

[54] **SURGICAL DRAPE**
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[52] **U.S. Cl.**..... **128/132 D**
[51] **Int. Cl.**..... **A61b 19/06**
[58] **Field of Search**..... **128/132, 292, 294, 128/132 D**

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[57] **ABSTRACT**
A bag-like surgical drape is provided for covering or isolating objects during a surgical or obstetrical procedure. The drape is folded in a unique way to facilitate unfolding and draping. Front and back panels are folded transversely on the front panel and one end, positioned under a front cuff, is partly exposed by a diagonal fold to provide a hand-grasping area below the front cuff. The cuff is also folded in from the side margin forming a hand-receiving pocket so that the folded drape can be manipulated by means of the pocket and the grasping area to unfold and hold the drape up for positioning the drape aseptically.

5 Claims, 9 Drawing Figures

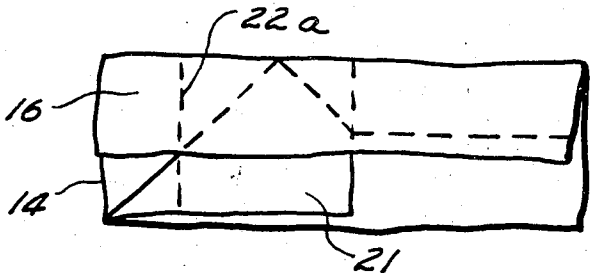


Fig. 1

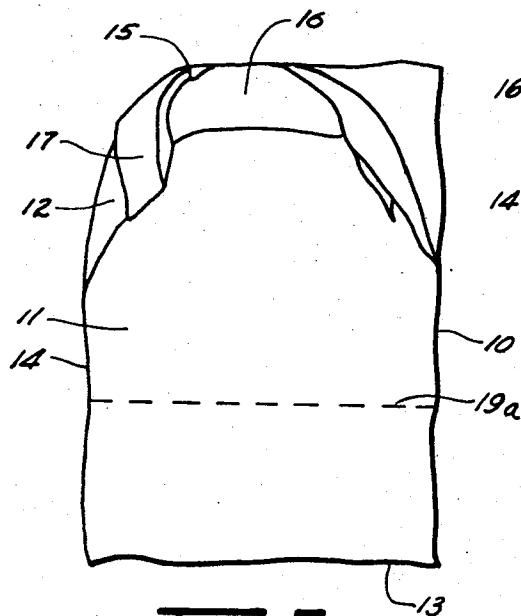
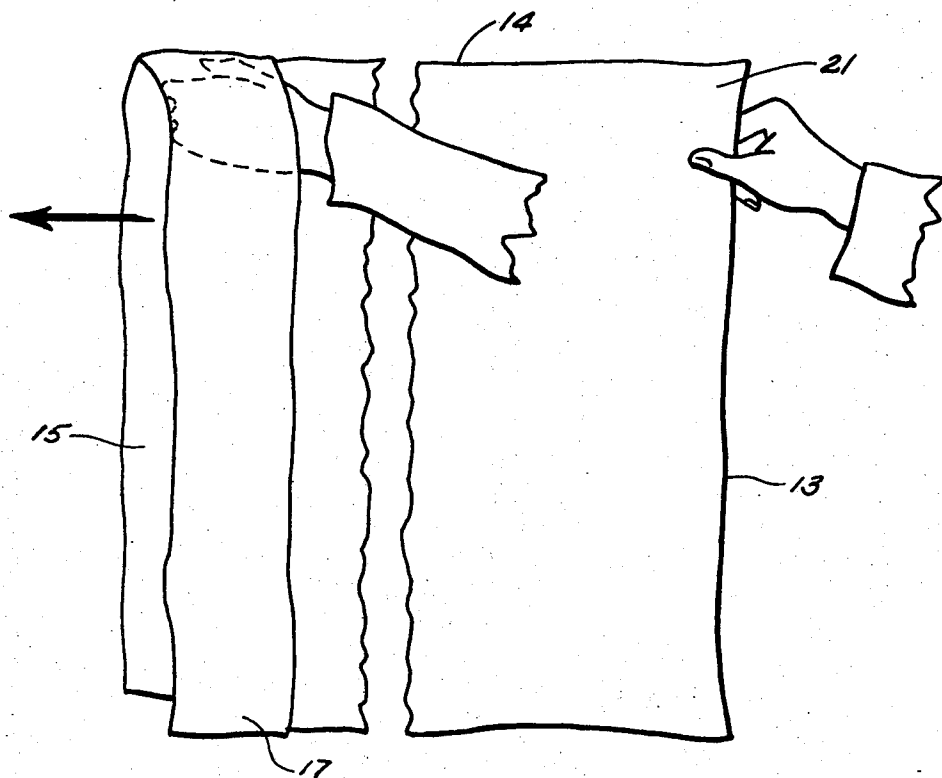


