Aug. 29, 1950 B. F. RUSSELL 2,520,436

WOUND PROTECTOR

Filed Dec. 27, 1948

Fig. 1.

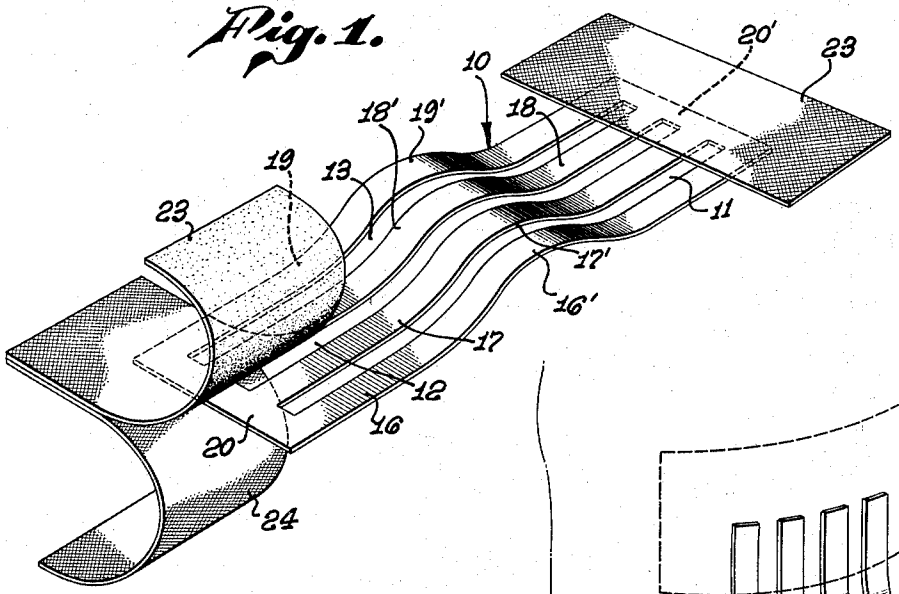


Fig. 2.

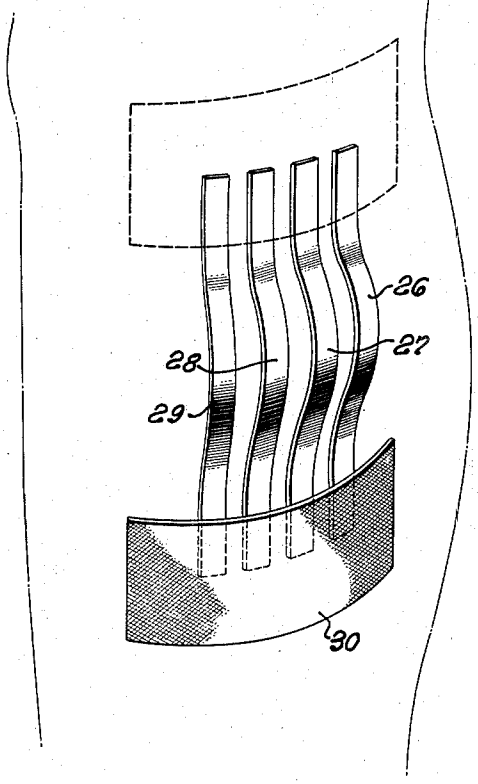
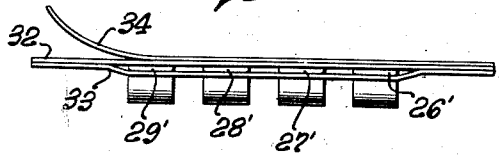


Fig. 3.



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Patented Aug. 29, 1950

2,520,436

UNITED STATES PATENT OFFICE

2,520,436

WOUND PROTECTOR

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Application December 27, 1948, Serial No. 67,405

4 Claims. (Cl. 128—169)

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This invention relates to a conformable wound protector adapted to extend over a wound, burn, or the like and protect the same from abrasion without contact with such wound and without excluding air therefrom.

