United States Patent [19]

Hadtke

[11] **3,747,655**

[45] **July 24, 1973**

[54] **DISPOSABLE MAYO STAND COVER**

[75] Inventor: **Frederick B. Hadtke,** New Providence, N.J.

[73] Assignee: **Becton, Dickinson and Company,** East Rutherford, N.J.

[22] Filed: **Mar. 19, 1971**

[21] Appl. No.: **126,148**

[52] **U.S. Cl.** ..... **150/52 R,** 128/132 D, 150/1, 206/63.2 R, 229/53

[51] **Int. Cl.** **B65d 65/02**

[58] **Field of Search** ..... 150/52 R; 229/53; 128/132 R, 132 D; 206/63.2 R

[56] **References Cited**

UNITED STATES PATENTS

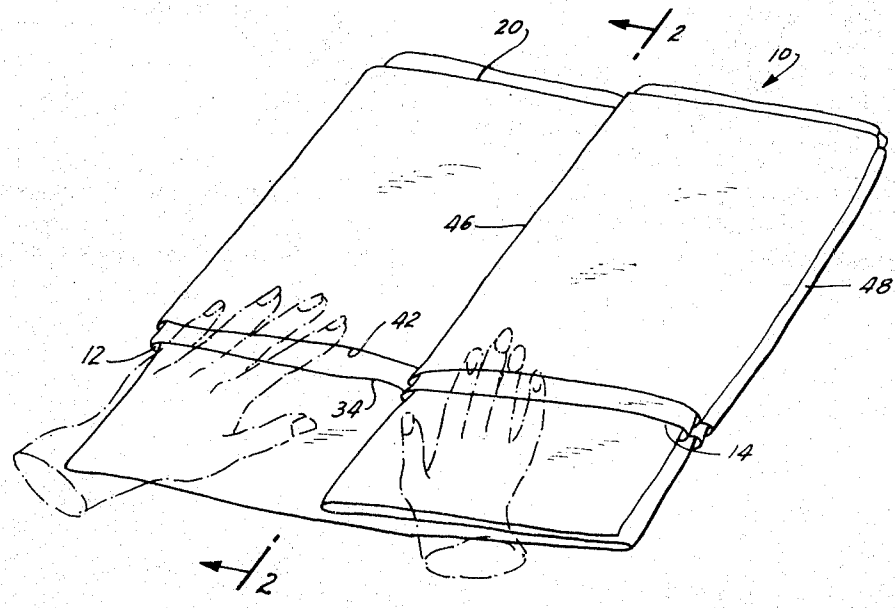
3,220,544	11/1965	Lovell	150/0.5
3,123,210	3/1964	Hermanson et al.	206/63.2 R
3,335,719	8/1967	Boucher	128/132 D
3,540,441	11/1970	Collins	128/132 D

Primary Examiner—Samuel B. Rothberg
Assistant Examiner—Stephen P. Garbe
Attorney—Kane, Dalsimer, Kane, Sullivan & Kurucz

[57] **ABSTRACT**

A disposable cover for Mayo stands and the like is provided. The cover comprises an elongated tube formed of a non-woven material having a sealed top end and an open bottom end. The cover is prefolded along lines perpendicular to the longitudinal axis of the tube thereby dividing the tube into a plurality of transverse sections. The sections are telescopically folded within one another with the section that includes the closed top end comprising the centermost section and the edge of the tube defining the open bottom end directed away from the closed top end.

