United States Patent

Hirsch

[15] **3,658,065**

[45] **Apr. 25, 1972**

[54] BANDAGE HAVING AN INTEGRAL RESERVOIR

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[73] Assignee: **Edward Weck & Company, Inc.,** Long Island City, N.Y.

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[52] **U.S. Cl.** **128/296,** 128/156

[51] **Int. Cl.** **A61f 13/00**

[58] **Field of Search** 128/275, 283, 284, 286, 287, 128/290, 295, 296

[56] **References Cited**

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[57] **ABSTRACT**

An absorbent bandage with an integral reservoir for the storage of fluids.

4 Claims, 11 Drawing Figures

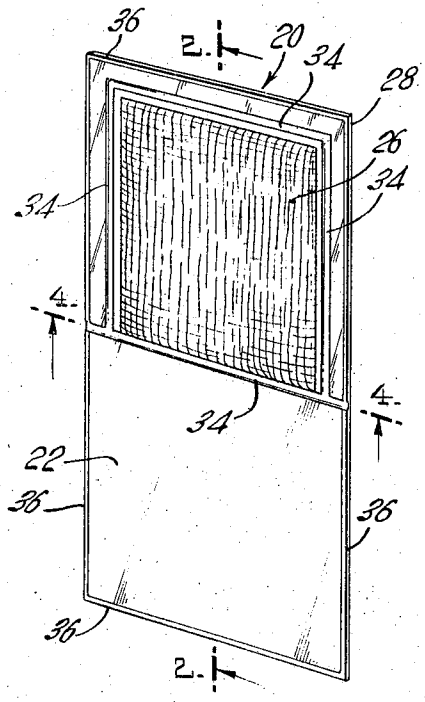

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FIG. 1.

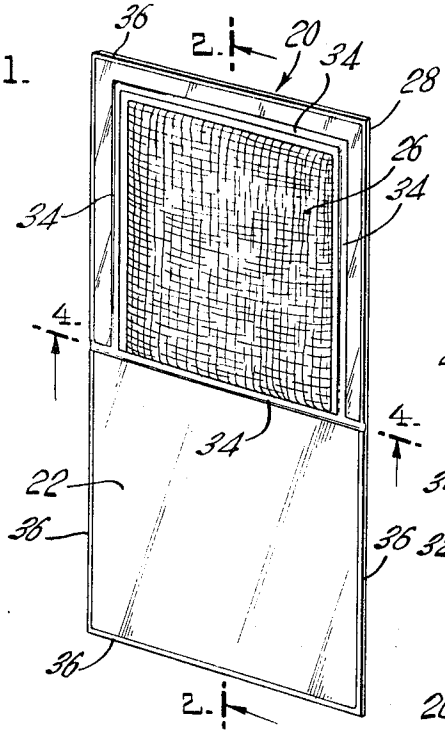
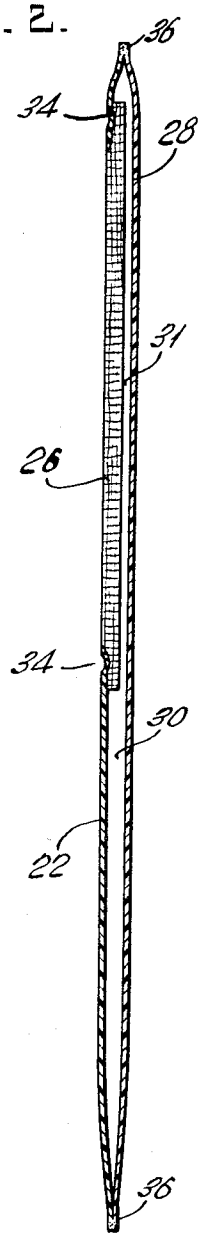


FIG. 2.



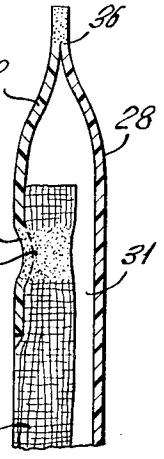


FIG. 3

FIG. 5.

