June 27, 1967 R. N. WEIL 3,328,024

DRAINAGE TRAY FOR SURGICAL TABLES

Filed Feb. 21, 1964 2 Sheets-Sheet 1

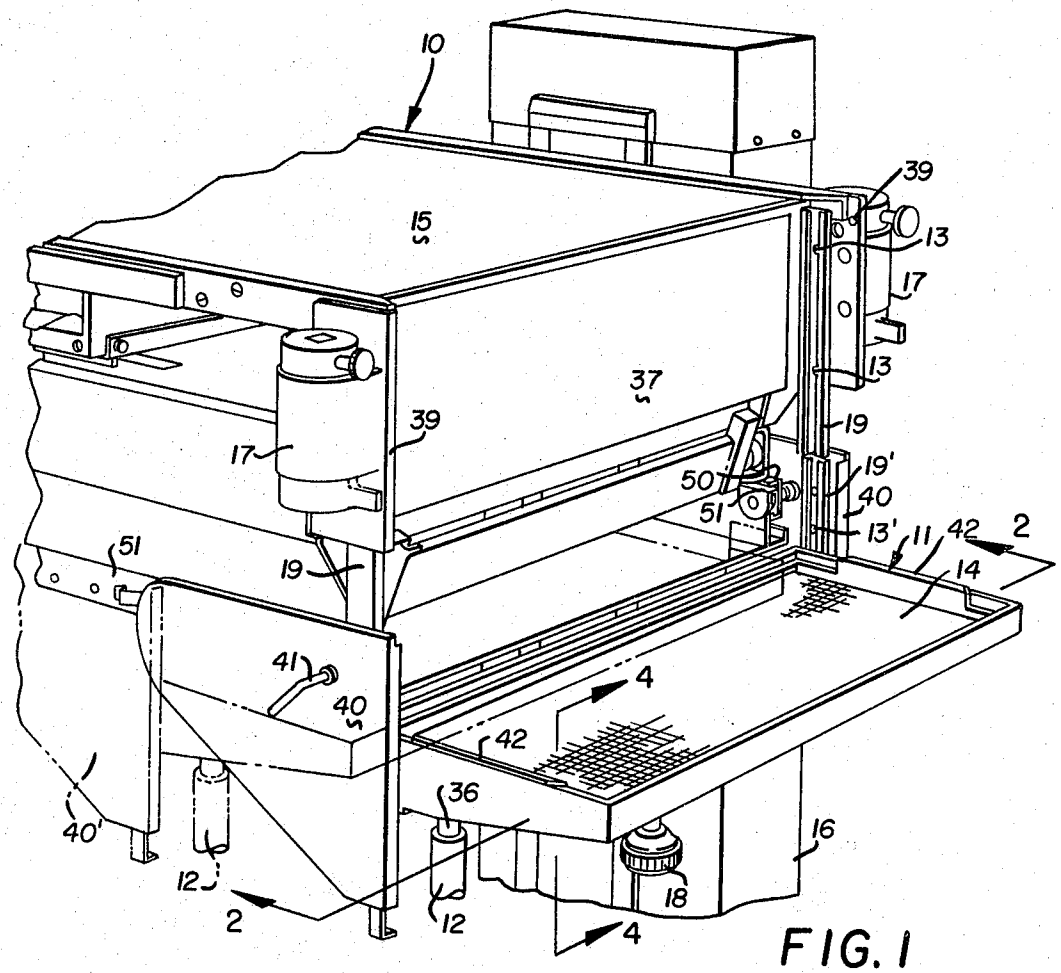


FIG. 1

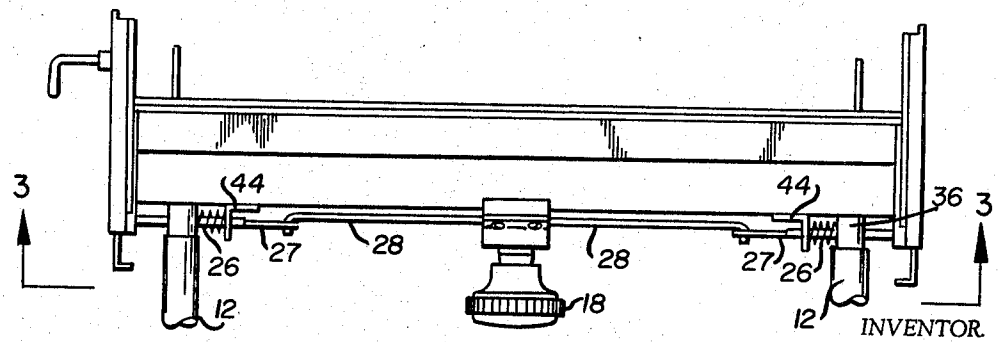


FIG. 2

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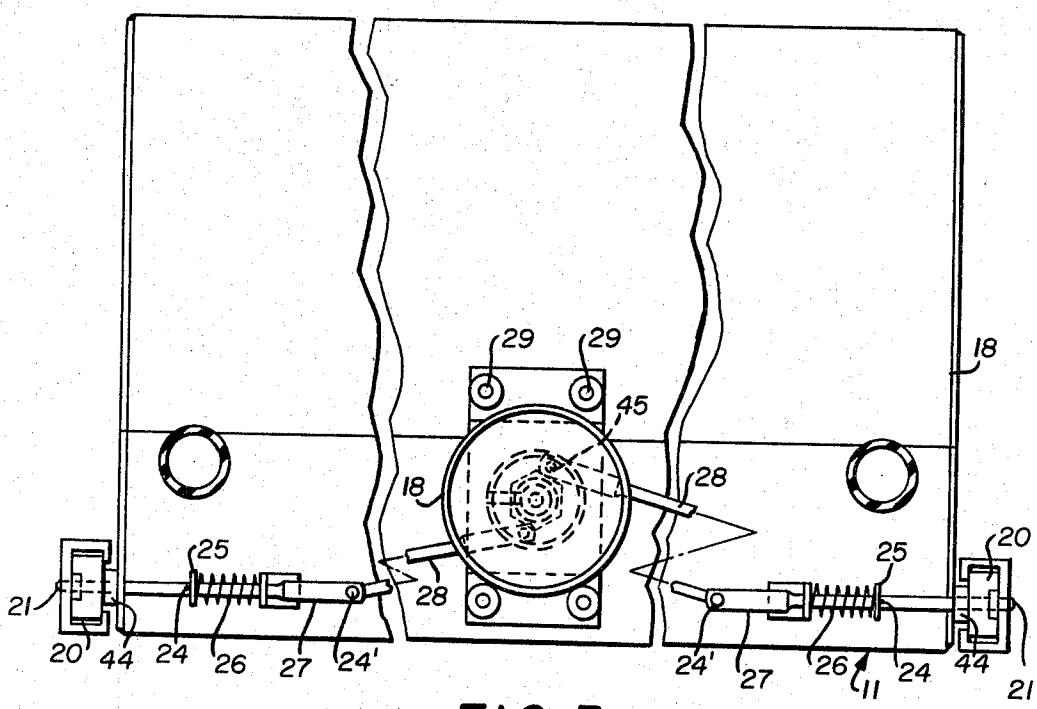


FIG. 3

