

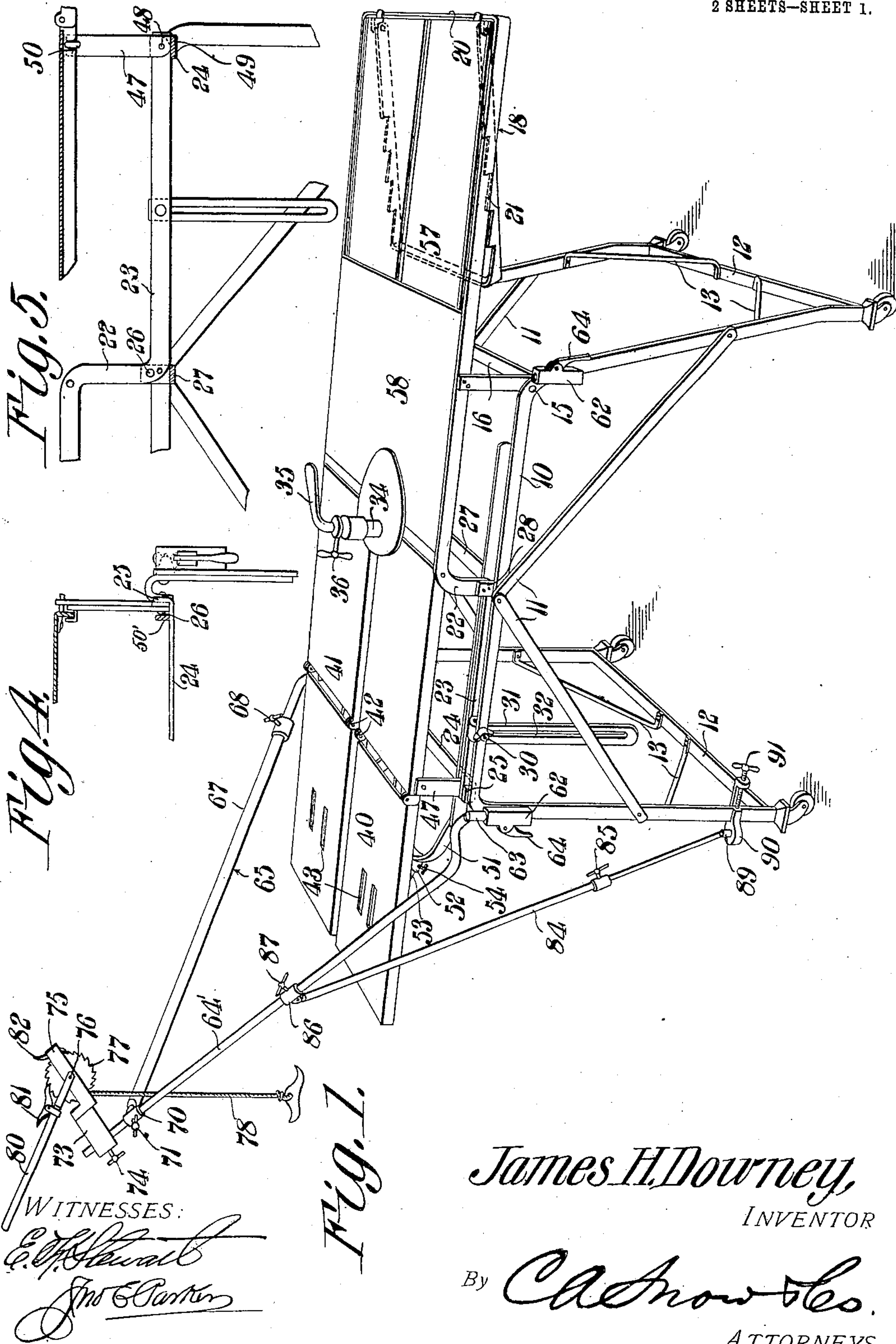
No. 891,679.

PATENTED JUNE 23, 1908.

J. H. DOWNEY.  
OPERATING TABLE.

APPLICATION FILED MAR. 11, 1907.

