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3,481,462

DISPOSABLE SURGICAL HOLDER AND COUNTER

Filed Jan. 10, 1969

2 Sheets-Sheet 1

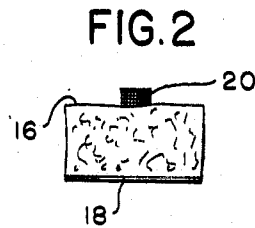
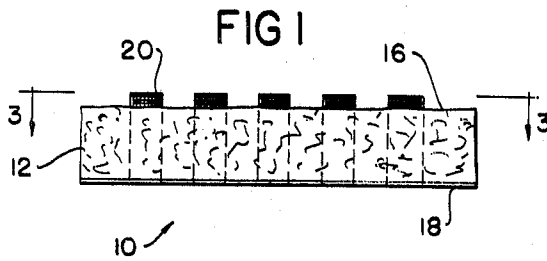
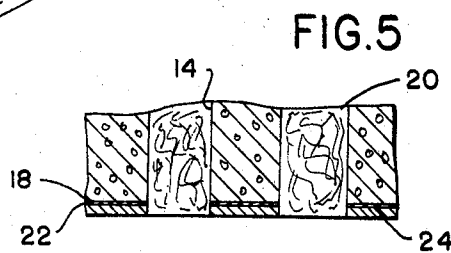
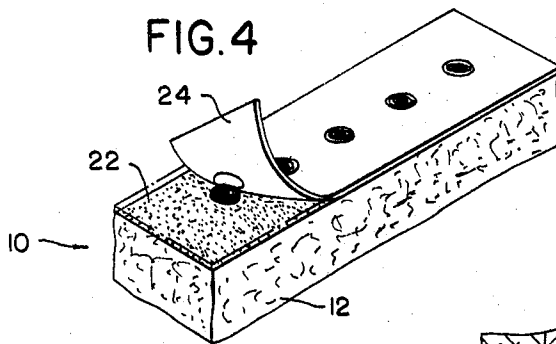


FIG. 3



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FIG. 6

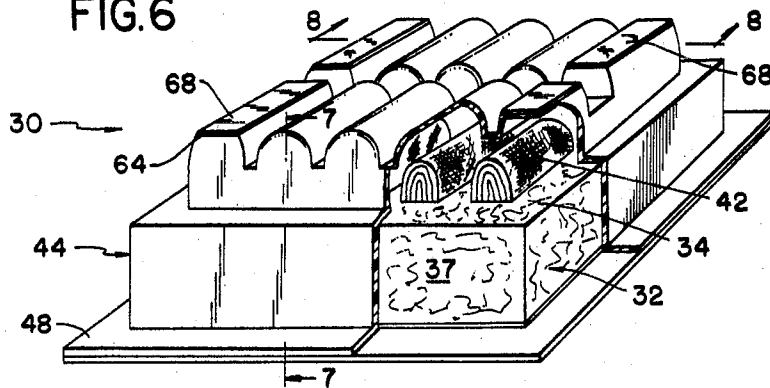


FIG. 8

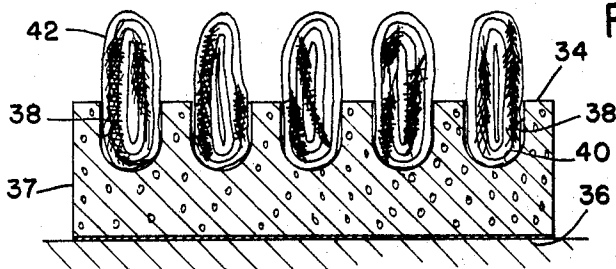


FIG. 7

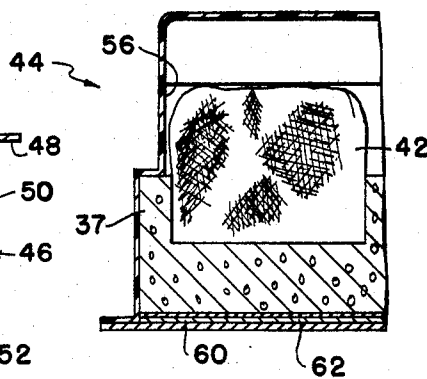
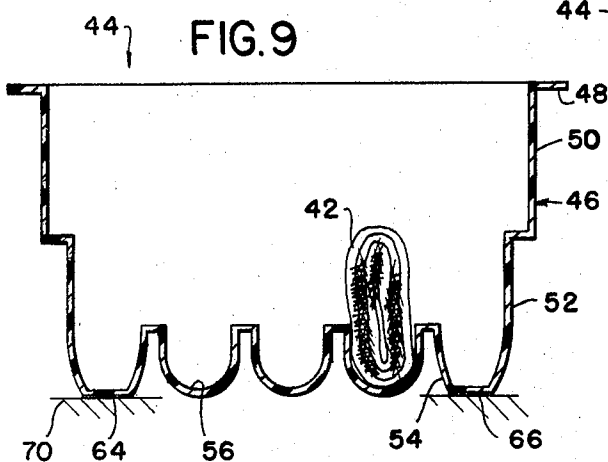


