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[Continued on next page]

(54) Title: STERILIZABLE SURGICAL INSTRUMENT ORGANIZER KIT

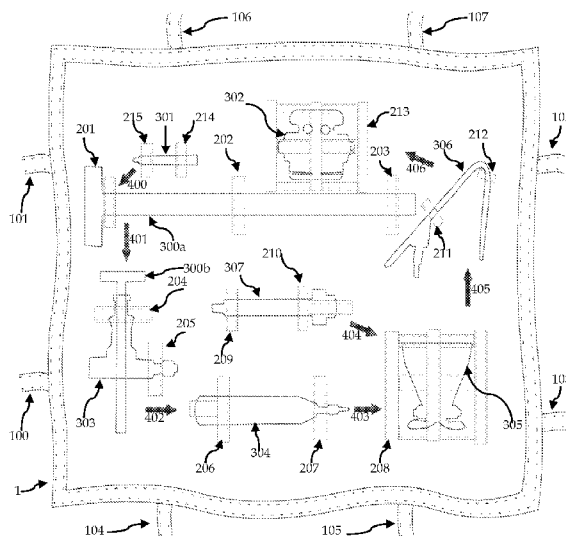


FIG. 1

(57) Abstract: The present invention relates to novel sterilizable surgical instrument organizer kit which provides guidance to nurse in surgical steps during surgery and also provides systematic and effective sterilization of surgical instruments. More specifically, the present invention relates to a reusable/resterilizable surgical material of predetermined dimension on which a diagrammatic representation of surgical procedures along with specific instructions required in a pre-identified surgical procedure are printed in a manner that actual instruments can be placed on said sterilizable material. The present invention also relates to the means for securing instruments to enable quick pre-surgery assembly of instruments, smooth handling of instruments during surgery and reassembling the used instruments on the said sterilizable material which is then secured within said sterilizable material by means for securing said sterilizable material along with the instruments within to be readied for post-operative sterilization, storing and transportation.



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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
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STERILIZABLE SURGICAL INSTRUMENT ORGANIZER KIT

FIELD OF THE INVENTION

5 The present invention relates to novel sterilizable surgical instrument organizer kit. More specifically, the present invention provides a sterilizable surgical material with printed/ embossed surgical instructions/notes with the help of arrows/ pictures of any particular surgical procedure to train and/or aide nurses during the surgery,
10 provide systematic and effective sterilization as well as storage and transportation of surgical instruments.

BACKGROUND OF THE INVENTION

In the busy environs of an operation theater it is imperative that all the
15 tools of surgery are arranged in the order of their use during the surgery in order to prevent the loss of time and to avoid confusion during the critical phases of the surgery. Therefore, before the surgery starts, scrubbing nurse usually gets a set of sterilized instruments ready which are then laid out on a sterile cloth in the order of their use during the
20 surgery. This is critical to the smooth conduction of the surgery.

Further during the surgery itself, the surgeon expects the nurse to know and hand over the correct instrument required by the surgeon at that particular moment during the course of the surgery. Not only are all the
25 sterilized instruments required to be readily available and arranged on a sterile cloth but also a nurse trained in surgery is required in order to ensure that the correct instruments are handed over to the surgeon during the procedure without any delay. Any wrong instrument given or delay in providing the correct instrument during the surgery can create chaos,

confusion resulting in surgeon's frustration and/or lengthening of surgical procedure which could impact the Surgical outcome.

Thus it becomes imperative to have nurses an advanced level of training,
5 so that they can understand the instruments and the sequences in which they are handed over to the surgeon during the surgery. In normal course such training could take about 8 to 12 months to train the staff for scrubbing readiness.

10 US Patent Application No. US 7518502 discloses a system and method for identifying, locating, and managing inventory of sterilized medical devices located within a sealed sterilization case in preparation for a surgical procedure.