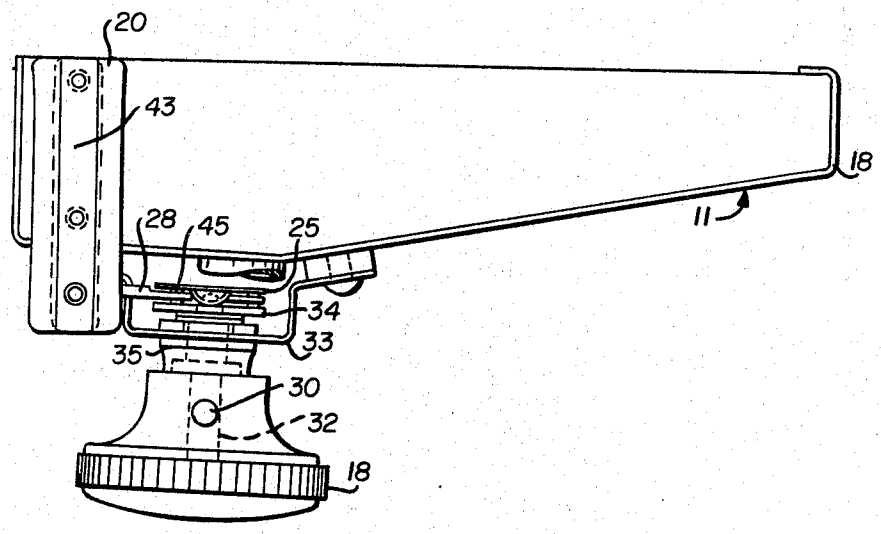


FIG. 4

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DRAINAGE TRAY FOR SURGICAL TABLES

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This invention relates to surgical apparatus and, more particularly, to surgical trays and trays in combination with surgical tables.

