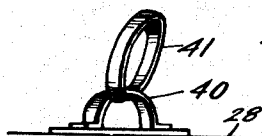
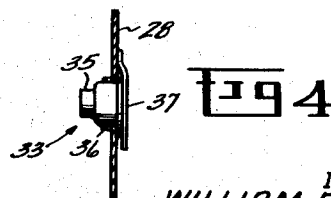
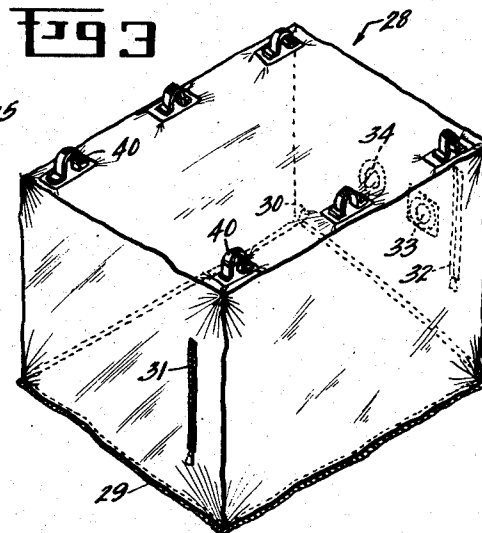
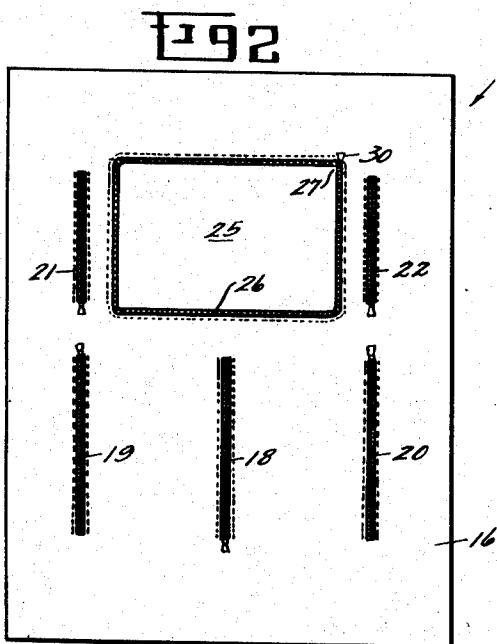
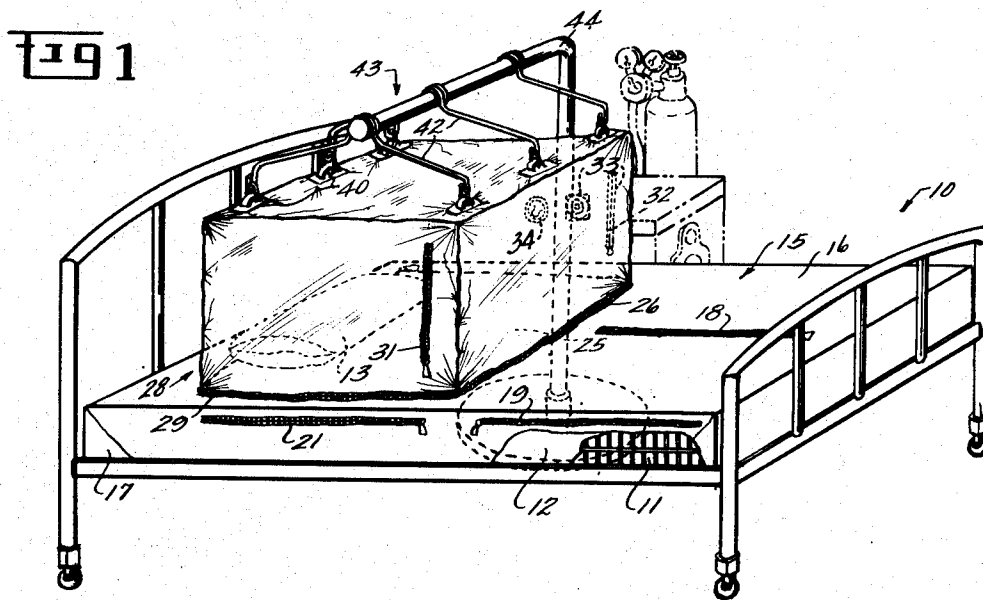


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OXYGEN THERAPY TENT
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OXYGEN THERAPY TENT

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sec. 266)

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The invention described herein may be manufactured and used by or for the United States Government for governmental purposes without payment to me of any royalty thereon.

