May 29, 1962 C. CASTELLI ETAL 3,036,572

BANDAGE AND SECURING MEANS

Filed July 11, 1960

Fig. 1.

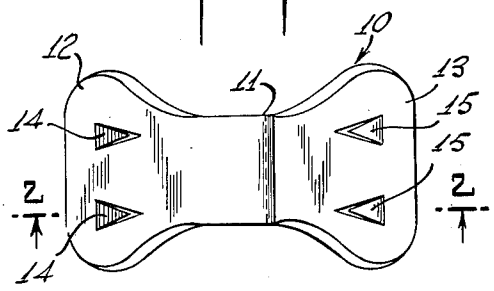


Fig. 2.

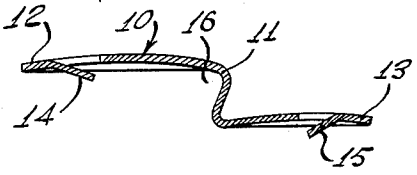


Fig. 3.

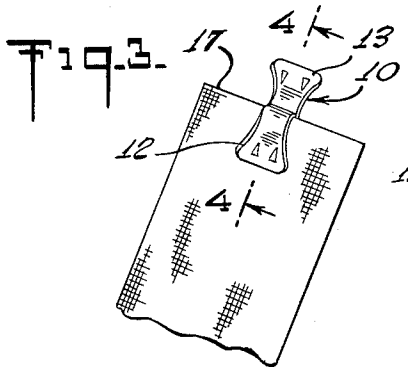


Fig. 4.

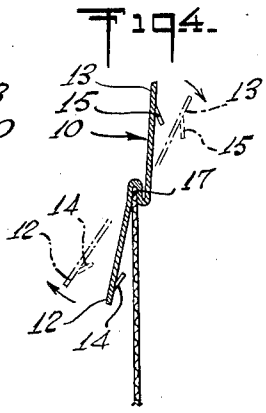


Fig. 5.

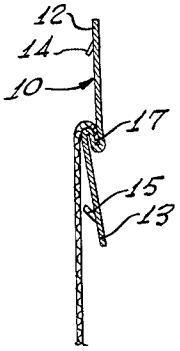


Fig. 6.

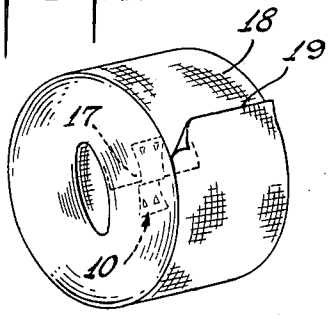
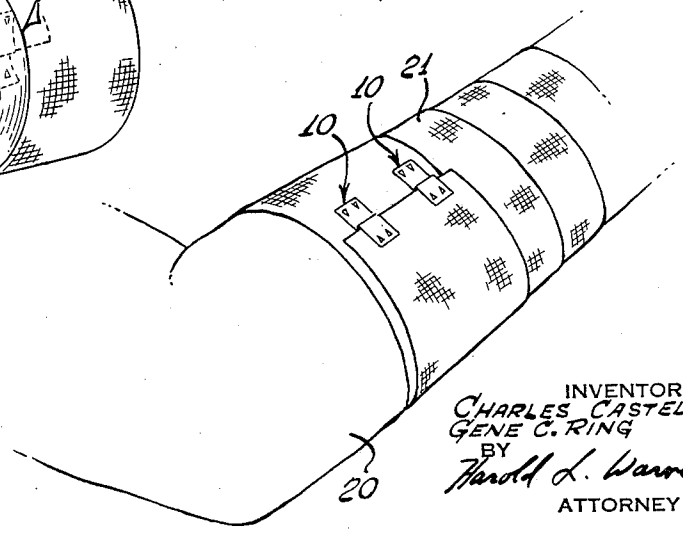


Fig. 7.



INVENTORS
CHARLES CASTELLI
GENE C. RING
BY
Harold L. Warren
ATTORNEY

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BANDAGE AND SECURING MEANS

Charles Castelli, New Brunswick, and Gene C. Ring, Plainfield, N.J., assignors to Johnson & Johnson, a corporation of New Jersey

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The present invention relates to improvements in surgical bandages of the wrap-around type and to bandage rolls in which the rolled bandage is provided with fastening means for securing the end of the bandage in place.

