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[21]	Appl. No.	673,388	2,310,035	2/1943	Mingus.....	128/134
[22]	Filed	Oct. 6, 1967	2,685,881	8/1954	Kelly	128/418
[45]	Patented	Sept. 29, 1970	FOREIGN PATENTS			
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[54]	HOSPITAL GOWN WITH ELECTRICAL SENSING MEANS 10 Claims, 5 Drawing Figs.					
[52]	U.S. Cl.	128/2.06, 2/114, 5/83	Primary Examiner—William E. Kamm			
[51]	Int. Cl.	A61b 5/04	Attorney—Lane, Aitken, Dunner and Ziems			
[50]	Field of Search	128/2—2.1, 132—135, 384, 418, (Relays Electrode Digest); 2/114; 5/81, 82, 83, 85, 89; 27/28	ABSTRACT: A hospital gown including straps which are adapted to be connected to and tensioned by an overhead hoisting means to position and confine a patient in his bed or to facilitate transporting a patient. The straps are formed to receive electrical sensing elements for monitoring patient conditions.			
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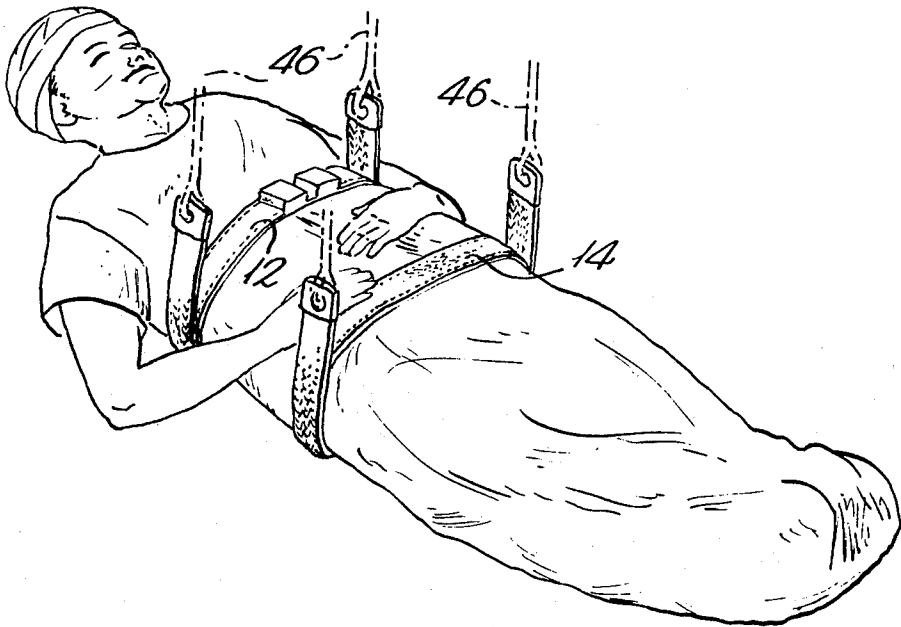


Fig. 1.

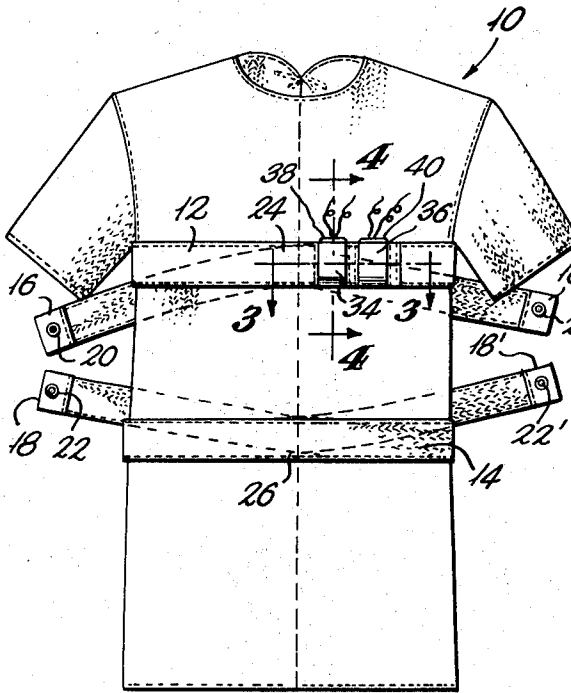


Fig. 2.