2 SHEETS—SHEET 1.



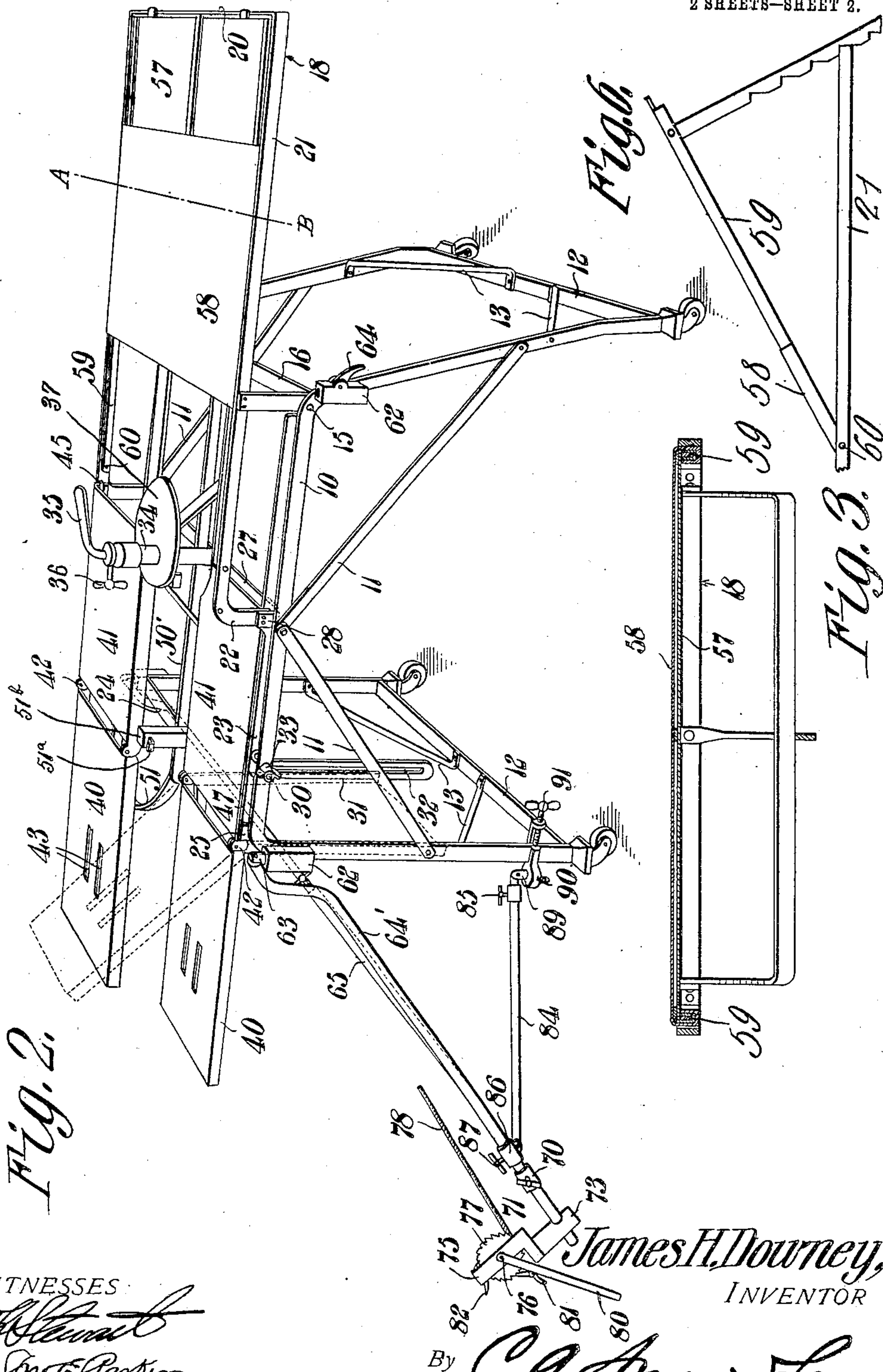
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# UNITED STATES PATENT OFFICE.

JAMES H. DOWNEY, OF GAINESVILLE, GEORGIA.

## OPERATING-TABLE.

No. 891,679.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed March 11, 1907. Serial No. 361,800.

