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**"VINYON" BANDAGE AND METHOD OF
MAKING AND SETTING IT**Abby Henry Weiswasser and Frederick
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3 Claims. (Cl. 128—156)

One of the main objects of this invention is to devise a novel bandage and a novel method of making it from "Vinyon" yarns with which yarns of other textile fibers may be combined to form a fabric. The bandage is wound around the part to be treated, with a desired tension, and then set by a chemical or combination of chemicals which have a contracting action on the "Vinyon." "Vinyon" is a mixed polymer of vinyl chloride and vinyl acetate. This setting action can be controlled to produce any desired stiffness of the bandage and the bandage after setting may have sufficient elasticity to permit the free use of the muscles around which the bandage has been placed. The bandage is thus particularly adapted for use with sprains, displacement of parts or fractures, and in all cases where a bandage, elastic stocking, brace tourniquet, or cast is desirable.

It has heretofore been proposed to coat rubber yarn or strands with "Vinyon," but in so far as we are aware this has not been successfully done to make a uniform coating of "Vinyon," due apparently to having the "Vinyon" in a dry condition and to static electricity produced during the winding of the "Vinyon" around the rubber. The particles of "Vinyon" float or fly away without adhering to the rubber and the coating has not been uniform.

We have found as a result of numerous experiments that if the "Vinyon" is applied in a moist condition, for example by a flier revolving around the rubber core, a uniform covering can be applied to the elastic core of the "Vinyon" covered yarn.

A further object of the invention is to devise a novel elastic fabric and a novel method of contracting or setting the "Vinyon" and preventing the stretching of the elastic core of the yarn from which the fabric is woven, knitted or braided.

With the above and other objects in view as will hereinafter clearly appear, our invention comprehends a novel bandage and a novel method of making and setting it.

Other novel steps of the method and features of advantage will appear in the detailed description and the appended claims. The elastic core formed of rubber strands is preferably covered by winding the "Vinyon" yarn or thread in a moist condition around the rubber, with the latter stretched to a desired degree. The "Vinyon" can also be applied to the rubber core in the form of flock. A suitable and preferably sanitary adhesive is applied to the rubber core, preferably

with the core in a stretched condition, and the core is then passed through a chamber containing "Vinyon" flock introduced under pressure such as for example air pressure.

5 We prefer to use in bandages about twenty per cent of "Vinyon" covered yarn which extends preferably longitudinally of the bandage to provide for longitudinal stretch. The remaining eighty per cent of the yarn of the bandage is
10 "Vinyon" yarn or "Vinyon" combined with cotton, wool, silk, jute, sisal or other fibers in such proportion that the desired setting of the bandage will not be prevented.

The fabric is made by a weaving, knitting or
15 braiding operation while the rubber core of the "Vinyon" covered yarn is stretched to a desired degree. The fabric may have any desired number of threads to the inch, and it may be of any desired width or length.

20 When used as a bandage for form fitting on an image or on the human body, as a brace, tourniquet, stocking and etc., it is set or contracted to the desired degree of elasticity depending on the amount of retarder used with the setting agent.

25 When applied as a bandage, for example, it is wound around the part to be treated and the outer free end secured to the body portion of the bandage. The bandage is then set to the desired degree of stiffness by pouring over it or wetting it with a setting agent or agents. We have found
30 that acetones or acetates with the proper amount of retarder give satisfactory and reliable results. Among the many setting agents which may be employed are acetone or acetates with water;
35 acetone or acetates with alcohol; acetone or acetates with ether; formaldehyde; and in fact any chemical or chemicals which will contract "Vinyon" and are not harmful to the skin.

The degree of stiffness or elasticity can be accurately controlled by regulating the amount of
40 retardant used with the setting agent.

A bandage as herein disclosed has the characteristics of being sterile, germ repellant and non-adhesive to the skin. Due to the interstices
45 in the fabric, air can pass to the part bandaged and medicinal preparations can pass to the part being treated without removal of the bandage.

A very satisfactory bandage is produced when the "Vinyon" covered rubber is used with the rest
50 of the fabric of "Vinyon." The proportion of "Vinyon" used in the fabric, yarn, or bandage may vary in many different ways in the manner in which it is incorporated therein. We have found that where four warps, for example, are used good results are obtained if two of them have an

elastic core covered with "Vinyon," either alone or combined with other fiber, and if the elastic core is omitted in the other two warps. The elastic core may be covered with other fibers than "Vinyon," with "Vinyon" or with "Vinyon" 5 combined with other fibers. The other yarns incorporated in the fabric may be all of "Vinyon" or only some of them of "Vinyon," or other fibers or of "Vinyon" combined with other fibers. The 10 controlling factor is to use sufficient "Vinyon" to obtain the desired contraction and setting of the fabric or bandage. We have found that good results can be obtained if forty percent of "Vinyon" or more is incorporated in the fabric. The 15 larger the percentage of "Vinyon" used the greater is the contraction which can be obtained when the bandage is set by the application of a setting agent.

Having thus described our invention, what we claim as new and desire to secure by Letters 20 Patent is:

1. The method of making and setting a bandage, which consists in covering rubber strands, while in a stretched condition, with "Vinyon" in a moist condition to form yarns with elastic 25 cores, forming a fabric having included in its yarns the "Vinyon" yarns having elastic cores,

and contracting and setting the "Vinyon" of the "Vinyon" covered cores around such elastic cores by the application of a "Vinyon" setting agent to the bandage, while in place around a part to be treated, to control the elasticity and stretch of the elastic cores.

2. The method of making and setting a bandage, which consists in forming a fabric having included in its yarns, yarns having elastic cores, and yarns containing "Vinyon," winding the bandage around a part to be treated, and, thereafter, applying a "Vinyon" setting agent to the bandage to contract and set it and limit the elasticity of the elastic cores.

3. The method of making and setting a bandage, which consists in forming a fabric of "Vinyon" yarns having elastic cores and of yarns of "Vinyon," applying the bandage to a part to be treated contracting and setting the "Vinyon" in the bandage by the application of "Vinyon" setting agent containing a retardant, and controlling the elasticity of the elastic cores and the contraction and setting of the "Vinyon" by the amount of retardant used with the setting agent.

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