



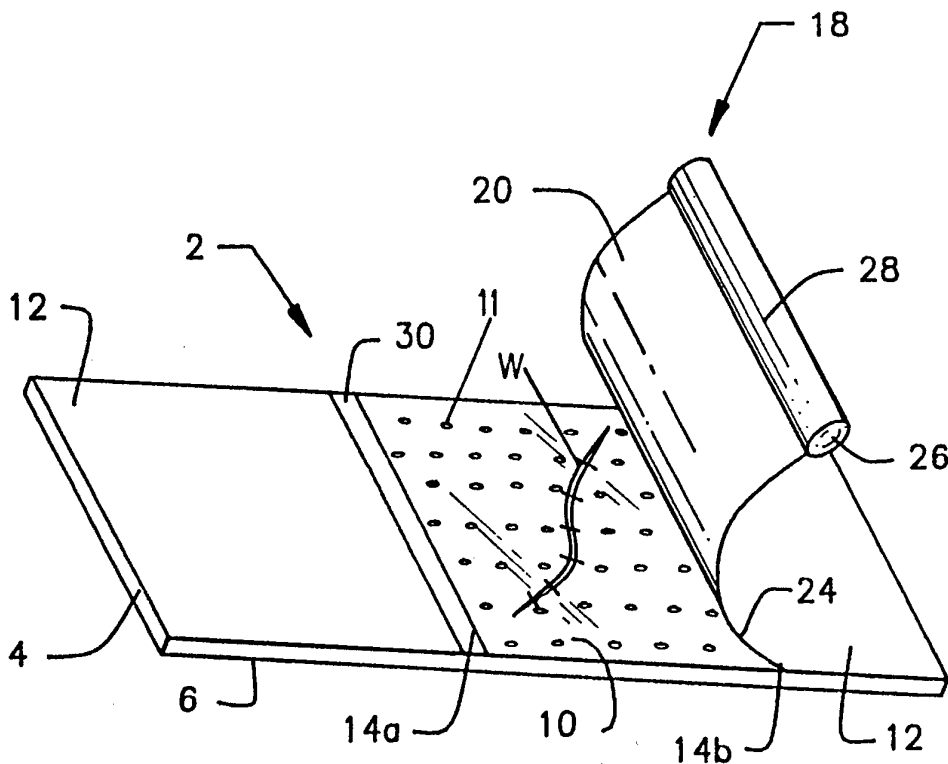
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/US94/04826 (22) International Filing Date: 2 May 1994 (02.05.94) (30) Priority Data: 08/056,733 4 May 1993 (04.05.93) US (71)(72) Applicant and Inventor: GENG, Lisa, Fernandez [US/US]; 79 Kerrigan Street, Long Beach, NY 11561 (US). (74) Agent: KIPNES, Allen, R.; Watov & Kipnes, 186 Princeton-Hightstown Road, P.O. Box 247, Princeton Junction, NJ 08550 (US).</p>		<p>(81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>

(54) Title: WOUND DRESSING

(57) Abstract

The wound dressing (2) includes a layer of backing sheet material (4) having an adhesive (6) on the bottom surface thereof and a release paper (8) releasably attached to the adhesive. The backing sheet material (4) has a first portion (10) which is intended to be positioned directly over the wound identified by the letter "W". In accordance with one aspect of the present invention, the first portion (10) of the backing sheet material (4) enables a person to view the wound without removing the wound dressing (2) due to the fact that the first portion (10) is transparent.



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WOUND DRESSINGField Of The Invention

The present invention is generally directed to a wound dressing and particularly to a wound dressing which enables the wound to be viewed by a person such as patient, doctor, mother, child, etc. without removing the wound dressing. A cover means, particularly in the form of a flap, is provided which is movable to an open position to allow viewing of the wound from a closed position whereby viewing of the wound is prevented.