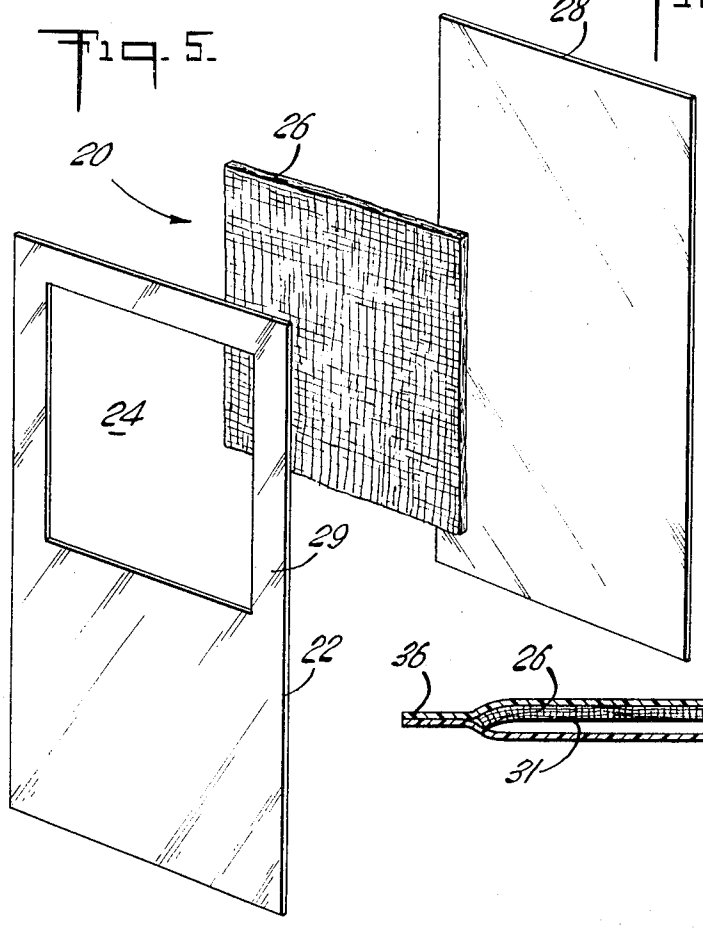


FIG. 4.

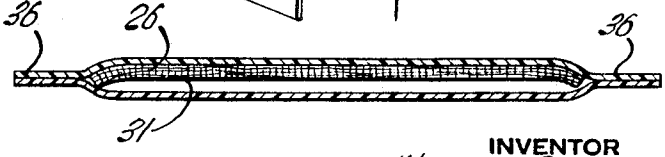


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Fig. 6.

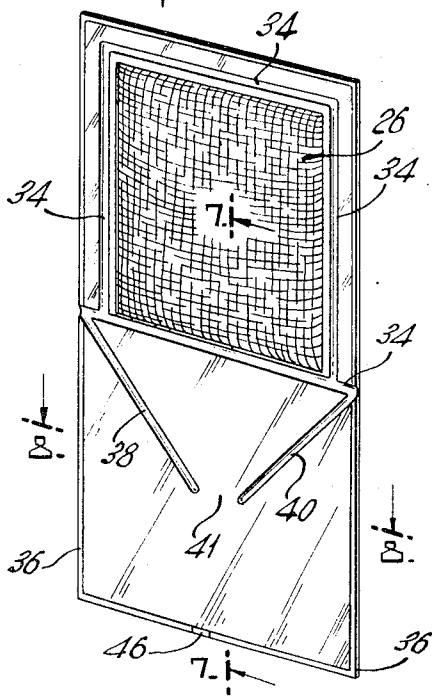


Fig. 7.

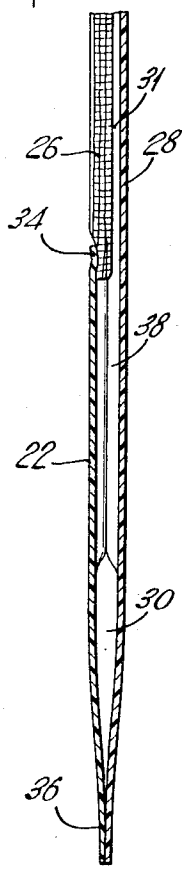


Fig. 10.