Fig. 2

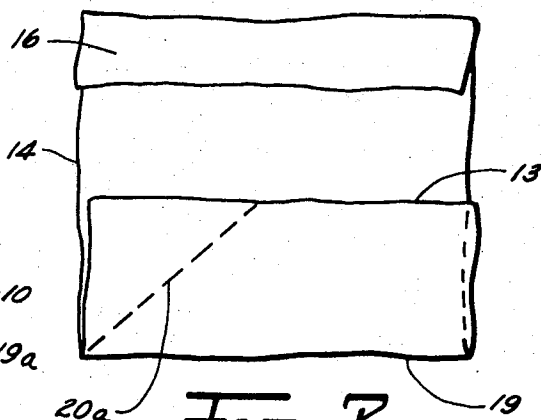


Fig. 3

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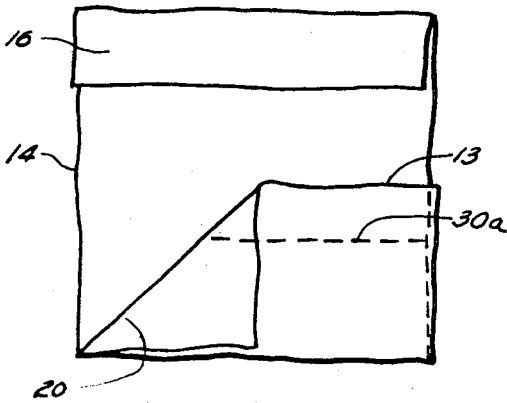


Fig. 4

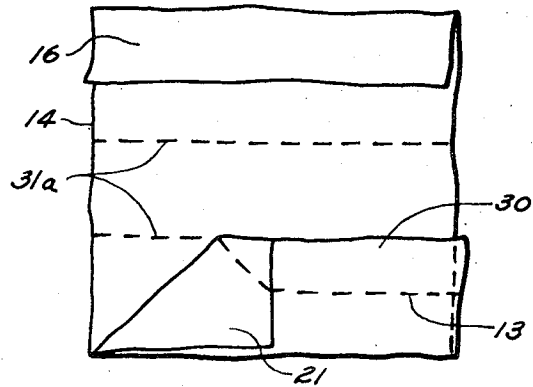


Fig. 5

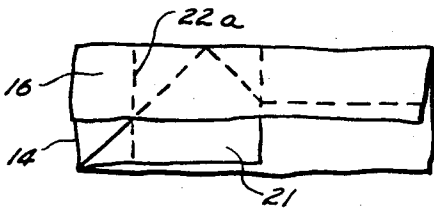


Fig. 6

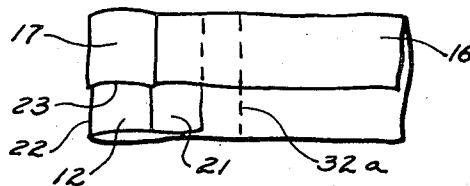


Fig. 7

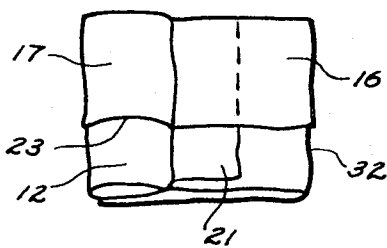


Fig. 8

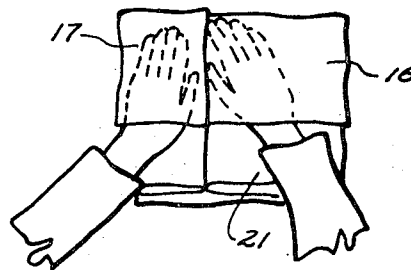


Fig. 9

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SURGICAL DRAPE

SUMMARY AND DETAILED DESCRIPTION

The invention relates to surgical drapes of an improved type. More particularly, the invention relates to surgical drapes having improved means for handling and draping over any of various objects intended for isolation in the operating room or delivery room.

Prior to the present invention, surgical drapes have been provided for single use application in a form minimizing bacterial contamination at critical sites. In general, however, these prior articles have been awkward to manipulate by a single operator and have been subject to dropping at one end while being supported at the other, etc.

The present invention, therefore, has the object of providing an improved type of surgical drape which can be readily unfolded from packaged form and placed in operating position by a single nurse unattended.

A further object is to provide an article of the kind described having a construction such that the act of unfolding likewise accomplishes the desired horizontal extension of the drape, thus avoiding cumbersome changes of hand position and consequent risk of losing control.

These and other objects, advantages and purposes of the invention will be seen from the following description and the accompanying drawing in which:

FIGS. 1 and 2 are side views of a preferred surgical drape of the invention in unfolded form;

FIGS. 3 to 8 are similar views of the surgical drape of FIG. 2 in successive stages of folding to a compact form suitable for commercial packaging;

FIG. 9 is a representation of the manner of handling a surgical drape of the invention just prior to extending the drape in unfolded condition as shown in FIG. 1 for placement upon a body member or the like.