Background Of The Invention

Wound dressings, including Band-Aid® brand wound dressings, generally include an opaque backing layer having an adhesive applied to one side for adhering to the skin. A protective layer, typically made of a release paper is applied to the adhesive side of the backing layer and is releasable therefrom when the wound dressing is applied to the skin. The area immediately covering the wound often has a gauze pad which may be impregnated with an antibacterial agent or the like.

Wound dressings as described above and as disclosed, for example, in N.R. Dibelius, U.S. Patent No. 3,367,329, must be removed in order for the individual and/or the physician to view the wound. Once the wound dressing is removed it may become contaminated or difficult to put back on the wound. Therefore, removal of the wound dressing often necessitates replacing the old wound dressing with a new one, which can be stressful to the individual.

Excessive use of wound dressings is also apparent when young children obtain superficial wounds such as minor cuts, abrasions and the like. Children are naturally curious and they often prematurely remove a wound dressing to view their wound and to show it to their friends. Each time a wound dressing is removed, it is often difficult to reapply the same wound dressing because the adhesive layer loses its tackiness and the like. Accordingly, the number of wound dressings used during the healing of minor cuts and abrasions, particularly with children, is often greater than what might otherwise be expected.

A wound dressing was developed which enables the wound to be viewed without removing the wound dressing. In particular, O.L. Johns, U.S. Patent No. 4,513,739, discloses an external wound dressing which may have a backing material made entirely out of a transparent polyurethane film. When the wound dressing is applied to the skin, the wound is always visible. While such a wound dressing enables the individual to view the wound without removing the dressing, permanent visibility has its disadvantages.

In particular, many individuals do not want to see their wound. In some cases, the wound is unpleasant to look at. Indeed, some individuals find the viewing of particularly onerous wounds very stressful and unpleasant and, therefore, would prefer wound dressings which completely hide the wound from view. As a result, the individual and/or physician must decide between opaque wound dressings which do not allow the wound to be viewed in the absence of removing the wound dressing, and transparent

wound dressings in which the wound is permanently open to view. Quite obviously, each such wound dressing has its disadvantages.

It would be a significant advance in the wound dressing industry to provide a wound dressing in which (a) the wound could be viewed by the individual and/or physician without removing the wound dressing and (b) the wound could be covered when the viewing of the wound is not desired.

Summary Of The Invention

The present invention is generally directed to a wound dressing which permits selective viewing of a wound without having to remove the wound dressing from the skin. When viewing of the wound is completed, the wound may be covered by the individual or physician if desired and then viewed again at a later time without reapplying an entirely new wound dressing.

More particularly, one embodiment of the present invention is directed to an external wound dressing comprising:

- (a) a first layer comprising a backing sheet material having a first portion for positioning over the wound and a second portion, said first portion being made of a material which enables the wound to be seen through the first layer;
- (b) an adhesive on a first face of at least the first portion of the first layer of backing sheet material;
- (c) a second layer comprising a protective sheet material covering the first layer and being in releasable contact with the adhesive, said second layer being removable from

the adhesive to enable the wound dressing to be applied to the wound; and

- (d) cover means covering the first portion of the first layer and being reversibly movable from a closed position covering the wound to an open position so that the wound can be viewed by the user.

In an alternative embodiment, the first portion comprises an opening in the backing sheet material through which the wound may be seen when the cover means is moved to the open position.

10 Brief Description Of The Drawings

The following drawings in which like reference characters indicate like parts are illustrative of embodiments of the invention and are not intended to limit the invention as encompassed by the claims forming part of the application.

15 Figure 1 is a perspective view of one embodiment of a wound dressing in accordance with the present invention with a flap in the open position for viewing the wound;

 Figure 2 is a plan view of the embodiment of the invention shown in Figure 1 rotated 180°;

20 Figure 3 is a side view of the embodiment shown in Figure 1;

 Figure 4 is another embodiment of the present invention similar to Figure 1 in which the upper surfaces of the wound dressing are imprinted with indicia;

Figure 5 is a perspective view of another embodiment of the wound dressing of the present invention which is adapted for covering large surgical wounds; and

Figure 6 is a perspective view of still another embodiment of the invention in which the backing layer which adheres to the skin has a cut-out portion exposing the wound.

