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W. M. SCHOLL
ADHESIVE TRACTION BAND
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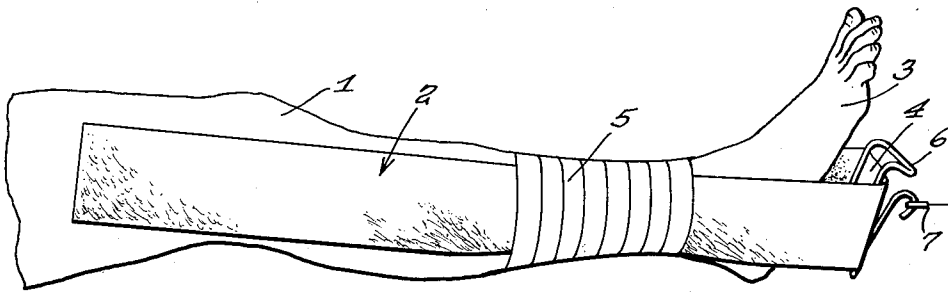


FIG. 1

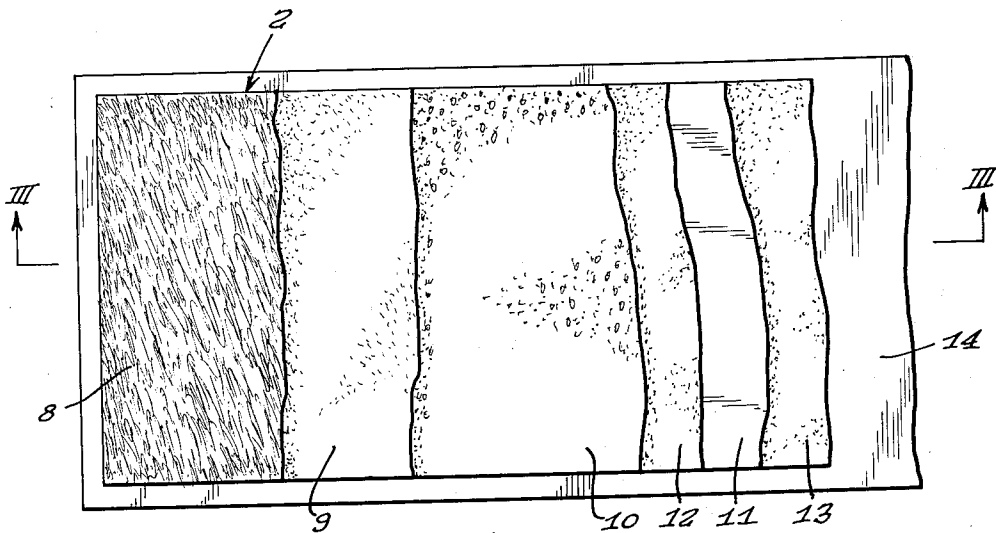


FIG. 2

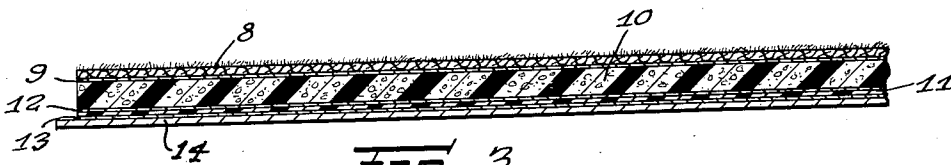


FIG. 3

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ADHESIVE TRACTION BAND

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4 Claims. (Cl. 128-84)

This invention relates to improvements in an adhesive traction band for application to fractured limbs of patients, the band being adhesively attached to the limb and tension applying means connected to the band for traction purposes after setting of the fracture, although the band may have other uses and purposes as will be apparent to one skilled in the art.

In the past, many and various ways and means of connecting tension applying mechanism or devices to the fractured limb of a patient to provide adequate traction have been developed, but in most cases these formerly known ways and means have necessitated excessive bandaging of the limb, an excessive use of the commonly known surgical adhesive tape to which many patients are allergic and the use of which frequently resulted in painful skin eruptions beneath the tape, and the means attached to the limb of the patient were frequently objectionably difficult to apply. Further, formerly known bandages or wrappings for a fractured limb were not as soft and yielding as desired, and did not have added cushioning properties to add to the comfort of the patient during the period of applied traction. In other cases, with formerly known traction bandaging means, objectionable difficulty was experienced in attaching a spreader block or other suitable element for connection with the tension applying apparatus.

With the foregoing in mind, it is an important object of the instant invention to provide an adhesive traction band of soft yielding material having added cushioning properties and which may be applied in operative position merely by pressing the adhesive surface of the band against the limb of the patient.

Another object of the instant invention is the provision of an adhesive traction band that is readily and easily applied to the limb of a patient and which readily conforms to any depressions or bony protuberances of the limb.

It is also a feature of this invention to provide an adhesive traction band for fractured limbs, which may readily be applied down one side of the limb and up the opposite side of the limb, leaving a free loop around the distal end of the limb in which a spreader block may readily be inserted for connection to the tension applying apparatus.

Still another feature of the instant invention is the provision of an adhesive traction band having added cushioning properties, which may merely be adhesively attached to the opposite sides of the limb, leaving portions of the limb exposed, readily engaged with tension applying apparatus, and requiring only a simple added wrapping of a length of elastic bandage or the like around the smaller part of the limb such as the wrist or the ankle.

A further object of the invention is the provision of an adhesive traction band comprising an outer strip of soft fabric, a thicker strip of foam cushioning material, and a thin plastic film double-faced with adhesive spread and secured to the cushioning material by one of the adhesive faces thereof, the film and the fabric strips preventing any stretching of the foam cushioning layer during use, while permitting the cushion layer to retain all of its cushioning properties as against lateral pressure or accidental contacts.