FIG. 9



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3,481,462 DISPOSABLE SURGICAL HOLDER AND COUNTER

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Continuation-in-part of application Ser. No. 717,630, Apr. 1, 1968. This application Jan. 10, 1969, Ser. No. 795,400

Int. Cl. A61b 19/02; B65d 1/34; A61f 13/00

U.S. Cl. 206—63.2 18 Claims 10

ABSTRACT OF THE DISCLOSURE

A disposable surgical holder and counter or package having a base made from an open cell polyethylene foam material. The base is elongated and has a transverse rectangular cross section throughout the longitudinal extent thereof. A plurality of longitudinally spaced apart openings are provided in the base between the upper and lower surfaces thereof for receiving and firmly holding surgical elements such as dissector sponges, cottonoids, and various other operating room products or surgical elements. An adhesive material is applied to the lower surface of the base, with a removable tear strip or backing being superimposed over the adhesive material during the manufacture thereof to cover the adhesive material prior to use of the disposable surgical holder and counter in an operating room. In use the tear strip is removed from the base and the base is then adhesively secured to a hospital table or other support surface thereby rendering same immovable in the event the table is turned over or is bumped. The surgical elements in the base remain in place even if the table is turned over or is bumped due to the tight fit between the elements and the cavities or openings in the base. The surgical elements may be selectively removed from the base during the performance of a surgical operation and then replaced in the base after use whereby the doctor or nurse may make an exact visual accounting of the surgical elements to determine at a glance and to thereby insure that all of such elements have been removed from the patient's body. After use the entire surgical holder and counter (including the surgical elements) is discarded.

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my co-pending application, Ser. No. 717,630, entitled "Disposable Surgical Holder and Counter," filed Apr. 1, 1968.

In another embodiment of the invention the disposable surgical holder and counter includes a base made, as an example, from an open cell polyurethane foam material, said base having a plurality of openings arranged in two rows between the upper and lower surfaces thereof for receiving and firmly holding surgical elements such as sponges, etc. Surgical elements are received in the openings, with portions of each element extending upwardly from the top surface of the base. A plastic cover is provided having in the top surface thereof two rows of recesses, the number of arrangement of the recesses corresponding to the number of arrangement of the openings in the base. Each recess receives the upstanding exposed portion of the sponge or other surgical element held firmly in the base. The cover, which may be made from a lightweight plastic material, extends completely over the top and sides of the base and the surgical elements therein. A removable tear strip, as an example, may be used to seal the base and cover together to provide a seal-tight package. In use, the plastic cover is removed from the base and is then inverted, with the top exterior surface

of the cover being adhesively secured to a support. After the sponges or other surgical elements have been removed from the base and used they are placed in the recesses in the cover whereby the doctor or nurse may make an exact visual accounting of the surgical elements to determine at a glance and to thereby insure that all of such elements have been removed from the patient's body. Thereafter the cover with the used surgical elements therein is discarded along with the base.

BACKGROUND OF THE INVENTION

Field of the invention

The disposable surgical holder and counter is used by doctors and nurses in operating rooms and hospitals where it is required to account for all sponges, cottonoids and other surgical products and items used during operations.

Description of the prior art

It is the standard practice in an operating room for the responsible nurse to actually count all sponges, cottonoids, etc. used during or made available for the operation to insure that such elements have not been left on the interior of the patient's body upon completion of the operation. Since the nurse has many other duties in the operating room, it is difficult for her to remember the exact count and to physically keep track of the surgical element. The present invention eliminates the guess work now adherent in accounting for sponges, gauzes, and other surgical elements.