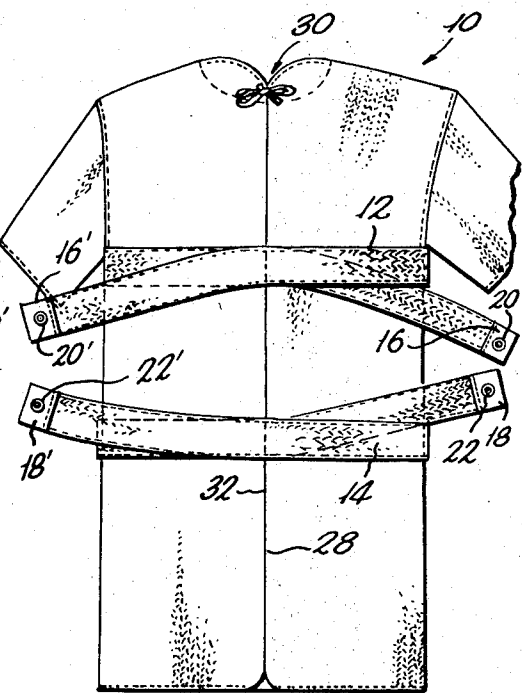


Fig. 3.

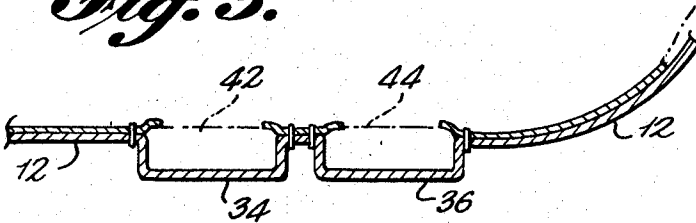


Fig. 4.

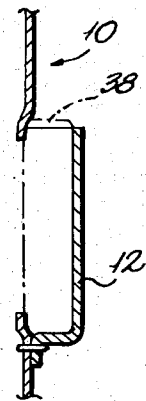
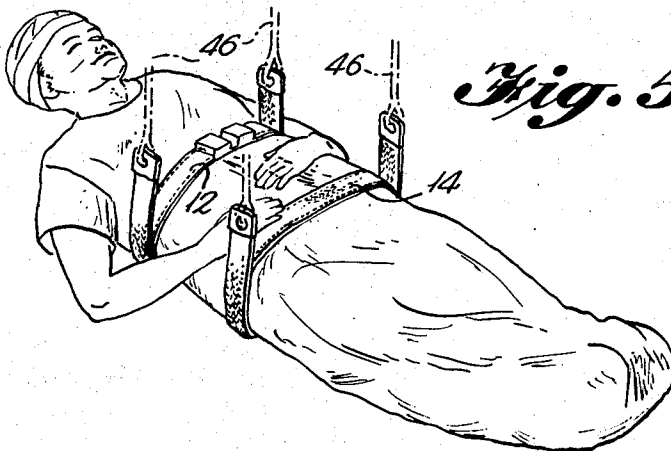


Fig. 5.



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HOSPITAL GOWN WITH ELECTRICAL SENSING MEANS

BACKGROUND OF THE INVENTION

The difficulties encountered in transferring patients from one bed to another or from a bed to a table or in raising the patient to change or rearrange his bedding have always been of concern to hospital staffs. In the past movements of this kind have been accomplished by physically grasping the patient and lifting him or by rolling the patient from one bed to another. Another technique used in the past was to roll the patient over on one side and position a stretcher or some other transferring means next to the patient and then roll the patient onto it.