*To all whom it may concern:*

Be it known that I, JAMES H. DOWNEY, a citizen of the United States, residing at Gainesville, in the county of Hall and State of Georgia, have invented a new and useful Operating-Table, of which the following is a specification.

This invention relates to surgical operating tables and has for its principal object to provide a table of improved construction for use in osteopathy, the reduction of fractures, and other operations, where traction must be exerted on the limbs or other portions of the body.

A further object of the invention is to provide an apparatus for use in connection with surgical operations generally, wherein access may be had to any part of the body, without moving the patient, to permit the ready application of bandages, dressings, plaster casts, or the like.

A still further object of the invention is to provide a table in which the surface on which the patient rests is capable of adjustment to varying angular positions and to different horizontal planes either in whole or in part, and which is made up of a number of independently movable sections of such nature as to permit the placing of the patient in the most convenient position and the carrying on of any operation and the subsequent bandaging or dressing.

A still further object of the invention is to provide a table of such construction as to permit the adjustment of the parts for the carrying on of osteopathic operations where downward and angular traction must be exerted on the lower limbs, as for instance, in the Lorenz operations.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a general perspective view of an operating table constructed in accordance with the invention. Fig. 2 is a similar view showing the parts adjusted to position where downward

and angular traction of one of the lower limbs is necessary. Fig. 3 is a transverse sectional view of a portion of the table on the line 3—3 of Fig. 2. Fig. 4 is a partial cross section looking from the left of the table, as shown in Fig. 1. Fig. 5 is a detail sectional view illustrating more especially the means employed for varying the angular positions of portions of the table. Fig. 6 is a detail sectional view showing the supports for the tiltable back.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The table as a whole is formed of metal and includes two substantially U-shaped side bars 10, the vertical arms of which form supporting legs and are connected to the horizontal bar by diagonals 11. The lower portions of the legs are connected by cross bars 12 which are reinforced by braces 13.

Mounted on pivot pins 15 near the head end of the frame is a U-shaped bar 16 that extends between the side frames, and to the tops of the vertical arms of this bar is secured the main frame 18 of the table proper, the table as a whole being tiltable on the pivots 15 to various angles to the horizontal to facilitate gynecological and other work. The main frame 18 is bent to form an end bar and a pair of parallel side bars 21, these being extended forward to about the middle of the length of the table, and thence being bent downward to form arms 22, and thence again forward as indicated at 23 to the foot end of the table, where they are secured to a cross bar 24. The ends of this bar 24 are turned up forming arms 25 which are permanently secured to the side arms 23 by rivets 26 or similar fastenings, and in order to reinforce the central portion of the table frame, a cross bar 27 is used, this bar having upturned arms 28 which are permanently secured to the side bars of the table frame.

The whole of the table proper may be swung with the pivot pins 15 as a fulcrum, and when adjusted to the desired angle may be locked in place by clamping screws 30 and locking strips 31. These locking strips which are pivoted to the opposite sides of the frame are U-shaped at their upper ends and are provided with vertically elongated slots 32 for the passage of the screws 30, the latter passing through enlarged openings in the side bars 10 of the supporting frame, and on the screws are wing nuts 33 to permit clamping of the parts in place.



Rising from the central portion of the cross bar 27 is a post 34 carrying a clamping arm 35 which may be properly adjusted for the purpose of holding the pelvis in place, this clamp being locked by a handled set screw 36. The post 34 also carries a small seat 37 which is generally of elliptical or ovate form and forms a pelvis support.

The supports for the lower limbs are two in number and these are independently adjustable, and each is formed of two independently adjustable sections 40 and 41, the section 40 being arranged for the reception of that portion of the limb below the knee, and the section 41 serving to support that portion of the limb above the knee. These two sections are connected by hinges 42 in order that the sections may be adjustable to varying angular positions, one of such adjustments being illustrated, for instance, by dotted lines in Fig. 2, where the section 40 is adjusted approximately to an angle of forty degrees in order to form a foot rest, while the leg is flexed. This outer section 40 is provided with openings 43 for the passage of straps which may pass around the ankle or foot of the patient.

The inner or tip ends of the sections 41 are curved at the inner corners to correspond to the curvature of the seat 37, and are mounted on supports carried by the post 34, and from which they may be readily detached by sliding footwise. The corners at the outer edge of the table are supported by suitable pins 45 that project inward from the side bars 21, the connection being sufficiently strong to support the patient, while at the same time permitting ready detachment.