Wrap-around bandages consist of an elongated strip of flexible sheet material frequently of an elastic fabric which is sold in predetermined lengths in the form of a roll, the whole bandage being used to wrap an injured member. After the bandage has been applied, the remaining free end of the bandage is secured in place to prevent unwrapping.

Bandages of this type are generally utilized in dressing lacerations, minor surgical incisions and other injuries to prevent exposure of the injury to outside contamination. The bandages are also used for restraining and supporting injured members such as sprained ankles, wrists, etc. The bandages are particularly useful where made of an elastic material for treating sprains and similar injuries which require the application of pressure. Bandages of this type are generally formed of an elastic woven or knitted fabric.

When treating a wound, sprain or other injury, the surgeon takes the bandage roll and wraps the bandage around the injured member, wrapping the bandage onto the injured member directly from the roll of bandage which is passed round and round the injured member during the wrapping procedure. The final end of the bandage is then secured by adhesive tape, pins, clips or other means to the underlying convolutions to prevent unwrapping.

It has thus heretofore been necessary to look for some separate means for securing the bandage in place after it has been wrapped on the injured limb. One of the objects of the present invention is to avoid this necessity of looking for a separate means for securing the bandage once it has been wrapped on the patient by providing bandage securing means as a permanent part of the bandage on the bandage end, which is the last to leave the bandage roll. Another object of the present invention is to provide bandage securing means of such nature that regardless of which side of the bandage is applied toward the patient the fastening means will always be available, without turning the bandage, for securing the final end of the bandage on the previously wrapped bandage convolutions. These and other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings, wherein are set forth by way of illustration and example certain embodiments of the invention.

Referring to the drawings:

FIG. 1 is a top view of a clip adapted to be applied to the inner end of a roll of bandage;

FIG. 2 is a side view of the clip of FIG. 1;

FIG. 3 illustrates the end of a bandage with clip attached;

FIG. 4 illustrates the clip on the bandage end in one position;

FIG. 5 illustrates the clip of the bandage of FIG. 4 pivoted to a second position;

FIG. 6 illustrates a bandage roll with the bandage end containing the clip on the inside of the roll; and

FIG. 7 illustrates a bandage wrapped around an injured member with the final end of the roll secured to the underlying bandage convolutions.

Bandage wraps are generally sold in roll form. In accordance with the present invention, a two-way clip is permanently secured to the inner end of the bandage, i.e., the end of the bandage that is inside of the bandage roll. With the clip secured on this end, after the bandage has been wrapped on the patient, the final end of the bandage as it comes from the roll has the clip secured thereto so that the final end of the bandage can be readily secured to the underlying bandage convolutions to prevent unwrapping. The advantage of this is that it eliminates the necessity of handling separate clips for securing the bandage end or the need for using pins and similar securing means for securing the free end of the bandage.

One of the difficulties, however, with having a clip permanently secured to the inner end of the bandage in a bandage roll is that there is never any assurance as to which side of the bandage will be facing the patient after the bandage has been wrapped around an injured limb. As a result, unless the clip is of such nature that it can be secured to the underlying convolutions regardless of which side of the bandage end is facing the patient, either the clip or securing means at the end of the bandage is useless for securing the bandage end if the bandage has been placed on with the opposite side facing the patient or it is necessary to fold over the bandage to place the clip in operating position. This is frequently objectionable since it places an undesirable fold in the bandage. Accordingly, in the bandage roll of the present invention, the clip is designed to pivot at the end of the bandage and bring either one of two fastening faces into operative position, depending on which side of the bandage end is facing the patient.

Referring more particularly to the drawings, the clip **10**, which is formed of metal, stiff plastic or other sufficiently rigid material, contains an intermediate pivot section **11** and end sections **12** and **13**. The end sections **12** and **13** are provided respectively with projecting teeth **14** and **15**, projecting at an angle toward the median pivot portion **11** and projecting downwardly on the same side of the clip member **10**.