This invention relates to oxygen therapy tents for patients' beds which allow access and treatment by an attendant of a patient in the bed with the minimum use and waste of oxygen.

In accordance with this invention a cover of such length and width is used to allow all of the edges thereof to be tucked firmly under the mattress of a bed to prevent oxygen leakage from under the cover to the atmosphere. At the upper part or head portion of the cover there is an opening of approximately three feet square bordered by one-half of a continuous slide fastener. At various places about the cover there are slits openings closable by slide fasteners to provide access to various portions of the patient's body, as for example, access to the arms, legs, groin, etc., to permit various treatments, diagnosis, clinical inspections, and the like. A thin, transparent plastic hood in the form of a cube of approximately three feet has a continuous one-half slide fastener about the open end thereof mated to the one-half slide fastener on the cover. The canopy has eyelets, or the like, on the upper edges thereof for attachment to a rod or supporting means to hold the canopy in an upright position. The canopy is of sufficient volume to accommodate the patient in a setting position for eating, reading, or similar exercises.

It is therefore a general object of this invention to provide an oxygen therapy tent for a bed capable of exposing the whole of a patient's body to the oxygen with the minimum use and waste of oxygen and which permits quick access to the patient's body at all times yet allowing the patient perfect freedom of movement in the reclining or sitting positions.

This and other objects, advantages, features and uses will become more apparent as the description proceeds when taken in conjunction with the accompanying drawing, in which:

Fig. 1 is an isometric view of a bed with the oxygen therapy tent thereon in accordance with this invention;

Fig. 2 is a top plan view of the cover of the oxygen therapy tent;

Fig. 3 is an isometric view of the hood of the oxygen therapy tent;

Fig. 4 is a fragmentary view of a cuff as it is positioned in the side of the hood; and

Fig. 5 is a fragmentary view of one of the eye-

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lets and the elastic bands used to support the hood.

Referring more particularly to Fig. 2, there is shown a conventional bed 10, preferably of the type used in hospitals although any bed may be used, on which a conventional mattress 11 is used. The mattress 11 is covered with the usual sheet 12 and the bed supplied with a pillow 13 as is usual practice.

In accordance with this invention a substantially non-porous cover 15 having a number of openings therein, later to be described, is placed over the mattress and sheet with all the marginal edges 16 thereof (see Fig. 2) tucked under the mattress with the corners folded and tucked under the mattress as shown at 17 to provide a substantially low pressure air seal against leakage from under the cover to the atmosphere.

Referring now to both Figs. 1 and 2, the cover is provided with a number of openings, all but one of which are slits closable by slide fasteners as shown by the reference characters 18 to 22, inclusive. One type of slide fastener found satisfactory is that commonly known as the zipper. For convenience of description these openings will be referred to as slide fastener openings. The slide fastener openings are suitably placed in the cover to provide easy access to all parts of a patient's body under the cover with the minimum of oxygen waste. At the foot of the cover the slide fastener opening 18 provides easy access to a patient's groin, etc., slide fastener openings 19 and 20 provide easy access to the patient's right and left legs and thighs, respectively, and the slide fastener openings 21 and 22 provide easy access to the patient's right and left arms and sides, respectively. The slide fastener openings 19, 20, 21, and 22, as may be seen in Fig. 1, are particularly positioned longitudinally in the cover as to place them substantially on the upper bend of the cover about the mattress. These slide fastener openings provide the attendant of the patient easy access to all parts of the patient's body for nursing care, for diagnostic procedures, for clinical investigations, for treatment, and for withdrawal of parts of the patient's body outside the cover, as legs or arms, for treatment or observation. The slide fasteners, or the common zipper, are inherently adjustable to provide an opening size just sufficient to carry out the above operations reducing to a minimum the waste of oxygen through such openings. The other opening, referred to above, is a substantially square or rectangular opening 25 in the head portion of the cover. The periphery of the

cover forming the opening 25 has one-half of a continuous slide fastener 26 thereon, the starting point thereof being at one of the corners illustrated in the drawing at 27.