Another problem arising from the increase in electrical monitoring of the physical condition of a patient in which electrical sensing elements have been positioned against the patient's body to pick up and relay information on the patient's condition has been achieving intimate contact of the sensing element with the patient's body. The sensing elements have usually been taped against the patient's body, or inserted beneath the skin of the patient in order to get the requisite physical contact with the body to insure reliable transfer of the information.

SUMMARY OF THE INVENTION

This invention relates to a hospital gown and more particularly to a hospital gown including means to facilitate positioning and confining a patient in a hospital bed, transferring a patient from one bed to another and electrically monitoring a patient's physical condition (*i.e.*, temperature, EKG, pulse or the like). Secured to the hospital gown are a plurality of strap-like support members adapted to encircle the patient at at least two spaced positions. The ends of the support members are provided with means for securing them to a support device. The support device can be employed to apply tension to the support members so as to prevent the patient from rolling from side to side, to lift the patient from his bed, to transfer him from his bed to another receiving surface and the like. In a preferred version of the gown, the support members are adapted to be provided with electrical sensing elements which, through the tensioning of the support members about the patient, will be forced against the patient's body to monitor one or more medical conditions.

Therefore, it is a primary object of the present invention to provide a novel hospital gown which includes means for confining and/or transporting a patient.

An additional object of the present invention is to provide a novel hospital gown which also includes means for receiving electrical sensing elements for monitoring one or more of a patient's physical conditions.

These and further objects and advantages of the present invention will become more apparent when taken in conjunction with the ensuing description and claims and accompanying drawings wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view of the hospital gown including two straps with electrical sensing elements positioned beneath one of said straps.

FIG. 2 is a rear view of the hospital gown illustrating the two strap members in further detail.

FIG. 3 is a horizontal cross-sectional view taken along lines 3-3 of FIG. 1.

FIG. 4 is a vertical cross-sectional view taken along lines 4-4 of FIG. 4.

FIG. 5 is a schematic view of the gown on a patient who is suspended by the novel strap means of said gown.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawings the hospital gown 10 includes a strap member 12 positioned about the chest portion of the gown. A second strap member 14 is positioned about the waist area.

The ends of the straps 12 and 14 are doubled over on themselves to provide strengthened end portions 16, 16' and 18, 18' respectively. Grommet eyes 20, 20' and 22, 22' are inserted in both ends of each strap member.

As will be noted, the strap members 12 and 14 completely encircle the gown at about the chest and waist positions of the patient, with the respective central portions 24 and 26 of the strap being positioned in the front of the gown and the free ends 16, 16' and 18, 18' of the straps crossing over one another in the back of the gown. The straps 12 and 14 are sufficiently long so that their free ends 16, 16' and 18, 18' can be pulled around towards the front of the patient with the entire straps encircling the patient as shown in FIG. 5.

The straps 12 and 14 are preferably constructed of reinforced webbing so as to provide maximum resistance against rupture and so as to permit them to be sewn or otherwise secured to the gown 10. As shown in the drawings, straps 10 and 12 are sewn to the gown 10 substantially completely throughout a length extending from one edge 28 of the vertical opening 30 in the rear of gown 10, around the front of the gown and back again to the other edge 32 in the rear of the gown. Since the straps 12 and 14 have free ends, the vertical opening 30 in the rear of the gown is left open to facilitate the dressing and undressing of the patient.

While the strap members are shown as being sewn to the outside of the hospital gown they also could be sewn to the inside of the gown.

In a preferred embodiment of the present invention, the hospital gown is constructed to include electrical sensing means for use in monitoring one or more medical conditions of a patient. Such sensing means (which may, for example, include means for monitoring pulse, temperature, respiration, for taking an electrocardiogram, etc.), when mounted properly with respect to the straps 10 and 12, will be forced against the patient's body when the straps are tensioned as described in greater detail hereafter and provide excellent contact between the patient and the sensing means.

