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STERILE PACKAGE FOR SURGICAL FABRIC

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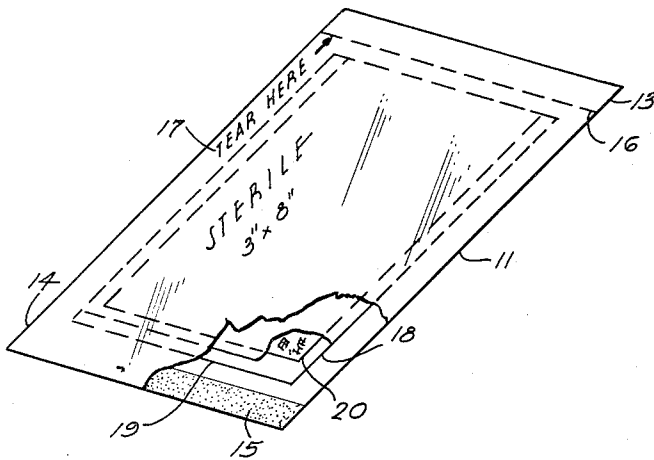


Fig. 1.

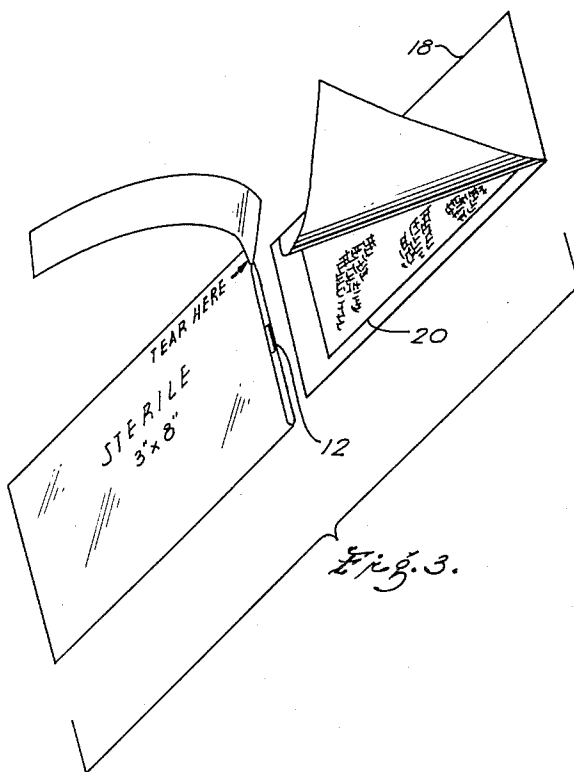


Fig. 3.

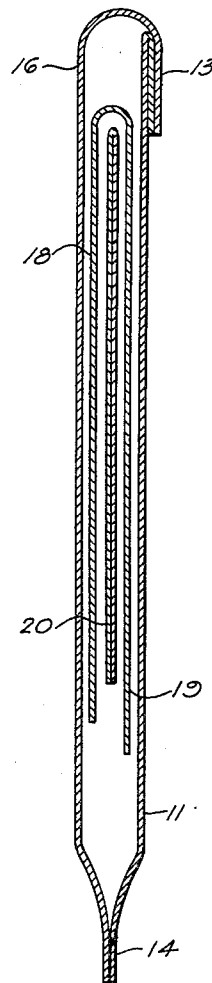


Fig. 2.

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STERILE PACKAGE FOR SURGICAL FABRIC
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4 Claims. (Cl. 206—63.2)

This invention relates to a package containing a sterile surgical dressing, which package protects the dressing in sterile condition and delivers the dressing at time of use in sterile condition, with a minimum of manipulation.

In the dressing of wounds such as burns, abrasions, cuts, or other forms of damaged skin surface, it is desirable that a non-adherent, smooth surgical fabric be placed in contact with the surface of the wound. Such fabrics have been formed from saponified cellulose acetate fabrics, with the main problem being to keep such dressing in sterile condition until time for use and to have it so packaged that the sterile dressing can be delivered to the wound surface without risk of contamination.

A suitable package possessing the advantages of simplicity, economy, and efficiency is shown in the accompanying drawings in which:

FIGURE 1 is a perspective view of the sterile package containing the surgical dressing with one corner partially broken away to shown the contents.

FIGURE 2 is a cross-sectional view of the package with the thickness dimension greatly expanded for clarity.

FIGURE 3 is a pictorial view showing the extraction of the dressing from the package.

The package is formed from a suitable paper such as a moisture-proof, sterilizing agent permeable, heat sterilizable, glassine envelope 11 which may be formed from a continuous strip of glassine paper folded from each side upon itself with an overlap, which overlap is adhesively united to form a glued seam 12. The continuous tube thus formed is cut into segments and one end is folded upon itself and glued together to form a glued fold 13, with both faces of the folded over portion united to each other and the adjacent face of the thus formed envelope. The envelope at the remaining open end is closed with a heat seal closure 14. The envelope has a heat sealable adhesive 15 coating the inner side of at least one of the faces, which adhesive is conveniently placed in the mouth of the envelope during the manufacture of the envelope. Conventional envelope forming machines may be used to form these envelopes.