Detailed Description Of The Invention

Referring to Figures 1-3, there is shown a first embodiment of the wound dressing of the present invention particularly adapted for covering superficial wounds and abrasions such as those typically covered by Band-Aid® brand wound dressings. The wound dressing 2 includes a layer of backing sheet material 4 having an adhesive 6 on the bottom surface thereof and a release paper 8 (see Figure 3) releasably attached to the adhesive 6.

The backing sheet material 4 has a first portion 10 which is intended to be positioned directly over the wound identified by the letter "W". In accordance with one aspect of the present invention, the first portion 10 of the backing sheet material 4 enables a person to view the wound without removing the wound dressing 2.

The first portion 10 of the backing sheet material 4 may be transparent or may comprise a cut-out portion or opening as discussed hereinafter in connection with Figure 6. The transparent first portion 10 as shown in Figures 1-3 may be made of such known materials as a transparent polyurethane film of

about 0.5 to 2 mils (13 to 51 microns) which may or may not be permeable to gases and/or liquids as identified in Johns, U.S. Patent No. 4,513,739, and Hodgson, U.S. Patent No. 3,645,835, incorporated herein by reference. Permeability may be imparted to the polyurethane film by providing a plurality of spaced apart perforations through the film as shown by numeral 11. Alternatively, the first portion 10 may be made of a mesh type material which enables at least partial viewing of the wound.

The backing sheet material 4 has a second portion 12 extending outwardly on both ends 14a, 14b of the first portion 10. The second portion 12 may be made of the same material as the first portion or may be made of more traditional opaque materials which are two-way stretchable, non-toxic, and porous. Examples of such materials are Nylon, Dacron, polyethylene, cotton and linen, such as disclosed in N.R. Dibelius, U.S. Patent No. 3,367,329, incorporated herein by reference.

The backing sheet material 4 is attached to the skin through an adhesive layer 6. The adhesives which may be used may be any conventional adhesive which is non-toxic and readily adheres to the skin. One such example is disclosed in S.M. Cole, U.S. Patent No. 5,009,224, incorporated herein by reference, which discloses a pressure-sensitive adhesive having a discontinuous gaseous phase.

The adhesive layer 6 is covered with a release paper 8 which will protect the adhesive during storage of the wound dressing and be easily released therefrom when the wound dressing is to be placed over the wound. The release paper 8 may be any sheet material having these properties such as paper,

polyethylene and polypropylene. A suitable release material, for example, is a 40 to 75 pound basis weight paper coated on one or both sides with a suitable finish such as clay and with a release agent such as silicone. The thickness of the release layer 8 will normally be about 2 to 6 mils (51 to 152 microns). A pull tab 16 may be attached to the release layer 8 as shown best in Figure 3. Other types and arrangements of release paper 8 may be found in O.L. John, U.S. Patent No. 4,513,739.

In accordance with the present invention, the first portion 10 of the backing sheet material 4 is covered with a flap 18 which is movable from an open position as shown in Figures 1-3 wherein the first portion 10 of the backing sheet material 4 is exposed, to a closed position (not shown) covering the first portion 10 of the backing sheet material 4.

The flap 18 is comprised of a backing material 20 which may be the same material used for the second portion 12 of the backing sheet material 4. The flap may optionally include a layer of gauze 22 (see Figure 3) which adheres to the backing material 20 by a conventional adhesive. Adhesives exemplified for use with the underside of the backing sheet material 4, previously described, may be used for this purpose.