SUMMARY OF THE INVENTION

The disposable surgical holder and counter is provided with an elongated base made from an open cell polyethylene foam material. A plurality of holes or openings are provided in the upper surface of the base. Such openings are shaped so as to conform at least in part to the configuration of the surgical elements to be inserted and frictionally secured therein. In one embodiment an adhesive material is applied to the lower surface of the base and is provided with a tear strip which is removed prior to affixing the base to a support in an operating room. In the other embodiment a cover is superimposed over the base and the surgical elements therein. The cover is removed from the base and is secured to a support in an operating room. The special merit or advantage of this invention resides in the fact that a visual count of the sponges, etc. can be made at a glance by the doctor or nurse in charge and thus eliminate any question of sponge count. If the holes or openings in the base of the holder or in the case of another embodiment, in the cover of the holder are filled the doctor or nurse knows immediately that all clean and used sponges are properly accounted for.

Thus the present invention eliminates the guess work now adherent in accounting for sponges, gauzes and other surgical elements. The holder is economical to manufacture, efficient in operation and results in substantial savings in the time required for the nurse to account for sponges when compared to present methods.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a side elevation of the disposable surgical holder and counter;

FIGURE 2 is an end view of the surgical counter and holder shown in FIGURE 1;

FIGURE 3 is a plan view of the surgical counter and holder looking in the direction of arrows 3—3 in FIGURE 1;

FIGURE 4 is a perspective view of the surgical counter and holder, in an inverted position, with a portion of the

backing removed to expose the adhesive surface on the base thereof;

FIGURE 5 is a sectional view taken on the line 5—5 of FIGURE 3;

FIGURE 6 is a perspective view of another embodiment of the present invention, with a portion of the cover broken away and in section to expose the interior thereof;

FIGURE 7 is a fragmentary sectional view taken along the line 7—7 of FIGURE 6;

FIGURE 8 is a sectional view of a modified disposable surgical holder and counter, with the cover removed, and taken along the line 8—8 of FIGURE 6;

FIGURE 9 is a sectional view through the cover mounted in use on a support and illustrating a disposable used sponge inserted into a recess in the cover.

DESCRIPTION OF A PREFERRED EMBODIMENT

The disposable surgical holder and counter is designated by the numeral 10 and comprises an elongated base 12 having a generally transverse rectangular cross-section throughout the longitudinal extent thereof. The base 12 is provided with a plurality of generally cylindrical openings 14 located on the longitudinal axis thereof between the upper and lower surfaces 16 and 18.

The base 12 is made from a lightweight, yieldable plastic material such as open cell cellular structures of polyethylene foam material. Polyethylene foam material is lightweight, yieldable or resilient and is easily cut and drilled to provide the required base configuration and openings.

The openings 14 are shaped to conform to and frictionally engage the outside surfaces of the surgical items 20. The openings 14 have axes which are perpendicular to and intersect the longitudinal axis of the base 12. As an example items 20 may be in form of dissector sponges, cottonoids, other types of sponges and various other operating room products and surgical elements. The surgical items are firmly held in the base 12 by the polyethylene foam material and can be easily removed therefrom due to the yieldability of the foam material. After use in the operating room, the items 20 are reinserted in the openings 14 in the base 12.

The lower surface 18 of the base 12 is provided with an adhesive material or tacky substance 22 of the type commonly used for bumper stickers, name tags, etc. A removable tear strip or tacking element 24 is placed over the adhesive material 22. The openings 14 extend completely through the tear strip 24 as best illustrated in FIGURES 4 and 5.

The holder 10, as an example, is 1" wide, 3" long and ½" thick. The openings are approximately ¼" O.D. The surgical items 20 are usually inserted in the base 12 after the strip 24 has been adhesively secured thereto in order to help to insure that items 20 will remain clean and sterile. The completed packages 10 are stored in sterilized containers ready for use in an operating room or hospital.

The nurse initially peels back the strip 24 and then adhesively secures the base 12 of the counter 10 to the Mayo stand or to any convenient support surface in the operating room. Thus the counter 10 will remain in place even if the table turns over or is bumped. In addition the surgical items 20 remain in the base 12 even though the table is turned over or is bumped due to the tight or firm frictional contact between the items 20 and the base 12.

The nurse replaces the items 20 in the base 12 after use. Thus the present invention eliminates any question of sponge count. The nurse can make a visual count at a glance. If the holes or openings 18 are filled the nurse knows that all clean and used sponges or items 20 are accounted for. With the present invention the valuable time of an operating room nurse can be used for nursing functions rather than for keeping track of the sponge count. Hospital costs are lessened as the present invention eliminates put up time by the nurse. The pre-packaged

sterile counter 10 also eliminates the need to place such surgical items on safety pins and in test tubes for sterilization as is now required. Upon completion of the operation the operating room nurse makes a final check and then if all of the clean and used sponges are accounted for discards the counter 10.