The supports for the outer or foot ends of the sections 41 are in the form of small posts 47, which are pivoted on pins 48, the pivoted ends of such posts having square shoulders 49 that bear against the cross bar 24 for the purpose of preventing pivotal movement in one direction, while movement in the opposite direction may be readily accomplished when it is desired to fold the posts down into position parallel with the arms 23 of the table frame. These posts 47 carry small hooks 49' which are arranged to enter notches 50 formed in the side arms of the leg sections 41.

The inner corners of the outer ends of the sections 41 are supported by lugs 51<sup>a</sup> projecting from a post 51<sup>b</sup> that is carried by the bar 24. These sections may be readily removed from the lugs when it is desired to lower them to a position below the level of the pelvis seat.

The lower limb sections 40 are adjustable to varying angular positions with respect to the sections 41, and beneath each section is a pair of bars 50', to the foot ends of which are pivoted yokes 51. From each yoke projects a collar 52 having an opening for the passage of a rod 53 that is pivoted to the lower leg

section, and when the rod has been moved to the desired position, and the section properly adjusted, the parts may be rigidly locked and clamped by a set screw 54.

Each of the leg sections may be moved from the horizontal plane of the upper bar 21 to the horizontal plane of the lower arm 23 of the frame, merely by detaching the section 41 from its upper supports and loosening the connections which sustain the section 40. The leg section as a whole may then be dropped, as shown, for instance, in Fig. 2, but it will be observed that in this position there is no portion of the main frame 10 above the surface of the table, and this, as will hereinafter appear, is especially advantageous in the application of bandages, casts, or the like, to the lower limbs and pelvic region.

A further and very important advantage obtained from the lowering of one or both of the leg supporting sections is that by resting the pelvis on the seat 37, downward and outward stress may be exerted on either of the limbs, this being of especial value in various osteopathic operations, such, for instance, as dislocation of the hip, or where it is desired to exert traction in the direction of the length of one of the lower limbs at a slight, or any angle to the longitudinal axis of the table, and slightly downward from the horizontal plane of the table.

The support for the upper part of the body includes a head rest 57 which may be of any desired construction and a back rest 58. The back rest is supported by a pair of bars 59 that are pivoted on studs 60 projecting inward from the side bars 21 of the frame, and this back supporting section may be adjusted by swinging it up and down on the pivot 60 and holding the same in any manner in order that the back of the patient may be supported at any desired angle. Aside from this, the back section 58 may be slid in the direction of the length of the table, that is to say, toward and from the seat 37, so that it may be adjusted to the position shown in Fig. 1, or to the position shown in Fig. 2, this latter position being of the utmost advantage where access is to be had to the lumbar region, and where bandages or casts must be applied, it being possible to apply a dressing or cast around the entire lower portion of the trunk without lifting or moving the patient in any manner.

At the opposite ends of the main frame are arranged socket members 62, the sockets being in the form of vertical openings which may receive the traction apparatus, or, when necessary, gynecological stirrups or the like may be placed in position. These socket members in osteopathic and fracture reducing operations receive pins 63 which are clamped in place by cam levers 64. To the upper ends of the pins are pivoted rods 64',



65, both of which are rebent into approximately sigmoidal form as indicated in Figs. 1 and 2, in order that they may swing freely in a plane below the horizontal plane of the table proper. The main rod 64' may be solid, or in the form of a single tube, while the rod 65 comprises two telescopic members, one of such members, 67, carrying a clamping screw 68 by which the other member may be locked, the construction permitting elongation of the rod in order to vary the angle of the rod 64' with respect to the table. At the upper or outer end of the tube 67 is pivoted a collar 70 that slides upon the rod 64', and which may be locked in place by a screw 71. This collar may be slid in the direction of the length of the rod 64' and either member may be turned independently of the other.

