Nov. 25, 1969 J. A. SMITHERS ET AL 3,480,012

BANDAGE WRAP

Filed Feb. 27, 1967

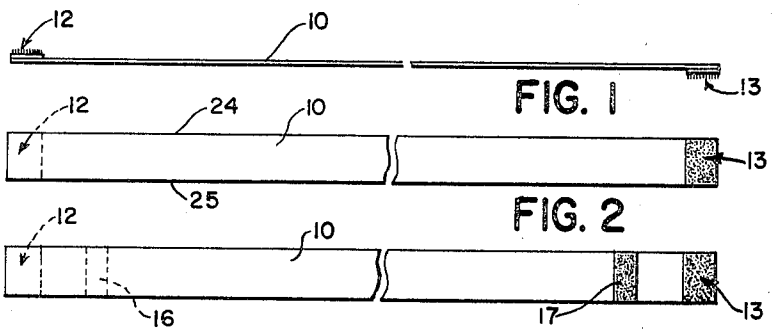

FIG. 1

FIG. 2

FIG. 7

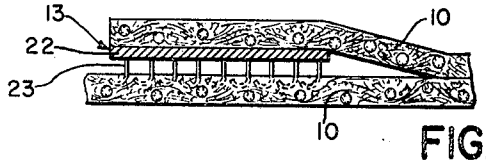

FIG. 3

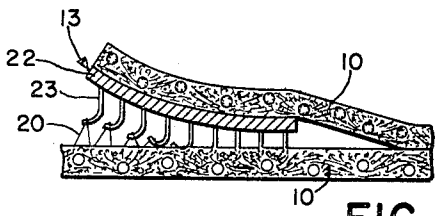

FIG. 4

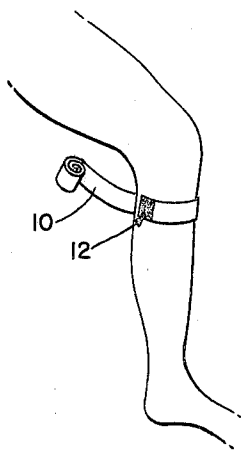

FIG. 5

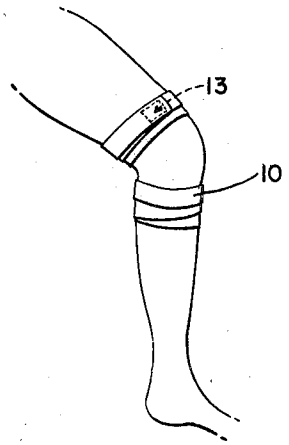

FIG. 6

INVENTOR.
JOHN A. SMITHERS &
WILLIAM A. MURRAY

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BANDAGE WRAP

John A. Smithers, 741 23rd Ave. Court, and William A. Murray, 3205 15th St. A, both of Moline, Ill. 61265

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Int. Cl. A61f 13/06; A61m 15/00
U.S. Cl. 128—165 6 Claims

ABSTRACT OF THE DISCLOSURE

A fabric wrap composed of an elongated fabric having exposed crimped fibers on opposite sides thereof and further having patches of minute hook elements projecting from opposite surfaces at opposite ends of the wrap adapted to engage and grip the crimped fibers of the wrap upon their coming into contact with a surface of the wrap. A pair of patches of hook elements on at least one end of the fabric wrap and relatively closely spaced apart lengthwise of the wrap and on the same side thereof.

BACKGROUND OF INVENTION

Field of invention

The present invention relates to an improved bandage or wrap used in athletic and medical fields and which does not require a tape or other tacky material to hold the wrap on the body.

Description of the prior art

In U.S. Patent 3,255,749 which issued to John A. Smithers on June 14, 1966, there is shown and described a bandage or wrap composed of a fabric surface on one side and a soft rubber liner on the opposite side. There is provided on the liner side of the wrap patches of minute hook elements that project therefrom and may be imbedded in the fabric side of the wrap. The patch at the initial end of the wrap is placed a distance equal to the full turn of the body part to be wrapped so that the wrap may be anchored to the body part after its first turn. The wrap at the opposite end is so placed that the wrap at the end may be anchored to itself by pressing the hook elements into the fabric surface at the end of the final turn. U.S. Patent 3,086,529 shows a bandage in which the hook-like elements are imbedded in a patch having loops projecting therefrom.