4 Claims, 6 Drawing Figures



PATENTED JUL 24 1973

3,747,655

SHEET 1 OF 2

FIG. 1

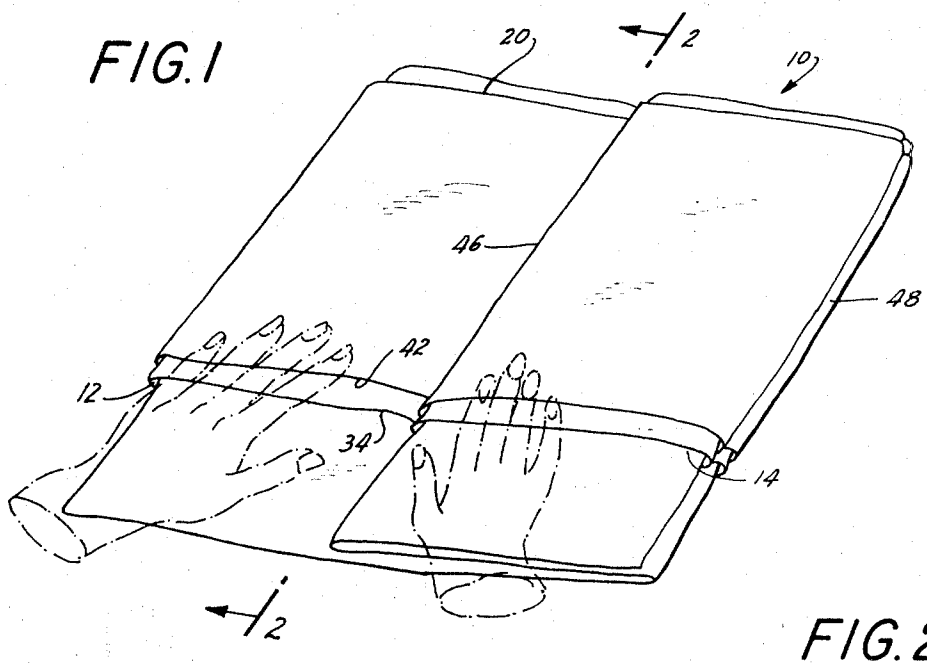
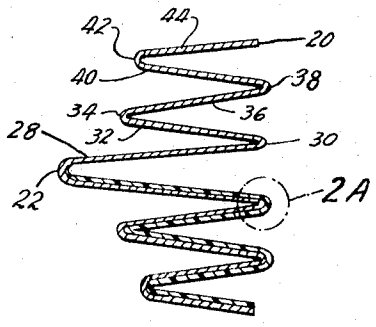


FIG. 2



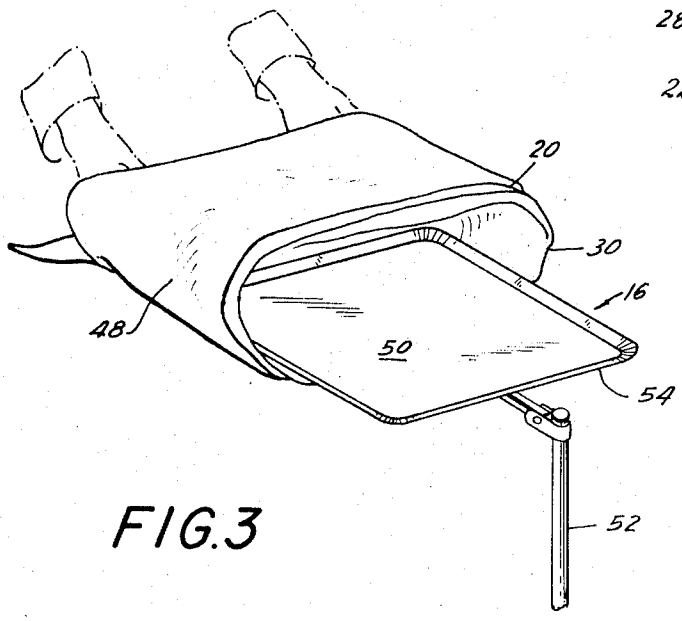


FIG. 3

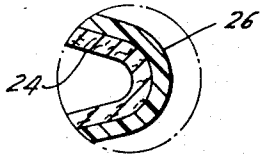
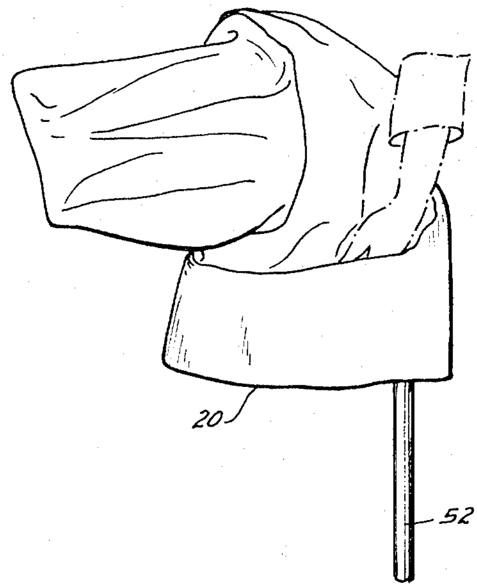


