United States Patent [19]

Link

[11] **3,795,309**

[45] **Mar. 5, 1974**

[54] **SKIN PREPPING SET FOR SURGICAL PROCEDURES**

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[73] Assignee: **Johnson & Johnson**, New Brunswick, N.J.

[22] Filed: **Oct. 20, 1972**

[21] Appl. No.: **299,476**

[52] **U.S. Cl.** ..... **206/223**, 803, 362, 438, 128/132 D

[51] **Int. Cl.** **A61b 19/02**, B65d 77/30

[58] **Field of Search** ... 206/63.2 R, 47 R, 46 SG, 72; 128/132 D

[56] **References Cited**

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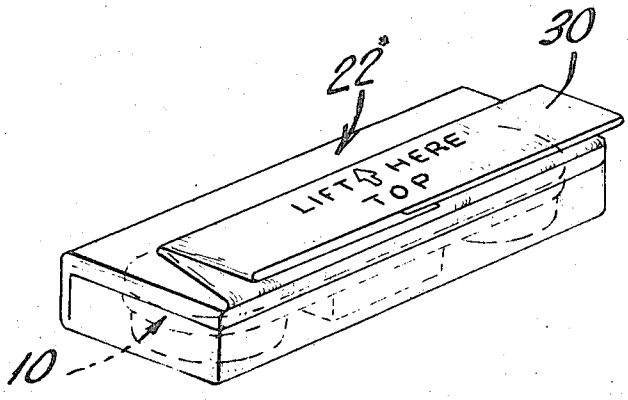
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Primary Examiner—William T. Dixson, Jr.

[57] **ABSTRACT**

A skin prepping set for surgical procedures which includes a prepping solution tray and a plurality of sponges and absorbent towels placed at the center of a sterile field overwrap. The prepping tray and the sponges and towels are spaced from one another when the prepping set is in a fully opened condition. To form a packaged kit, the sterile field overwrap is serially folded to form lips or tabs that permit opening of the package without contamination of the contents and further when so folded into a finished package the towels and sponges are placed on top of the tray with a plurality of layers of the overwrap interposed therebetween such that the closed package occupies a minimum amount of space.

6 Claims, 13 Drawing Figures



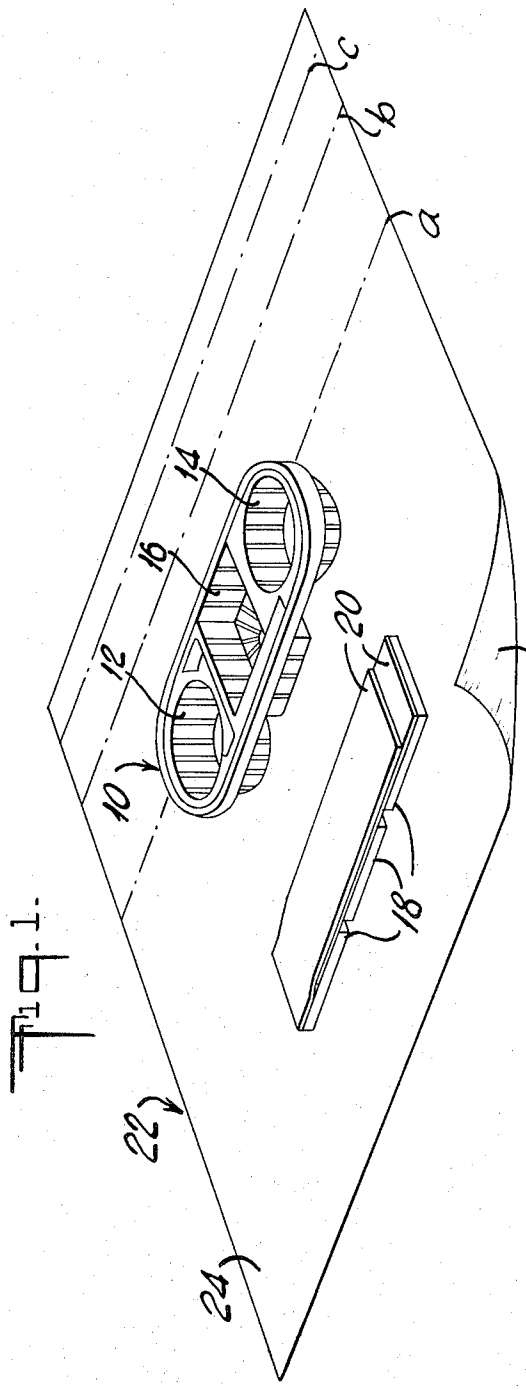


FIG. 1.

