April 23, 1929. G. A. GALLOWITZ 1,710,475

OPERATING TABLE

Filed April 1, 1926 2 Sheets-Sheet 1

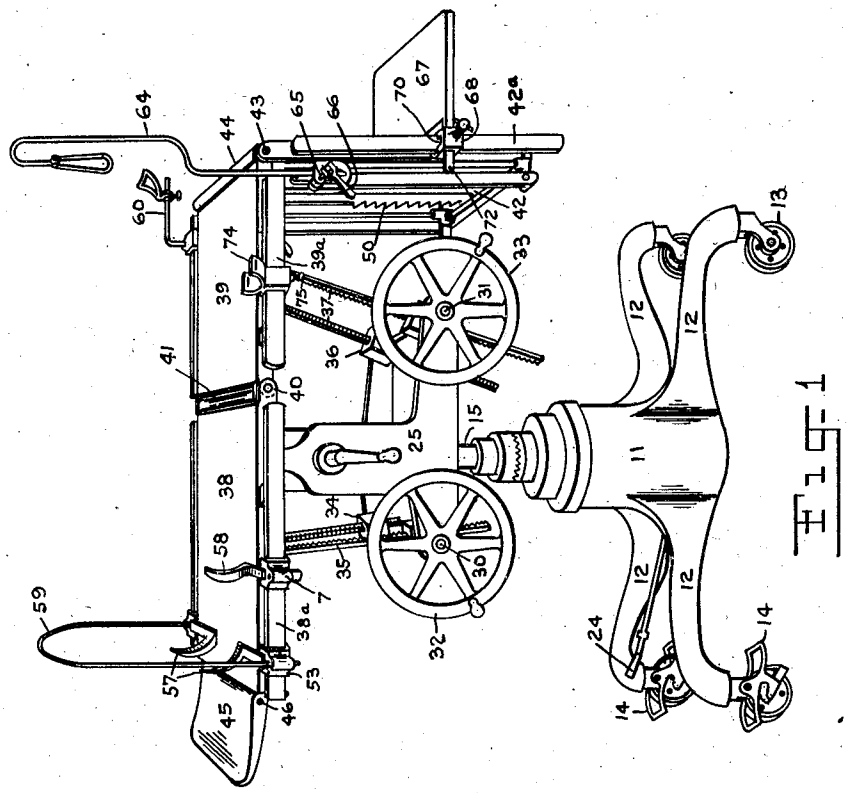


FIG. 1

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Filed April 1, 1926 2 Sheets-Sheet 2

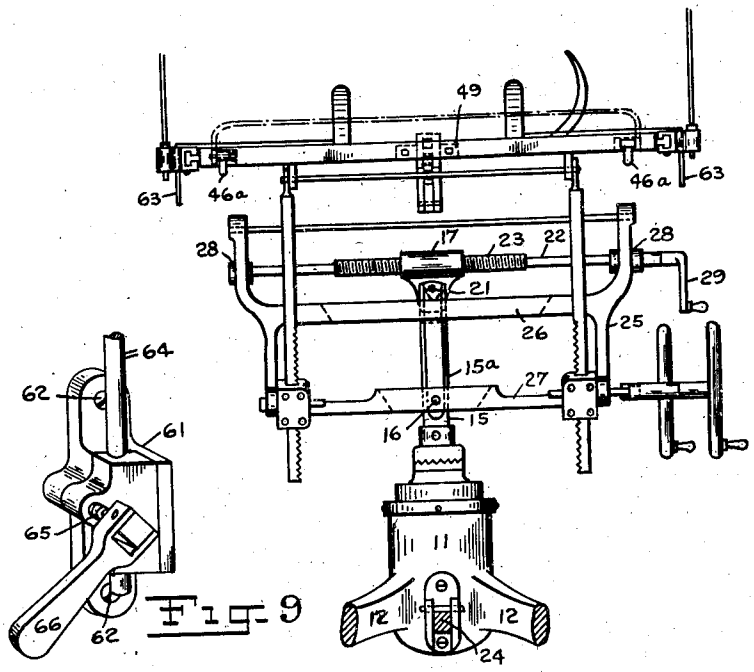


Fig-9

Fig-2

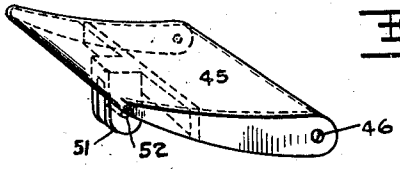


Fig-3

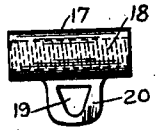


Fig-4

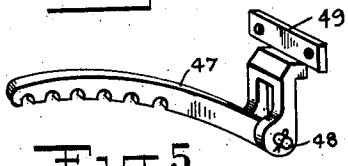


Fig-5

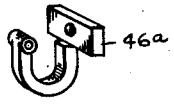


Fig-6

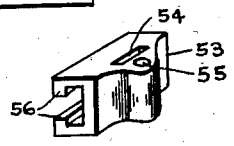


Fig-7

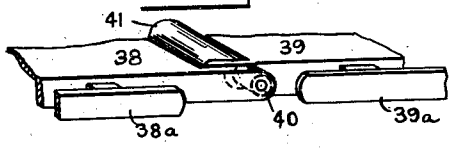


Fig-8

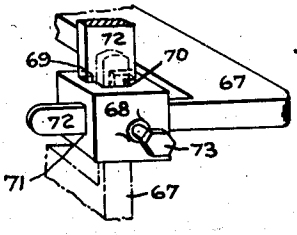


Fig-10

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Patented Apr. 23, 1929. 1,710,475

UNITED STATES PATENT OFFICE.