15 US Patent Application No. US 6615836 discloses a surgical drape having a pocket forming feature. In particular, the surgical drape includes a fabric formed from a nonwoven layer. The nonwoven layer has a surface that includes a plurality of strands arranged on the surface with a plurality of bonds spaced about the surface. The nonwoven layer also includes a
20 plurality of loops extending between the bonds. The surgical drape also includes at least one hook fastener that contains hooks engageable with the loops of the nonwoven layer. As a result, an edge of the fabric can be folded such that the hooks engage the loops of the fabric to form a pocket. The pocket can have one open end, two open ends, or two closed ends.

25

US Patent Application No. US 5381896 discloses presentation tray for surgical instruments. More particularly a tray holding and displaying a number of surgical instruments. Each of these instruments have a handle and contain an elongated shaft extending from the handle. The shaft itself

defines a longitudinal axis. The tray contains a base defining a first plane for supporting the shafts of the instruments. There is further described a handle holding portion extending from the base. The handle holding portion contains a first side wall attached to the base and a bottom for holding the handle extending from the first side wall. The bottom defines a second plane. The first and second planes are not parallel. A package which holds the tray of this invention has a first surface which supports the base and a second surface which supports the bottom of the handle portion. Ideally, there is also a third surface extending from the base. The first and third surfaces are co-planar and capable of supporting the package and the tray containing the instruments. The tray is removed from the package and with the surgical instruments contained thereon. In this fashion, the tray is supported on a stand by the bottom and the surface extending from the second side wall.

15

Also in current state of art there are many surgeries conducted especially in a smaller operation theaters or remote location hospitals with limited infrastructure where the surgical instruments are dumped haphazardly in the sterilization units and/or sterilized in large container/ steamers. This will result in a poor sterilization of instruments wherein only few instruments on top/bottom and/or side gets effectively cleaned and sterilized. While the layers of instruments beneath the top layer may not be properly sterilized. Further, considerable time is spent in organizing the instruments and sorting them as well as searching a specific instrument during or prior to surgery resulting in poor surgical practices.

25

Therefore there is need for providing a system for effectively organizing the tools for surgery such that new staff/scrub nurses can effectively assist the surgeon, enable the sterilization of surgical instruments and thereafter

organize the tools for surgery post-sterilization. Also, in current state of the art, if all instruments are placed in a proper organized trays made of metal, the volume and weight of these tray sets could significantly increase the total size and weight of the instrument which may not be
5 practically possible to sterilize them all in one go or not so easy to transport.

OBJECTS OF THE INVENTION

It is an object of the present invention to provide a novel sterilizable
10 surgical instrument organizer kit for use during surgery.

In another object of the present invention the novel sterilizable surgical instrument organizer kit is flexible and made of cloth or any flexible material.
15

Another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that is disposable or reusable.

Yet another object of the present invention is to provide a novel sterilizable
20 surgical instrument organizer kit that has pictures/arrows/embossing/written notes to provide guidance to the trainee nurses or nursing aides in surgical steps during surgery.

Yet another object of the present invention is to provide a novel sterilizable
25 surgical instrument organizer kit that provides specific instructions printed/embossed as per the surgical protocol, which helps the nurse to give the said instruments in sequence in which they are to be given to the surgeon during surgery.

Yet another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that provides pockets/instrument holding hooks that can hold the entire set of instruments required for a particular surgical procedure in the required order.

5

Yet another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that provides laces/fastening mechanism to wrap the said sterilizable material and use it as instrument tray/kit for sterilization and transportation.

10

Yet another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that is capable of being used as a checklist to confirm if there is any instrument missing before it is given for sterilization by company representative.

15

Yet another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that provides systematic and effective sterilization of surgical instruments.

20

Yet another object of the present invention is to provide a novel sterilizable surgical instrument organizer kit that provides simplicity in the entire surgical procedure by reducing chaos and thereby providing a convenient and cost effective way for assisting staff during surgery.

25 **SUMMARY OF THE INVENTION**

The present invention relates to novel sterilizable surgical instrument organizer kit which provides guidance to nurse in surgical steps during surgery and also provides systematic and effective sterilization of surgical instruments. The present invention provides for a reusable/ resterilizable

material on which notes/specific instructions of any particular surgical procedure are printed/embossed along with the arrows/ pictures/ embossing to provide training to the nurses during the surgical steps. The present invention provides for a sterilizable surgical material with
5 pockets/ hooks to fasten the instruments at the required location in the order of a particular surgical procedure. The said sterilizable material also has laces/ ribbon to wrap the material.