A preferred structure adapted for such purpose is illustrated in the drawings. As shown, a pair of pocket-type receptacles 34 and 36 are formed beneath the chest strap 12 as shown in FIGS. 3 and 4 to receive sensing elements 38 and 40 which are part of a conventional electrical monitoring system which forms no part of the subject invention. In a preferred embodiment the gown portions 42 and 44 immediately behind the pocket portion 34 and 36 are cut out to provide a more intimate contact between the sensing elements and the patient's body.

As will be apparent the sensing elements can be permanently built into the gown if desired.

With the hospital gown placed upon the patient and tied in the rear about the neck, strap members 12 and 14 extend from the rear of the gown and are wrapped about the patient so that the ends 16, 16' and 18, 18' of the straps extend out from the rear and towards the front of the patient while he is lying on his back. To prevent the patient from rolling and possibly injuring himself while on the hospital bed, the ends of the straps 16, 16' and 18, 18' are attached through eyelets 20, 20' and 22, 22' to an overhead hoisting device (portions of which are illustrated in FIG. 5 by phantom lines 46). Since the straps are wrapped completely about the patient, tension upon the straps draws the straps tight about the patient to confine the patient within the straps. To raise the patient for transfer to another bed or to a table or to change the patient's bedding requires only the exertion of further lifting force upon the straps. For electrical monitoring of certain patient conditions (temperature, EKG, pulse or the like) the proper sensing element is positioned in the sensing element receptacle pocket 34 or 36 and the proper amount of tension is applied to the straps by the overhead hoisting means to force the sensing element into intimate contact with the patient's body.

Once the hospital gown is placed upon the patient, further rolling of the patient in connection with the transfer of the patient from bed to bed or lifting which could aggravate injuries

or cause undue pain and suffering to the patient is eliminated. The same device facilitates positioning of electrical sensing devices with the needed proper pressure of the device against the patient.

It will be appreciated that the above description is illustrative only and not limiting. Any type of sensing holding means could be utilized. Furthermore, any one of a number of different types of connector devices could be attached to the ends of the straps and the gown could be of various designs.

Obviously, numerous combinations and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described herein.

I claim:

1. A hospital gown containing below its neck area a lower strap means and an upper strap means; each of said strap means having free ends and having its central portion secured to said gown in a direction transverse to the longitudinal dimension of said gown; said free ends of said strap means having attaching means to permit said ends to be secured and to permit said ends and said strap means to be connected to and tensioned by an overhead hoisting means to position and confine a patient in his bed or to facilitate transporting a patient.

2. A hospital gown as defined in claim 1 wherein said strap means completely encircle said gown.

3. A hospital gown as defined in claim 2 wherein the central portion of each of said strap means is secured to the front of said gown; said strap means being of sufficient length so as to permit said strap means to completely encircle a patient wearing said gown while leaving said free ends free to project out towards the front of said patient.

4. A hospital gown as defined in claim 3 wherein the rear side of said gown has a vertical opening; said strap means being secured to said gown substantially completely throughout a length extending from approximately one edge of said vertical opening around the front of said gown and back to approximately the other edge of said vertical opening; the free ends of said strap means leaving said vertical opening open.

5. A hospital gown as defined in claim 1 wherein said attaching means on the free ends of said strap means are apertures.

6. A hospital gown as defined in claim 1 wherein said strap means are positioned on said gown so as to be located approximately in the chest and waist portions of a patient.

7. A hospital gown as defined in claim 1 wherein at least one of said strap means contains means for receiving electrical sensing means for the monitoring of a medical condition of the patient wearing said gown; said receiving means being positioned so that said electrical sensing means will be forced against said patient when tension is applied to the free ends of said strap means and said strap means is tightened about said patient.

8. A hospital gown as defined in claim 7 wherein said electrical sensing means is built into said gown underlying said strap means.

9. A hospital gown as defined in claim 7 wherein said receiving means comprises a pocket adapted to receive said electrical sensing means.

10. A hospital gown as defined in claim 7 wherein said gown has an opening underlying the position of said electrical sensing means so that said electrical sensing means will be in direct contact with said patient.

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