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OPERATING TABLE.

Application filed April 1, 1926. Serial No. 99,081.

My invention relates to an improvement in an operating table and the novelty consists in the adaptation and arrangement of parts as will be more fully hereinafter pointed out.

When handling a patient on an operating table it is often most important to be able to turn the patient from side to side and raise and lower the patient and also certain portions of the body and to move the table but have it rigidly secured in a fixed position when desired. These can all be done quickly, easily and without disturbing the patient on my operating table and the patient may by means of my table be placed in as low or as high a position or in any particular position as may be desired by the doctor operating with my table.

Refering to the drawings, Figure 1 is a side elevation of my device. Figure 2 is an end view looking in at the same from the left hand end of Figure 1. Figures 3 to 10 inclusive are details of the structure of my device.

In the drawings 11 is a pedestal having four legs 12 on each of which is a wheel or castor 13 and two of these are fitted with brake or stop members 14 of usual construction adapted to be operated by foot.

A vertical supporting rod 15 is mounted in said base 11 under vertical control of an oil pump (not shown) of usual construction operated by means of a foot control lever 24 and an upper supporting rod 15^a is pivoted on 15 at 16. At the upper end of said rod 15^a a cylindrical T member 17, having an internal threading 18 and a triangular opening 19 in a tail piece 20, is pivotally secured by a pin 21 which loosely fits triangular opening 19. A cross rod 22 has a central portion 23 which is a worm gear adapted to engage and turn through the internal threading 18 of T member 17.

Frame 25 has cross bars 26 and 27 both of which are mounted over the supporting rod 15^a and cross rod 22 is mounted in bearings 28 in said frame 25 and has a crank and handle 29 at one end.

Shafts 30 and 31 are mounted in the frame 25 at the opposite lower ends so as to turn freely therein by means of wheels 32 and 33 rigidly secured thereto. Said shafts 30 and 31 pass through gear boxes 34 and 36 respectively, of usual construction, operating gear rods 35 and 37 respectively in the well known manner. Said gear rods 35 and 37 have respectively pivoted at their upper ends table top members 38 and 39 which are hinged together by a rod 40 which is encased by but turns readily in a cylindrical hinge member 41. A foot table top member 42 is hinged to 39 by rod 43 and cylindrical hinge member 44 and a head rest 45 is hinged to 38 by rod 46 and hangers 46^a rigidly secured to top 38. An adjustable ratchet supporting arc 47 is pivoted at 48 to a forked member 49 which is rigidly secured to table top member 38. A forked lug 51 secured to the bottom of said head rest 45 has a pin 52 adapted to be engaged by the ratchet teeth of the arc 47. A ratchet supporting bar 50 is secured in a manner similar to arc 47 to top member 39 to permit hand adjustments of table top member 42.

Track bars 38^a, 39^a and 42^a are rigidly set off on each side respectively of the top members 38, 39 and 42. On these bars 38^a, 39^a and 42^a are mounted slidable bracket members 53 having slots 54, cylindrical borings 55 and sliding clamp members 56. Shoulder brace members 57 and side brace members 58 are adapted to be mounted in said slots 54 of the bracket members 53 and anæsthetizer arch 59 and heel supporter 60 are adapted to be mounted in cylindrical borings 55. Clamping brackets 61 are rigidly secured at 62 to lower extension members 63 of top member 42 and stirrups 64 are adapted to be clamped therein by means of clamping screws 65 and handles 66.

A foot support or extension member 67 is mounted on track bars 42^a by means of slidable brackets 68 having sliding clamp members 69 and cross slots 70 and 71 engaged by legs 72 of extension member 67 held in position by means of set screw 73. Socket bracket members 74 are mounted on track bars 39^a by means of the bracket members registering over the track bars 39^a and also by means of set screws 75.