The counter 10 can be constructed in various sizes and configurations to hold any number of surgical items 20 regardless of their shape. It has been found that five items 20 to a counter is desirable.

The surgical holder and counter 10 may be constructed according to mass production techniques. As an example, a polyethylene foam sheet of 4' x 12' is placed upon a support surface. One side of the sheet is provided with an adhesive material or substance which is in turn covered by a removable backing sheet. Thereafter the assembled unit is cut into 12' strips having a width of 1". Thereafter a suitable template is utilized in conjunction with a drill press whereby the openings 20 are drilled through the base 12 and tear strip 24. Thereafter the 12' strip is cut to form a plurality of bases 12 of the proper length.

It should also be appreciated that materials other than polyethylene may be used with the present invention. In certain cases a rigid plastic material may be used for holding items other than the dissector sponges. Thus the counter of the present invention could be made of a rigid material of a size or configuration depending upon the particular items to be inserted therein.

The modified disposable surgical holder and counter is illustrated in FIGURES 6-9 inclusive and is designated by the numeral 30. The disposable holder and counter 30 comprises a base 32 which, as an example, may be approximately 4" square and ¾" thick. The base 32 includes an upper surface 34, a lower surface 36 and side surfaces 37. Located in the upper surface 34 are a plurality of openings 38 which are arranged in two rows, each row having five openings 38. The base 32 is made from a lightweight, yieldable material such as open cell cellular structures of polyurethane foam material.

The openings 38 are elongated as illustrated in FIGURE 6 and each opening 38 includes a curved inner surface 40. As an example, surgical elements 42 in the form of sponges or other operating room products are inserted in the openings 38, with the lower portions of the elements 42 occupying and filling the corresponding openings 38 as best illustrated in FIGURE 8. The upper portions of the sponges or elements 42 extend upwardly from the top surface 34 as best illustrated in FIGURES 6 and 8. Thus the elements 42 are supported by the base 32 due to the tight fit and frictional engagement therebetween.

The holder and counter 30 includes a unitary plastic cover 44. The cover 44 is constructed and arranged to fit over the sponges or elements 42 and to completely enclose the base 32 as best illustrated in FIGURE 6. The cover 44 includes four side walls 46, each wall 46 having an outwardly turned flange 48. Each side wall 46 includes a lower portion 50 and an upper portion 52. The cover 44 has a top wall or surface 54 which is provided with recesses 56 equal in number to the number of openings 38 and arranged in the same manner as the openings 38. Thus the top wall 54 is provided with two rows of recesses 56, the number and arrangement of the recesses 56 corresponding to the number and arrangement of the openings 38 in the base 32.

Each recess 56 receives the upstanding exposed portion of the sponge or element 42 which is firmly held in the base 32 as explained previously. The cover 44, which may be made from a lightweight plastic material, extends completely over the top wall or surface 34 and the sides 37 of the base 32 and the surgical elements 42 therein as best illustrated in FIGURE 6. The recesses 56 are constructed, arranged and shaped to engage the outer surfaces of the upstanding portions of the sponges or elements 42.

A removable tear strip 60 extends completely across the bottom of the base 32 and cover 44 and is adhesively secured to the package at least at the flanges 48 to provide

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a seal-tight package. In certain cases a filler element 62 may be interposed between the base 32 and the tear strip 60. The filler element 62 may be adhesively secured to the base 32. In certain cases where the filler 62 is not used then the removable tear strip 60 may be adhesively secured to the lower surface 36 of the base 32 and to the flanges 48 provided on the cover 44.

In use, the plastic cover 44 is removed from the base 32 by initially breaking the seal therebetween. If the tear strip 60 is utilized it is removed from the package and the cover 44 is then separated from the base 32. The cover 44 is provided on the upper surface thereof with surfaces 64 and 66 to which is applied an adhesive material. The adhesive material on surfaces 64 and 66 is exposed and the cover is then inserted and affixed to the support 70 as best illustrated in FIGURE 9. The cover 44 as best shown in FIGURE 9 forms an open mouth receptacle. After the sponges or other surgical elements 42 have been utilized they are placed in the recesses 56 provided in the cover 54 rather than reinserting them in the openings 38 in the base 32. The reason for this is that the used sponges 42 contain excessive blood and it is desirable not to contaminate the unused sponges 42 in the base 32 with the used sponges. Thus the nurse places the used sponges in the corresponding cavities 56 in the cover 54. The doctor or nurse may make an exact visual accounting of the surgical elements 42 to determine at a glance and to thereby insure that all of the elements 42 have been removed from the patient's body. Thereafter the cover containing the used surgical elements 42 is discarded along with the base 32.