The flap 18 has a first end 24 either permanently or removably attached to the backing sheet material 4 at the end 14b of the first portion 10. Attachment may be by use of an adhesive, by hot pressing, stitching or other suitable means. The opposed end 26 has a surface 28 which contacts a corresponding surface 30 of the backing material 4 located at the end 14a of the first portion 10 when the flap 18 is moved to the

closed position. Either of the surfaces 28 and 30 may be provided with a suitable adhesive or other means of releasable attachment such as a loop and hook fabric sold under the trademark VELCRO.

5 If the flap 18 is attached permanently to the end 14b of the backing sheet material 4, the flap 18 can be pivoted about the end 14b to expose or cover the wound. Alternatively, if the flap 18 is only temporarily attached at the ends 14a and 14b, the flap may be lifted upwards from the backing sheet material 4 to
10 expose the wound and then again placed into contact with the backing sheet material 4 to cover the wound. In this embodiment of the invention, the same flap 18 may be placed over the wound or an entirely new flap may be placed over the wound.

 In operation, the wound dressing 2 of the present
15 invention is placed upon the wound "W" in the same manner as other typical wound dressings. Specifically, the release paper 8 is removed from the adhesive 6 by pulling on the respective pull tabs 16. The wound dressing 2 is then pressed against the skin so that the second portion 12 of the backing material
20 adheres to the individual while the first portion 10 covers the wound.

 In order to view the wound without removing the wound dressing, the flap 18 is pulled upwardly so that the respective surfaces 28 and 30 disengage from each other and the wound
25 beneath the flap 18 is exposed if the flap 18 is permanently attached to the end 14b. Alternatively, if the flap 18 is temporarily attached at both ends 14a and 14b, such as by a release type adhesive, the flap 18 may be entirely removed from

the backing sheet material 4. When viewing of the wound is no longer desired, the flap 18 is moved downwardly by the user until the surfaces 28 and 30 are reengaged and the flap 18 thereby covers the wound. Alternatively, the flap 18 is again placed
5 over the wound so that the cover is reengaged at both ends 14a and 14b.

The wound dressing of the present invention may be decorated with various designs and/or illustrations, particularly for younger children. One such example is shown in Figure 4.
10 The upper surface of the second portion 12 of the sheet backing material 4 has a design in the form of a watch band while the upper surface of the flap 18 is decorated with a watch face.

The wound dressing of the present invention may be made in a variety of shapes and sizes within the spirit and scope of
15 the invention. For example, referring to Figure 5, there is shown a large surgical bandage used for covering major surgical wounds such as encountered with chest surgery. The wound dressing 40 has a flap 42 which is attached along one end of the length of the wound dressing to facilitate moving the flap from
20 the open to the closed position. The end 44 of the flap 42 is adapted to reversibly engage a corresponding end 46 to cover the wound when the flap 42 is pushed downwardly over the wound.

In another embodiment of the invention, the first portion of the backing sheet material comprises an opening in the
25 backing sheet material 4. The flap is, like the embodiments of the invention previously described, reversibly movable to an open from a closed position to expose and cover the wound, respectively.

Referring specifically to Figure 6, the wound dressing 2 has a first portion 10 comprising an opening 50 directly over the wound W. The wound dressing includes a flap 18 like the previously described embodiments which is adapted to cover the wound. In this embodiment, the flap 18 provides the sole protection for the wound.

Other modifications of the invention would be apparent to those of ordinary skill in the art. For example, the wound dressing may be provided with a customary antibacterial agent by impregnating the same in the first portion 10 of the backing sheet material 4 and/or the gauze 22 on the underside of the flap 18.

I CLAIM:

- 1 1. An external wound dressing comprising:
- 2 (a) a first layer comprising a backing sheet material
- 3 having a first portion for positioning over the
- 4 wound and a second portion, said first portion
- 5 being made of a material which enables the wound
- 6 to be seen through the first layer;
- 7 (b) an adhesive on a first face of at least the first
- 8 portion of the first layer of backing sheet
- 9 material;
- 10 (c) a second layer comprising a protective sheet
- 11 material covering the first layer and being in
- 12 releasable contact with the adhesive, said second
- 13 layer being removable from the adhesive to enable
- 14 the wound dressing to be applied to the wound;
- 15 and
- 16 (d) cover means covering the first portion of the
- 17 first layer and being reversibly movable from a
- 18 closed position covering the wound to an open
- 19 position so that the wound can be viewed by the
- 20 user.
- 1 2. The external wound dressing of claim 1 wherein the
- 2 first portion of the first layer of backing sheet material
- 3 comprises a substantially transparent material.