The rod 64' carries a traction apparatus including a block 73 that is longitudinally and circumferentially adjustable on the rod, and which may, also, be locked in place by a set screw 74. To this block is pivoted an arm 75 carrying a shaft 76 on which is mounted a suitable ratchet wheel 77 and a winding drum, the latter receiving a flexible traction member 78 which may be wound up on the drum as the ratchet wheel is turned. Pivoted on the shaft 76 is an operating lever 80 carrying a pawl 81, which, by engagement with the teeth of the ratchet wheel, permits a step by step rotative movement of the latter. The ratchet wheel is held from return movement by a locking pawl 82.

The rods 64' and 65 may be adjusted to any angular position with respect to each other and with respect to the table, it being possible to place them almost in horizontal position, and at any angle between the horizontal and the vertical with respect to both the longitudinal and transverse axes of the table, and this for the reason that there are four sockets 62 to receive the pivot pins 63 of said rods.

In order to brace and support the traction frame, a telescopic rod 84 is employed, this rod being formed of two members telescopically connected, one of the members carrying a clamping screw 85. At one end of the bracing rod is pivoted a collar 86 carrying a clamping screw 87, this collar embracing the rod 64', and being adjustable both longitudinally and circumferentially thereof. The lower end of the telescopic bracing rod is pivoted to a pin 89 that is swiveled in a block 90 which may be adjusted to position on any one of the members of the table proper, and locked in place by a clamping screw 91.

Where the device is employed for reducing a fracture of the tibia or fibula, the lower limb may be supported on one of the sections 41 until the traction apparatus has been adjusted and operated for the purpose of plac-

ing the bones in apposition. The section 41 may then be dropped free from contact with the limb and access may be had to all parts thereof to permit the free winding of a bandage, or the application of a plaster cast.

For fracture of the femur, the lower section 40 may be adjusted to an angular position to form a foot rest and after strapping the foot in place and adjusting the pelvis clamp, traction may be exerted in the direction of the length of the femur, and, if necessary, the section 41 of the table may be dropped to permit free access to all parts of the limb. In similar manner the back rest 58 may be moved away from the seat 37, leaving the lower portion of the body free, so that dressings may be applied without lifting or moving the patient, and in all of these cases there is nothing to interfere with the work of the surgeon, the main part of the table being always in a plane below the operating surface.

The facility with which the traction apparatus may be adjusted and removed, and gynecological stirrups or the like applied, permits the use of the table for osteopathic and surgical operations of any description.

I claim:—

1. A surgical table including a main frame, a sectional table top including separate leg pallets, each pallet being formed of lower leg and thigh sections, and means for supporting each pallet as an entirety in a position parallel with and below the main portion of the table top.

2. In a surgical table, a main frame, a pelvis seat, a table top including a back rest arranged in the plane of the pelvis seat, separate leg pallets each including lower leg and thigh sections, said pallets being adjustable as an entirety to the plane of the pelvis seat or to a position below and parallel with said pelvis seat.

3. The combination in a surgical table, of a main frame, a top frame pivoted thereto and including a pair of side bars, the forward ends of which are in a horizontal plane below the horizontal plane of the rear ends of said bars, a back section supported by the rear ends of the bars, removable leg pallets adjustable into alinement with either the forward or the rear ends of the bars, and means for supporting said pallet sections.

4. The combination in a surgical table, of a main supporting frame, a top frame pivotally connected thereto and including a pair of side bars, the rear ends of which are in a horizontal plane above the horizontal plane of the forward ends of the bars, a back rest supported by the rear ends of the bars, adjustable leg pallets, cross bars connecting the forward ends of the side bars and serving as a support for the leg pallets when the latter are in the plane of the forward ends of said bars, and auxiliary supports for maintaining



said leg pallets in the horizontal plane of the rear ends of the side bars.

5 5. A surgical table including a main frame, a top frame mounted thereon and including two portions arranged in different horizontal planes, and leg sections adjustable into alignment with either portion of the top frame.

10 6. A surgical table including a top frame having portions arranged in two horizontal planes, leg supporting sections, and supports carried by said top frame for holding the leg supporting sections in alinement with either the upper or the lower portion of said top frame.

7. In a table of the class described, a frame, sectional leg pallets independently adjustable into varying angular positions, and means on the frame for supporting said pallets in different horizontal planes with respect to the horizontal plane of the table proper.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES H. DOWNEY.

Witnesses:

B. M. STALLWORTH,  
W. B. LAWSON.