The two flat surfaces 64 and the two flat surfaces 66 provided on the top surface of the cover 44 may be provided with removable tear strips 68 which are removed in order to expose the adhesive substance for securing the cover 44 to the support 70 as illustrated in FIGURE 9.

What I claim as my invention is:

1. A disposable surgical holder and counter comprising a base having a pair of surfaces, a plurality of openings in one of said surfaces for receiving a firmly holding surgical elements, and an adhesive material on the other of said surfaces for securing said base to a support whereby the surgical elements may be selectively removed from said base and then replaced in the openings in said base after use to provide an exact accounting of the surgical elements.

2. The holder and counter defined in claim 1 wherein said base is made from a yieldable material.

3. The holder and counter defined in claim 1 wherein said base is made from a plastic material.

4. The holder and counter defined in claim 1 wherein said base is made from an open cell porous plastic material.

5. The holder and counter defined in claim 4 wherein said plastic material is polyethylene foam.

6. The holder and counter defined in claim 1 wherein said adhesive surface is provided with a removable tear strip.

7. The holder and counter defined in claim 1 wherein said base is elongated, with said openings arranged on the longitudinal axis thereof, and the surfaces defining said openings are adapted to frictionally contact the surgical elements.

8. The holder and counter defined in claim 7 wherein said base is of rectangular cross-section throughout its longitudinal extent.

9. The holder and counter defined in claim 8 wherein said openings are of cylindrical configuration, with the axes thereof perpendicular to the longitudinal axis of said base.

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10. A disposable surgical holder and counter comprising a base having a plurality of openings therein for receiving and firmly holding surgical elements, and a cover provided with a plurality of recesses and enclosing said base and surgical elements to form a seal-tight package, said cover after removal from said base being adapted to be secured to a support whereby the surgical elements may be selectively removed from said base and then placed in the recesses in said cover after use to provide an exact accounting of the surgical elements.

11. The holder and counter defined in claim 10 wherein said base is made from a yieldable material.

12. The holder and counter defined in claim 10 wherein said base is made from an open cell porous plastic material.

13. The holder and counter defined in claim 10 wherein said cover is made from a plastic material.

14. The holder and counter defined in claim 10 wherein said base is rectangular, with said openings arranged in a pair of rows and the surfaces defining said openings are adapted to frictionally contact the surgical elements.

15. The holder and counter defined in claim 10 wherein said base is of rectangular cross-section throughout its extent.

16. A disposable surgical holder and counter comprising a package having a plurality of cavities therein for receiving and firmly holding surgical elements, said package being adapted to be secured to a support whereby the surgical elements may be selectively removed and then replaced in the cavities after use to provide an accounting of the surgical elements.

17. The disposable surgical holder and counter of claim 16 wherein said package consists of a base in which the cavities are located, with the surgical elements being substantially enclosed by the surfaces defining said cavities.

18. The disposable surgical holder and counter of claim 16 wherein said package consists of a base and a cover, said cavities being defined by openings in said base and corresponding recesses in said cover, the surgical elements occupying said openings and recesses, said cover enclosing said base and the surgical elements to form a seal-tight structure, said cover after removal from said base being adapted to be secured to a support whereby the surgical elements may be selectively removed from said base and then placed in the recesses in said cover after use to provide an accounting of the surgical elements.

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WILLIAM T. DIXSON, Jr., Primary Examiner

U.S. Cl. X.R.

128—296; 206—45.14, 72

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,481,462

December 2, 1969

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It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, lines 62 and 63, "of", first occurrence, each occurrence, should read -- and --. Column 2, line 28, "element" should read -- elements --; line 69, "in" should read -- of --. Column 3, line 10, "a" should read -- the --; line 15, "into" should read -- in --; line 45, "type" should read -- type --; line 47, "tacking" should read -- backing --; line 74, "Hopital" should read -- Hospital --. Column 5, line 40, "a" should read -- and --; line 50, "froma" should read -- from a --.

Signed and sealed this 3rd day of November 1970.

(SEAL)
Attest:

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Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents