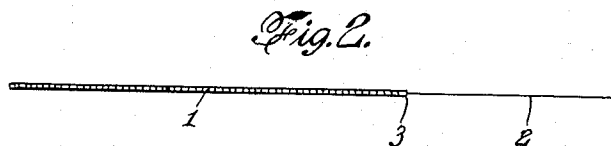
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PRESSURE BANDAGE

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PRESSURE BANDAGE

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1 Claim. (Cl. 139—421)

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The present invention deals with a pressure bandage and particularly with an elastic compression bandage.

Pressure bandages or elastic compression bandages have been used for treating phlebitis and other circulatory disturbances of the venous system. The treatment includes the utilization of compression bandages, e. g. ambulatory pressure bandage therapy, whereby the application of suitable pressure on the legs by means of compression bandages restores normal circulation of the blood by increasing the pumping action of the contractions of the leg skeletal muscles on the veins during leg exercise.

There are various types of elastic pressure bandages. Some are rendered elastic by having rubber or other elastic means incorporated into the bandage fabric to increase the fabric elasticity. Such type of bandage cannot be applied tight enough without constricting compression on the leg during muscular movement. Other types are rendered elastic by high twist yarn or covered rubber strands whereby the weave offers a uniform elasticity throughout the bandage.

It is an object of the present invention to provide an elastic compression bandage capable of providing different degrees of compression without constriction. It is another object of the present invention to provide an elastic compression bandage capable of providing different degrees of compression without excessively stretching any part of the bandage. It is a further object of the present invention to provide an elastic compression bandage which is rendered elastic by virtue of high twist yarn or covered rubber strands and the weave of the bandage. It is a still further object of the present invention to provide an elastic weave compression bandage capable of elongation without narrowing, and capable of conforming to any contour. Other objects and advantages of the present invention will become apparent from the description hereinafter following and the drawing, forming part hereof, in which:

Fig. 1 illustrates an elevational top view of the bandage, and

Fig. 2 illustrates an elevational edge view of the bandage according to the present invention.

The muscles and veins in the calf of the leg comprise a venous pump for the foot and leg, and the calf of the leg is hereinafter referred to as the venous pump. When the calf is bandaged firmly the venous pump action is increased during function, or ambulation, provided the ankle and foot from the base of the toes is also

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bandaged with some pressure. Otherwise, if only the venous pump area is compressed or bandaged, the lower leg, i. e. the ankle and foot, will become edematous. This presents two problems.

First, the venous return to the heart must be increased by the application of external compression to the venous pump area without constriction or else the pump action is not efficient. Second, the lower leg must be under some compression, also without construction, to allow good function, i. e. ambulation, and to prevent edema.

In accordance with the present invention, we have provided a continuous combination elastic compression bandage wherein one portion of the bandage is more elastic than the other portion and each portion being capable of providing a compression different from the other without excessive stretching of either portion.

Fig. 1 illustrates the continuous combination elastic compression bandage comprising at least two sections or portions 1 and 2, each made of a woven fabric of fibrous material, e. g. yarn of cotton, rayon, covered rubber, etc., or strands of plastic.

The sections 1 and 2 are combined or connected, e. g. at 3, by continuous weaving of elastic yarn, under and over across substantially parallel filling strands of non-elastic yarn 5 and 6, which are positioned across the width of the bandage, while the elastic yarn runs along the length of the bandage. The elastic warp yarn 4 is anchored along the longitudinal edge of the bandage, e. g. as the result of a selvage edge, and at the terminal ends 7 and 8 of the bandage are likewise, preferably anchored, e. g. by stitching or the like.

In order to render one section 1 less elastic than the other section 2, the less elastic section, i. e. the section 1, is provided with filling strands 6 of section 2. By non-elasticity of the filling strands as herein set forth, we mean a sidewise non-elasticity. When the bandage is stretched, the elongation of the section 1 is less than that of section 2 because the cushioning effect obtained with the heavier strands in section 1 is greater than that obtained with the thinner strands of non-elastic yarn in section 2. The cushioning effect of the thicker strands not only limits elongation more than do the thinner strands 6, but also provides the bandage with a greater compressive force without excessively stretching the elastic yarn.

Although the two sections 1 and 2 may differ in elasticity and compression when applied because one section is provided with heavier non-

elastic yarn than the other section, whereby one section of the bandage is of less thickness than the other, such as illustrated by Fig. 2, the same advantageous characteristics may be provided by having both sections made with non-elastic yarn of equal thickness, provided the non-elastic yarn of one section is softer or more cushiony than the other, e. g. has a greater cushioning effect than the other. Also, one of the sections may be provided with non-elastic textile strands other than yarn.

A preferred form of the bandage herein described comprises a length of bandage wherein the more elastic or thinner section 2 has a length less than that of the less elastic or thicker section 1. For example, the more elastic section has a length about one-third the total length of the bandage since the foot and ankle area requires a shorter bandage length than the calf of the leg.

By providing a continuous weaving of the elastic warp strands 4, such that the union of the two sections 1 and 2 is bridged by a continuous weave, we provided the added advantage that the elastic junction will elongate and retract according to the muscular movement, whereby the joined end portions of the respective sections will not become dislocated to cause a loosening of the bandage.

The preferred type of bandage is one in which the entire fabric is made of cotton yarn. Naturally, the yarn or strands may also consist of other materials, as above indicated; e. g. the filling yarn may be rayon, or e. g. the elastic component may consist of or comprise covered rubber strands.

What we claim is:

An elastic textile bandage comprising substantially parallel non-elastic fibrous filling strands and elastic fibrous warp strands, said filling strands being lengthwise non-elastic and transversally cushionable, said filling strands being positioned across the width of said bandage, said elastic strands being lengthwise elastic and woven under and over across the filling strands, said bandage being a combination of two bandage sections united by means of the continuous weave of said elastic strands, the filling strands of one section being thicker than the filling strands of the other section, the section having the thicker filling strands is longer than the other section and is rendered less elongatable than the other section.

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