June 8, 1943. C. J. CROWLEY 2,321,363

ADHESIVE BANDAGE

Filed March 1, 1941

Fig. 1

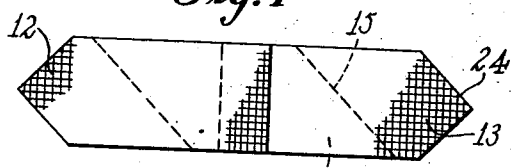


Fig. 2.

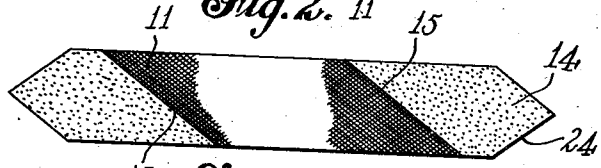


Fig. 3.

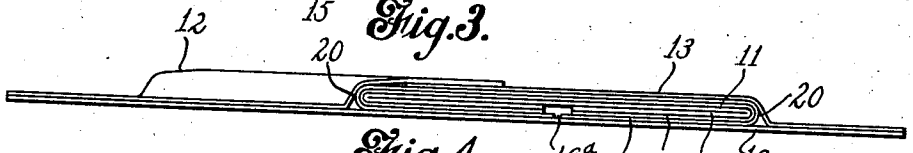


Fig. 4.

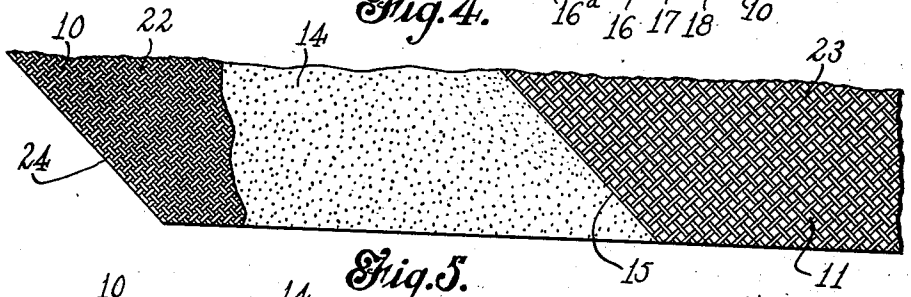


Fig. 5.

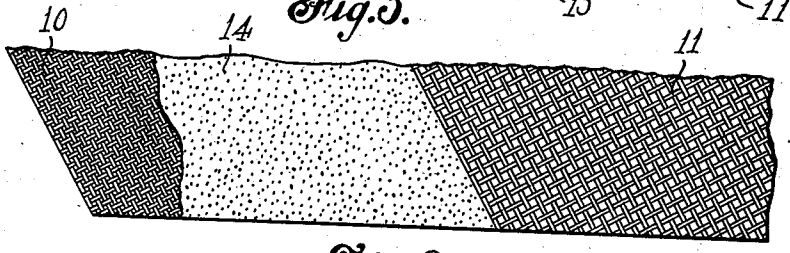


Fig. 6.

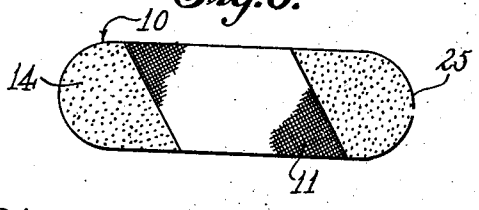
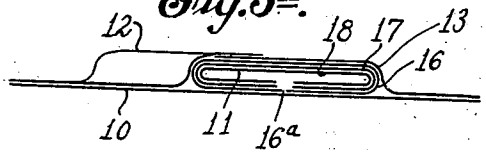


Fig. 3A.



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ADHESIVE BANDAGE

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2 Claims. (Cl. 128—156)

This invention relates to adhesive bandages of the type in which a gauze pad is carried by a strip coated with adhesive material, the pad being intermediate of the ends of the strip, and adhesive portions of the strip being at opposite sides of the pad.

The invention also relates to bandages of this general type which are stretchable in a lengthwise direction or capable of being elongated as they are applied, so that when the bandage is applied by wrapping or winding to a finger or the like, the resulting bandage will be more effective, neater in appearance and more secure.

An extensible strip bandage is not broadly new and in fact bandages are known in which a strip carries a gauze pad, the strip part of the bandage being extensible. However, this has necessitated a special and rather expensive kind of weave in the strip portion of the bandage, which has been one objection, and another objection has arisen from the fact that where an extensible strip is attached to a non-extensible pad the elongation of the strip is likely to disturb the lie of the pad or its connection with the strip.

One of the objects of my invention is to improve and simplify the construction of bandages of this general character. My invention is based in part, at least, upon the discovery that it is distinctly advantageous to have the pad portion of the bandage extensible along with the strip portion.

Another object which I have in view is to provide a bandage in which the strip portion and also the pad portion can be stretched or elongated to a marked degree without the need of employing in either of them a special or more than ordinarily expensive type of weave in producing the fabric of which they are made.

In the accompanying drawing:

Fig. 1 is an inside face view of an adhesive bandage embodying my improvements;

Fig. 2 shows the same bandage as it appears after the crinoline protective layer has been removed and the bandage elongated by stretching.

Fig. 3 is a lower edge view of the complete bandage as it appears in Fig. 1;

Fig. 3A shows in diagrammatic form the layers appearing in Fig. 3;

Fig. 4 is a view on a much larger scale showing certain portions of the bandage, a part of the adhesive layer being removed, and illustrating the weave of the strip portion and the pad portion;

Fig. 5 is a view similar to Fig. 4, showing a modification; and,

Fig. 6 is an inside view on a smaller scale of a modified form of bandage having rounded ends, the crinoline layer being omitted.

