# United States Patent

[11] **3,575,407**


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[54] **ANAESTHESIOLOGY DRAPING SCREEN STRUCTURE**
**15 Claims, 5 Drawing Figs.**


[52] **U.S. Cl.** ..... **269/322,** 128/132
[51] **Int. Cl.** ..... **A61g 13/00**
[50] **Field of Search** ..... 269/322, 323, 324, 325, 326, 327, 328; 128/82, 132, 132 (D), 156; 5/317, 319, 320, 329—331



[56] **References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 1,353,502 | 9/1920 | Weismantel | 5/317 |
| 2,257,491 | 9/1941 | Armstrong | 269/322 |

FOREIGN PATENTS

| | | | |
|---|---|---|---|
| 383,676 | 1932 | Great Britain | 5/319 |



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**ABSTRACT:** This invention relates to an anaesthesiology draping screen structure and more particularly to a structure to support (1) a first anaesthesiology draping cloth screen disposed crosswise of a surgical table and aligned at a level just caudad to the head of a patient and (2) a second anaesthesiology sterile screen. The second screen is characterized by being formed of a rigid, transparent material, such as Plexiglass or methyl methacrylate and is adjustably and detachably supported by the surgical table through (1).


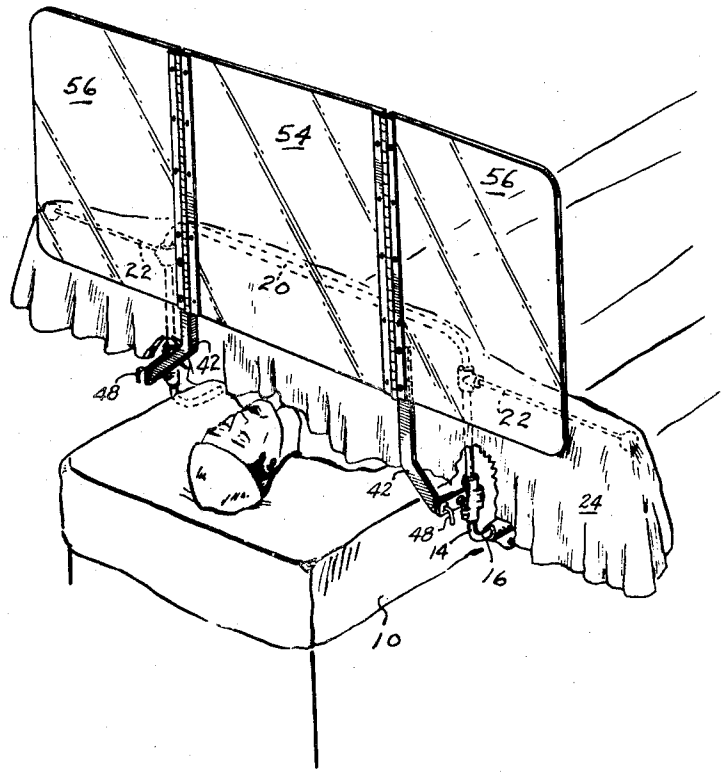

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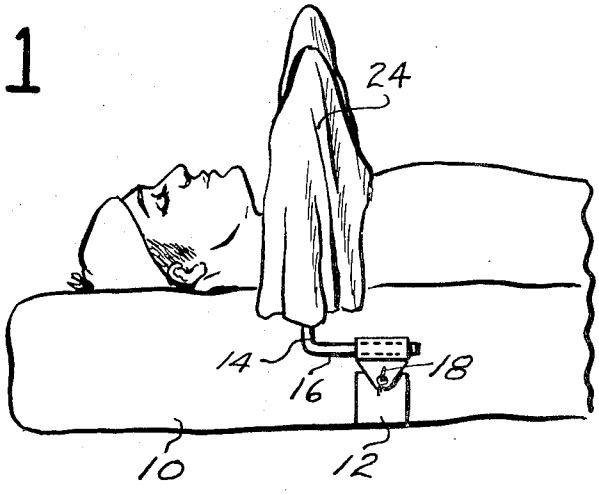
FIG. 1