FIG. 2A

INVENTOR
FREDERICK B. HADTKE

BY
Kane, Dalsimer, Kane, Sullivan & Kurucz
ATTORNEYS

FIG. 4



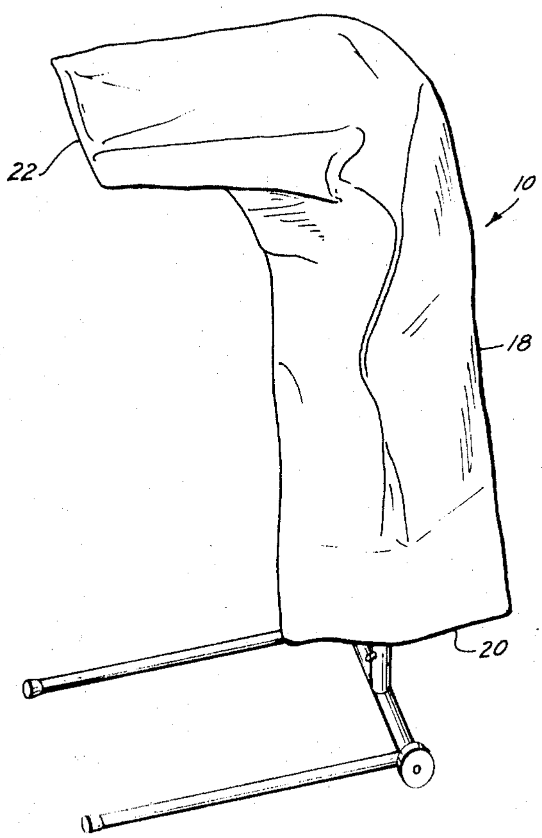


FIG. 5

INVENTOR
FREDERICK B. HADTKE
BY
Kane, Dalsimer, Kane, Sullivan & Kurucz
ATTORNEYS

DISPOSABLE MAYO STAND COVER

BACKGROUND OF THE INVENTION

One of the first steps in any modern, surgical procedure is to provide a sterile field about the site of incision. The patient and operating table are covered with sterile drapes and sterile sheets and towels are placed in position to maintain the sterility of all surfaces within the operating room on which sterile instruments and sterile gloved hands may be placed. The purpose of this procedure is to restrict all sterile items which come in contact with the surgical wound to an area free of microorganisms to prevent transportation of the microorganisms into the open wound. Among the items requiring draping is the Mayo stand.

In the past, sterilized linens were primarily used for surgical drapes. It is now becoming a practice of more and more hospitals to use prepackaged, disposable, surgical drapes formed of synthetic fabrics. The packaged, sterilized drape must be folded in a manner which enables it to be readily unfolded in the operating room in a manner that minimizes the possibility of the drape becoming contaminated during removal from the package and subsequent unfolding and draping.

Heretofore, disposable Mayo stand covers have been commercially available. These covers, however, utilize a simple "Z" pattern which renders the cover difficult to place about the stand. The difficulty arises in that the full length of the cover must be unfolded and slid over the Mayo stand tray before the tray and stand can be covered. This could result in a break in sterility by the unfolded cover falling out of the sterile zone. Such prior art folded drapes also utilize a hand receiving cuff at the bottom of the drape. The cuff is formed by turning the bottom end of the drape upwardly. After the cover is placed over the Mayo tray, the sterile nurse must reach over the covered portions of the tray and stand and pull the cover down followed by a nonsterile, circulating nurse completing the coverage by reaching up into the cuff and pulling down. In the process of reaching up into the cuff, the circulating nurse could cause a break in sterility by reaching into the sterile zone.