Referring more particularly to Fig. 1, there is 3, a hood 28 of any suitable transparent plastic, light weight, non-porous material is made in the form of a cubic shell or a rectangular box closed on all sides but one, the bottom, which has the same lineal measurement as the opening 25 of the cover 15. The peripheral edge at the bottom of the hood 28 has the other half of a continuous slide fastener 29 which mates the slide fastener 26 on the cover with the starting point thereof being in a corner 30 corresponding to the corner 27 in the cover opening 25 in order to fasten the hood 28 to the cover 15 in a preconceived oriented and aligned manner. The slide of this slide fastener may be on either half. The hood 28 has at least two slide fastener openings 31 and 32 on opposite sides thereof to facilitate access by an attendant to the patient's head and shoulders although more than two slide fastener openings may be provided, if desirable. The sides of the hood 28 having the slide fastener openings therein parallel the sides of the bed as may be seen in Fig. 1. On one side of the hood 28, and more conveniently the left side, as seen in Fig. 1, are two cuffs 33 and 34 for connection to inlet and outlet tubes of oxygen air conditioning equipment, shown in phantom.

As more particularly shown in Fig. 4, the cuff 33, for example, consists of a tubular member 35 extending outwardly through a circular hole in the hood 28. The inner end of the tubular member 35 is enlarged at 36 to fit in the hole in the hood 28 and is attached to the hood in any suitable manner as by sewing or cementing. Attached to the inner wall of the hood 28 is a flap 37 which hangs over the hole in the hood to the cuff 33 to operate as a low pressure check to permit inflow of oxygen but not outflow. The other cuff 34 for the outlet to the oxygen air conditioning unit is constructed the same as the cuff 33 except that it does not have the inner flap and therefore it will not be described further.

As may be seen in Fig. 3 and more particularly in Fig. 5, the top surface of the hood 28 is provided with loops or eyelets 40 fixed thereto as by cementing, or other suitable means. These eyelets 40 are positioned along both top edges paralleling the head and the foot of the bed, three to each side being illustrated in the drawing. Each eyelet 40, as best seen in Fig. 5, has an elastic band 41 passing therethrough as illustrated although other elastic or resilient means may be used, as tension coil springs, or the like. The eyelets are even in number and paired such that the elastic bands of each pair are looped over opposite ends of a bracket 42 the outer ends of which are hooked to receive the elastic bands. Three such brackets 42 are used as illustrated to accommodate the six eyelets described. The three brackets 42 are supported on a stand 43 which may be a part of the oxygen air conditioning equipment. The stand has a laterally extending arm 44 over which the brackets 42 pass, the arm 44 being of such height to produce a slight stretch in the elastic bands 41 sufficient to hold the hood 28 in an upright position.

All of the slide fasteners and more particularly any zippers used are of fine mesh to block any flow of oxygen outwardly from the hood or cover. Many known refinements may be made

supplementing the slide fastener seal as by allowing some overlap of the material to which the slide fasteners are fastened.

Further, the above description of the oxygen therapy tent used on a bed does not preclude the use of ordinary bed covers under the cover 28, where desirable. The cover 15 is not drawn so tight as to restrict the patient in movement, the normal stretch of the cover 15 and the depression of the springs by the body weight of the patient providing ample space for the patient between the cover and the mattress.

As now may be apparent from the foregoing description, the complete oxygen therapy tent provides an inexpensive, economical, and efficient device for the care of a patient requiring oxygen. There is great oxygen concentration over the whole of the patient's body as a result of the construction of this device whereby less oxygen is used and little oxygen wasted. This great concentration in a small volume permits rapid filling of the tent with oxygen which is a great advantage in emergency cases. The many slide fastener openings in the cover and in the hood enable the attendant to perform many nursing, clinical, medical, and even surgical operations on the patient with the minimum of loss of oxygen. The oxygen therapy tent construction enables the patient to be comfortable in all reclining and sitting positions. The patient has plenty of room in the hood to eat or read in the sitting position.

While the foregoing specification and the accompanying drawing describe and illustrate the preferred form of the invention, it is to be understood that various modifications and changes may be made without departing from the spirit and scope of this invention and I desire to be limited only by the scope of the appended claims.