There are many instances where it is desirable to protect a wound, burn, or other injury from mechanical abrasion or contusion and at the same time permit access of air to the surface of the wound or burn in order to facilitate healing. Heretofore applications of antiseptic powders and very light wrappings of gauze have been employed in such instances, but these prior methods are not entirely satisfactory since they do not protect the injury from contusion or abrasion due to accidental contact with solid objects or with outer garments.

The present invention is particularly directed to a light-weight, easily manufactured, readily applied wound protector capable of being attached to the areas of the body immediately adjacent a wound or the like, the protector extending over the injury and positively protecting it from damage. Moreover, the protector of the present invention is made of light-weight, resilient elements connected by a conformable attaching means, thereby permitting the protector to be placed completely around or partially around a cylindrical portion of the anatomy, such as an arm, foot, or even finger, thereby not only protecting the wound but also functioning somewhat as a splint.

An object of the present invention, therefore, is to disclose and provide a new and novel wound protector.

A further object is to disclose and provide a conformable wound protector capable of attachment to areas of the body adjacent a wound, burn, or the like, said protector including parallel elements which protect such wound or burn from abrasion without excluding air therefrom.

These and other objects of the invention will become apparent to those skilled in the art from the following description of exemplary form illustrated in the appended drawings, in which:

Fig. 1 is a perspective view of one form of device.

Fig. 2 is a perspective view of a modified form of device.

Fig. 3 is an end view of a device of the character shown in Fig. 2.

A simple and efficient embodiment of the present invention is illustrated in Fig. 1. A device embodying the modification illustrated in this figure may be made from a single sheet or strip of

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light-weight, organic sheet material, such as a degenerated cellulose product, an organic plastic of the methacrylate, polyvinyl or polystyrene type, or any other similar material having the characteristics of light weight, resiliency and some flexibility. Such sheet of material 10 may be provided with a plurality of slots such as 11, 12 and 13, these slots being parallel and subdividing the sheet material into a plurality of spaced, ribbon-like protector elements 16, 17, 18 and 19. The ends of these ribbon-like protector elements 16—19 may be integrally joined at their ends by the relatively narrow end portions 20 and 20' extending transversely of the protector elements.

Intermediate the ends of the protector elements 16—19, said elements are curved and arched out of the plane of the ends of the elements. The curved or arched portions are indicated at 16', 19', etc. The axis of curvature of the arched portion is transverse to the longitudinal axes of the ribbon-like protector elements.

This protector element may be supplied to the user with strips of compliant material, such as the strip 23, provided with a coating of pressure-type adhesive on its lower face. The adhesive lower surface (facing the direction in which the axis of curvature of the arched portions is displaced from the plane of the ends of the protector elements) may be covered with a removable, light-weight film of muslin, paper, or similar material 24. When it is desired to apply the entire device to a wound the protective layers 24 are removed from the adhesive strips 23 and the exposed adhesive surface of the strips 23 may then be brought into pressure contact with areas of the body adjacent the wound, the wound then occupying a position beneath the arched or curved portions 16'—19' of the protector elements.

Since the protector elements are ribbon-like, parallel, and spaced apart by the slots 11—13, the wound is protected by the arched portions against bumps, contusions or abrasions while air may readily circulate through the end portions of the arch and through the slots, thereby facilitating the healing of such wound. Obviously, an external protective coating or layer of gauze may be applied over the protector elements in the event access of air is not essential and it is desired to use the device simply as a means of protecting the wound from mechanical injury.

It will be noted that since the end portions 20 and 20' are relatively narrow, the entire device may be curved or it may be applied to a cylindrical or conical surface of the body very readily,

the various ribbon-like protectors then occupying spaced planes inclined to each other. It may also be noted that the adhesive strip 23 not only covers the end portions of the protector elements and facilitates holding them together, but also extends beyond the boundaries of the device, thereby insuring proper anchorage of the device to the body.