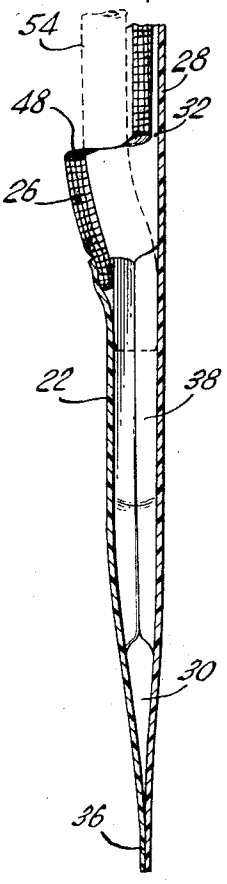


Fig. 9.

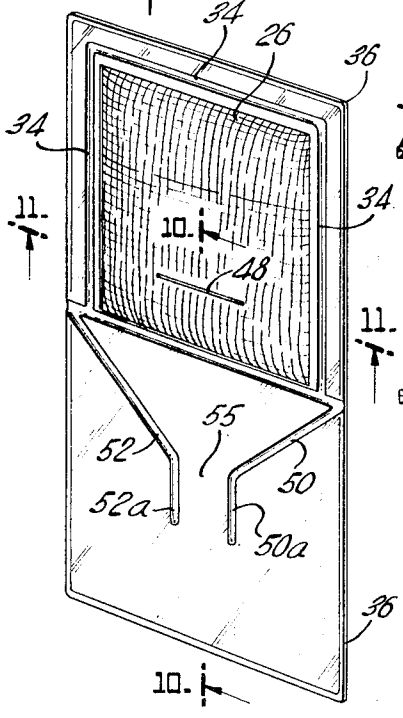


Fig. 8.

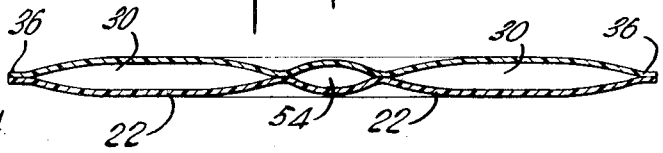
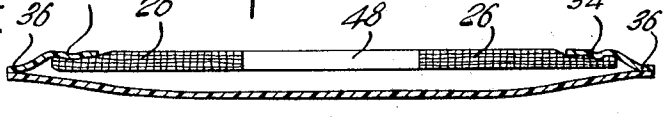


Fig. 11.



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BANDAGE HAVING AN INTEGRAL RESERVOIR

This invention relates to bandages and more specifically to an absorbent bandage having an integrally formed reservoir for the storage of excess fluid.

In the treatment of wounds or incisions in the human body, absorbent pads and bandages are generally utilized to keep the wound clean and absorb fluids which may be discharge therefrom. In instances where drainage is substantial, the bandage must be replaced frequently. In some cases tubes are inserted in the wound to facilitate drainage and the tube must be connected to a suitable vessel beside the patient. Frequent replacement of bandages or dressings requires additional time and effort on the part of attendants and drainage tubes often result in immobilization of the patient. This invention overcomes the foregoing difficulties encountered in providing proper care for wounds and avoids much discomfort to the patient and in many cases requiring the use of drains the patient need not be immobilized. These advantages are attained by the utilization of an absorbant material laminated with a nonporous material which forms both a protective cover for the absorbent pad and an integral reservoir into which fluids absorbed by the pad may be discharged. With this improved bandage frequent change of the dressing is not required and the possibility of contamination is thereby reduced. If desired, an adhesive material may be provided about the edge of the bandage to facilitate application. In instances requiring a drainage tube, means are provided for insertion of the tube directly into the reservoir thereby avoiding the necessity of a separate receptacle and immobilization of the patient.

The above and other objects and advantages of the invention will become more apparent from the following description and accompanying drawings forming part of this application.

In the drawings:

FIG. **1** is a perspective view of one embodiment of the absorbent bandage and reservoir in accordance with the invention;

FIG. **2** is a cross-sectional side view of the bandage in FIG. **1**, taken along the line **2—2** thereof;

FIG. **3** is an enlarged fragmentary view of a portion of the bandage shown in FIG. **2**;

FIG. **4** is a cross-sectional view of the bandage of FIG. **1** taken along the line **4—4** thereof;

FIG. **5** is an exploded perspective view of the bandage shown in FIG. **1**;

FIG. **6** is a perspective view of an alternate embodiment of the invention;

FIG. **7** is an enlarged cross-sectional side view of the bandage in FIG. **6** taken along the line **7—7** thereof;

FIG. **8** is an enlarged cross-sectional view of the bandage shown in FIG. **6** taken along the line **8—8** thereof;

FIG. **9** is a perspective view of still another embodiment of the invention;

FIG. **10** is an enlarged cross-sectional view of FIG. **9** taken along the line **10—10** thereof; and

FIG. **11** is an enlarged cross-sectional view of the bandage shown in FIG. **9** taken along the line **11—11** thereof.