The bandage shown in the drawing is of elongated shape and of a size suitable for being extended about a cut finger or the like. It comprises a strip portion 10, a gauze pad portion 11, and protective crinoline layers 12 and 13. In this particular instance the crinoline layers have overlapping relation at the middle portion of the bandage, but this is not essential. The inner face of the strip is coated with the usual or any preferred adhesive material as indicated at 14, and it will be understood that this is the material which secures the crinoline portions in place and after the removal of the crinoline portions secures the bandage to the finger or other portion of the body.

Fig. 2 shows the bandage as it appears after the crinoline portions have been stripped off, and with the bandage under some longitudinal tension. It will be noted that I provide a pad portion 11 which is longer than customary in relation to the total length of the bandage, the end edges 15 of the pad being parallel to each other but obliquely disposed so as to give the pad portion a much greater effective length than customary. These end edge portions 15 of the pad as illustrated in Fig. 2 create acute angles between them and the side margins of the bandage, as shown.

The pad portion 11 is held in place on the strip 10 by means of the adhesive 14, said adhesive preferably covering the entire inner face of the strip. Preferably, but not necessarily, the pad portion is formed of layers of gauze, three in this instance, which have the arrangement or disposition shown in Figs. 3 and 3A. It will be seen that in this particular case the three layers are parallel to each other, each being generally in the form of a loop. In this particular case there is an outer loop formed of a strip 16 having its end portions laid and held against the adhesive with a slight space 16a between the extremities. Immediately within this there is a gauze layer 17, and within layer 17 is the third layer 18. By providing a pad of this formation the pad is given a smooth external contour and its side or end marginal portions are rounded, as indicated at 20 in Fig. 3. The pad can be made up in a greater relative width than that shown and then cut to create those edges which in Fig. 2 are horizontal.

Now referring to Fig. 4, it will be seen that I have there illustrated on a considerably enlarged

scale a portion 22 of the strip 10, and a portion 23 of the pad 11. It will be observed that for each of these portions a plan weave of fabric is employed and that in this particular case the weave is made up in each instance of an equal number of warp and woof threads, which cross each other at right angles. However, it is important to note that instead of having the warp and woof elements set squarely with respect to the side edges of the bandage, they are set obliquely thereto, as illustrated in Fig. 4, for example, so that the diagonals of the approximately square or rectangular spaces between the threads will be disposed substantially or approximately lengthwise of the bandage. It is by such arrangement or equivalent arrangement (which holds true with respect to the pad portion as well as the strip portion) that a simple and effective bandage is provided capable of being elongated to a substantial degree.

The arrangement shown in Fig. 5 is similar to that shown in Fig. 4, but in this case the diagonals of the rectangles between the threads of the strip portion are at a different angle and in this case permit somewhat less elongation of the strip, and the same applies to the pad portion of the bandage. The angle can be changed according to the amount of stretch which is desired. With the arrangement such as shown in Fig. 4, the possible elongation is considerable, as the bandage can be readily stretched from a length such as shown in Fig. 1 to a length such as shown in Fig. 2. This is permitted because of the fact that the line of stretch is substantially or approximately along the diagonals of the spaces between the threads.

Where I speak of "thread" I use the term generically so as to include yarn, but ordinary cotton threads are usually satisfactory. They are twisted and in themselves have little capacity for elongation in the application of the bandage to the wound.

In the form shown in Figs. 1 to 5, the end portions of the strip are pointed, as indicated at 24, but in the form shown in Fig. 6 the ends are rounded, as indicated at 25. These end formations are shown only by way of example.

It is thought that the method of using my improved bandage, and its practical advantages, will be apparent, at least for the most part, from the foregoing description. One of the important advantages arises from the fact that the pad portion is extensible lengthwise of the bandage along with the strip portion. This prevents the pad portion from being distorted and it also prevents the pad portion from losing its securement to the strip. Yet the pad portion can be readily formed from relatively inexpensive material. The bandage as a whole is very simple and inexpensive and yet owing to the fact that it is extensible to a substantial degree in binding up a cut finger or the like, the bandage can be applied more effectively than the usual bandage and it will be more secure and will have a neater appearance.

While I have shown several forms of bandage embodying my improvements it will be understood that these are merely by way of example and that various modifications and changes in the details can be made without departing from the principles involved or the scope of the claims.

What I claim is:

1. An adhesive bandage comprising an adhesive-coated textile strip and a soft textile pad carried by the strip on the adhesive-coated side intermediate of the ends of the strip and attached to the strip by the adhesive material of the strip coating, the pad being formed of a plurality of superimposed layers folded under at their end edges to present rounded-over pad margins, the strip and pad being of plain woven fabric and having their component thread elements directed at angles to the longitudinal axis of the strip so that both the strip and pad are stretchable to a substantial degree lengthwise of the bandage.

2. An adhesive bandage comprising an adhesive-coated textile strip and a soft textile pad carried by the strip on the adhesive-coated side intermediate of the ends of the strip and attached to the strip by the adhesive material of the strip coating, the pad being formed of a plurality of superimposed layers folded under at their end edges to present rounded-over pad margins, the strip and pad being of plain woven fabric and having their component thread elements directed at angles to the longitudinal axis of the strip so that both the strip and pad are stretchable to a substantial degree lengthwise of the bandage, the pad extending completely across the strip and having its end edges disposed obliquely of the strip.

CORNELIUS J. CROWLEY.