

[54] **MULTIPLE PURPOSE DRAPE**

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[51] Int. Cl. **A61b 19/06**

[58] Field of Search 128/132, 292, 2; 161/109, 161/113; 101/128.2

[56] **References Cited**

UNITED STATES PATENTS

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[57]

ABSTRACT

A drape for performing a plurality of individual surgical procedures on a patient's body. The drape includes a flexible main sheet having a lower and an upper surface which respectively contact and face away from the patient's body after placement of the drape, and the main sheet has a plurality of fenestrations located in the drape for performing a plurality of separate surgical procedures through the drape. The drape includes a plurality of cover sheets which are removably secured to the upper surface of the drape over the fenestrations. An individual cover sheet may be removed from the drape to perform a select surgical procedure through the associated fenestration, and the remaining cover sheets maintain a sterile barrier over the remaining fenestrations during the selected surgical procedure.

10 Claims, 7 Drawing Figures

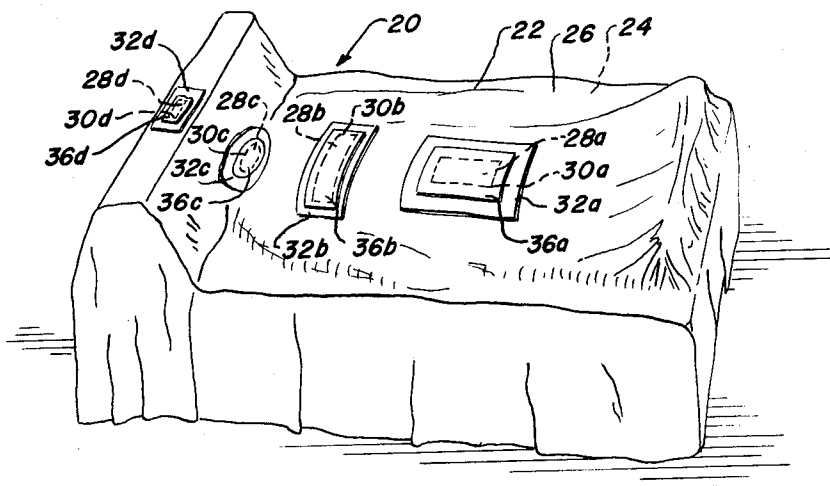


FIG. 1

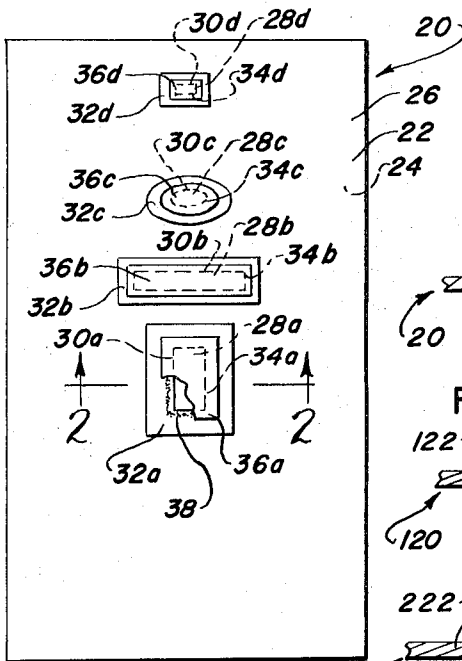


FIG. 2

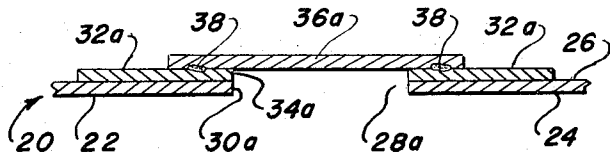


FIG. 4

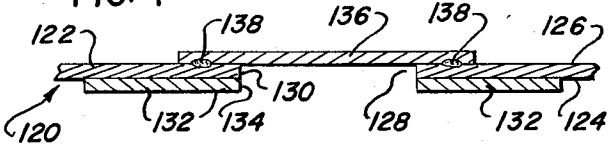


FIG. 5

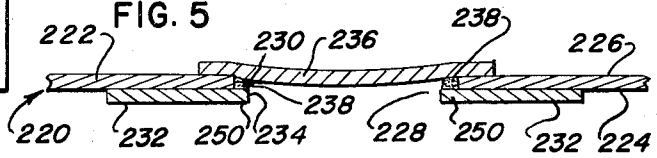


FIG. 6

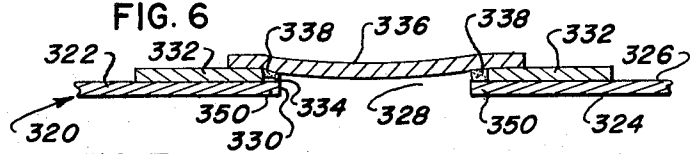


FIG. 7

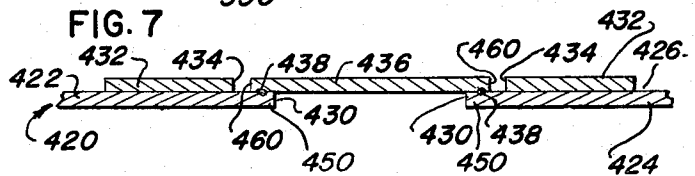
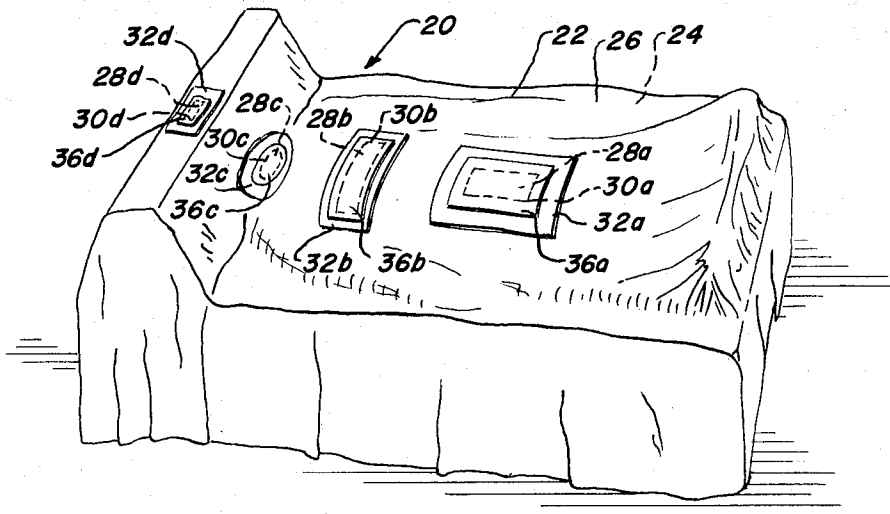


FIG. 3



MULTIPLE PURPOSE DRAPE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to drapes, and more particularly to surgical drapes.

2. Description of the Prior Art

In the past, a various assortment of drapes have been proposed for surgical procedures, which are utilized to cover the body of a patient during the procedure and maintain a sterile barrier around the operative site. However, before the present invention, such drapes have been provided with a fenestration at a particular location and of a size particularly suited for a single surgical procedure. Accordingly, it has been necessary for hospitals to maintain a stock of different drapes for performing different procedures, and select the appropriate drape for a given operation.