The clip is formed of an elongated piece of material that has an S-bend in its center which forms the pivot section **11**. One of the loops **16**, resulting from the S-bend, is adapted to be clamped firmly onto the end **17** of a strip of fabric bandage, as illustrated in FIGS. 4 and 5. The end **17** with clip **10** attached is the end which is rolled inside the remainder of the bandage as the bandags roll **18** is being formed. In FIGS. 3 and 6, the inner end of the bandage roll is illustrated as being provided with one fastening clip **10**. However, it is generally preferred to use a plurality of clips such, for example, as the two or more fastening clips, as illustrated in FIG. 7.

The clip **10**, after being permanently attached at its pivot point **11** to the inner end **17** of the bandage, is free to rotate or pivot around the bandage end, as illustrated in FIGS. 4 and 5. It will be noted from FIGS. 4 and 5 that the projecting teeth **14** and **15** project from the surface of the clip to which the bandage end **17** is secured. As is apparent from FIGS. 4 and 5, the clip **10**, as secured to the end **17** of the bandage, is free to pivot around this end to provide alternately, depending upon the direction of pivot of the clip **10**, projecting teeth **14** or projecting teeth **15** at the end of the bandage, depending upon which direction the clip is pivoted and which set of teeth is exposed.

In FIG. 6, the complete bandage roll is illustrated with the inner end of the bandage and the clip secured thereto being shown in dotted lines. The clip, as illustrated, is completely enclosed within the center of the bandage roll. In using this bandage roll, the surgeon would start to wrap

the bandage on the patient by first applying the outer free end 19 in the conventional manner. The bandage would then be applied by passing the roll around and around the injured member while the bandage is being unrolled until the wrap is completed. At this point, the inner end 17 of the bandage roll will be free. After the wrap has been completed, regardless of which side of the bandage is facing the patient, the free bandage end 17 can be securely attached to the underlying convolutions 21 to prevent bandage unwinding.

Referring to FIGS. 4 and 5, if side (*a*) of the bandage wrap is that facing the injured limb after the wrapping has been completed, then the clip is pivoted as shown in FIG. 5 and teeth 14 inserted into the underlying bandage convolutions 21 to firmly hold the bandage in place. The slope of the teeth toward the pivot point 11 enables the teeth to embed themselves more firmly in the underlying bandage convolution as pull is exerted on the bandage end. This insures the bandage end 17 being securely maintained in place.

Should the side (*b*) of the bandage be that facing the wrapped limb of the patient, then the clip 10 is pivoted to the position shown in FIG. 4 and teeth 15 inserted into the underlying bandage convolution 21 to securely attach the bandage in place.

In the modification illustrated in the drawings, the clip member is attached to the inner end of the bandage by clamping. However, any conventional means of attaching may be used, such as cementing, sewing as by providing perforations in the center portion, as is used in buttons, through which the thread used in sewing may pass, or by any other suitable means.

The invention is susceptible to many modifications within its spirit and accordingly is to be limited only by the scope of the appended claims.

Having thus described our invention, we claim:

1. A bandage roll comprising a strip of flexible bandage material of predetermined length rolled on itself, the end of said bandage strip contained within said roll having secured thereto a clip member, said clip member being attached to said inner end of said bandage strip at a point intermediate the ends of said clip and free to pivot around the end of said bandage strip, said clip member containing securing means on each side of the portion of said clip member to which said bandage end is attached, said securing means being adapted to secured said clip member to underlying convolutions of said bandage strip after the same has been wrapped around an injured member.

2. A bandage roll comprising a strip of flexible bandage material of predetermined length rolled on itself, the end of said bandage strip contained within said roll having povitally secured thereto a clip formed of substantially rigid material, said clip having a pivot portion to which said inner end of said bandage is secured and extending end portions on each side of said pivot portion, teeth extending from each of said end portions, said teeth extending from the same surface of said clip member at an acute angle thereto and directed inwardly toward said pivot portion, said teeth acting to secure said inner end of said bandage strip to underlying convolutions of said bandage after the same has been wrapped around an injured member.

3. A bandage roll comprising a strip of flexible bandage material of predetermined length rolled on itself, the end of said bandage strip contained within said roll having secured thereto a clip member comprising a piece of metal bent at its center and clamped onto the inner end of said bandage strip and two end portions extending in substantially the same plane from said center portion, each of said end portions having teeth projecting from a surface thereof toward said center portion, said teeth projecting from the same side of said clip and adapted to engage underlying convolutions of said bandage strip after the same has been wrapped around an injured member for holding the end of said bandage in place.

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