March 6, 1928. 1,661,491

A. T. MINTY

OPERATING TABLE

Filed March 26, 1926 2 Sheets-Sheet 1

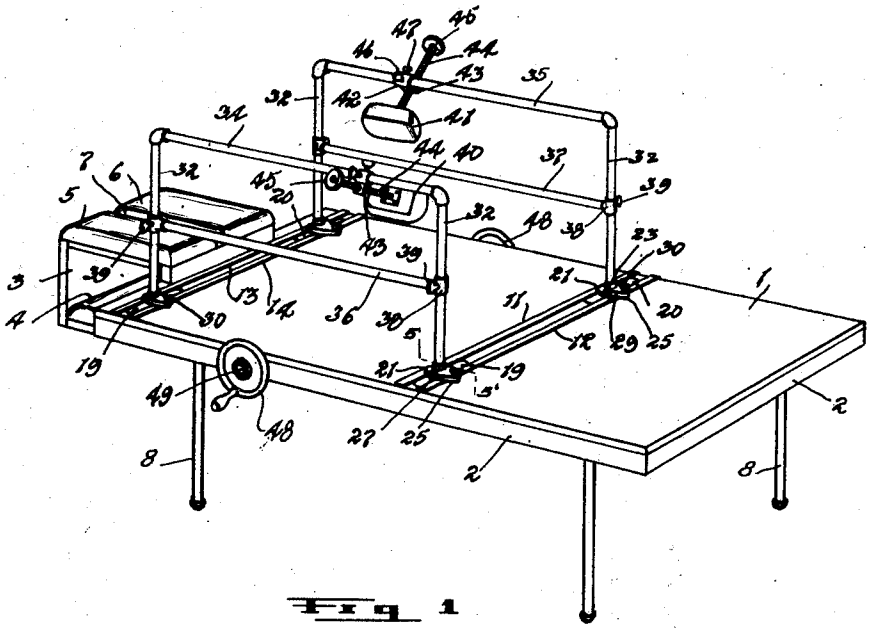


Fig 1

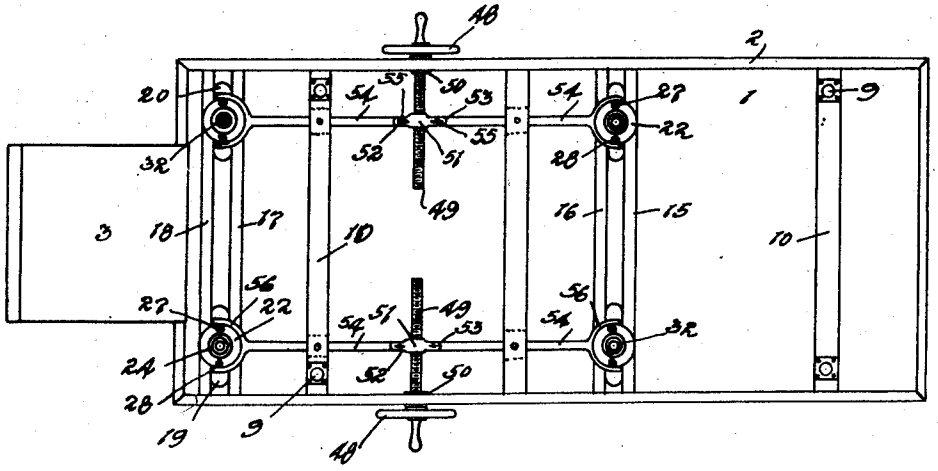


Fig 2

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March 6, 1928. 1,661,491

A. T. MINTY

OPERATING TABLE

Filed March 26. 1926 2 Sheets-Sheet 2

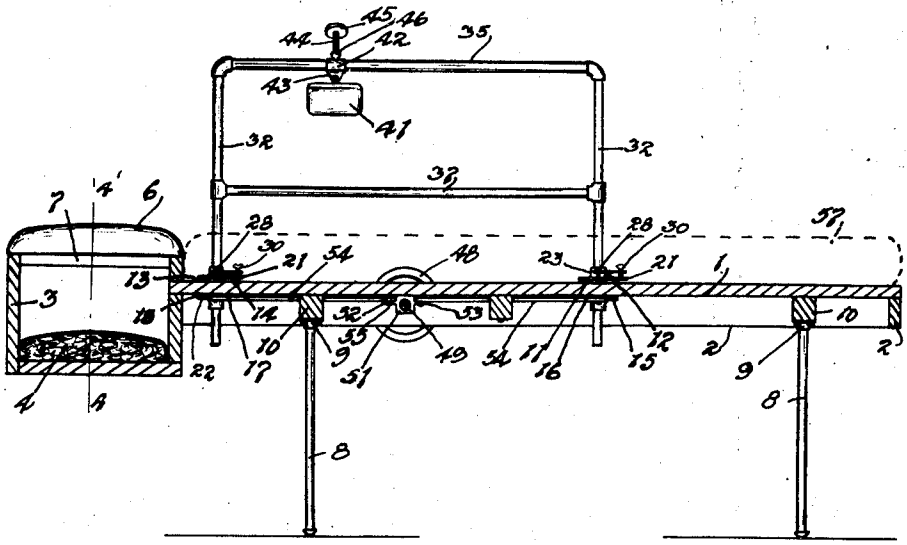


Fig 3

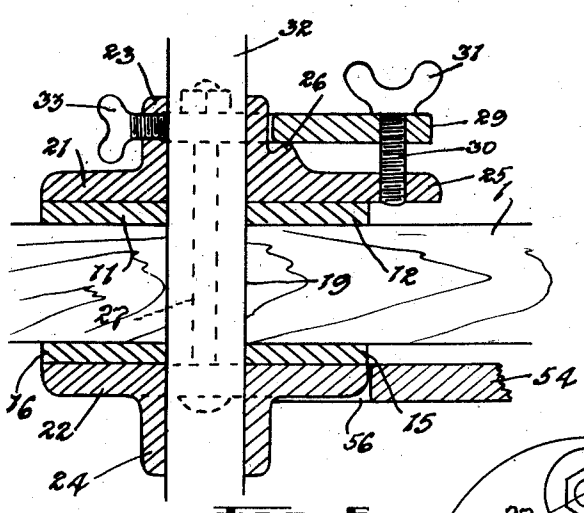


Fig 5

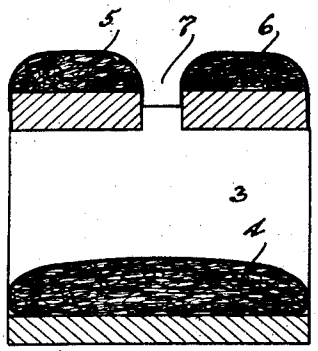


Fig 4

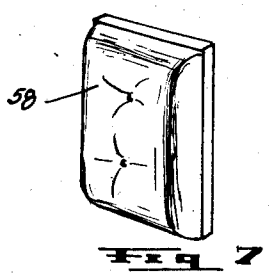


Fig 7

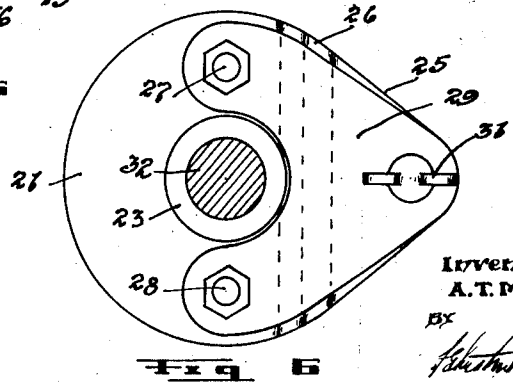


Fig 6

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Patented Mar. 6, 1928. 1,661,491

UNITED STATES PATENT OFFICE.

ALEXANDER THEODORE MINTY, OF WINNIPEG, MANITOBA, CANADA.

OPERATING TABLE.

Application filed March 26, 1926, Serial No. 97,707, and in Canada January 25, 1926.

The invention relates to improvements in operating tables and particularly to tables adapted for the treatment of spinal curvature and an object of the invention is to provide a table on which the patient can be laid and adjustable pressure pads associated with the table which can be easily and quickly placed in respect to the body of the patient and by the use of which pressure can be slowly and forcibly applied on the body at the most favorable location to correct the existing curvature of the patient being operated on.

A more specific object is to provide a table carrying upstanding supports or frames adjustable towards and away from one another and equipped with means for locking them in any adjustable position and pads carried by the supports and movable endwise of the table, up and down in respect to the table and in and out in respect to the patient resting on the table, means being also provided whereby when the proper adjustment is made, the pads can be held in such adjusted position.

A further object is to construct the supports so that they can be readily removed when desired and also to provide each support with a vertically adjustable lengthwise extending side rod which when adjusted can be set to hold to best advantage a body pad employed.

With the above more important objects in view the invention consists essentially in the arrangement and construction of parts hereinafter more particularly described, reference being had to the accompanying drawings, in which:—

Fig. 1 is a perspective view of the operating table.

Fig. 2 is an inverted plan view thereof.

Fig. 3 is a vertical sectional view longitudinally and centrally through the table.

Fig. 4 is an enlarged detailed vertical sectional view at 4—4' Figure 3.

Fig. 5 is an enlarged detailed vertical sectional view at 5—5' Figure 1.

Fig. 6 is a plan view of the parts appearing in Figure 5.

Fig. 7 is a perspective view of one of the side pads employed.