Bennett U.S. Pat. No. 3,435,821 discloses a drape for surgery on the abdominal cavity, and de Lasarte U.S. Pat. No. 2,124,366 and Gerber U.S. Pat. No. 1,998,051 relate to clinical robes for patients.

SUMMARY OF THE INVENTION

A principal feature of the present invention is the provision of a drape for performing a plurality of separate surgical procedures on a patient's body.

The drape of the present invention includes a flexible main sheet having an upper and a lower surface which respectively contact and face away from the patient's body after placement of the drape. The main sheet has a plurality of fenestrations located in the drape and of a sufficient size for performing a plurality of individual surgical procedures through a drape. The drape includes a plurality of cover sheets which are removably secured to the upper surface of the drape over the fenestrations, with each of the cover sheets being sufficiently large to cover an associated fenestration.

A feature of the present invention is that an individual cover sheet may be removed from the drape to perform a selected surgical procedure through its associated fenestration.

Another feature of the invention is that the remaining cover sheets maintain a sterile barrier over the remaining fenestrations during the selected surgical procedure.

A further feature of the invention is the provision of reinforcement strips which are secured to the main sheet and which extend peripherally around the fenestrations.

Yet another feature of the invention is that the reinforcement strips may be secured to the upper surface of the main sheet, and the cover sheets are adhered to the reinforcement strips peripherally around the fenestrations.

Still another feature of the invention is that the reinforcement strips may be secured to the lower surface of the main sheet, and the cover sheets are adhered to the main sheet peripherally around the fenestrations.

Both the main sheet and reinforcement strips have peripheral edges which extend around the fenestrations. The reinforcement strips may be secured to the upper surface of the main sheet, and the peripheral edges of the reinforcement strips may be set back from the peripheral edges of the main sheet in order to de-

fine marginal edges of the main sheet extending peripherally around the fenestrations.

