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N. OWENS

3,089,488

SURGICAL DRESSING

Filed May 11, 1961

FIG 1.

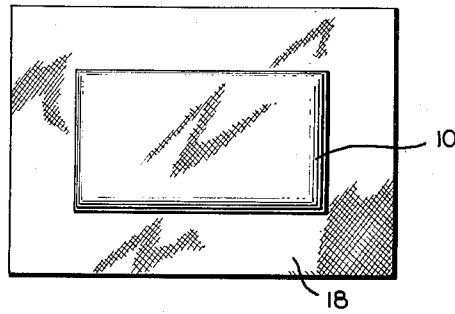


FIG 2.

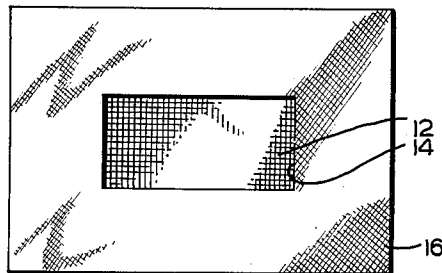


FIG 3.

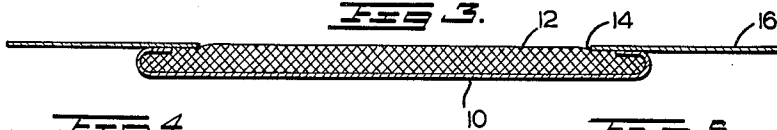


FIG 4.

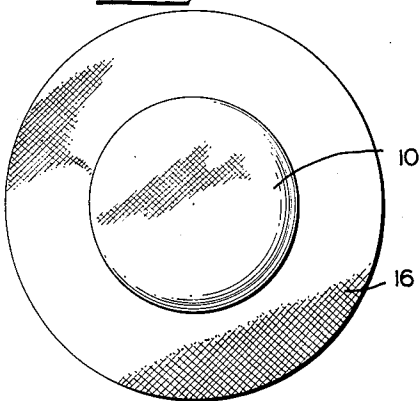
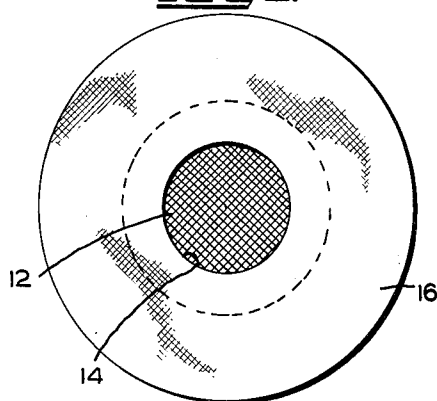


FIG 5.



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SURGICAL DRESSING

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4 Claims. (Cl. 128-156)

The present invention relates to improvements in surgical dressings and is concerned more particularly with dry surgical dressings adapted for treatment of burns and other surface wounds.

The principal object of the invention is to provide a surgical dressing which has a contact layer for burns, surface wounds, granulating areas, or donor sites where skin grafts have been removed of very finely woven material which is relatively frictionless so as to avoid any irritation of the wound but which at the same time will permit drainage. The outer layer of the surgical dressing as contemplated by the invention is preferably of open-faced gauze for the absorption of such drainage and also for air penetration to the wound.

The particular contact layer of the surgical dressing is very finely woven in a critical manner so that the interstices defined by the threads are small enough to prevent capillary penetration or invasion through the interstices and adherence to the granulation tissue or capillary buds of the wound yet sufficiently large to allow for the drainage of fluid and secretions from the wound through the surface layer and into the gauze backing layer.

Other objects and advantages will be apparent from the following detailed description taken in conjunction with the accompanying drawings wherein preferred embodiments of the principles of the invention have been selected for exemplification.

In the drawings:

FIG. 1 is a plan view of the underside or wound contact surface of a surgical dressing constructed in accordance with the invention;

FIG. 2 is a plan view of the upper or outer surface of the dressing shown in FIG. 1;

FIG. 3 is a transverse sectional view taken through the central portion of the dressing shown in FIGS. 1 and 2; and

FIGS. 4 and 5 are, respectively, plan views of the underside and outside of a modified form of surgical dressing.

Referring more particularly to the drawings, wherein like numerals refer to like parts, the surgical dressing shown in FIGS. 1 to 3 is composed of a finely woven wound contact surface 10 and an outer gauze layer 12 secured in any suitable manner such as by adhesion to a flexible supporting sheet or frame 16 which carries an adhesive coating 18 for application to the skin around the peripheral area of the wound with which the surgical dressing is in contact.

The surgical dressing shown in FIGS. 4 and 5 differs from that shown in FIGS. 1 to 3 only in that it is of circular instead of rectangular configuration, it being understood, however, that the surgical dressings constructed in accordance with the invention may be of any desired size or configuration suitable for the particular wound requiring treatment.

The wound contact layer 10 is a fine weave of very smooth threads, such as silk, rayon, nylon or other natural or synthetic material, which presents an extremely low coefficient of friction to avoid any irritation of the wound as the result of frictional contact. Desirably, the threads

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are devoid of any loose or trailing fibers. The size of the threads from which the material 10 is woven is preferably of 30 denier, the number of the threads, warp and weft, is approximately 114 by 114 per square inch and the thickness of the woven cloth is approximately .0020. The interstices formed by the woven threads are approximately 9 microns in width or diameter or slightly smaller. Such a fabric layer meets the requirements of the invention that capillary penetration or invasion through the interstices of the fabric 10 is prevented but drainage of fluid through the interstices is permitted. Such drainage, as contemplated by the invention, tends to prevent puddling of secretions over and around the wound and avoids resulting maceration.

The outer gauze layer 12 is preferably exposed at its outer face through a window provided in the adhesive securing member 16. Such outer opening affords air penetration and breathing to the wound. The gauze 12 may be of any conventional character provided it is capable of air penetration and of absorbing drainage of fluid received through the interstices in the layer 10.

It will thus be seen that the composite surgical bandages provided by the present invention avoid the friction which frequently develops between dressings and wounds when a coarse material is used in immediate contact with a wound. They prevent penetration or invasion into the dressing so that newly formed tubular blood vessels are not torn as frequently occurs when coarser surgical dressings having interstices of larger micron size are removed from a wound and they permit adequate drainage from the wound into the dressing.

It is to be understood that the present invention is not confined to the precise construction as herein illustrated and described but embraces all such modifications thereof which may come within the scope of the following claims.

I claim:

1. A surgical dressing which comprises, an inner wound contact layer formed of smooth threads of approximately 30 denier finely woven with approximately 114 by 114 threads per square inch to form interstices between adjacent threads, the said interstices not exceeding approximately 9 microns in width, and an outer layer of absorbent material connected to said inner layer for receiving fluid from the wound drained through said interstices.

2. A surgical dressing which comprises, an inner wound contact layer formed of finely woven smooth threads having interstices between adjacent threads not exceeding approximately 9 microns in order to prevent capillary penetration but permit drainage of fluid therethrough and an outer layer of absorbent material connected to said inner layer for receiving fluid drained through said interstices.

3. The surgical dressing of claim 2 additionally including a flexible supporting sheet carrying the inner and outer layers and having an adhesive coating for application to the skin around the peripheral area of the wound with which the inner layer is in contact.

4. The surgical dressing of claim 3 in which the outer layer is open at the outer side of the supporting sheet.

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