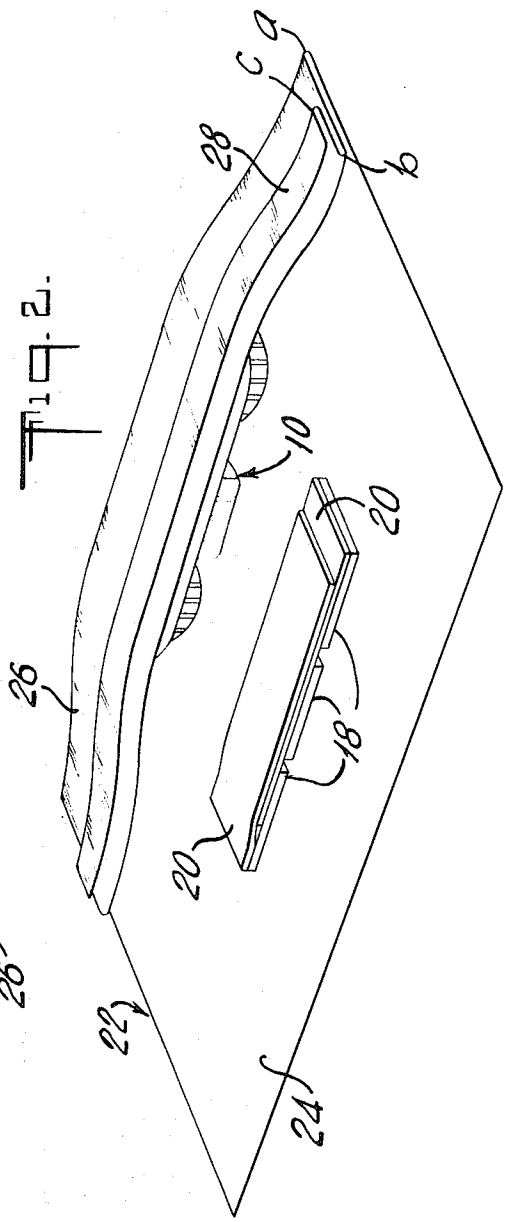


FIG. 2.

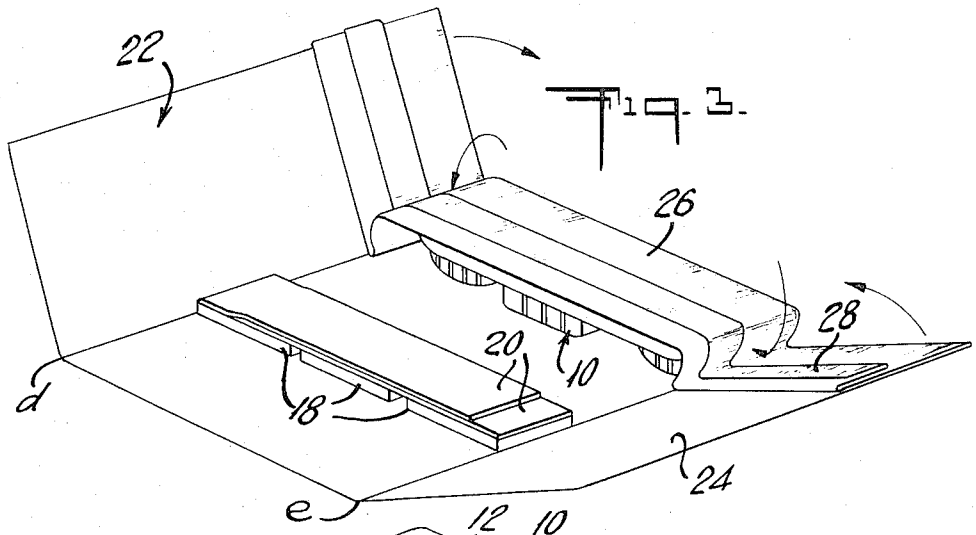


Fig. 3.