Surgical trays made according to previous designs were complex in construction and sometimes inconvenient to handle. These trays were often designed in such a manner that it was difficult to sterilize them and, in some instances, they were difficult and inconvenient to use.

The tray according to the present invention is of a simple, clean cut design which becomes a component part of a surgical table. It is made in one piece and can be easily removed for sterilization. It is mounted on the table in a unique manner so that it can be moved under the table completely out of the way and when it is moved into working position, it is under the drip edge of the table and extends the full width across the table.

The tray is symmetrical in design and the handle is located in such a position that the entire table and tray can be removed, replaced, and operated with one hand. A Teflon coating is provided on the sliding ways which provides no metal to metal contact.

It is, accordingly, an object of the present invention to provide an improved drain tray for a surgical table.

Another object of the invention is to provide an improved drain tray in combination with a surgical table.

A further object of the invention is to provide a drain tray and mounting arrangement which is simple in construction, economical to manufacture, and simple and efficient to use.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

FIG. 1 is an isometric partial view of a drain tray supported on a table according to the invention;

FIG. 2 is a front view of the tray and a part of the support taken on line 2—2 of FIG. 1;

FIG. 3 is a bottom view of the tray taken on line 3—3 of FIG. 2;

FIG. 4 is a side view of the tray taken on line 4—4 of FIG. 1.

Now with more particular reference to the drawing wherein like numerals refer to the same parts throughout the drawings, a tray **11** is supported on a table **10**. The table **10** may be of any of the conventional types of surgical tables. It has a top surface **15** which terminates in an end which overlies a vertical end portion **37** and therefore provides a drip edge which overlies the inner end of the tray when the tray is in operative position.

The table **10** has lugs **17** for supporting knee stirrups of a conventional type and lateral brackets are provided which support upper fixed tracks **19** which may be attached to brackets **39** by means of screws, welding, or other suitable means.

Lower tracks **19'** are slidably supported on a tray frame **40**. The tray frame **40** may be locked in position with the tracks **19** in alignment with the tracks **19'** by

means of a locking handle **41** or it may be slid to the position **40'** as shown in phantom lines in FIG. 1.

The tracks **19** and **19'** are U-shaped in cross section and the space between the legs of the U-shaped tracks are in alignment as shown in FIG. 1 when the tracks are in the outermost position so that the tray slides **20** can slide up and down from the bottom to the top of the slides. Both the outside of the slides **20** and the inside of the tracks **19** and **19'** are coated with Teflon or some other similar friction free material so that there will not be a metal to metal contact between the tray and the table, thereby preventing static electrical conduction and, also, providing a low friction sliding surface.

The tray itself is generally rectangular in shape and has two parallel sides. The screen **14** has laterally extending flanged edges **42** which overlie and rest on the edges of the tray so that the screen can be easily removed. The tray is deeper at the edge next to the table than it is at the outer edge; that is, the bottom is inclined downward and toward the table as shown and the nipples **36** at each side of the tray may be connected to suitable hoses **12** so that the tray can be drained rapidly and efficiently.

The tray has the slides **20** fixed to each side thereof by suitable screws or the like. These slides are generally T-shaped with the intermediate portion **43** which is generally rectangular in cross section as shown which is supported to the table by means of a suitable T-bar portion **44**.

The slides **20** are received in the U-shaped tracks **19** and **19'** and the tray can be freely slid from top to bottom when the fastening arrangement is released.

The tray has the handle **18** which may be rotated to release the rods **27** and thereby release the tray. The handle may also be used as a means for supporting the tray while it is being removed. Thus, the operator can move the tray up and down with a single hand. The operator can hold the tray easily with one hand grasping handle **18** to put it in the sterilizer. The tray can also be moved to stored position under the table. The tray has horizontal tracks **50** fixed to side members **40**. These tracks receive slides **51** which are fixed to the sides of the table. Slides **43** and tracks **40** are constructed much like slides **43** and tracks **40** of the vertical slide arrangement.

The locking means for holding the tray in vertical position is made up of spring loaded rods **27** which are urged outward by means of compression springs **26**. These springs bear against the lugs **44** which are fixed to the bottom of the tray. Links **28** are attached to the inner ends of the rods **27** and are attached by means of pins **45** to the latch assembly **34** at positions spaced from the center of rotation of the handle **18**.