Referring to FIG. 2, a preferred surgical drape 10 is shown comprising a front panel 11 and a back panel 12 joined along closed end 13 and closed side 14 with an open end 15. Adjoining the open end is a front cuff 16 and back cuff 17. The side opposite the closed side 14 can be sealed or closed only part-way (to leave the end 15 open for greater access as shown in FIG. 2) or it can be sealed along the entire edge. It is a preferred feature of the present invention to have the side edges and cuffs sealed or closed throughout and for convenience in handling to have the width of opening 15 at least about half again as large as the maximum width dimension of the object to be isolated. The drape can be fabricated, as is preferred, from a single sheet or from component panels or pieces. The sealing or closing of the panels can be done in any suitable way using, for example, cold adhesive or thermoplastic fillers, print lines or beads, etc.

In accordance with the invention, the surgical drape 10 is folded in the sequence shown in FIGS. 3 to 8 to provide a compact drape which can be readily opened. Referring to FIG. 3, the closed end 13 of the drape is folded along fold line 19a of FIG. 2 to provide fold 19 which in turn is folded diagonally along line 20a. In FIG. 4 the diagonal fold 20 is made upon the open face of the fold 19 which in turn is folded inwardly on line 30a to provide the trim fold 30 of FIG. 5. An accordion fold is next made on the open face of the drape on lines 31a, and the upper surface of the diagonal fold 20 and the trim fold 30 are tucked beneath the front cuff as

shown in FIG. 6. The closed side 14 is then folded in on line 22a to provide the structure of FIG. 7 and the latter is doubled over on line 32a to provide the completely folded drape shown in FIG. 8 having the hand-receiving pocket 23 and the hand-grasping area 21. A preferred article of the invention is a legging as described.

OPERATION

To use the surgical drape of the invention, the same is removed from its protective covering and is handled using aseptic technics with the hands in the position illustrated in FIG. 9. In particular, the left hand is inserted in the hand-receiving pocket 23 and the right hand, according to one preferred procedure, is inserted under the front cuff in which position the hand grasps the folds lying under the cuff. The left hand is then turned away from the right and the drape lifted up with the hands slightly apart to bring the open end of the drape in axial alignment with the object to be covered. Advantageously, the drape because of its unique construction usually falls into an open position with the open end 15 substantially as shown in FIG. 1 so that end 15 can be guided onto the object to be covered (such as the foot, leg, Mayo stand or other object). The drape is then moved forward part way onto the object in the direction shown by the arrow of FIG. 1. At this point the drape conveniently can be temporarily positioned while transferring the right hand to the hand-grasping area 21. The hands are then spread apart or spaced by pulling the right hand back to extend the drape as shown in FIG. 1. With the left hand positioned as shown, and with the right hand on the grasping area 21, the drape is then guided along over the object intended for coverage. In this way the object can be completely covered over, with the closed edge 14 of the drape lying upon and being supported by the top surfaces of the object. The drape is particularly useful in this regard for lithotomy and obstetric procedures for isolation of each of the supported legs. A significant advantage, according to the invention, is that the areas of the drape which require hand contact are easily recognized and readily accessible. The grasping area 21 in particular is prominently located so that at the required time it can be quickly reached and extended in a single gesture which serves not only to unfold the drape but also to keep it aloft on the intended line for unobstructed axial fitting with the front and back panels 11 and 12 hanging in loose and compliant fashion. Optionally, the drape can be manipulated throughout with the right hand holding the grasping area 21 (instead of first grasping the folds under the cuff as described above).

The invention contemplates the use of disposable materials for construction of the drape so that the same can be discarded after a single use. For this purpose, non-woven cellulosic fabric chemically treated to provide water repellency is a preferred material. A variety of such materials having good draping characteristics is commercially available. The size of the folded and unfolded drapes can be varied and is not critical. Generally speaking, however, the length will usually be up to about 3-4 feet when unfolded and about 12-14 inches when folded.

While the invention in surgical drapes in the foregoing description has been described in considerable detail, it will be realized that wide variation can be made

in such detail without departing from the spirit of the invention as set forth in the following claims.

I claim:

1. For isolating an object to minimize contamination, a four-sided foldable tubular surgical drape having matching front and back panels closed at one end and at an adjacent side and open at the opposite end, the open end being bounded by front and back outer cuffs adapted to be guided around and fitted upon the object, the closed side being in alignment with an axial zone of the drape adapted for placement directly over and upon the top surfaces of the object, the drape being transversely folded on the front panel with the closed end positioned partly under the front cuff and partly exposed by means of a cooperating diagonal fold to define a visible hand-grasping area of the closed end below the front cuff, the drape being further folded by means of a rollback fold bringing the closed side margin in upon the front cuff to expose a portion of the back cuff sufficient to define a hand-receiving pocket, the diago-

nal fold being made on a line between the closed side and the closed end and being wider than the exposed portion of the back cuff,

whereby the drape can be cooperatively manipulated with one hand in the hand-receiving pocket and the other hand at the hand-grasping area to unfold and hold up the drape at both ends in a single uninterrupted spacing motion for placing the drape upon the object while avoiding manually contacting exposed surfaces of the cuffs and open end.

2. A surgical drape according to claim 1 which is a legging.

3. A legging according to claim 2 having closed side edges and cuffs and having the width of the open end at least about half again as large as the maximum width of the leg.

4. a surgical drape according to claim 1 fabricated of a single sheet.

5. A surgical drape according to claim 4 having closed side edges and cuffs.

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