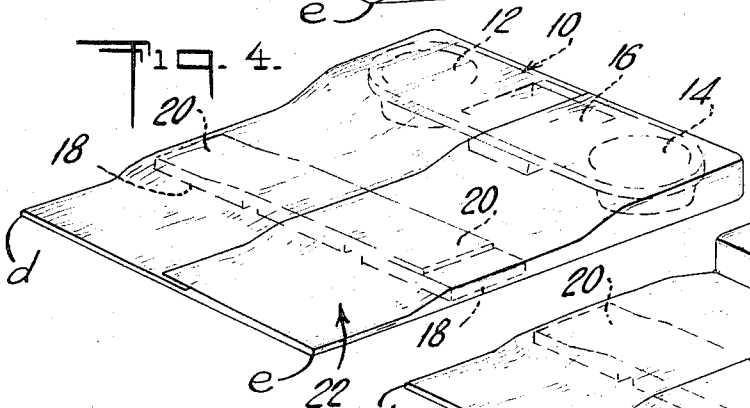


Fig. 4.

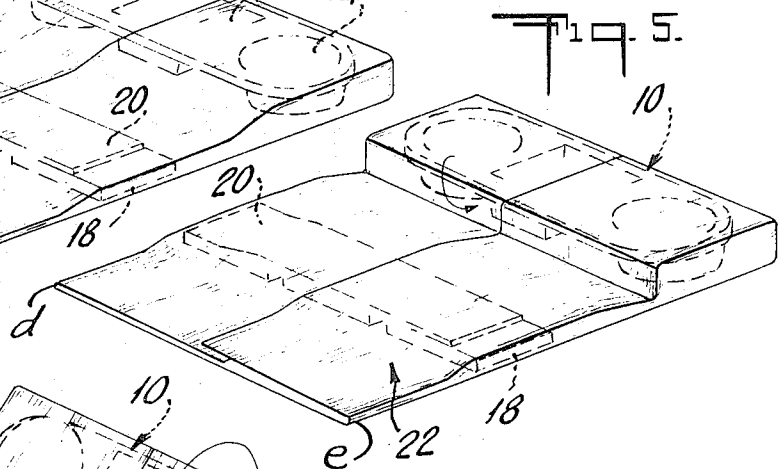


Fig. 5.

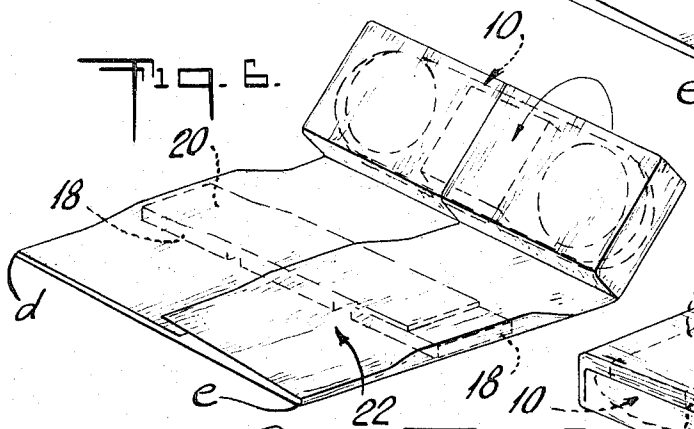


Fig. 6.