Accordingly the present invention provides for a novel sterilizable
10 surgical instruments organizer kit comprising of sterilizable material of predetermined dimension with predetermined etchings, said sterilizable material bearing, atleast one means of fastening to secure instruments to enable quick pre-surgery assembly of instruments, smooth handling of instruments during surgery, reassembling the used instruments after
15 post-operative sterilization and at least one means of fastening to secure said sterilizable material as for post-operative sterilization, storage and transportation. The predetermined dimensions and said predetermined etchings are decided by the surgical procedure for which the instruments are required and includes the names of the instruments, pictures and notes
20 for easy handling of the instruments during surgical procedure.

The means of fastening to secure instruments are selected from securing means including hooks, laces and pockets stitched to the said sterilizable material while the means of fastening to secure said sterilizable material is
25 selected from securing means including ribbon, strap, lace and velcro. Due to these sets of fastening provisions, not only are the instruments secured within the sterilizable material but also the kit itself is secured with the means of fastening the sterilizable material to transform the kit into a carry bag or a backpack for secure transportation from one location

to another. The sterilizable material is selected from any strong material that can be subjected to hot temperatures for sterilization, and cold temperatures for storage including canvas.

5 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the schematic representation of the flexible surgical organizing kit (1) when in open position.

DETAILED DESCRIPTION OF THE INVENTION

10 In order to obviate the drawback in the existing system, the present invention, as best shown in fig. 1, provides a re-usable/resterilizable surgical material (1) having pictures/ arrows/ embossing (300b, 400, 401, 402, 403, 404, 405 and 406) as well as pockets (201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215) which can not only hold the
15 entire set of instruments (300a, 301, 302, 303, 304, 305, 306 and 307) required for a particular surgical procedure to be laid out at a moments' notice in the required order (400, 401, 402, 403, 404, 405 and 406), but it also provides written notes (300b) on its surface to provide guidance to the trainee nurses or nursing aides during the surgery.

20

In preferred embodiment, on sterilizable surgical material (1), specific instruction (300b, 400, 401, 402, 403, 404, 405 and 406) as per surgical protocol, are printed/ embossed. Nurse can identify instrument (300a, 301, 302, 303, 304, 305, 306 and 307) from the set and lay them on surgical
25 sheet (1). According to instruction and key points on the printed/ embossed surgical material (1), the nurse gives the said instruments (300a, 301, 302, 303, 304, 305, 306 and 307) in sequence in which they are to be given to the surgeon during surgery. Thus it allows in reducing the time taken to have the trained staff for scrubbing wherein this level of training

generally takes 8-12 months' time. It also allows in reducing the overall volume of the surgical instruments to be carried and used in a particular surgery by allowing to select specific instruments (300a, 301, 302, 303, 304, 305, 306 and 307) required for a particular surgery with the help of the
5 specific instructions (300b) embossed on the sterilizable material.

In another embodiment, the surgical procedure referred to in this document for the purposes of the present invention means the entire surgery as well as the part or the portion thereof. Thus a surgical
10 procedure may have different stages for which a said separate sterilizable material (1) can be used for each of the stages. Thus the entire surgery for example knee surgery can be split to femoral preparation, tibial preparation etc. One separate said sterilizable material (1) can be used for each of these sections there by reducing chaos and bringing simplicity in
15 the entire surgical procedure.