In view of the above, it is the principal object of the present invention to provide a prefolded, disposable Mayo stand cover which is folded in a manner to allow a sterile nurse to drape the closed end of the cover over the Mayo tray and then unfold the cover as she progressively drapes the remainder of the Mayo stand until a leading edge of the partially unfolded drape is outside the sterile zone so that a nonsterile, circulating nurse can complete the draping procedure without reaching into the sterile zone.

SUMMARY OF THE INVENTION

The above and other beneficial objects and advantages are attained in accordance with the present invention by providing a folded, disposable, sterile, surgical Mayo stand cover comprising a flattened, elongated tube of nonwoven material. The tube has an open bottom end and a closed top end. A first fold line extending about the tube is provided spaced downwardly from the closed top end defining a first section of the tube between the closed top end and first fold line. A second fold line is provided spaced downwardly from the first fold line defining a second section of tube between the first fold line and second fold line. A plurality of additional fold lines is provided spaced downwardly from the second fold line defining an odd multiple of additional sections defined between the second fold line, the open bottom edge of the tube, and the plurality of additional fold lines spaced downwardly from the second fold line. The tube sections thus defined, are telescopically positioned, concentrically within one another, with the first section innermost, the last section outermost, and the bottom edge of the tube directed away from the closed top edge.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIG. 1 is a perspective view of a prefolded, disposable Mayo stand cover in accordance with the present invention;

FIG. 2 is a sectional view on a reduced scale taken along reference lines 2—2 of FIG. 1 taken in the direction indicated by the arrows showing, in exaggerated form, the telescopically folded cover;

FIG. 2A is an enlarged view of area 2A of FIG. 2 as indicated;

FIG. 3 is a perspective view showing the folded Mayo stand cover in position about the front end of the tray on a Mayo stand at the start of the covering procedure;

FIG. 4 is a view similar to FIG. 3 showing the position of the cover when the sterile nurse completes applying the cover as the covering procedure progresses and prior to the circulating nurse taking over; and,

FIG. 5 is a perspective view of a Mayo stand completely covered with a Mayo stand cover in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is illustrated in the accompanying drawings wherein similar components bear the same reference numerals throughout the several views. Reference is now made to FIG. 1 in particular, wherein the Mayo stand cover **10** of the present invention is shown in its prefolded form as supplied to a hospital, ready for use. The cover, prior to shipment, is sterilized and packaged in a manner to insure its sterility until the time of use. The procedures for sterilizing and packaging are well known in the art.

As shown, the cover **10** is folded to define a pair of hand-receiving pockets **12** and **14.** These pockets are used by the sterile operating room nurse to lift the cover from a supporting surface and to apply it to the Mayo stand **16** in the manner that will be described.

The unfolded Mayo stand cover **10** is illustrated in FIG. **5** in position about Mayo stand **16.** The cover **10** comprises an elongated tubular member **18** having an open bottom end **20** and closed top end **22.** The tube may be formed of any convenient material that can readily be sterilized, is lint free, light in weight, compact, static free, and sufficiently inexpensive to render the cover disposable after a single use. In a preferred embodiment, the presently proposed cover is formed of a laminate of a polyethylene film comprising the inner surface of the cover **24** and a nonwoven, cellulosic material **26** comprising the outer surface of the cover. The plastic film **24** renders the cover waterproof while the outer layer **26** provides sound deadening for the cover. Alternately, the cover may be all plastic without the nonwoven, cellulosic surface.

As previously mentioned, the Mayo stand cover **10** of the present invention is prefolded to facilitate its unfolding in the operating room. The folding of the drape may best be understood in connection with a study of FIG. 2. As shown in this figure, the drape **10** is folded along a plurality of transverse fold lines, each extending completely about the tube member **18** and dividing the tube into sections. Accordingly, a first section **28** is defined between the closed top end **22** of the tube and the first fold line **30.** This first section is substantially equal in length to that of the Mayo stand tray **50.** A second section **32** is defined between fold line **30** and fold line **34.** Section **36** is defined between fold line **34** and fold line **38.** Section **40** is defined between fold line **38** and fold line **42** and section **44** is defined between fold line **42** and the bottom edge of the cover which defines the open end **20.** The sections are contiguous with one another and joined at the fold lines.