Another feature of the invention is that the cover sheets may be adhered to the marginal edges of the main sheet peripherally around the associated fenestrations.

The reinforcement strips may be secured to the lower surface of the main sheet, and the peripheral edges of the main sheet may be set back from the peripheral edges of the reinforcement strips in order to define marginal edges of the reinforcement strips extending peripherally around the fenestrations.

A further feature of the invention is that the cover sheets may be adhered to the marginal edges of the reinforcement strips peripherally around the associated fenestrations.

Further features will become more fully apparent in the following description of the embodiments of this invention and from the appended claims.

DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a plan view of a multiple purpose drape of the present invention, with a cover sheet on the drape being partly broken away;

FIG. 2 is a sectional view taken substantially as indicated along the line 2—2 of FIG. 1, showing a reinforcement strip secured to a main sheet in the drape and a cover sheet removably secured to the reinforcement;

FIG. 3 is a perspective view of the drape of FIG. 1 as positioned over the body of a patient for performing a selected surgical procedure;

FIG. 4 is a sectional view of another embodiment of the structure of a reinforcement strip, a cover sheet and a main sheet in the drape;

FIG. 5 is a sectional view of another embodiment of the structure of a reinforcement strip, a cover sheet and a main sheet in the drape;

FIG. 6 is a sectional view of another embodiment of the structure of a reinforcement strip, a cover sheet and a main sheet in the drape; and

FIG. 7 is a sectional view of another embodiment of the structure of a reinforcement strip, a cover sheet and a main sheet in the drape.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1-3, a surgical drape designated generally 20 is shown having a flexible main sheet 22 which preferably is of a sufficient size to substantially cover the body of a patient. The main sheet 22 has a lower surface 24 and an upper surface 26 which respectively contact and face away from the patient's body after placement of the drape, and the main sheet may be made from any suitable material, such as cotton, nonwoven fabric, or plastic.

The main sheet 22 has a plurality of fenestrations 28a, 28b, 28c, and 28d, defined by corresponding peripheral edges 30a, 30b, 30c, and 30d in the sheet, which are appropriately located in the drape and are of a sufficient size for performing a plurality of separate surgical procedures. For example, in the drape 20 as shown, the fenestrations 28a, b, c, and d are particularly adapted for separately performing laparotomy, mastectomy, thyroid, and craniotomy surgical procedures, respectively. However, it is understood that fenestrations

may be appropriately located in the drape for many other possible combinations of surgical procedures, such as transverse laparotomy, laminectomy, and hemorrhoidectomy.

Preferably, the drape 20 has a plurality of reinforcement strips 32a, 32b, 32c, and 32d secured to the upper surface 26 of the main sheet 22, and extending peripherally around the associated fenestrations 28a, b, c, and d. The reinforcement strips 32a, b, c, and d may be made from any suitable material, such as plastic or a laminate or nonwoven fabric and polyethylene, and the reinforcement strips are secured to the main sheet 22 by suitable means, such as heat sealing, adhesives, or crimping. The reinforcement strips also have peripheral edges 34a, 34b, 34c, and 34d which extend around the associated fenestrations 28a, b, c, and d, and in this embodiment of the invention, the peripheral edges of the reinforcement strips are coextensive with the peripheral edges of the main sheet 22. The reinforcement strips serve to strengthen the sheet 22 in the region around the fenestrations, and provide a fluid-impervious barrier to prevent passage of liquid through the drape 20 while performing a surgical procedure.

The drape 20 includes a plurality of cover sheets 36a, 36b, 36c, and 36d which are removably secured to the upper surface of the drape over associated fenestrations 28a, b, c, and d, respectively, and each of the cover sheets is sufficiently large to cover the associated fenestration. The cover sheets may be made of any suitable material such as nonwoven fabric, polyethylene, or a laminate of polyethylene and nonwoven fabric. In this embodiment of the invention, the cover sheets are removably secured to the upper surface of the reinforcement strips by suitable means, such as adhesive 38 extending peripherally around the fenestrations. However, it is contemplated that the reinforcement strips may be omitted from the drape, and the cover sheets may be removably secured to the main sheet without the reinforcement strips.

In use, the drape 20 is positioned over the body of the patient, as shown in FIG. 3, and the appropriate cover sheet is removed from the drape to expose the associated fenestration for a selected surgical procedure. Since the remaining cover sheets are secured to the drape during the selected surgical procedure, they continue to cover and maintain a sterile barrier over the remaining fenestrations while performing the selected surgical procedure. Accordingly, a single drape may be utilized for a plurality of different surgical procedures, and eliminates the necessity of maintaining a supply of separate drapes for the various surgical procedures to be performed.