A modified form of device is illustrated in Fig. 2 in somewhat the position that it would occupy when applied to a substantially cylindrical portion of the body. In this form of device the protector elements 26, 27, 28, and the like, are individual, ribbon-like elements of a light-weight, organic material, the end portions of each element lying in substantially the same plane, whereas the intermediate portions are arched or curved out of such plane, the curvature of such intermediate portions being in the same direction on the assemblage of strips. These protector elements 26—29 are held together by means of a strip of adhesive material such as tape 30 extending transversely of the ends of the protector elements and therebeyond. The strip of adhesive 30 not only holds the transverse protector elements 26—29 in parallel spaced relation but also furnishes a means for attaching the assemblage to the body.

In the modified form illustrated in Fig. 3 the end portions of the individual protector elements, such as 26', 27', 28' and 29', may be held together by means of a strip of compliant material 32 coated or provided with an adhesive surface on both sides of such strip 32. An additional layer of single coated adhesive material 33 may cover the opposing side of the ends of protector elements 26'—29' and be connected to one surface of the strip 32. A light-weight, removable, protective strip 34 may coat the outer surface of the strip 32 so as to prevent such surface from being contaminated during shipment, or from adhering to adjacent materials prior to its application upon the body. When the protective strip is removed, however, the device may be readily attached by reason of the adhesive carried by the outer surface of strip 32.

It will be noted that wound protectors of the character described may be readily nested, and therefore may be easily packaged and distributed in a manner similar to that now being employed for small bandages. The device will readily conform to bodily contours, is easily applied, and is inexpensive. It will adequately protect a wound or other injured area without binding or constricting that portion of the body upon which the wound is located.

Various changes and modifications may be made from the specific forms illustrated in the drawings. All changes and modifications coming within the scope of the appended claims are embraced thereby.

I claim:

1. A conformable wound protector adapted to extend over a wound, burn, or the like, and protect the same from contusion and abrasion without contact therewith and without excluding air therefrom, comprising: a plurality of parallel, spaced, ribbon-like protector elements made of light-weight, resilient, non-adhesive, organic material, each of said elements including substantially flat end portions lying in a common plane and a curved portion intermediate said ends and connecting the latter, said intermediate portion being permanently arched out of the plane of said ends to form a space thereunder; and a strip of compliant material provided with a coating of pressure-type adhesive extending over the end portions of said protector elements and therebeyond, said strip of material comprising a means for holding said elements in spaced relation and attaching the protector to the body adjacent a wound, burn, or the like.

2. A conformable wound protector comprising: a plurality of parallel, spaced, ribbon-like protector elements made of light-weight, resilient, non-adhesive, organic material, each of said elements including substantially flat end portions lying in a common plane, said end portions being integrally connected, and a curved portion intermediate said ends and connecting the latter, said intermediate portion being permanently arched out of the plane of said ends to form a space thereunder; and a strip of compliant material provided with a coating of pressure-type adhesive extending over the end portions of said protector elements and therebeyond, said strip of material comprising a means for attaching the protector to the body adjacent a wound, burn, or the like.

3. A conformable wound protector comprising: a plurality of parallel, spaced, ribbon-like protector elements, each of said elements including substantially flat end portions lying in a common plane and a curved portion intermediate said ends and connecting the latter, said intermediate portion being permanently deformed and arched out of the plane of said ends to form a space thereunder; and a strip of compliant material provided with a coating of pressure-type adhesive extending over the end portions of said protector elements and therebeyond, said strip of material comprising a means for attaching the protector to the body adjacent a wound, burn, or the like.

4. A conformable wound protector comprising: a piece of thin, non-adhesive, resilient and flexible material provided with a plurality of spaced, parallel slots extending longitudinally therein and forming a plurality of ribbon-like, parallel protector elements interconnected at their ends, the intermediate portion of each of said elements being permanently deformed into an arch and out of the plane of the interconnected ends; and adhesive strip means carried by the interconnected ends of said elements, said strip means extending beyond the piece of slotted material.

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