The fold lines **30, 34, 38** and **42** are generally parallel to one another and spaced progressively downwardly from the closed top end **22** of tube **18.** The tube sections **28, 32, 36, 40** and **44** are telescopically fitted within one another with the closed top end and first section **28** at the center and the open bottom end **20** of the cover facing downwardly away from the closed top end. After the first and second sections **28** and **32** are defined by the creation of fold line **30,** in order for the bottom end **20** of the tube to face downwardly, an odd number of additional sections (**36, 40** and **44**) must be defined by the subsequent fold lines. The number of additional sections is determined by the overall length of the stand to be draped, remembering that the first section must cover substantially the entire tray. It has been found that the five-section configuration of FIG. 2 works most satisfactorily for conventional Mayo stands.

After the drape is folded along the transverse fold lines **30, 34, 38** and **42** as described above, the partially folded drape is folded in half longitudinally with the right hand section overlying the left hand section. The right hand section is then folded back over itself along fold line **46** which positions the right edge **48** of the unfolded drape at the right edge of the folded drape. The longitudinal fold lines cooperate with transverse fold line **34** and sections **28** and **32** in defining pockets **12** and **14.**

To unfold the present cover, a sterile operating room nurse slips her hands into pockets **12** and **14** of the folded cover and unfolds the longitudinal fold lines by merely moving her hands apart laterally. The pockets, as distinct from the other folds, can readily be found by the sterile nurse since section **28** extends beyond any of the other sections. After unfolding the longitudinal folds and with her hands within pockets **12** and **14,** the sterile nurse applies the folded cover over the front end of the Mayo tray moving her hands rearwardly and thus automatically unfolding fold line **30** thereby pushing the open end **20** of the drape over the rear end **54** of tray **50,** as shown in FIG. **4.**

At this time, the entire Mayo tray and top portion of the Mayo stand support **52** have been covered by the sterile nurse. Also, the bottom end **20** of the partially unfolded cover has been pushed below the level of the Mayo tray and is thus outside the required sterile zone. The sterile nurse then stops draping at this point and an unsterile, circulating nurse grasps the bottom edge **20** of the cover and by pulling downwardly, unfolds the remaining telescopic folds. The circulating nurse need never reach into the sterile zone to complete the draping procedure since all she has to do is grasp section **44** near edge **20** which is already out of the sterile zone and pull downwardly. Similarly, the sterile nurse need never reach outside the sterile zone since bottom edge **20** will automatically move outside the sterile zone as she unfolds fold **30.**

Thus, in accordance with the above, an improved, disposable, prefolded Mayo stand cover is provided which attains the aforementioned objectives.

Having thus described the invention, what is claimed is:

1. A folded, disposable, sterile, surgical cover for a Mayo tray supporting stand and the like comprising: an elongated, flattened tube of nonwoven material; an open bottom end of said tube; a closed top end of said tube; a first fold line extending transversely completely about said tube spaced downwardly from said closed top end; a plurality of additional fold lines spaced downwardly from said first fold line; said closed top end and first fold line defining a first section of said tube, said first fold line and said additional fold lines defining an odd multiple of additional contiguous sections of said tube whereby the bottom edge of said folded cover is directed away from said closed top end; said sections being telescopically fitted within one another with the first section innermost to thereby define a partially folded cover; a first longitudinal fold line extending along said partially folded cover parallel to the longitudinal axis of said tube deviding said partially folded cover into a first half and a second half with said first half folded over said second half; and, a second longitudinal fold line extending along said first half with said first half folded over itself thereby forming two hand-receiving pockets in side by side alignment.

2. The disposable cover in accordance with claim **1** wherein the distance between said closed top end and said first fold line is substantially equal to the length of the Mayo tray to be covered and greater than the length of any other section of said folded cover.

3. The invention in accordance with claim **1** wherein said cover is formed of a waterproof plastic film material.

4. The invention in accordance with claim **3** wherein said cover is formed of a laminate of said plastic film material and a nonwoven, cellulosic material and said plastic material comprises the inner surface of said cover and said nonwoven, cellulosic material comprises the outer surface of said cover.

* * * * *