Another embodiment of the invention is illustrated in FIG. 4, in which reference numerals are incremented by a hundred to designate like parts. In this embodiment, reinforcement strips 132 are secured to the lower surface 124 of the main sheet 122 of the drape 120, with the peripheral edges 134 and 130 of the reinforcement strips and main sheet, respectively, being coextensive, as previously described. The cover sheets 136 are removably secured by adhesive 138 to the upper surface 126 of the main sheet 122 over the fenestrations 128.

Another embodiment of the invention is illustrated in FIG. 5, in which reinforcement strips 232 are secured to the lower surface 224 of the main sheet 222 of the drape 220. However, in this embodiment, the peripheral

edges 230 of the main sheet 222 are set back from the peripheral edges 234 of the reinforcement strips 232 in order to define marginal edges 250 of the reinforcement strips 232 which extend peripherally around the associated fenestrations 228. The cover sheets 236 are removably secured to the marginal edges 250 of the reinforcement strips by adhesive 238 extending peripherally around the fenestrations 228.

A further embodiment of the invention is illustrated in FIG. 6, in which the reinforcement strips 332 are secured to the upper surface 326 of the main sheet 322 of the drape 320. In this embodiment, the peripheral edges 334 of the reinforcement strips 332 are set back from the peripheral edges 330 of the main sheet 322 in order to define marginal edges 350 of the main sheet 322 extending peripherally around the fenestrations 328. The cover sheets 336 are removably secured to the marginal edges 350 of the main sheet peripherally around the fenestrations 328 by adhesive 338.

A similar embodiment of the invention is illustrated in FIG. 7. Reinforcement strips 432 are secured to the upper surface 426 of the main sheet 422, and the cover sheets 436 are removably secured to the marginal edges 450 of the main sheet, as before. However, in this embodiment, the peripheral edges 434 of the reinforcement strips 432 are set back a sufficient distance from the peripheral edges 430 of the main sheet 422, such that the peripheral edges 434 extend around peripheral edges 460 of the cover sheets 436.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as modifications will be obvious to those skilled in the art.

I claim:

1. A sterile drape for performing a plurality of separate surgical procedures on a patient's body, comprising:

a flexible main sheet having a lower and an upper surface respectively contacting and facing away from the patient's body after placement of the drape, said main sheet having a plurality of individually shaped fenestrations located in the drape and of a sufficient size for performing a plurality of individual surgical procedures through the drape;

a plurality of flexible cover sheets removably secured to the upper surface of the drape around said fenestrations to maintain a sterile barrier over said fenestrations, each of said cover sheets being sufficiently large to cover an associated fenestration, with a lower central portion of the cover sheets being non-adherent and facing through the fenestrations, such that an individual cover sheet may be removed from the drape to expose the underlying portion of the patient's body and perform a selected surgical procedure through its associated fenestration, while the remaining cover sheets maintain a sterile barrier over the remaining fenestrations during the selected surgical procedure; and

a plurality of separate flexible reinforcement strips secured to the main sheet, each of said reinforcement strips extending peripherally around one of said fenestrations.

2. The drape of claim 1 wherein said cover sheets are adhered to the drape.

5

3. The drape of claim 1 wherein said reinforcement strips are secured to the upper surface of said main sheet.

4. The drape of claim 3 wherein said main sheet and reinforcement strips have coextensive peripheral edges extending around the fenestrations.

5. The drape of claim 4 wherein said cover sheets are adhered to the reinforcement strips around the peripheries of the associated fenestrations.

6. The drape of claim 3 wherein said main sheet and reinforcement strips have peripheral edges extending around said fenestrations, the peripheral edges of said reinforcement strips are set back from the peripheral edges of the main sheet defining marginal edges of the main sheet extending peripherally around the fenestrations, and said cover sheets are adhered to the marginal edges of the main sheet peripherally around the associated fenestrations.

7. The drape of claim 6 wherein the peripheral edges of the reinforcement strips are set back sufficiently

6

from the peripheral edges of the main sheet for the peripheral edges of the reinforcement strips to extend around peripheral edges of the cover sheets.

8. The drape of claim 1 wherein said reinforcement strips are secured to the lower surface of said main sheet.

9. The drape of claim 8 wherein said main sheet and reinforcement strips have coextensive peripheral edges extending around the fenestrations.

10. The drape of claim 8 wherein said main sheet and reinforcement strips have peripheral edges extending around said fenestrations, the peripheral edges of the main sheet are set back from the peripheral edges of the reinforcement strips defining marginal edges of the reinforcement strips extending peripherally around the fenestrations, and said cover sheets are adhered to the marginal edges of the reinforcement strips peripherally around the associated fenestrations.

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