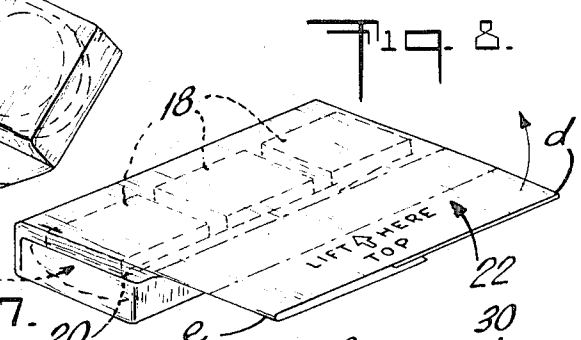


Fig. 8.

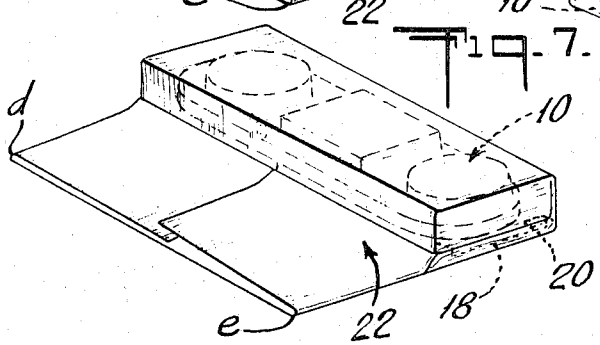


Fig. 7.

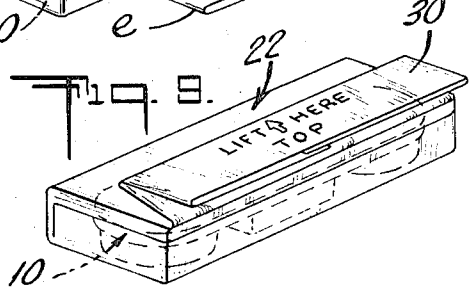


Fig. 9.

Fig. 10.

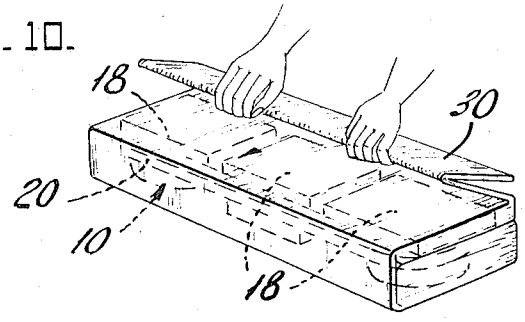


Fig. 11.

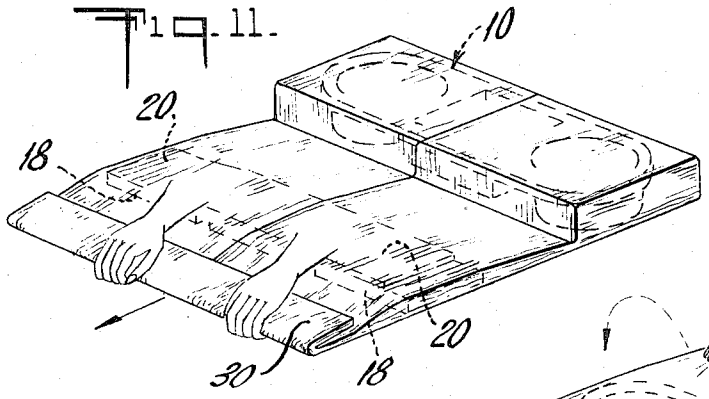


Fig. 12.