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 side elevational view of a

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traction band embodying principles of the instant invention attached in operative position to the limb of a patient;

FIGURE 2 is an enlarged fragmentary plan view of the traction band itself, with portions broken away to disclose the parts therebeneath; and

FIGURE 3 is a fragmentary transverse vertical sectional view through the band taken substantially as indicated by the line III—III of FIG. 2, looking in the direction of the arrows;

As shown on the drawings:

In FIG. 1 of the drawings I have illustrated the use of the traction band embodied in the instant invention for the purpose of applying traction to a fractured leg. Obviously, the band would be used in similar manner for a fractured arm. Assuming that the fracture of the leg 1 has been set, the band generally indicated by numeral 2 is adhesively applied down one side of the leg, the intermediate portion of the band is left around the foot 3 or distal end of the limb in the form of a free loop 4 out of contact with the foot, and the band is applied up the opposite side of the leg to substantially the same extent as it is on the first said side. After the bandage is so applied, which is accomplished in a quick and facile manner, it is desirable to wrap a length of elastic bandage 5 around the smaller portion of the limb, in this instance the ankle, and over the applied traction band. It is then a very simple expedient to insert a spreader block 6 in the free loop 4 of the band and connect the spreader block to any suitable tension producing apparatus as indicated at 7 for the application and maintenance of the required amount of traction to the fractured leg.

The traction band 2, in the illustrated embodiment of this invention, is preferably made of laminations including laminations of soft material and is preferably non-stretchable lengthwise. The outer strip or lamination of the traction band is preferably a soft fabric and a highly napped fabric such as moleskin is very satisfactory for this purpose, with the napped surface of the moleskin outermost. Such a material provides a non-slip or conversely, a lightly gripping surface, whereby the elastic band 5 engages with the napped surface of the moleskin and the possibility of slippage of the elastic band is thereby eliminated.

Laminated to the inner face of the fabric strip 8 by a layer of adhesive 9 or in any other suitable manner is a thicker strip of cushioning material. This strip may satisfactorily be of foam material, such as foam latex, polyvinyl foam, polyurethane foam, or the equivalent and has intercommunicating cells in its structure. The foam strip 10, particularly if a plastic or chemical foam, has great shock absorbing powers, high restorative powers, is not adversely affected by body perspiration or medicaments and other liquids or ointments that might accidentally be spilled upon the band while it is in use. Further, this material molds itself to the contours of the limb, conforming to any depressions or bony protuberances and provides excellent cushioning for sensitive areas with a minimum of bulk and weight.

It is desirable to provide the foam strip 10 with an adhesive surface, preferably of the pressure-sensitive character, and a satisfactory way of accomplishing this as well as preventing any stretch of the foam layer when in use is the utilization of a thin plastic film 11 which is provided with an adhesive spread on both faces thereof as indicated at 12 and 13. This plastic film may be acetate, vinyl, or any suitable substance, a very satisfactory material being a polyester film such as a polyethylene terephthalate resin film which has outstanding tensile strength and may be made extremely thin, this material being obtainable in various thicknesses ranging from 0.00025 to 0.0075 inch. By using a film of this character, ample strength to resist stretching is provided and

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at the same time the bulk of the traction band is materially reduced.

While other materials might be used in the production of the traction band, those materials specified above render the entire traction band hypoallergenic.

The traction band may be sold in rolls of considerable length, drawn out of a sterile package and cut off at a desired length for each particular patient, or it may be sold in various standard sizes of predetermined widths and lengths. Preferably, the bandage is packaged with a protective sheet 14 over the exposed adhesive surface 13, and this protective sheet may be of any suitable material that will leave the adhesive surface in its original condition when removed, such as glassine paper, parchmentized paper, plastic coated paper, etc.

When it is desired to utilize the bandage, it is merely necessary to take a strip of the desired length and width for the particular patient, strip off the protective sheet 14, which is discarded, and apply the band to the limb of the user in the manner above described. It will be noted that when the traction band is applied to the limb, much of the limb is exposed and free of adhesive contact and only a very minimum of bandaging, such as the elastic bandage 5 of relatively short length, is needed. Of course, the limb may be covered with any suitable material in case warmth is necessary. At the same time, while the traction is in effect any sensitive areas are effectively protected by the traction band and the cushioning layer 10 effectively guards against any accidental rubbings, jars or bumps, and readily absorbs any shocks since the entire traction band while possessing more than ample tensile strength, is nevertheless extremely soft.

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:

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1. A surgical traction band comprising an elongated strip of moleskin, a thicker strip of foam cushioning material laminated to the inner face of the moleskin strip, and a plastic film double-faced with adhesive secured by one adhesive face to the inner face of said cushioning material.

2. A surgical traction band, comprising an elongated strip of moleskin with the napped surface thereof outermost, a thicker strip of foam having intercommunicating cells laminated to the inner face of the moleskin, and a thin plastic strip of high tensile strength having an adhesive spread on both faces thereof and secured by one adhesive face to the foam strip.

3. A surgical traction band, comprising an elongated strip of soft fabric, a thicker strip of cushioning material underlying and laminated to said fabric strip, and a thin strip of material having high tensile strength in comparison with the other said strips and double-faced with pressure sensitive adhesive secured to the exposed side of said cushioning strip by one of its adhesive faces.

4. A surgical traction band, comprising an elongated strip of soft fabric, a thicker strip of cushioning material underlying and laminated to said fabric strip, and a plastic film of high tensile strength double-faced with adhesive secured to said thicker strip by one adhesive face.

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