In the former of the above types of wraps, the hook elements must project from the soft rubber liner side of the wrap since they must contact the fabric side of the wrap. Consequently, the initial patch must be placed at a distance from the end equal to the distance of the circumference of the part of the body to be wrapped. This limits the use of the particular wrap to one or only a few of the different parts of the body. Also the wrap cannot be reversed so that either end may be the initial or terminal end when placed around a body part. The problem with the other type of wrap is that the patches of hooks and loops must be exactly placed thereby requiring different parts of the body as well as different sizes of each part of the body.

It has further been found that as the bandage or wrap is stretched it tends to pull on the patch and the extreme outer edge of the patch and wrap will often curl outwardly slightly due to this tension in the wrap. With an active person, this creates a condition in which the patch may become loosened.

SUMMARY

With the above in mind, it is the purpose of the present invention to provide a wrap adapted to be wrapped around a body part a multitude of times having crimped fibers on opposite surfaces. On opposite ends and on opposite sides

of the wrap are patches of hook elements that may be imbedded into the surface of the fabric to hold both the initial turn of the wrap on the body as well as anchoring the final or terminal end of the wrap to a surface of the wrap.

It is a further purpose of the invention to provide a pair of patches at the terminal end of the wrap spaced a short lengthwise distance apart so that in the final wrap the patch spaced from the end will resist slippage of the wrap and the patch at the extreme end may be inserted into the fabric surface without tension being applied on the patch.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an edge view of the bandage.

FIG. 2 is a plan view of the wrap as shown in FIG. 1.

FIG. 3 is an enlarged sectional view showing the patch sections in contact with the fabric surface.

FIG. 4 is a view similar to FIG. 3 showing removal of the patch from the fabric.

FIG. 5 is a view showing a body part with the wrap being applied in its initial stages.

FIG. 6 is a view similar to FIG. 5 showing the wrap in its final stage of application.

FIG. 7 is a view similar to FIG. 2 showing a modified form of the invention.

Referring now to the drawings, the wrap is composed of an elongated fabric **10** and a pair of patches or sections **12, 13** on the extreme opposite ends of the wrap and on opposite sides thereof. The fabric wrap **10** itself is composed in its preferred form of synthetic organic fibers generally of the polyamide or nylon class with each fiber being relatively long. The fibers are best indicated in their looped condition at **20** in FIGS. 3 and 4. The organic fibers are woven into a crimped fabrication preferably yieldable in a lengthwise direction. Rubber elements may be inserted in the wrap in a lengthwise direction to give the wrap lengthwise resilience. In the crimped type weave, the individual fibers are generally in relaxed condition and provide short exposed lengths that eventually become the loops **20** shown in FIG. 4, that accommodate or complement the adhering characteristics of the patches or sections **12, 13**. Consequently, the fabric wrap **10** serves not only as a resiliently yieldable basic support, but also as a part of the adhering or locking portion of the wrap.

The patch sections **12, 13** are generally identical in characteristics. They are composed of a base layer **22** of a nylon material. Extending from the surface of the base layer **22** are a multitude of short minute nylon adhering elements **23** with outer hook ends. The patches **12, 13** are male Velcro patches. The elements **23** may also be made of nylon and may yield, bend, or distort upon sufficient pressure being exerted thereon. The hook elements cover the entire areas of the patches **12, 13**. However, the patches are slightly recessed from opposite edges **24, 25** of the wrap.

The method of applying the wrap to the body part, here shown as a knee, is to begin with the anchor or initial end laying against the leg with the patch **12** facing outwardly, and to extend the wrap **10** around the body part so that it is slightly stretched lengthwise. The first step or procedure is best shown in FIG. 5. While the portion is in a stretched condition, the fabric or wrap is laid against the patch **12** with slight pressure so that the hook elements **23** are implanted into the fabric fibers as shown in FIG. 3. This action will anchor the initial end of the wrap on the leg. Wrapping may then continue, using the initial or anchor end as a base to pull against, by crossing above and below the knee at intervals until the entire wrap is used, as shown in FIG. 6, at which time the end patch **13** is pressed into the fabric and the hook elements implanted into the fibers so that the end of the wrap is held in a fixed relation to the remainder of the wrap.