1 3. The external wound dressing of claim 2 wherein the
2 first portion of the first layer of backing sheet material is a
3 transparent polyurethane film.

 4. The external wound dressing of claim 2 wherein the
first portion of the backing sheet material is perforated.

1 5. The external wound dressing of claim 1 wherein the
2 second portion of the first layer is made from the same material
3 as the first portion of the first layer.

1 6. The external wound dressing of claim 1 wherein the flap
2 has a first end attached to the first layer and an opposed end
3 releasably attached to the first layer.

1 7. The external wound dressing of claim 1 wherein the flap
2 has a first end and an opposed end releasably attached to the
3 first layer.

1 8. The external wound dressing of claim 6 wherein the
2 opposed end of the flap is attached to the first layer by an
3 adhesive.

1 9. The external wound dressing of claim 1 wherein the flap
2 comprises a gauze material.

1 10. The external wound dressing of claim 1 further
2 comprising a tab at one end of the flap for reversibly moving the
3 flap from the open to the closed position.

1 11. The external wound dressing of claim 9 further
2 comprising an antibacterial agent impregnated in the first
3 portion of the backing sheet material or in the gauze material
4 of the flap.

1 12. An external wound dressing comprising:

2 (a) a first layer comprising a backing sheet material
3 having a first portion in the form of an opening
4 for positioning over the wound and a second
5 portion;

6 (b) an adhesive on a first face the second portion of
7 the first layer of backing sheet material;

8 (c) a second layer comprising a protective sheet
9 material covering the first layer and being in
10 releasable contact with the adhesive, said second
11 layer being removable from the adhesive to enable
12 the wound dressing to be applied to the wound;
13 and

14 (d) cover means covering the first portion of the
15 first layer and being reversibly movable from a
16 closed position covering the wound to an open
17 position so that the wound can be viewed by the
18 user.

1 13. The external wound dressing of claim 12 wherein the
2 flap has a first end attached to the first layer and an opposed
3 end releasably attached to the first layer.

1 14. The external wound dressing of claim 12 wherein the
2 flap has a first end and an opposed end releasably attached to
3 the first layer.

1 15. The external wound dressing of claim 13 wherein the
2 opposed end of the flap is attached to the first layer by an
3 adhesive.

1 16. The external wound dressing of claim 12 wherein the
2 flap comprises a gauze material.

1 17. The external wound dressing of claim 12 further
2 comprising a tab at one end of the flap for reversibly moving the
3 flap from the open to the closed position.

1 18. The external wound dressing of claim 16 further
2 comprising an antibacterial agent impregnated in the gauze
3 material of the flap.

