TRAY MOUNTING SYSTEM

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ABSTRACT
A tray mounting system for use with a piece of medical/surgical equipment includes a tray and a tray support base. The tray and tray support base are attached to one another using a locking mechanism. When the instruments, devices and/or consumables on the tray are in need of replacement, either the tray alone or the combination of the tray and tray support base may be removed and replaced.
TRAY MOUNTING SYSTEM

[0001] This application claims the priority of U.S. Provisional Application No. 60/872,407 filed Jun. 13, 2006.

FIELD

[0002] The present invention pertains to tray mounting systems used with medical/surgical equipment; more particularly, the present invention pertains to tray mounting systems that may be configured based on the type of medical/surgical procedure being performed.

BACKGROUND

[0003] While tray systems are used to hold instruments, devices, and consumables used with a variety of medical/surgical equipment, it has been found that prior art console-mounted tray arms are not tray-configurable. Specifically, prior art console-mounted tray arms typically provide for the mounting of one size or one type of tray. When the medical/surgical equipment provides the capability to perform multiple procedures, each of which uses different instruments, devices, and consumables, there is a need for greater utility. Such greater utility can be provided by a mounting system which enables the use of various different types of trays. Each tray is designed to hold and organize the various instruments, devices, and consumables associated with a specific procedure enabled by the piece of medical/surgical equipment to which the tray is attached.

[0004] A need remains in the art for a tray mounting system that will support various different types of trays so that the proper array of instruments, devices and consumables are provided to the medical professional performing a procedure using a piece of medical/surgical equipment.

SUMMARY

[0005] The tray mounting system of the present invention enables the use of multiple trays with a single piece of medical/surgical equipment. Each tray is configured to hold and organize the instruments, devices, and/or consumables associated with a procedure offered by the medical/surgical equipment being operated by a medical professional.

[0006] The tray mounting system includes a multi-positions mounting arm constructed and arranged for positioning by the operator of the system. The mounting arm is constructed and arranged to include a mounting for a tray. The mounting for a tray is constructed and arranged for use with trays of different configurations.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0007] A better understanding of the tray mounting system of the present invention may be had by reference to the drawing figures, wherein:

[0008] FIG. 1 is a perspective view of the tray mounting system of the present invention;

[0009] FIG. 2 is an exploded perspective view of the tray mounting system shown in FIG. 1; and

[0010] FIG. 3 is a side perspective view showing the removal/replacement of a complete tray module.

DESCRIPTION OF THE EMBODIMENTS

[0011] The present invention is described in terms of its use with an ophthalmic surgical system. Those of ordinary skill in the art will understand that the present invention may be used with any type of medical/surgical equipment with which a tray including an array of instruments, devices, or consumables is used.

[0012] Because ophthalmic surgical systems are used with multiple surgical procedures to include cataract and vitreoretinal surgery, there is a need on the part of the medical professional using the system to use trays specific to a particular type of surgery or as needed for a particular procedure.

[0013] As shown in FIGS. 1, 2 and 3, the tray arm 100 used with the tray mounting system 10 of the present invention may be configured to allow trays of different sizes or trays with different integral features to be mounted at the end of the tray arm 100. As shown in FIG. 2 the tray 20 and/or unlocking handle 30 may be changed without affecting the rest of the tray support mechanism.

[0014] By use of the disclosed invention, fresh trays 20 of instruments, devices and/or consumables may be provided for use with a repetitive series of the same or different type of medical/surgical procedure on multiple patients. Optionally, the entire tray 20 and tray support base 40 may be removed as a unit as shown in FIG. 3 and replaced with a different tray 20 and tray support base 40.

[0015] The health care professional using the tray mounting system 10 of the present invention specifies which configuration of tray 20 for holding instruments, devices, and consumables is needed based on medical/surgical needs. If, at any point between medical/surgical procedures, the medical professional decides to configure the medical/surgical equipment for a different procedure, a complete replacement tray mounting system 10 may be ordered. The replacement tray system is easily installed by field service personnel on the end of arm 100.