There are several features believed to be important relative to the successful operation of the wrap. Of particular importance is the generally long length of the fibers in the fabric portion **10** of the wrap. The fibers must be of such length that they will operate as complementary to the hook elements **23**. The weave of the fabric must be such that individual elements or fibers are sufficiently relaxed that the hook elements **23** may penetrate beneath the fibers for connection thereto. It is believed necessary that the fibers of the fabric must be at least three-fourths inch long, to obtain the necessary anchoring or adhering characteristic relative to the hook elements.

Important also is the basic feature that there is a complete mechanical adhering between the patches and the wrap. Consequently, the necessity of using tape or adhesive and tacky compounds is not required. As a result, the discomfort of having the body in contact with the compounds is eliminated.

In removing the wrap it is necessary only to pull the end patch **13** substantially as shown in FIG. 5. The hook elements will bend out and the fiber loops **20** will yield or pull out of the fabric until the hooks are detached from the fabric.

In the modified form of the invention shown in FIG. 7 there is provided patches **16, 17** having minute hook elements spaced lengthwise short distances from the respective end patches **12, 13** and on the same side of the wrap **10** as the respective patches **12, 13**. Assuming the wrap is wrapped on the body part so that the patches **13, 17** are on the terminal end or final turn of the wrap, the patch **17** will anchor the final turn to prevent slippage of the wrap. The patch **13**, without being under tension may then be inserted into the fabric and serves only to hold the end of the wrap between patches **17** and **13** onto an outer surface of an inner wrap turn. Consequently, the outer end will not curl as would occur if the patch was under tension. Also, if the patch **13** should become loose the patch **17** would hold and the patch **13** could then be again inserted without any loosening of the wrap. This feature is important when the wrap is used by athletes in contact sports. The patch **16** is provided so that the wrap may be reversed.

The wrap may be used in reverse order at different times. In other words there is no necessity of wrapping or unwrapping the wrap in a specific manner. So long as either of the patches **12, 13** is placed upwardly in the first turn of the wrap around the body part, the remainder of the wrap will function and wrap properly.

What is claimed is:

1. A fabric wrap adapted to wrap around a body part a multitude of times with an initial end portion disposed next to the body, and being composed of a narrow and elongated fabric having crimped fibers exposed to opposite surfaces, patches of minute hook elements on and projecting outwardly from the surfaces of the wrap at opposite end portions thereof with the hook elements projecting from opposite surfaces at the respective opposite end portions, and with the hook elements at the initial end portion of the wrap projecting outwardly in respect to the body part to engage and grip the crimped fibers on an underside of the wrap as it is wrapped around the body, and the hook elements of the part of the patches on the terminal end portion of the wrap projecting inwardly in respect to the body part and adapted to contact and grip the fibers of the outer surface of the wrap that is under the latter patch when the wrap is in its wrapped condition.

2. The invention as set forth in claim **1** in which the patches at each end of the wrap are at the extreme ends thereof whereby the wrap may be reversed to permit either end thereof to be the initial end portion and either end thereof to be the terminal end thereof.

3. The invention as set forth in claim **1** further characterized by the terminal end portion having two patches, one at its extreme end and another spaced from the end a short distance whereby the latter patch will anchor the end portion against slippage and the patch at the extreme end will normally hold the extreme end on the upper surface of an under wrap.

4. The invention as set forth in claim **3** in which the patches at the initial end portion includes a patch at the extreme end and a patch spaced a short distance therefrom whereby either end portion may be the initial end and the terminal end.

5. The invention as set forth in claim **1** in which the fabric is resilient in at least its lengthwise direction.

6. A fabric wrap adapted to wrap around a body part having crimped fibers on its outer surface in respect to the body part being wrapped; and a pair of patches spaced lengthwise along and mounted on the wrap adjacent its terminal end when the wrap is wrapped, with each patch being composed in part of minute hook elements extending inwardly in respect to the body part and adapted to engage and grip the crimped fibers of the wrap surface upon engagement of the patches therewith.

References Cited

OTHER REFERENCES

3,086,529	4/1963	Munz et al.	128—171
3,255,749	6/1966	Smithers	128—169

ADELE M. EAGER, Primary Examiner

U.S. Cl. X. R.

128—171, 157