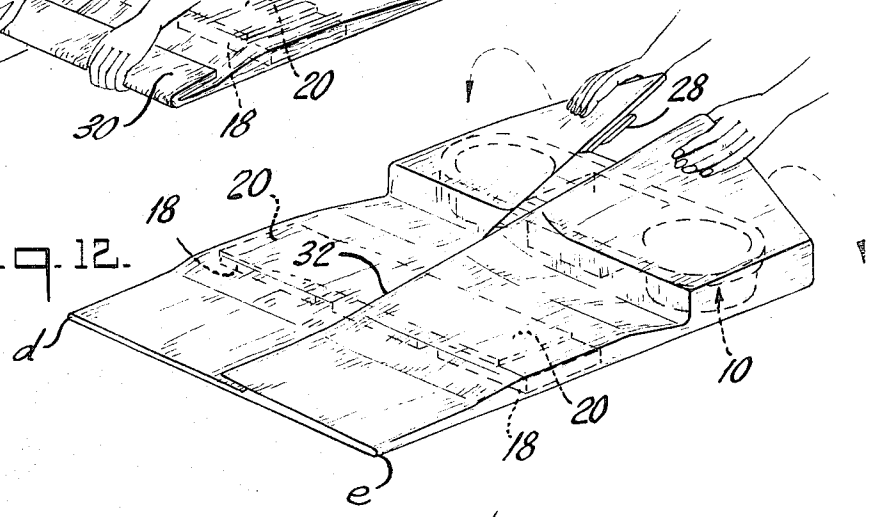
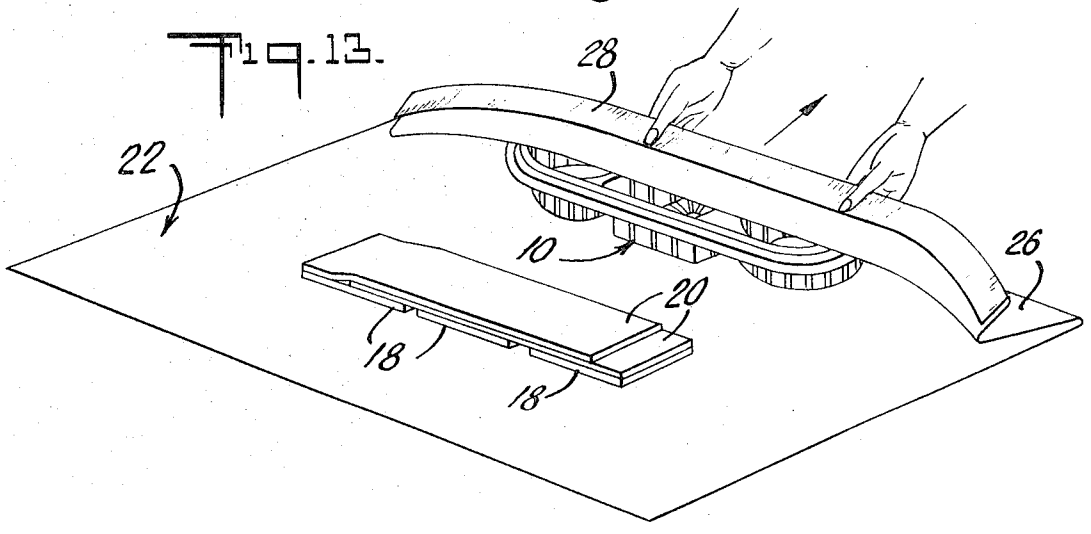


Fig. 13.



SKIN PREPPING SET FOR SURGICAL PROCEDURES

BACKGROUND OF THE INVENTION

This invention relates to surgical kits and more particularly is directed to a packaged skin prepping set for surgical procedures which, when opened, provides a completely sterile field from which preoperative patient prepping procedures can be performed.

In hospital operating rooms during surgical procedures there is usually present one or more sterile nurses whose primary function is to assist the surgeon in those procedures where sterility must be maintained. Many such procedures during any given operation are required, thus placing a premium on the time of the sterile nurse or nurses. It is thus desirable to find ways and means by which many of these procedures can be performed by a nonsterile circulating nurse without contamination of that which is used in the procedure. One such area is the so-called preoperative patient prepping procedure wherein the operative site of the patient is "scrubbed" with sterilizing prepping solutions prior to draping of the patient and the initiation of the incision by the surgeon.

Skin prepping sets in the past have been provided which can be opened by a nonsterile nurse but which then require manipulation of the components once opened by the sterile nurse. For example, many prior skin prepping sets included a plurality of components, i.e., trays, compartments, pre-packaged sterile prepping solutions, and the like within the sterile field overwrap. Thus, once the overwrap has been opened by the nonsterile nurse, exposing the sterile components within the overwrap, the components being sterile must be manipulated by the sterile nurse to prevent contamination thereof.