On the surface of the envelope is printed a tear line 16 which may be printed with such sharp segments of type as to partially weaken the glassine envelope. At the same time indicia 17 may be printed on the envelope including both instructions and identification data. In the envelope is a folded paper shield 18 which conveniently is of bleached kraft paper and of such size as to readily slide into the envelope leaving sufficient space at the folded end for the rupture of the envelope without damaging the integrity of the folded shield, and spaced from the heat sealed end of the envelope to permit the heat sealed closure to be formed without engaging the folded shield. The folded shield is formed with one extended edge 19, opposite to the fold in the folded shield, so that one face of the shield may be easily lifted.

The dressing itself is conveniently of a saponified cellulose acetate fabric which has the property of being resistant to permeation by body fluids and through which regenerating tissues will not penetrate. Such a fabric when in contact with the wound causes the regenerating of the surface with a smooth, less scarred surface, and the dressing may be removed from the wound with a minimum of damage to the surface of the regenerating

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tissues because there is no adherence. Such fabrics are currently being sold under the trademark "Owens" non-adherent surgical dressing. The dressing is folded as necessary and placed in the folded paper shield with the paper shield extending beyond the fabric in all directions. This fabric dressing 20 is thus protected and maintained sterile by the shield. The co-efficients of friction between the fabric of the dressing and the paper shield and between the paper shield and the glassine envelope are such that on impact, as by tapping, the folded paper shield may slide around inside the envelope but the dressing does not slide with respect to the shield.

After the dressing in the folded paper shield is inserted in the envelope, the open end of the envelope is heat sealed.

The closed package may be sterilized either by autoclaving or by enclosing in a chamber containing ethylene oxide or other sterilizing gas which permeates the glassine envelope and sterilizes the contents.

In use the glassine paper envelope is opened by tearing or cutting at the tear line 16, and by slightly squeezing the edges, the envelope is caused to pop open. The folded edge of the paper shield is thus reached through the opening and may be withdrawn by sterile or non-sterile techniques. The folded edge protects the dressing from contamination. The paper shield containing the fabric may then be grasped between the fingers or instruments and withdrawn, and the side of the shield having the extended edge is easily lifted as shown in FIGURE 3 partially exposing the dressing. The dressing may be grasped with a sterile instrument or the surgeon's glove, removed, wetted by a saline solution, if desired, and placed in contact with the wound.

For emergency procedures the folded paper may be opened with non-sterile fingers, and the fabric dropped from the shield onto the surface of the wound untouched by any object. Thus under emergency conditions a sterile dressing may be placed in contact with the wound without any risk of contamination under even the most primitive conditions.

If a paper shield is used which has a very low co-efficient of friction, or if vibration service is contemplated, as for example in a first aid packet for an airplane, the end of the paper shield may be detachably adhesively united to the outer envelope, as for example by a weak glue, or a tearable line to the envelope. Similarly, an overlapping bend can be used to more firmly anchor the dressing 20 to the shield 18.

I claim:

1. A sterile surgical dressing package comprising: a thin, flat, smooth, folded surgical fabric dressing adapted for application directly in contact with a wound surface, and which in such contact is non-adherent to regenerating tissues; a single folded paper shield open on three sides in contact with and surrounding said dressing, said paper shield extending beyond the area of the dressing in all directions, and having one edge extend beyond the other opposite the fold line, whereby the folded shield may be readily opened; and an outer envelope in which said dressing in said shield is enclosed, which envelope is formed of an adhesively united seamed paper tube, with said seam in one face of the envelope, an adhesively united fold at one end, in which the tube is folded back upon itself and adhesively united to itself, and a heat sealed closure at the other end, in which the two opposing faces of the envelope are heat sealed to each other, said envelope being longer than said folded paper shield, and having a tear line on one face of the envelope on that portion which extends beyond said folded paper shield, the co-efficient of friction between said shield and said envelope being such that by vigorous tapping said shield may be moved with respect to said envelope,

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and the co-efficient of friction between said shield and said dressing being such that said dressing maintains its relationship with said shield during such tapping.

2. A method of forming a sterile surgical dressing package comprising: folding a sheet of sterilizing agent permeable glassine paper from both sides so as to form a tube with an overlap in one face, adhesively uniting the overlap to form a flattened glassine paper tube, folding over one end of the thus formed tube and adhesively uniting the folded over end to the face of the tube including sealing the lumen of the tube, thus forming an envelope with one open end; singly folding a piece of paper slightly away from its center line to form a folded paper shield, one edge of which extends beyond the other edge opposite to the fold line; folding a surgical fabric dressing adapted for application directly in contact with a wound surface, and which in such contact is non-adherent to regenerating tissues, placing said surgical fabric in the shield, said folded dressing being of such size that the folded paper shield extends a short distance beyond the dressing at all edges, and the envelope being of such size that the folded paper shield containing the dressing may be readily inserted therein with the folded edge towards the closed end of the envelope, and spaced far enough from the closed end to permit the tearing of the folded end of the paper envelope without interference

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with the fold of said shield, and leaving room for a final closure seal at the open end of the envelope; inserting said fabric dressing in said folded paper shield into the envelope, heat sealing the open end of the envelope to close said open end, and sterilizing the thus formed package.

3. The process of claim 2 including the step of heating the package until the contents are sterile.

4. The process of claim 2 in which the glassine paper envelope is permeated with a gaseous sterilizing agent until the contents are sterile.

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