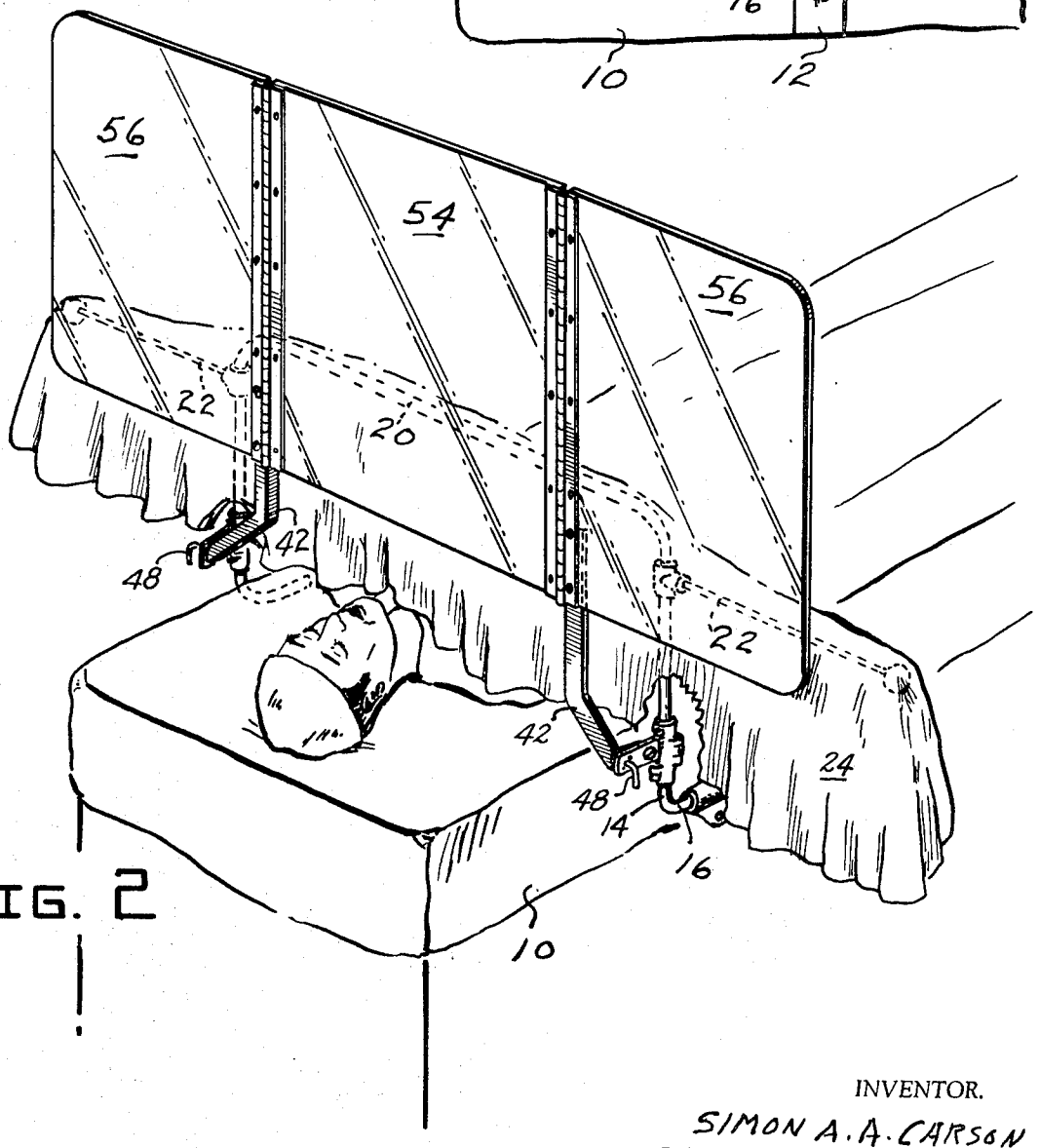




FIG. 2

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FIG. 3

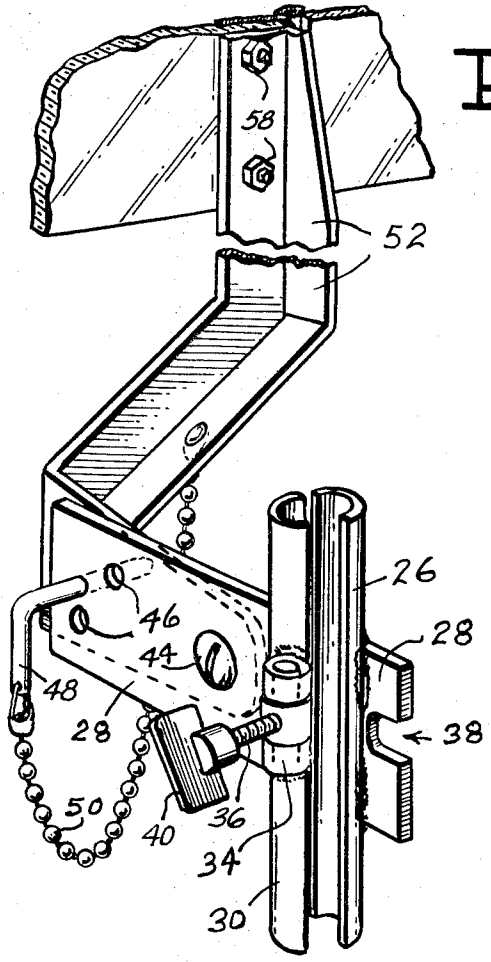



FIG. 4

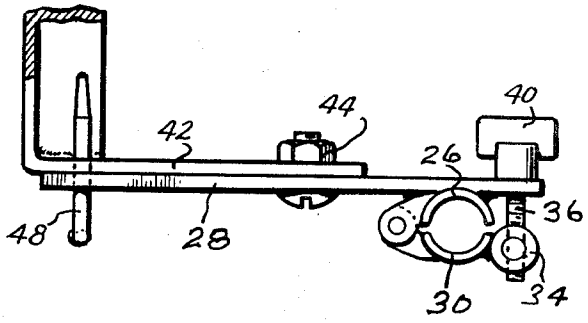
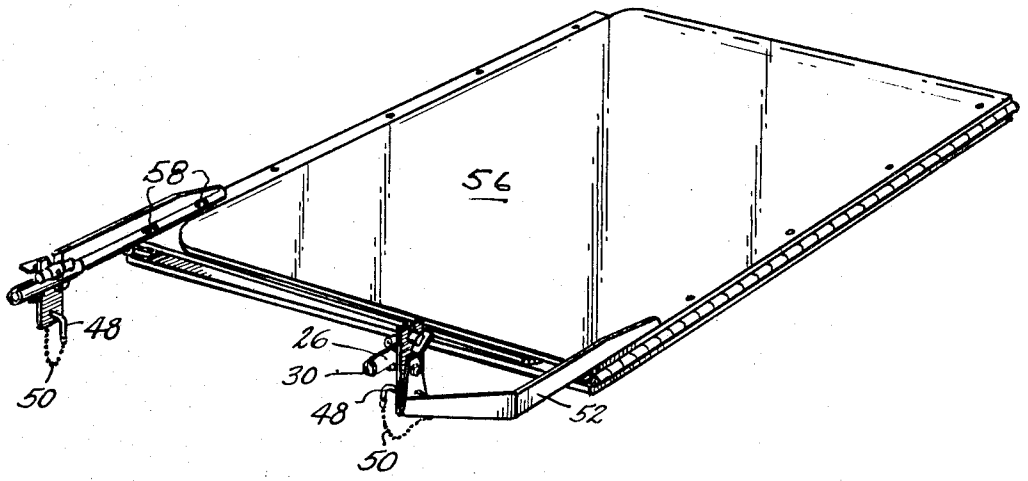



FIG. 5

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# ANAESTHESIOLOGY DRAPING SCREEN STRUCTURE

My invention relates to an anaesthesiology screen structure. More particularly, my invention relates to such a screen structure comprising a first draping cloth screen and a second sterile screen, and supporting means therefor.