To overcome some of these objections it has been proposed to provide forceps within the interior of the skin prepping set to permit manipulation of the tray components by the nonsterile nurse. This, however, increases the chance of contamination of the tray or the tray components by the nonsterile nurse in that there is a good chance that contamination of the tray components and the overwrap occurs when the nonsterile nurse picks up the forceps from the sterile field. In order to insure maximum sterility, the nonsterile nurse should not touch anything on or within the sterile field.

By the present invention I have provided a compact packaged skin prepping set for preoperative skin preparation of patients scheduled for surgical procedures which can be completely set up, ready for use, by a nonsterile nurse without requiring any of the set-up procedures to be carried out by the operating room sterile nurse.

SUMMARY OF THE INVENTION

According to the present invention there is provided a skin prepping set for surgical procedures which includes a sterile field overwrap of flexible sheet material that envelopes a sterile tray having a plurality of depressions for receiving sterile surgical prepping solutions as well as a plurality of sterile absorbent sponges and towels. The tray and the sponges and towels are spaced from one another within the borders of the overwrap when the prepping set is in a fully opened condition and the sponges and towels overlie the tray with a plurality of layers of the overwrap interposed therebetween when the prepping set is in a fully closed condition. The sterile field overwrap is folded to completely enclose the sterile tray and the sterile sponges and towels within the inner sterile surface of the overwrap and further in a manner to permit opening of the overwrap by a nonsterile nurse without contaminating either the inner sterile surface of the overwrap or the sterile tray and the sterile sponges and towels.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and further advantages and features of the present invention will be even more apparent by reference to the following detailed description thereof when read in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of the fully opened skin prepping set of the present invention and indicates the lines upon which the sterile field overwrap is first folded in the steps to enclose the skin prepping set in a closed package;

FIG. 2 shows the skin prepping set of FIG. 1 subsequent to the first folding steps of the overwrap;

FIG. 3 illustrates the skin prepping set of FIG. 1 illustrating the initiation of the second folding steps of the sterile field overwrap;

FIG. 4 illustrates the skin prepping set of FIG. 1 subsequent to completion of the second folding steps illustrated in FIG. 3;

FIG. 5 illustrates the skin prepping set as it is enclosed in the sterile field overwrap prior to rotating the enclosed tray into a position overlying the enclosed sponges and towels;

FIG. 6 illustrates the rotation of the tray into a position over the towels within the sterile field overwrap;

FIG. 7 illustrates the sterile skin prepping set as it appears subsequent to the rotation step illustrated in FIG. 6;

FIG. 8 illustrates the re-rotation or turning over of the skin prepping set subsequent to its appearance in FIG. 7;

FIG. 9 illustrates the final folding steps of the sterile field overwrap which completely enclose the skin prepping set and provide a tab opening lip at the top of the enclosed set; and,

FIGS. 10 through 13 illustrate the sequential steps for opening of the sterile field overwrap to place the skin prepping set into an open condition ready for use.

DETAILED DESCRIPTION OF THE INVENTION

Referring now first to FIGS. 1 and 2, the skin prepping set of the present invention includes a tray 10 having a pair of cup-like depressions 12 and 14 separated by a central rectangular depression 16. Also included in the skin scrub set are a plurality of surgical sponges 18 and absorbent towels 20. To enclose the tray 10 and the sponges 18 and towels 20 into a sterile package there is provided an overwrap 22 of flexible sheet material. The flexible sheet material is preferably a laminate of a light basis weight creped tissue and a polyethylene or polypropylene film. The overwrap 22 in its fully opened condition presents the tissue side of the laminate as the inner or upper surface 24 of the overwrap with the polyethylene film side presenting the outer or lower surface 26 of the overwrap.