The springs **26** bear against washers **25** which, in turn, bear against pin **24**. Thus, the rods **28** on the inner ends are received between the washer **25** and the latch assembly **34**. The entire latch assembly is fixed to the bottom of the tray by means of screws **29**.

In operation, the operator will grasp the handle **18** and rotate it to draw the rods **27** inward and bring the ends **21** out of the holes **13** in the tracks. The tray can then be slid up or down on tracks **19**. It can also be moved completely down so that slide **43** comes out of the bottom of track **19'**. The tray is thus removed from the table.

To store the tray under the table, slide **43** is moved down into track **19'** and locked there by ends **21** in holes **13'**. Then handles **41** can be rotated to loosen the threaded portion thereof and the tray carried under the table by horizontal tracks **50** sliding on slides **51**.

The foregoing specification sets forth the invention in its preferred practical forms but it is understood that

the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In combination, a surgical table and a tray,
said table having a generally flat top surface adapted to support a patient during surgery, opposed, vertically extending tracks fixed to said table below said top and terminating below the top surface of said table,
said tray being generally rectangular in form and having opposed pairs of parallel sides forming a receptacle therebetween and having a vertically extending slide attached to each said side of one of said pairs of sides,
said slides being slidably received by said tracks,
and means for locking said slides in predetermined position on said tracks,
whereby said tray may be selectively locked in a plurality of predetermined positions relative to said table top.

2. The combination recited in claim 1 wherein,
said tracks are generally U-shaped in cross section and said slide comprises elongated members having generally flat sides slidably received in said U-shaped tracks.

3. The combination recited in claim 2 wherein,
said means for locking said slide comprises rods extending laterally of said tray,
vertically spaced holes in said tracks,
said rods being selectively received in said holes.

4. The tray recited in claim 3 wherein,
compression springs means are provided on said rods urging said rods into said holes,
and handle means is connected to said rods for retracting them from said holes.

5. The combination recited in claim 4 wherein said handle means comprises a rotatable handle member supported on the bottom of said tray,
said rods being connected to said handle member at positions spaced from the center of rotation thereof.

6. The combination recited in claim 1 wherein,
said table top overlies one end of said tray.

7. The combination recited in claim 1 wherein,
said tray extends substantially from one side of said table to the other.

8. The combination recited in claim 4 wherein,
said sandle means is disposed on the lower side of said tray and approximately in vertical alignment with the center of gravity thereof.

9. The combination recited in claim 1 wherein,
said tracks are divided into a top and a bottom part,
said bottom track having means to allow said tray to be slid off the lower end of said lower track whereby said tray may be removed,
track support means on said table slidably supporting bottom parts of said tracks on said table,
locking means for locking said bottom parts of said tracks on said slide means on said table in alignment with said top parts,
said track support means being horizontally slidable with said tray supported thereon to a position wherein said tray is entirely under said table.

10. The combination recited in claim 9 wherein,
a screen is provided over said tray,
said screen having laterally extending flange members thereon overlying and resting on the edges of said tray.

11. The combination recited in claim 10 wherein,
said tray has a drain member in the bottom at each side thereof adjacent the rear edge.

12. In combination, a surgical table and a tray,
said table having a flat top,
opposed, vertically extending track members fixed to said table and terminating at their upper end below the top surface of said table,
said track members being in the form of channels opening toward each other,
horizontal slide members fixed to the side of said table below said vertically extending track members,
a horizontal track member slidably supported on said horizontally extending slides,
second vertically extending track members fixed to said horizontal track members and slidable therewith,
said second vertically extending track member being in the form of an open channel slidable into vertical alignment with said first vertically extending track members,
a tray,
said tray having vertically extending slides on the open sides thereof adapted to be received in said first and said second vertically extending track members and slidable therein selectively to a position wherein said tray is adjacent said table top or to a position wherein said slide members on said tray are in said second vertically extending track members,
said vertically extending slide members being slidable out of both said first and said second vertically extending track members whereby said tray may be removed from said table,
locking means on said tray for locking said vertically extending slide members in predetermined positions in said first and said second vertically extending track members,
said locking means comprising laterally extending rods,
springs urging said rods outwardly into engagement with one of said first or said second vertically extending track members,
a handle on the bottom of said tray,
said handle having actuating means attached thereto and spaced from the center of rotation thereof and connected to said rods,
means supported on said horizontally extending track members for locking said horizontal track members selectively in position to hold said tray under said table or adjacent the end of said table.

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