[0016] In FIG. 2 it may be seen that by pulling handle 30, a tray locking mechanism 50 is de-activated. With the tray locking mechanism 50 de-activated, the tray 20 may simply be lifted off a tray support base 40 containing the tray locking mechanism 50 and replaced with another tray. As may be further seen in FIG. 2, the handle 30 is replaceable. Those of ordinary skill in the art will understand that the color and shape of the replaceable handle 30 and/or the color and shape of the tray 20 may provide a visual, tactile, or geometrical indicator that the proper tray including the needed instruments, devices, and/or consumables is mounted to the tray support base 40 at the end of the arm 100.

[0017] While a simple butterfly-shaped connection 52 for tray locking mechanism 50 is shown in FIG. 2, those of ordinary skill in the art will understand that a variety of different shaped connections may be used.

[0018] In FIG. 3, both the tray 20 and tray support base 40 are lifted from the end of the tray arm 100. Such removal of both the tray 20 and the tray support base 40 is needed when a dramatically different procedure is being performed using the piece of medical/surgical equipment. While a simple pin 60 and socket 62 connection is shown, those of ordinary skill will understand that a variety of different connections may...
be used without departing from the scope of the present invention. Such connection may include spring loaded detents, pinned connections or threaded engagements.  

[0019] While the present invention has been disclosed according to its preferred and alternate embodiment, those of ordinary skill in the art will understand that other tray mounting systems have been enabled by the foregoing disclosure. Such other tray mounting systems shall fall within the scope and meaning of the appended claims.

What is claimed is:

1. A tray mounting system for use with a medical/surgical system, said tray mounting system comprising:
   a multi-positionable mounting arm constructed and arranged for positioning by the operator of the medical/surgical system;
   said multi-positionable mounting arm being further constructed and arranged to include a mounting for a tray;
   said mounting for a tray constructed and arranged for use with trays of different configurations.
2. The tray mounting system as defined in claim 1 wherein said mounting for a tray includes a tray support base.
3. The tray mounting system as defined in claim 2 wherein the tray is detachable from said tray support base.
4. The tray mounting system as defined in claim 3 further including a locking mechanism to affix the tray to said tray support base.
5. The tray mounting system as defined in claim 4 wherein said locking mechanism is deactivated by a handle.
6. The tray mounting system as defined in claim 2 wherein the tray and said tray support base are removable from said multi-positionable mounting arm as a unit.
7. A mounting for a tray containing instruments, devices or consumables associated with a procedure performed by a piece of medical/surgical equipment, said mounting for a tray comprising of:
   a tray constructed and arranged to hold and organize the instruments, devices or consumables;
   a tray support base constructed and arranged to removably support said tray;
   said tray support base constructed and arranged for removable attachment to the piece of medical/surgical equipment.
8. The mounting for a tray as defined in claim 7 wherein said tray is connected to said tray support base using a locking mechanism.
9. The mounting for a tray as defined in claim 8 wherein said locking mechanism is deactivated by a handle connected to said tray support base.
10. The mounting for a tray as defined in claim 9 wherein said handle includes a visual characteristic associated with the instruments, devices or consumables on said tray.
11. The mounting for a tray as defined in claim 9 wherein said handle includes a tactile characteristic associated with the instruments, devices or consumables on said tray.
12. The mounting for a tray as defined in claim 9 wherein said handle includes a geometrical characteristic associated with the instruments, devices or consumables on said tray.
13. A method for reconfiguring a piece of medical/surgical equipment for performance of different medical/surgical procedures, said method comprising the steps of:
   identifying the instruments, devices and/or consumables used with a medical/surgical procedure;
   assembling the identified instruments, devices and consumables on a tray;
   affixing said tray to the end of an arm extending from the piece of medical/surgical equipment;
   replacing said tray with another tray holding a new set of instruments, devices and consumables whenever a medical/surgical procedure has been completed.
14. The method as defined in claim 13 wherein said tray includes a tray support base.
15. The method as defined in claim 14 wherein said tray is removable from said tray support base.