Referring now to the embodiment of the invention shown in FIGS. **1** through **5**, the bandage is generally denoted by the numeral **20** and includes a front portion **22** formed of a nonporous and preferably plastic material having a window **24** in the upper part thereof. Absorbent material **26** overlies the window **24** and may consist of conventional cotton gauze, sponge, or any synthetic material which is capable of being sterilized. The rear portion **28** is made of the same material as the front portion and is essentially equal in size. If desired, the rear portion **28** may extend beyond the front portion **22** and carry an adhesive material to facilitate adherence of the bandage to the body of the patient.

The bandage **20** includes a reservoir **30** into which the lower edge of the absorbant material extends. More specifically the absorbent material **26** is preferably slightly larger than the opening **24** and may be bonded to the front portion **22** by the application of an adhesive about the edges **32** of the window **24** or by the application of heat to edges **34** sufficient to cause a fusing of the absorbent material **26** and the front portion **22**. If desired, the absorbent material may be bonded to the rear portion **28** to hold it in position. The rear portion or layer **28** is then adhered, heat sealed or otherwise bonded to the front portion **22**, so that the front and rear portions together with the absorbent material form the completed bandage with an integral reservoir **30** capable of retaining fluids.

It is to be understood that the bandage need not be fabricated as described above but may be made in any suitable manner provided however that a fluid tight reservoir is formed and that the absorbent pad extends into the reservoir. It is also noted that with the foregoing structure an air space **31** may be provided between the absorbent material **26** and the rear portion **28** to facilitate the flow of the fluid into the reservoir **30**.

An alternative embodiment of the invention is shown in FIGS. **6** and **7**. In this embodiment of the invention the front and rear portions **22** and **28** are fused or otherwise sealed one to the other along lines **38** and **40** to provide a narrow opening **41** into the reservoir. This configuration functions as a trap to prevent the back flow of fluid stored in the reservoir should the bandage be tilted to one side or the other.

FIGS. **8** through **11** show still another embodiment of the invention wherein a slit or hole **48** is provided in the absorbent material **26** and the front and rear portions **22** and **28** are sealed along lines **50** and **52** having downwardly extending portions **50***a* and **52***a*. With this arrangement a tube or drain **54** may be inserted through slit **48** and into the channel **55** created by the sealed portions **50***a* and **52***a*. The drain **54** may be used to carry excess fluid directly from the wound to the reservoir **30** while the absorbant pad **26** will absorb any fluid which may emerge about the drain and discharge excess fluid into the reservoir. As in the case of the preceding embodiment of the invention, the fused lines **52** and **50** will also prevent back flow of the fluid should the bandage be tilted.

While only certain embodiments of the invention have been illustrated and described, it is apparent that alterations, modifications and changes may be made as defined by the appended claims.

What is claimed is:

1. A bandage comprising:

a liquid impervious front portion having an opening adjacent and occupying a substantial part of the area of one end thereof;

a liquid impervious rear portion substantially coextensive with said front portion and sealed thereto about the edges thereof; and

an absorbent pad slightly larger than and sealed to the inside edges of said opening and extending beyond the edges of said opening at least in one direction toward the opposite end of said bandage from said opening;

said rear portion remaining detached from said absorbent pad and said front portion in the area between the edges of said rear portion, thereby forming an open reservoir integrally with said absorbent pad, said reservoir being adapted to receive and retain excess body fluids produced by body wounds and incisions only through said absorbent pad, said absorbent pad being relatively small with respect to the volume of said reservoir.

2. A combination bandage and reservoir as set forth in claim **1** wherein said absorbent pad is a porous plastic heat sealed to the edges of said opening.

3. A combination bandage and reservoir as set forth in claim **1** wherein said front and rear portions are sealed one to the other along downwardly convergent lines from points adjoining the lower edge of said opening and terminating in spaced relationship to form a narrow gap therebetween.

4. A combination bandage and reservoir as set forth in claim **1** wherein said absorbent pad has an opening therein adapted to receive a hollow tube extending to said reservoir area.

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