In yet another embodiment, the said sterilizable material (1) can act as a checklist to confirm if there is any instrument missing before it is given for sterilization by company representative.
20

In another embodiment, the said sterilizable material may have pockets/instrument holding hooks (201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215) to hold specific instruments (300a, 301, 302, 303, 304, 305, 306 and 307) at specific location, for example, the said sterilizable
25 material (1) have holding hooks (201, 202 and 203) to hold one instrument such as (300a), similarly multiple instruments (301, 302, 303, 304, 305, 306 and 307) may have one or combinations of such instrument holding hooks (204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215) to hold these surgical instruments. Thus the problem of carrying loose instruments in

the surgical trays is reduced manifolds by using the current sterilizable material (1) with means to fasten (201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215) specific instruments (301, 302, 303, 304, 305, 306 and 307) as per the surgical requirement. Thus it also avoids the chances of confusion during the surgery. The said sterilizable material (1) also has laces (100, 101, 102, 103, 104, 105, 106 and 107) to wrap the said sterilizable material and use it as instrument tray/ kit for sterilization as well as transportation.

10 In yet another embodiment, the said sterilizable material (1) can be disposable or reusable.

Thus instant invention provide surgical drape (1), which is helpful in providing convenient and cost effective way for assisting staff during surgery.

An illustrative example:

In case of natural disaster or calamity reaching to help the ailing people in the far flung areas is a difficult task. Even after reaching to such areas the difficulty of carrying multiple instruments still poses difficulty for the nurses as well as doctors. Thus the present invention provides for a sterilizable surgical instruments kit to obviate the abovementioned drawbacks wherein, the nurses are able to carry specific instruments for any particular surgery with the help of directions, notes, instructions embossed on the sterilizable material. The means of fastening to secure instruments are selected from securing means including hooks, laces and pockets stitched to said sterilizable material while the means of fastening to secure said sterilizable material is selected from securing means including ribbon, strap, lace and velcro. Due to these sets of fastening

provisions, not only are the instruments secured within the sterilizable material but also the kit itself is secured with the means of fastening the sterilizable material to transform the kit into a carry bag or a backpack for secure transportation from one location to another. The sterilizable
5 material is selected from any strong material that can be subjected to hot temperatures for sterilization, and cold temperatures for storage including canvas. Post-surgery the sterilizable material can be put along with the instruments into the sterilizer for sterilization thus making the post-surgical sterilization procedure convenient and cost effective.

10

We claim:

1. A novel sterilizable surgical instruments organizer kit (1) comprising of:
 - 5 - sterilizable material of predetermined dimension with predetermined etchings, said sterilizable material bearing;
 - at least one means of fastening to secure instruments (201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215) to enable quick pre-surgery assembly of instruments, smooth handling of instruments during surgery, reassembling the used
10 instruments after post-operative sterilization; and
 - at least one means of fastening to secure (100, 101, 102, 103, 104, 105, 106 and 107) said sterilizable instruments organizer kit (1) into a for post-operative sterilization, storage and
15 transportation.
2. A novel sterilizable surgical instruments organizer kit (1) as claimed in claim 1 wherein said predetermined dimensions and said predetermined etchings are decided by the surgical procedure for which the instruments are required and includes the names of
20 the instruments, pictures and notes (300b, 400, 401, 402, 403, 404, 405 and 406) for easy handling of the instruments during surgical procedure.
3. A novel sterilizable surgical instruments organizer kit (1) as
25 claimed in claim 1 wherein said means of fastening to secure instruments are selected from securing means including hooks, laces and pockets stitched to said sterilizable material (201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214 and 215).

4. A novel sterilizable surgical instruments organizer kit (1) as claimed in claim 1 wherein said means of fastening to secure said sterilizable material is selected from securing means including ribbon, strap, lace and velcro (100, 101, 102, 103, 104, 105, 106 and 5 107).
5. A novel sterilizable surgical instruments organizer kit as claimed in claim 1 wherein said sterilizable material can be wrapped around itself and fastened with the means of fastening (100, 101, 102, 103, 10 104, 105, 106 and 107) said sterilizable material to transform the kit into a carry bag or a backpack secure transportation from one location to another.
6. A novel sterilizable surgical instruments organizer kit (1) as 15 claimed in claim 1 wherein said sterilizable material is selected from any strong material that can be subjected to hot temperatures for sterilization, and cold temperatures for storage including canvas.