To enclose the tray 10 and the sponges 18 and the towels 20 within the overwrap 22, they are positioned

centrally on the inner surface of the overwrap **22** with the sponges **18** and towels **20** stacked and spaced from the tray **10** as shown in FIG. **1.** The overwrap **22** is then first folded upwardly along fold line *a.* to overlie the top of the tray **10** and then folded backwardly and forwardly along fold lines *b.* and *c.*, respectively, to form a double-layered lip **28** (FIG. **2**) at what will be the trailing edge of the overwrap **22** in the finished package.

Referring now to FIGS. **3, 4** and **5,** the multi-layered portion of the overwrap overlying the tray **10** is tucked inwardly at the end edges thereof and the lateral portions of the overwrap **22** existent beyond the end edges of the tray and of the stack of sponges **18** and towels **20** is folded upwardly along fold lines *d.* and *e.* to overlie the top surface of the multi-layered portion of the overwrap overlying the tray and the top surface of the stack of sponges **18** and towels **20.** The portion of the overwrap **22** existent beyond the side edge of the tray **10** is tucked in at the side edge of the tray (FIG. **5**) and then the portion of the overwrap **22** encasing the tray **10** is lifted upwardly to rotate the encased tray **10** in the manner of closing a book into a position overlying the overwrap encased sponges **18** and towels **20** (FIGS. **6** and **7**). The now packaged skin prepping set is then completely turned over so that the encased sponges **18** and towels **20** overlie the top surface of the encased tray **10** (FIG. **8**).

To complete the compact packaging of the skin prepping set, the portion of the overwrap **22** extending beyond the lateral edges of the stacked tray and sponges and towels is first folded upwardly along fold line *f.* and thence backwardly along fold line *g.* (FIG. **8**) to form a double-layered lip **30** at what is now the leading edge of the overwrap **22.** The skin prepping set is now completely packaged into a compact unit which can be readily placed into a sterility maintaining package and then sterilized by any well-known method such as ethylene oxide treatment, steam sterilization or irradiation.

Following sterilization, the packaged skin prepping set is ready for use in an operating room and can readily be opened and set up by a nonsterile nurse without the assistance of a sterile nurse. The inner or upper surface **24** of the sterile field overwrap **22** remains sterile when the packaged skin prepping set is completely opened by a nonsterile nurse thus presenting a sterile field from which the sterile nurse may use the skin prepping set to apply sterile solutions to the skin of the patient at the site of the operative incision.

The opening of the skin prepping set package is illustrated in FIGS. **10** through **13** and shows that the package, placed on a suitable stand or table, is first grasped at the double-layered lip **30** at the leading edge of the overwrap **22** by the nurse standing rearwardly of the package behind the double-layered lip **30** (FIG. **10**). This initial grasping of the overwrap **22** limits contact of the nonsterile nurse to the outer surface **26** of the overwrap **22.** The overwrap **22** is then lifted by the nonsterile nurse upwardly and forwardly which also lifts the encased sponges **18** and towels **20** away from the top surface of the encased tray **10** to a position spaced forwardly thereof, i.e., with the tray **10** positioned between the stacked sponges **18** and towels **20** and the nonsterile nurse (FIG. **11**). The lip **30** at the leading edge of the overwrap **22** can then be lifted forwardly by grasping the undersurface of the folded over portion of the overwrap **22,** which surface is the outer surface of the overwrap **22** thus preventing any contamination of the interior surface of the overwrap **22** by the nonsterile nurse.

The next step is setting up the skin prepping set is illustrated in FIG. **12** where the multi-layered portion of the overwrap **22** which overlies the tray is grasped on each side of the overlap **32** and each portion of the overwrap **22** overlying the top surface of the tray **10** and the stack of sponges **18** and towels **20** is lifted upwardly and outwardly with the hands of the nonsterile nurse still being in contact only with the outer surface **26** of the overwrap **22.**

Thus opened to the condition illustrated in FIG. **13,** the double-layered lip **28** at the trailing edge of the overwrap **22** lies exposed over the top surface of the tray **10.** This double-edged lip **28** is then grasped by the nonsterile nurse while still contacting only the outer surface **26** of the overwrap **22** to lift the trailing edge thereof in a direction towards the nonsterile nurse. This maneuver also lifts that portion of the folded overwrap **22** overlying the top surface of the tray **10** away therefrom leaving the sterile tray **10,** the sterile sponges **18** and towels **20,** and the sterile inner or upper surface **24** of the overwrap **22** exposed without any portion thereof having been contaminated by the nonsterile nurse. The skin prepping set then appears as illustrated in FIG. **1.**

Once opened in the above-described manner, the nonsterile nurse next pours into the depressions **12, 14** and **16** of the tray **10** the various desired sterile prepping solutions from containers positioned nearby. The pouring of the sterile prepping solutions is accomplished without the nonsterile nurse or the containers from which the solutions are poured coming into contact with either the tray **10** or the upper sterile surface **24** of the sterile field overwrap **22.** Being thus set up without contamination by a nonsterile nurse, the prepping set is now ready for manipulation by the sterile nurse who, using the sterile sponges and towels, picks up the sterile prepping solutions from the depressions in the tray and wipes them onto the surface of the skin of the patient at the site of the imminent incision.

Thus from the foregoing it is seen that a surgical skin prepping set is provided which can be completely set up ready for use by a nonsterile nurse while maintaining the sterility of the exposed surface of the overwrap and the contents within the overwrap thereby reducing substantially the amount of valuable time required of the sterile nurse during the actual skin prepping of the patient prior to the surgical procedure.

While I have described the present invention with particular reference to a preferred embodiment thereof, it is understood that many changes, variations and modifications can be made therein without departing from the scope of the invention as defined in the following appended claims.

I claim:

1. A skin prepping set for surgical procedures comprising:

A. A sterile field overwrap of flexible sheet material;

B. A sterile tray having a plurality of depressions for receiving sterile surgical prepping solutions; and

C. A plurality of sterile absorbent sponges and towels;

1. said tray and said sponges and towels being spaced from one another within the borders of

said overwrap when said prepping set is in a fully opened condition;

2. said sponges and towels overlying said tray with a plurality of layers of said overwrap interposed therebetween when said prepping set is in a fully closed condition; and

3. said sterile field overwrap being folded in a manner to completely enclose said sterile tray and said sterile sponges and towels within the inner sterile surface of said overwrap and further in a manner to permit opening of the overwrap by a nonsterile nurse without contaminating either the inner sterile surface of said overwrap or said sterile tray and said sterile sponges and towels.

2. A skin prepping set according to claim **1** wherein said sterile tray and a stack of said sterile sponges and towels are spaced from one another and positioned substantially centrally of said sterile field overwrap when said set is in a fully opened condition and said prepping set is enclosed into a compact package within said overwrap by:

A. A first transverse fold forwardly of said overwrap to position a portion thereof over the top surface of said tray;

B. A second and third transverse fold backwardly and forwardly, respectively, of said overwrap to form a double-layered lip at the trailing edge thereof and overlying the top of said tray;

C. A pair of longitudinal folds upwardly of the portions of said overwrap existent laterally of the ends of said tray and said stack of sponges and towels to overlap the lateral edges of said overwrap over the top surface of said tray and said stack of sponges and towels;

D. A fourth transverse fold of said overwrap intermittent said tray and said stack of sponges and towels to place the latter on top of the former in the manner of closing a book; and

E. A fifth and sixth transverse fold backwardly and forwardly, respectively, of said overwrap to form a double-layered lip at the leading edge thereof and overlying the top surface of said enclosed tray and said stack of sponges and towels.

3. A skin prepping set according to claim **1** wherein said flexible sheet material is a laminate of light basis weight tissue and polyethylene film.

4. A skin prepping set according to claim **1** wherein said flexible sheet material is a laminate of light basis weight tissue and polypropylene film.

5. A skin prepping set according to claim **3** wherein said light basis weight tissue layer is the inner surface of said sterile field overwrap and said polyethylene film is the outer surface thereof.

6. A skin prepping set according to claim **4** wherein said light basis weight tissue layer is the inner surface of said sterile field overwrap and said polypropylene film is the outer surface thereof.

* * * * *