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C. J. HERZOG

2,233,209

SURGICAL DRESSING

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Fig. 1.

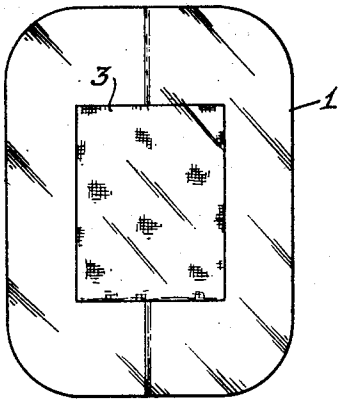


Fig. 2.

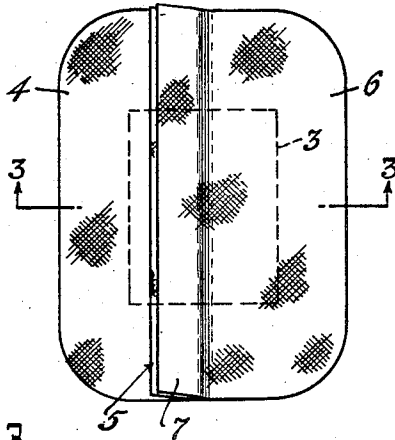


Fig. 3.

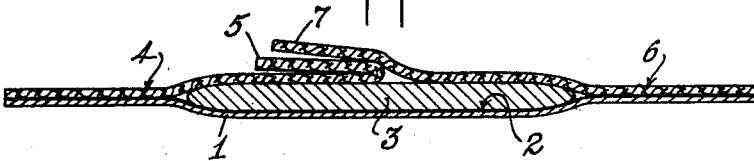


Fig. 6.

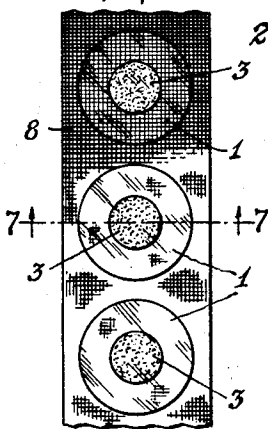


Fig. 4.

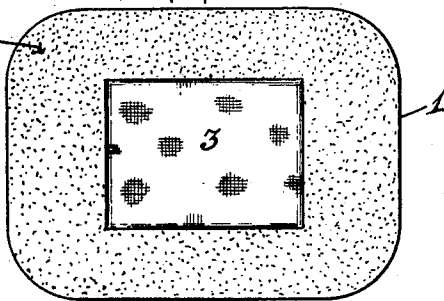


Fig. 7.

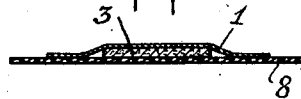


Fig. 5.



WITNESS

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SURGICAL DRESSING

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3 Claims. (Cl. 128—156)

The invention relates to surgical dressings or the like adapted to be locally applied to cuts, injuries, bruises or other wounds, and the object of the invention is to put up such surgical dressings in such form that when applied, the dressing will be held in place and at the same time protected against admission of liquids, more particularly water, oil, common organic solvents, perspiration, acid and alkaline solutions, grease, etc., by a pliable, stretchable material which can accommodate itself without becoming loose to movements of the skin, muscles or bones.

One difficulty with dressings for local application has long been the fact that the gauze portion was not protected when applied to a wound, against admission of fluids or contamination from the atmosphere. Even when covered with a fabric backing the covering was pervious to liquids and dirt and frequently failed to adhere continuously around the gauze pad to exclude entry of impurities when the muscles are flexed or the skin and bones moved.

I have found, however, that a relatively perfect result can be obtained if the pad of gauze, felt or flannel fabric, is covered with a liquid-excluding sheet or section provided the latter is somewhat stretchable so that it may adapt itself to movements of skin, muscles and bones when attached to the skin all around the wound and provided the attaching medium or adhesive is of a pressure-sensitive rubber-base type. Even with these conditions in mind it remained to find some appropriate material whose properties were such that it could be safely and reliably used for dressing purposes since its possible defects or failings when attempted to be used for such purposes were not known and had to be investigated by me and had to be made the subject of extensive experiments and careful tests before its availability for dressing purposes was determined.

The invention is illustrated in the accompanying drawing in which Fig. 1 is an enlarged view of one face of the dressing in the form in which it is packaged and comes into the hand of the user; Fig. 2 is a view of the opposite face of the dressing shown in Fig. 1; Fig. 3 is an enlarged section on lines 3—3 of Fig. 2; Fig. 4 is an enlarged view of the dressing after removal of the gauze covering strips; Fig. 5 is a side view of the bandage in the condition of Fig. 4; Fig. 6 is a plan view of a modified form of the invention and Fig. 7 is a section taken along the line 7—7 of Fig. 6.