To minimize complications which may result from airborne germs present during surgery, the surgeon and his aides are "scrubbed," wear sterile clothes, and face masks. Also, the instruments and other physical equipment present are sterile. Despite what may be done so far as sterile conditions for the surgical personnel and equipment, there remains the lack of sterility because of contamination through contact with nonsterile material and personnel necessarily in close proximity to the patient. Thus, it has become common to use an anaesthesiology draping cloth screen and to isolate the head of the patient, the anaesthesiologist and his aides and equipment on one side of the said draping cloth screen and to isolate the surgical area and the surgeon and his personnel and equipment on the other side of such a draping cloth screen.

Referring more particularly to the surgical side of the anaesthesiology screen and with particular reference to operations in the area from the chest of the patient upwardly, the said surgical side and particularly the area in near proximity to the surgical area, is extremely crowded as we will have generally present the operating surgeon and his assistant as well as other personnel, as nurses, for example. While the hands of the operating surgeon will be directly involved in a surgical area, nevertheless, everyone who is handing him articles and instruments or aiding him is also positioned adjacent the surgical area, and thus a very physically crowded area is involved. Obviously, elbows and other parts of the bodies of the surgical team will many times contact the sterile drapes which are the usual anaesthesiology draping cloth screen during the operation. Such contact between such portions of the bodies of members of the surgical team and the said drapes may lead to contamination of the team if the drapes are accidentally touched by nonsterile personnel from the anaesthesiologist's side of the screen.

It is an object of my invention to provide an anaesthesiology screen structure comprising first and second screens, the first of which supports a draping cloth screen extending crosswise of the surgical table and at the level just caudad to the head of the patient so that such transversely extending screen provides for two areas isolated from each other, one for the head of the patient as well as the anaesthesiologist and his personnel and equipment and the second for the surgical area and for the surgeon and his personnel and equipment. The second anaesthesiology screen is characterized by extending crosswise of the surgical table, parallel to the first screen, disposed at a higher elevation than the first screen, formed of a rigid transparent material, such as Plexiglass or methyl methacrylate and protects sterile drapes laid across the first screen from contamination by personnel at the head of the operating table.

Other objects are to provide an anaesthesiology screen structure comprising two base supports which are disposed on opposite sides of a surgical table and which base supports each carries a vertical support. The said vertical supports carry structure for supporting a first anaesthesiology sterile draping cloth screen. The said vertical supports also carry a structure for supporting a second anaesthesiology sterile screen. More specifically, the said second sterile screen is disposed at a higher elevation than the first screen, is parallel with said first screen, is disposed on the side of the said first screen toward the head of a surgical table, and forms a physical barrier to protect the first screen.

A more specific object is to provide a second sterile screen formed of a plurality of hinged together panels, as three, and to secure the side panels of such second screen to spaced supports so that all of the panels, when in use, will form a continuous rigid panel but which may be folded when disassembled for compact storage and to enable the unit to be placed in the surgical sterilizer before use.



Other more specific objects are to provide supports for said second screen which are detachable from the supports for the first screen and which are vertically adjustable relative to the supports for the first screen.