The operation of my device is as follows:

The table is adjusted to the height required by the doctor using it by means of the foot control lever 24 whereby the operation of the oil pump controlled by said foot control lever 24 will raise or lower the supporting rod 15 and the frame 25 and top sections carried thereby. The table may thereby be lowered to a position to suit the height of the doctor so that a very short man may

lower the table to a position to suit his convenience which is possible in my construction because the pedestal 11 is so devised as to permit the table to assume the lowest possible position, the lower part of the pedestal 11 being just clear of the floor. The patient may then be placed upon the table with the extension member 67 in the position shown in Figure 10 in dotted outline, thereby increasing the length of the table where the case so requires. The head rest 45 is in my device so constructed as to permit the anæsthetizer to rest his arms on this member while administering the anæsthetic so as to do this in a much more efficient manner than has been possible heretofore. The shoulder brace members 57 can be adjusted to the position desired and the arch 59 will be moved accordingly. The feet of the patient can be then adjusted in heel support 60 or in stirrup members 64 as may be desired or the legs of the patient may be strapped into socket bracket members 74. The side brace members 58 may be placed in position as found best adapted to the position of the patient. The operator can at any time, before or during the operation, change the position of the top members 38 and 39 by means of the wheels 32 and 33 tilting them as may be required and they will move according to such movement of the wheels 32 and 33 being hinged together as described and because of the construction of the hinge it is impossible for the body of the patient to be pinched. In turning the wheels 32 and 33 to the right or left to raise or lower the top members 38 and 39 the gear boxes transfer the motion through the shafts 30 and 31 and thereby raising and lowering the gear rods 35 and 37 respectively. Inasmuch as the cylindrical bearings 41 are outside of the inside hinge rod 40 perfect protection is furnished to the patient. The head rest 45 may be changed as may be required by lifting the arc 47 and raising or lowering the head rest until the notch desired in 47 is registered on the pin 52. Similarly the foot table top member 42 may be raised or lowered manually through the use of the ratchet supporting bar 50 which will lock it in the position desired. The entire frame 25 carrying the top and the parts mounted thereon may be tilted to one side or the other to the position desired by the turning of the crank 29 which will cause the central portion 23 to turn through the internal threaded portion 18 of the T member 17 thereby changing the central support of the entire frame 25 and the parts carried thereby so as to cause the tilting which is permitted as the rod 15^a is pivoted at 16 and no binding of the cylindrical T member 17 is possible because the T 17 is mounted on a pin 21 in a triangular opening 19 which permits absolute freedom in movement of the cylindrical T member on said pin 21.

In preparing the table for operation the brake members 14 will be thrown down to lock the table in position on the floor against accidental movement after the table has first been adjusted in the position desired to use it during the operation.

It will be understood that many variations may be made in my device without departing from the spirit and intent of the invention thereof.

I claim:

1. In an operating table the combination of a pedestal base mounted on rollers and having the lower end of said base member close to the floor, elevating means in said base, a frame pivoted on said base, a hinged top mounted on said frame, means mounted entirely within said frame for varying the longitudinal angular position of said hinged portions and means wholly within said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod.

2. In an operating table the combination of a pedestal base, elevating means in said base, a frame pivoted on said base, a hinged top mounted on said frame, means mounted entirely within said frame for varying the longitudinal angular position of said hinged portions, means wholly within said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod and means for varying the length of said top.

3. In an operating table the combination of a pedestal base, elevating means in said base comprising a foot operated oil pump, a frame pivoted on said base, a hinged top mounted on said frame, means in said frame for varying the longitudinal angles of said hinged portions, means wholly in said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and

a crank and handle secured to the outer end of said cross rod and means for varying the length of said top.

4. In an operating table the combination of a pedestal base, elevating means in said base comprising a foot operated oil pump, a frame pivoted on said base, a hinged top mounted on said frame, means for varying the longitudinal angular positions of said hinged portions, means within said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod and side and end retaining means for said top.

5. In an operating table the combination of a pedestal base, elevating means in said base, a frame pivoted on said base, a hinged top mounted on said frame, means for varying the longitudinal angular positions of said hinged portions and means for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod.

6. In an operating table the combination of a pedestal base, elevating means in said base, a frame pivoted on said base, a hinged top mounted on said frame, means in said frame for varying the longitudinal angular positions of said hinged portions, means in said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod and a head rest substantially the width of the top section and independently hinged to the outer end of one of said top sections.

7. In an operating table the combination of a pedestal base, elevating means in said base, a frame pivoted on said base, a hinged top mounted on said frame, means in said frame for varying the longitudinal angular positions of said hinged portions, means entirely within said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod and means for bracing and suspending the feet of the patient independently of the table top.

8. In an operating table the combination of a pedestal base, elevating means in said base, a frame pivoted on said base, a pin and cylinder hinged top mounted on said frame, means in said frame for varying the longitudinal angular position of said hinged portions and means entirely in said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod.

9. In an operating table the combination of a pedestal base mounted on rollers and having the lower end of said base member close to the floor, elevating means in said base, a frame pivoted on said base, a pin and cylinder hinged top mounted on said frame, means in said frame for varying the position of said hinged portions and means entirely in said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod.

10. In an operating table the combination of a pedestal base, elevating means in said base comprising a foot operated oil pump, a frame pivoted on said base, a pin and cylinder hinged top mounted on said frame, means in said frame for varying the position of said hinged portions and means entirely in said frame for varying the lateral angle of said top comprising a vertical support pivoted on said elevating means, a cylindrical T head having internal threading, a cross rod supporting said internal threading, a cross rod supporting said frame having a worm gear in its middle section adapted to engage the internal threading of the cylindrical T and a crank and handle secured to the outer end of said cross rod.

In testimony whereof I affix my signature.

GUSTAVE A. GALLOWITZ.