In the drawing the numeral 1 indicates a piece

of thin material which is pliable and stretchable and impermeable by liquids and which is preferably constituted of halogenated or chlorinated rubber such as the material known as "pliofilm" or "tensolite." The surface of this rubber sheet is coated with an adhesive preferably of the pressure-sensitive rubber-base type such as a colloidal solution of rubber in a solvent and rosin plus a filler as zinc oxide, and a softener such as wool fat. When the solvent is evaporated a layer of adhesive such as is indicated in the drawing at 2 will cover the oblong, oval, round or square base sheet. A medicated or unmedicated dressing consisting of the conventional pad constituted of layers of gauze or of felt or of flannel or the like, is now pressed upon the center of and thereby becomes adhesively associated with the base 1. A piece of crinoline 4 is now associated with the adhesive coating at one side of the base 1 remaining in adhesive contact at the top, the bottom, and one side of the front of the bandage. An edge section of the crinoline 4 is shown as bent over at 5 and the section 5 is not adhesively associated with any part of the structure. A second piece of crinoline 6, which overlies the folded section 5, is also adhesively engaged with the base 1 at the top, bottom, and at the other side of said base, but the overhanging portion 7 is not adhesively associated with any other part of the dressing.

When a user applies this dressing, he first strips off the crinoline 6 by taking hold of its unadhesively associated portion 7, removing and discarding the crinoline 6 entirely. Then, by taking hold of the non-adhesively associated section 5, he strips and casts away the crinoline section 4. There now remain only the base, the central gauze, or felt, or similar material, medicated or unmedicated, and the adhesive surface portion of the base. If the wound is near the knuckle portion of the hand, for example, the pad 3 is applied to it and the section 1 is manipulated by molding and by pressure to cause an adhesive association with the skin surrounding the pad 3. Since the thin material of which the section 1 is constituted is stretchable, a very perfect fit can be brought about by molding, notwithstanding the irregularity of the contour of the hand, or other irregular or movable parts to be covered. Once the dressing is in place, it will not be dislodged by movement of the hand or fingers, or other joints or of the skin. The pad will be kept clean and the wound protected against contamination. Since the material is impermeable to liquids, the bandage is particularly

of advantage for workmen whose labor requires them to come in contact with liquids such as gasoline, or the like, oil, and other substances of like nature.

5 In the modification shown in Figs. 6 and 7 the crinoline sections 4, 5 and 6, 7 of Fig. 3 are replaced by a strip of crinoline 8 which may be of any desired length and which carries the dressings 3, protected by the adhesively coated discs 1 of the pliable and stretchable material described in connection with Figs. 1 to 5. In this case a relatively light pressure is used to effect the temporary union between the adhesively coated surface of the layer 1 and the crinoline, so that the layer 1, together with the adhesively associated dressing 3, may be readily stripped from the supporting crinoline layer. As and when such dressings are required for use, a section of the crinoline 8 is cut from the strip, separated from the material 1, and discarded, whereupon the dressing can be applied and the edge portions of the discs 1 folded and pressed into position.

I claim:

25 1. A dressing comprising a layer of pliable, tough, and somewhat stretchable material constituted of halogenated rubber, the entire surface of said material being coated on one side with adhesive of the pressure-sensitive type, a fabric pad for application to the part to be dressed of less length and width than that of the base material, in contact with a central area of said adhesively connected base and entirely encompassed by the continuous peripheral area of the base, protective crinoline covering upon

those adhesive portions of the base which are not in contact with the pad and extending over said pad, said covering being adapted to be stripped from the base before application of the dressing to the part to be dressed, leaving the adhesive coating of the bandage free for attachment to the skin by a molding pressure during application of the dressing and capable of forming an adhesive connection with the skin all around the wound protecting the same against contamination or liquids and maintaining, without disturbing the pad, the relation of the pad to the wound, notwithstanding movements of the skin or bones.

2. A dressing such as set forth in claim 1 in which the protective crinoline covering is constituted of two parts, each of which is adhesively associated with the pad-carrying layer for a distance approximating one-half of the periphery of the pad and each having an extension adhesively associated with the pad-carrying layer, said extensions overlapping each other.

3. A dressing such as set forth in claim 1 in which the protective crinoline covering is constituted of two parts, each of which is adhesively associated with the pad-carrying layer for a distance approximating one-half of the periphery of the pad and each having an extension adhesively associated with the pad-carrying layer, one of said extensions being bent back on the section of which it is an extension, while the extension of the other section extends over the bent-back portion of the first-named section.

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