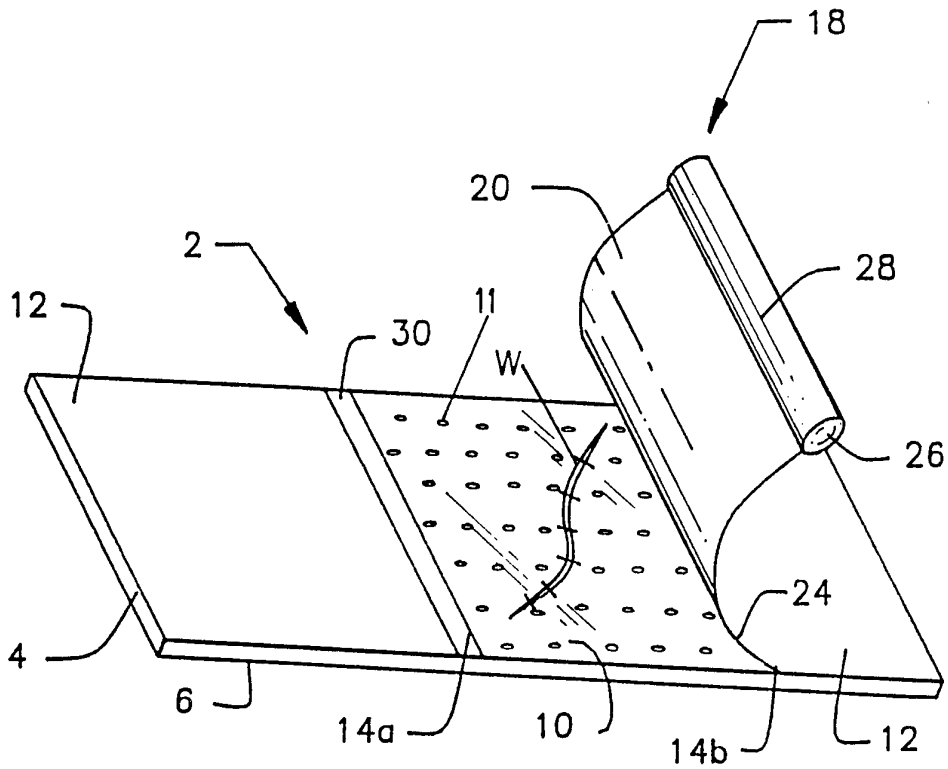


FIG. 1

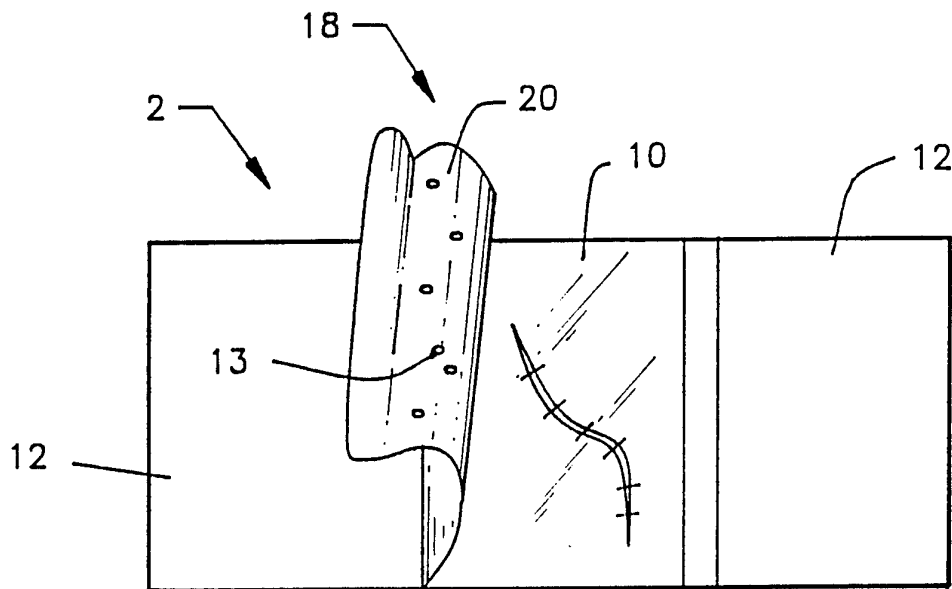


FIG. 2

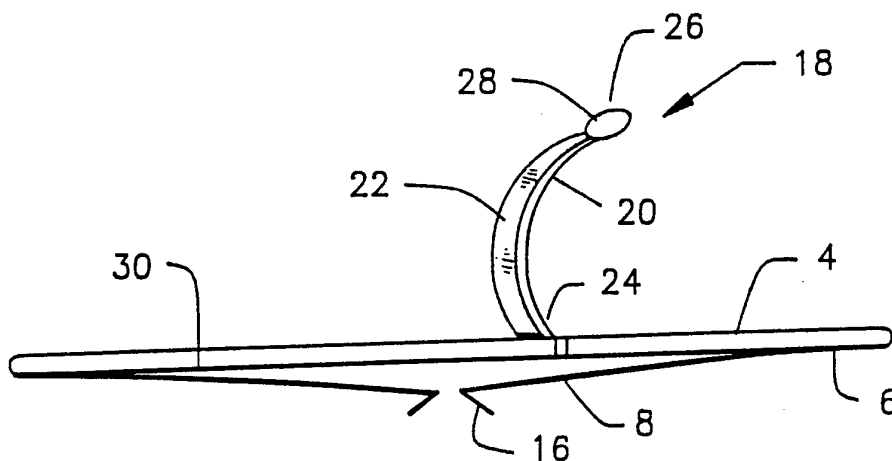


FIG. 3

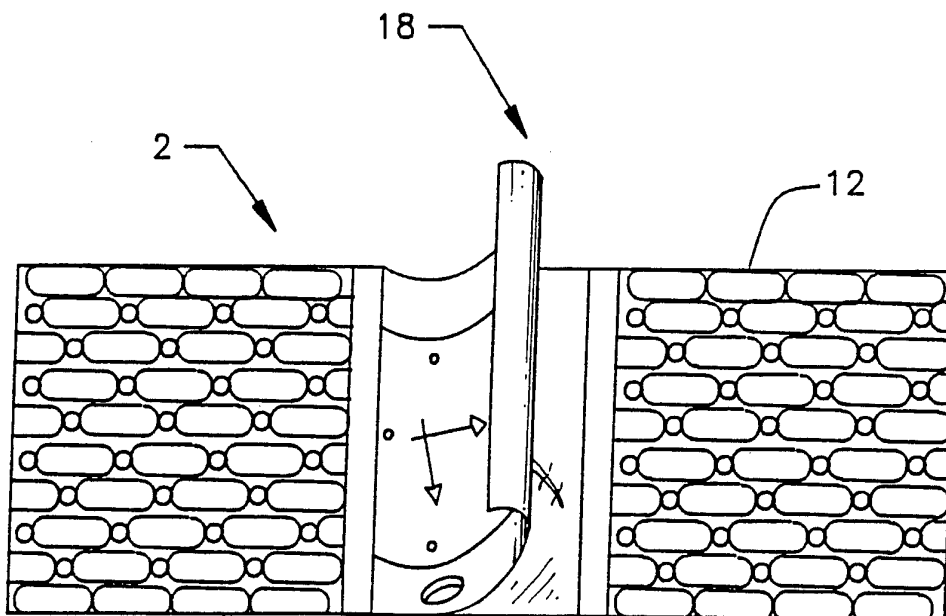


FIG. 4

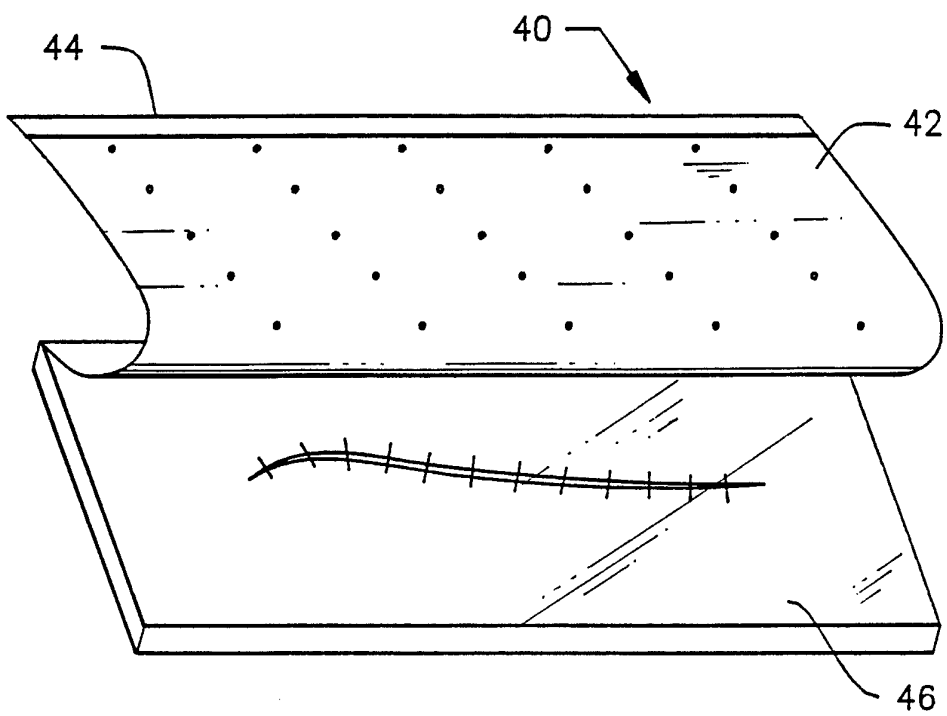


FIG. 5

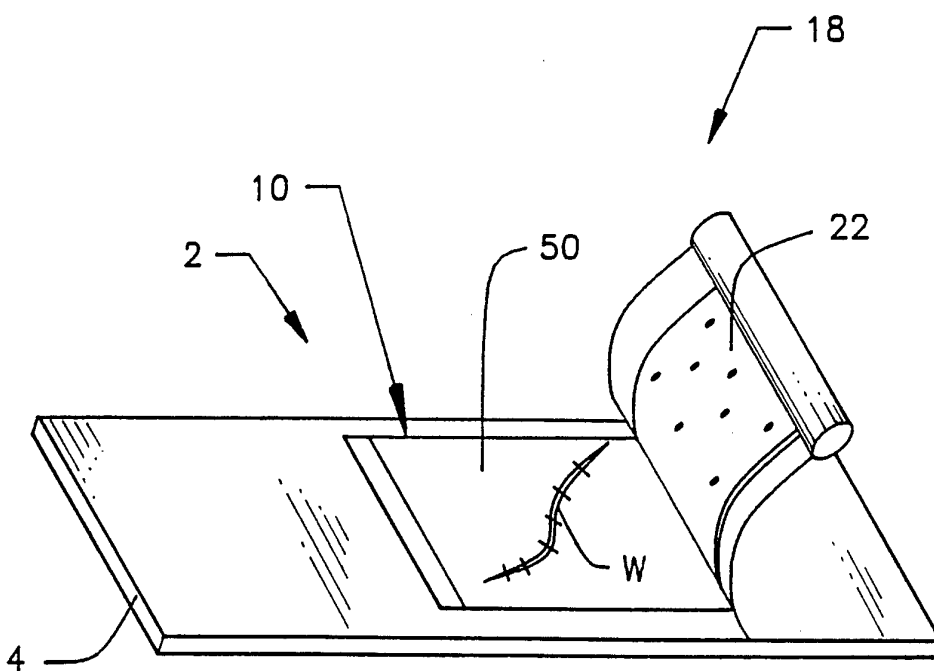


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US94/04826

A. CLASSIFICATION OF SUBJECT MATTER IPC(5) :A61F 13/00 US CL :602/58 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 602/58, 42, 59; 128/888 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	US, A, 4,706,662 (THOMPSON) 17 NOVEMBER 1987, see the whole document.	1-3,5-8, and 10 ----- 9
Y	US, A, 5,086,763 (HATHMAN), 11 FEBRUARY 1992, see the whole document.	9
Y	US, A, 5,167,613 (KARAMI ET AL) 01 DECEMBER 1992, see the entire document.	1-18
Y	US, A, 3,425,412 (POPE) 04 FEBRUARY 1969, see the entire document.	1-18
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