I claim:

1. An oxygen therapy tent for use on a bed having a mattress comprising; a cover substantially impervious to air passage having an opening near one end thereof and being adapted to have the marginal edges thereof tucked under a mattress; and a transparent and impervious to air hood detachably connected to said cover about said opening providing substantially an airtight oxygen tent structure when attached to a bed, said hood having openings therein adapted to be connected to an oxygen air conditioning unit, and at least one closable opening in each the cover and the hood providing access to a patient thereunder without detaching said hood whereby a minimum volume of oxygen is present under said hood and said cover to the marginal edges thereof when said cover and hood are assembled for use on a bed with oxygen air conditioning equipment.

2. An oxygen therapy tent as set forth in claim 1 wherein said detachable connection between said cover and said hood is a slide fastener.

3. An oxygen therapy tent for use with a conventional bed having a mattress comprising; a cover substantially impervious to air passage adapted to have the marginal edges thereof tucked under a mattress of a bed, said cover having a plurality of closable opening suitably positioned in said cover to provide access to all parts of any patient's body placed thereunder and having an opening in the head portion of said cover for accommodating the head and arms of any patient thereunder; and a flexible transparent, non-porous hood having one open side detachably connected to said cover at the pe-

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ripheries of said cover and said hood openings, said hood further having cuff openings adapted to be connected to oxygen air conditioning apparatus whereby a minimum amount of oxygen may be supplied under the total area of said hood and said cover to the marginal edges thereof with a minimum of oxygen waste in the use of said closable openings.

4. An oxygen therapy tent as set forth in claim 3 wherein said closable openings in said cover are all closable by slide fasteners and said detachable connection between said cover and said hood is a slide fastener.

5. An oxygen therapy tent for use with a conventional bed having a mattress comprising; a substantially non-porous cover having an opening near one end thereof for the head portion of a patient and being adapted to have the marginal edges thereof tucked under a bed mattress; and a flexible, transparent, non-porous hood having one side open which is dimensionally equivalent lineally to the periphery of said cover about said opening therein, said hood being detachably connected to said cover along the peripheries of the openings in said hood and said cover, said hood having a plurality of closable openings positioned therein for providing access to the head portion of any patient thereunder, and said hood further having cuff openings adapted for connection to oxygen air conditioning equipment whereby a minimum amount of oxygen is utilized in the area under said cover and said hood in the attached condition to the extent of the marginal edges of said cover with the minimum of oxygen waste in the use of said closable openings when said cover and hood are assembled for use.

6. An oxygen therapy tent as set forth in claim 5 wherein said detachable connection between said hood and said cover is a slide fastener and said closable openings in said hood are closable by slide fasteners.

7. An oxygen therapy tent for use with a conventional bed having a mattress comprising; a cover substantially impervious to air passage adapted to have all four marginal edges thereof tucked under a mattress of a bed on which it is used, said cover having a substantially square

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opening near one end thereof constituting the head end with the edges of three sides of said opening being adjacent, but lying within, said cover marginal edges, the periphery of said cover producing said opening having one-half of a zipper slide fastener fixed thereto, and said cover having a plurality of zipper slide fastener openings suitably placed therein within the confine of said cover marginal edges to provide access by an attendant to any lower body part of any patient under said cover; and a flexible, transparent, non-porous hood of substantially cubic configuration having one end open, the edge of which has a lineal dimension equivalent to the periphery of said cover forming said substantially square opening and the edge of which has one-half of a zipper slide fastener mating and attachable to said one-half zipper slide fastener on said cover to close the area under said cover and hood to the atmosphere when said cover is assembled on a bed, said hood having a plurality of zipper slide fastener openings therein suitably placed therein to provide easy access by an attendant to a patient's head portion in the use of said cover and hood therapeutically, said hood further having means externally thereof for suspending said hood by support means, and said hood further having inlet and outlet cuff openings adapted for connection to oxygen air conditioning apparatus whereby, in the use of said cover and hood assembled for an oxygen therapy tent, a minimum volume of oxygen is utilized under the entire area of said cover to the extent of the marginal edges thereof such that the entire body of any patient therein is exposed to concentrated oxygen and a minimum of oxygen is wasted in attending any patient therein through said several zipper slide fastener openings.

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