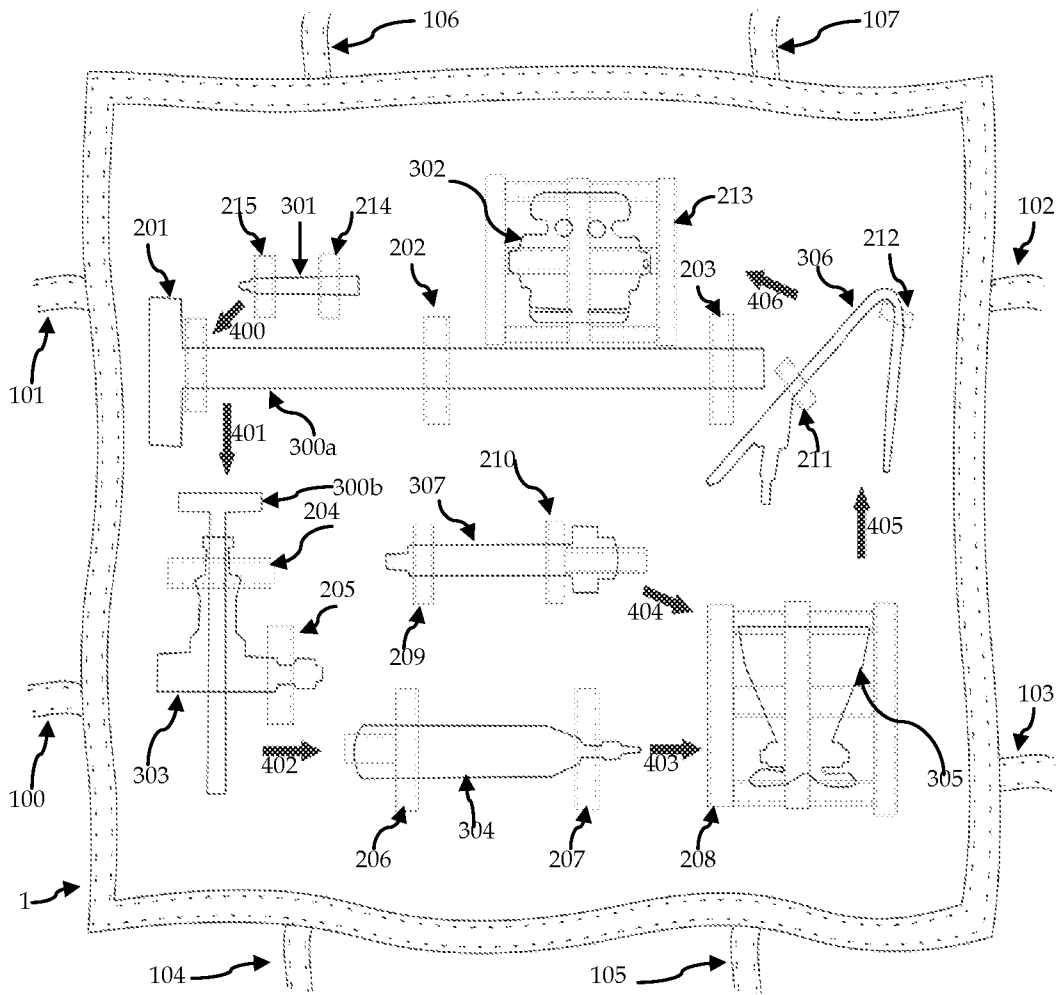


FIG. 1

INTERNATIONAL SEARCH REPORT

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| International application No PCT/IB2013/060471 |
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|---|--|-----------------------|--|--|
| A. CLASSIFICATION OF SUBJECT MATTER INV. A61B19/00 A61B19/10 A61B19/02 ADD. | | | | |
| According to International Patent Classification (IPC) or to both national classification and IPC | | | | |
| B. FIELDS SEARCHED | | | | |
| Minimum documentation searched (classification system followed by classification symbols) A61B | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. | | |
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| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. | | | | |
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| Date of the actual completion of the international search | Date of mailing of the international search report | | | |
| 25 April 2014 | 09/05/2014 | | | |
| Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016 | Authorized officer Moers, Roelof | | | |

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| International application No PCT/IB2013/060471 |
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