Other objects of my invention will become apparent or implicit as the description of my invention proceeds in connection with the drawings, throughout which like reference numerals refer to like parts, and wherein:

FIG. 1 is a fragmentary view in side elevation showing a surgical table, a patient thereon and a first draping cloth screen in place between the head and the torso of the patient;

FIG. 2 is a fragmentary perspective view of the showing of FIG. 1 and showing in addition a second anaesthesiology sterile screen of my invention in applied position;

FIG. 3 is a fragmentary perspective view of one of the supporting means for supporting the second anaesthesiology sterile screen;

FIG. 4 is a plan view of parts shown in FIG. 3; and

FIG. 5 is a perspective view of the second anaesthesiology sterile screen shown detached and with the panels thereof in folded position so as to be easily placed in the surgical sterilizer.

A conventional surgical table 10 (FIGS. 1 and 2) is provided with a base support 12 on each side thereof. Attached to each base support 12 is a first vertical support 14. As indicated in connection with FIGS. 1 and 2, the base support 12 may include a sleeve portion to detachably receive a generally horizontal portion 16 of the support 14. Thus, by the use of a wingnut 18, the horizontal portion 16 may be loosened relative to the base support 12 for removal or the wingnut 18 may be tightened and the portion 16 rigidly secured to the base support 12. It is desirable to have each vertical support 14 detachably connected with the surgical table 10 for convenience of use and convenience of removal or installation when desired.

The first vertical supports 14 (see FIG. 2) are interconnected by a crosswise horizontally extending support 20. Also, each vertical support 14 preferably supports a winglike outwardly extending arm 22. The supports 14, cross supports 20, and arms 22 support a draping anaesthesiology cloth 24 which is draped crosswise of the surgical table and at a level caudad to the head of the patient, all in accordance with established practices. Also, tape and skin clips, in accordance with conventional practices may be employed to provide a relatively tight fit between the surgical cloth 24 and the skin of the patient at the neck and shoulder areas.

The vertical supports 14 preferably also support the second anaesthesiology sterile screen. Preferably, the said first vertical supports 14 are tubular in section and a split sleeve structure (see FIG. 3) is employed to detachably connect the supporting structure for the second anaesthesiology sterile screen with said first vertical supports 14. This split sleeve construction comprises a half sleeve 26 rigidly secured to a plate 28 as by welding. A second half sleeve 30 is hinged to the first half sleeve 28 by hinge means 32 (see FIG. 4). A sleeve 34 is hinged to second half sleeve 30 and sleeve 34 threadedly receives threaded pin 36. As sleeve 34 is pivotally connected with a sleeve 30, the said pin 36 may be turned to the position shown in FIG. 3 of the drawings or said pin may be turned approximately 180° to the position shown in FIG. 4 of the drawings and with the pin 36 extending through the slot 38 in plate 28. The threaded pin 36 terminates in a head portion 40. Upon loosening of the threaded pin 36, the two half-sleeves 26 and 30 may be separated as indicated in FIG. 3 of the drawings or they may be moved into closed position as indicated in FIG. 4 of the drawings so that the said half-sleeves 26 and 30 and parts carried thereby may be connected with the vertical supports 14 as indicated in FIG. 2 of the drawings.

Each plate 28 is pivotally connected to a bracket 42, as by nut-and-bolt means 44. A means for maintaining an adjusted turned position of a bracket 42 relative to a plate 28 may be in the form of a plurality of holes 46 in a plate 28 which are movable into selected registration with a hole in a bracket 42.

When such holes are in a line, then a pin means **48** may be inserted through registering holes and an adjustment thus obtained may be maintained. For convenience a keeper chain **50** will maintain the pin means **48** in close proximity to the holes **46**.

Each bracket **42** comprises an angular portion which terminates in a vertical portion **52**. The second anaesthesiology sterile screen comprises a central panel **54** and two side panels **56**. Preferably, said panels **54** and **56** are rigid and transparent panels and thus may be formed of any suitable material, such as Plexiglass or methyl methacrylate. Such material readily provides for desired rigidity as well as transparency. Also, such material may be sterilized in a manner customary for sterilizing surgical instruments, and thus safely touched by the surgical team on one side without fear of contamination. The vertical portion **52** of each bracket **42** is connected with a side panel **56** as by nut-and-bolt means **58**. By connecting the vertical portion **52** of each bracket **42** to the side panels **56**, then the panels **56, 54, 56** are held as a rigid unit during use but upon detachment of the unit from the vertical supports **14**, then the entire second anaesthesiology sterile screen and its supporting structure can be readily folded for compact storage as indicated in FIG. **5** of the drawings and also for sterilization in commercially available sterilization equipment. Also, in view of the fact that the vertical portions **52** of the brackets **42** are vertically adjustable through the pin means **48** and holes **46**, the end result is that the second anaesthesiology sterile screen is adjustable vertically relative to the surgical table **10**. This will allow for a desired elevation of the said second screen as may be required depending upon the size of a patient, convenience of personnel, and the like.

During operations on the chest and in areas relatively close to the anaesthesiology cloth **24**, there will be generally two doctors in close proximity to the surgical area and also nurses or other aides in close proximity to the surgical area. Thus, the area close to the anaesthesiology draping cloth **24** will be a highly congested area and there will be quite a number of arms and portions of the bodies of the surgeon and his aides and assistants so that, in the past there was considerable personnel and clothing contact with the anaesthesiology cloth, similar to the cloth **24**. At times it was thought desirable to make the cloth **24** of a height so it could not be pushed downwardly and "worked over" by the elbows of the surgeon and his attending personnel. However, such structure was not practical as it obstructed the view of the anaesthesiologist who necessarily must be able to see the surgery. On the other hand, the second anesthesiology sterile screen comprising the panels **56, 54, 56**, may be of any desired height and any desired rigidity so that the sterile first anaesthesiology draping cloth screen will not be contaminated by the nonsterile personnel at the head of the operating table. By having the said second anaesthesiologist screen transparent, the anaesthesiologist, who is operating on the patient's head side of the said second anaesthesiologist screen, can readily coordinate his activities to those of the attending surgeon.

From the foregoing, it will now be apparent that I have provided an anaesthesiology draping structure comprising two spaced-apart base supports **12** which are adapted to be supported by opposite sides of a surgical table. These base supports **12** preferably detachably support first vertical supports **14** disposed on opposite sides of the table. These vertical supports **14** in turn support structure comprising cross support **20** and winglike arms **22** which will support a first anaesthesiology draping cloth screen **24**. This first draping cloth screen **24** may be at a lower level in elevation as there will be other supports and a second anaesthesiology sterile screen to protect the head of the patient and to protect the first draping cloth screen **24** from contamination by the nonsterile personnel.

Other details of my invention which will now be apparent are that the second anaesthesiology sterile screen **56, 54, 56** is supported by two spaced-apart second vertical supports **26, 28, 30, 42, 52**, and each of said second vertical supports is detachably connected to a first vertical support **14**. The said second anaesthesiologist sterile screen **56, 54, 56** is disposed toward the head end of the surgical table relative to the position of the first draping cloth screen **24** and the said second sterile screen is at a higher elevation than the first draping cloth screen **24** and any desired height is practical in view of the fact that the said second sterile screen is transparent and is rigidly supported by the surgical table **10**. For convenience in storage and sterilization and the desired rigidity when in use, the said second sterile screen comprises a central panel **54** and two side panels **56**, each of the latter being hinged to a marginal side edge portion of the central panel **54** and the vertical uprights, including the vertical portion **52**, are secured to side panels **56**, as by nut-and-bolt means **58**. Other details of my invention have been described or any inherent in the description and illustrations herein and within the scope of the aPpended claims.

Obviously, changes may be made in the forms, dimensions and arrangements of the parts of my invention without departing from the principle thereof, the foregoing setting forth only a preferred form of embodiment of my invention.

I claim:

**1**. An anaesthesiology draping screen structure comprising two spaced-apart supports adapted to be carried by a surgical table; a first draping screen support extending across said surgical table carried by said spaced-apart supports, and adapted to support an anaesthesiology draping cloth screen in draping position relative to a patient on said surgical table; a second anaesthesiology sterile translucent screen extending across said surgical table and carried by said spaced-apart supports; and, the upper part of said second anaesthesiology sterile translucent screen being higher than said first draping screen support so as to preclude the positioning of an object on said anaesthesiology draping cloth.

**2**. The combination of claim **1** wherein said two spaced-apart supports comprise two spaced-apart base supports, each of which carries a first vertical support and wherein the second sterile screen is carried by two spaced-apart second vertical supports, each of which is carried by one of said first vertical supports.

**3**. The combination of claim **1** wherein said second sterile screen is substantially parallel to a draping cloth screen carried by said first draping screen support, and is disposed toward the head end of the surgical table relative to draping cloth screen.

**4**. The combination of claim **1** wherein said second sterile screen is formed of a rigid transparent material.

**5**. The combination of claim **1** wherein said second sterile screen is formed of a central panel and two side panels, each of which side panels is hinged to the central panel along a vertical side marginal edge portion thereof.

**6**. The combination of claim **5** wherein each of said two spaced-apart supports is connected to a side panel of said second sterile screen.

**7**. The combination of claim **2** wherein each of said second vertical supports is detachably connected with its supporting first support.

**8**. The combination of claim **7** wherein each of said first vertical supports comprises a tubular member and each of said second vertical supports comprises a split clamp detachably connected on the periphery of a first vertical tubular member.

**9**. The combination of claim **2** wherein each of said second vertical supports is vertically adjustable relative to its supporting first support.

**10**. The combination of claim **9** wherein each of said first vertical supports comprises a first vertical plate, each of said second vertical supports comprises a second vertical plate pivotally connected to a said first vertical plate, said second vertical plate is provided with an opening registering with different openings in the first vertical plate upon pivotal movement of the second vertical plate relative to the first vertical plate, and a removable pin inserted through

registering openings in said plates maintains an adjusted vertical position between said plates.

11. An anaesthesiology screen structure comprising:

A. an anaesthesiology screen extending transversely across a surgical table;

B. at least two spaced-apart first supports;

C. said first supports connecting with and supporting said anaesthesiology screen;

D. said first supports being spaced sufficiently far apart so that said first supports are on opposite sides of the surgical table;

E. a second support means for supporting the first supports; and

F. said anaesthesiology screen is formed of a rigid transparent material.

12. An anaesthesiology screen structure according to claim 11 and comprising:

a. said screen having a central panel and two side panels; and

b. each of which side panels is hinged to the central panel along a vertical side marginal edge portion thereof.

13. A combination of an anaesthesiology translucent screen structure and an anaesthesiology draping screen structure, said combination comprising:

a. two spaced-apart first supports with a support on each side of the surgical table;

b. a first draping screen support extending transversely across a surgical table and supported by said two spaced-apart first supports;



c. said first draping screen support adapted to support an anaesthesiology draping screen structure in draping position relative to a patient on said surgical table;

d. said anaesthesiology draping screen structure extending transversely across said surgical table;

e. said combination comprising at least two spaced-apart second supports;

f. said second supports connecting with and supporting said anaesthesiology draping screen structure;

g. said second supports being space sufficiently far apart so that said second supports are on opposite sides of the surgical table;

h. support means for supporting the second supports; and,

i. the upper part of said anaesthesiology translucent screen structure being higher than said anaesthesiology draping screen structure so as to preclude the positioning of an object on said anaesthesiology draping screen structure.

14. A combination according to claim 13 and comprising said anaesthesiology screen is formed of a rigid transparent material.

15. A combination according to claim 13 and comprising:

a. said anaesthesiology screen is formed of a rigid transparent material;

b. said screen having a central panel and two side panels; and,

c. each of which side panels is hinged to the central panel along a vertical side marginal edge portion thereof.