In the drawings, like characters of reference indicate corresponding parts in the several figures.

The table 1 on which the patient lies is of suitable length and width and is reinforced at the edges and ends by underlying side and end beams 2. Centrally to the head end of the table, I secure permanently an open ended box 3 having a pad 4 on the bottom thereof and a pair of spaced pads 5 and 6 closing the top thereof, the latter pads serving as a head rest and having the space 7 therebetween provided to comfortably receive the nose and mouth of the patient. The pad 4 is utilized to support the patient's arms. The table is supported by similar corner legs 8 which have their upper ends screw threading into sockets 9 secured to cross beams 10 underlying the table top and attached thereto.

The upper face of the table is provided with two pairs of spaced parallel transversely extending wearing plates 11, 12, 13 and 14 as is also the under side, the latter being indicated at 15, 16, 17 and 18. Between the pairs of plates, I locate transversely extending slots 19 and 20 which pass through the table and receive parts shortly described.

Above and below each slot, I locate jam plates 21 and 22 which are adapted to ride the adjacent wearing plates and both of which are provided with vertically disposed, aligned bosses or hubs 23 and 24 which are also aligned with the slot. The top jam plates 21 are each provided with a side extension 25 and also adjacent the hub with a transversely extending rib 26 and the plate 21 is attached to the plate 22 in each instance by side bolts 27 and 28, the bolts passing through the slot. A clamping plate 29 is associated with each plate 21 and has the inner end thereof spanning the hub 23 and fastened by the bolts and the outer end thereof overlying the extension 25 and carrying a jam screw 30 which passes slidably through the clamping plate and has the lower end thereof screw threaded into the extension 25. The jam screw has the upper end thereof terminating in a winged head 31.

An upstanding standard or shaft 32 passes freely through each slot and is slidably carried in the hubs 23 and 24 and is adjustably held in any desired position by a jam screw 33 carried by the hub 23. The upper ends of the standards are connected by lengthwise extending, horizontally disposed, side bars 34 and 35 and the shafts also support further lengthwise extending bars 36 and 37, the ends of which terminate in sleeves 38 slidably mounted on the shafts and carrying jam screws 39 which permit of the locking of the

sleeves to the shafts. The shafts and upper and lower bars carried thereby form adjustable side frames utilized for a purpose later described.

The bars 34 and 35 carry similar pads 40 and 41 which are mounted so that they can be adjusted lengthwise of the table, rotated in a vertical direction or moved forwardly and backwardly. In the present instance, I have mounted a sleeve 42 on each bar, the sleeve being slidable along the bar and being provided with an extension 43 which is screw threaded to receive a screw threaded spindle 44, the inner end of the spindle in each instance being swivelly attached to one of the latter pads and the outer end thereof being provided with a finger piece 45. The sleeves can also be rotated around the bars and they are both provided with jam screws 46 and 47 both utilized to hold the sleeve in any adjusted position on the bar.

The in and out movement of the side frames in respect to the table is controlled at each side by a hand wheel 48. Each hand wheel is secured to the outer end of a screw threaded shaft 49 which is rotatably mounted in a bearing 50 carried by the side of the table. On the inner end of each shaft 49, I mount an interiorly screw threaded collar 51 which in the rotation of the shaft is adapted to move out and in in respect to the shaft as later described. Each collar carries outstanding slotted side lugs 52 and 53 and underneath the table I locate four similar suitably pivoted arms 54, the arms extending lengthwise of the table and having their inner ends fastened to the collars by pins 55 passing through the slots and their outer ends bifurcated or forked as indicated at 56 and spanning the circular jam plates 22.

According to the above arrangement, it will be apparent that when one turns either hand wheel, he causes the sleeve to move in or out on the shaft depending on the direction of rotation and as the sleeve moves, the previously released jam plates are free to shift in the slots 19 and 20. On the table, I place a mattress 57 indicated in dotted outline in Figure 3 on which the patient lies. I also provide stiff backed side pads 58 (see Figure 7) of suitable length and width.

When the patient is to be treated say for spinal curvature, he reclines on the table face down and he can rest his arms on the pad 4, it being observed that the ends of the box 3 are open. I then adjust the side frames inwardly towards the patient's body by manipulating the hand wheels 48 and having adjusted them, I lock them by tightening up the screws 30. The side frames, if necessary, are adjusted vertically by sliding the shafts 32 up or down and then locking them in the adjusted position by tightening up the jam screw 33. The jam screws 46 and 47 are then released and this permits me to swing the pads 40 and 41 to a proper adjusted position in respect to the body of the patient and having obtained the proper setting, I tighten the latter screws up. Pressure is then effected on the deformed part of the spine by turning the finger pieces 45 to rotate the spindles 44 and cause the pads to press in on the back of the patient and correct the spinal curvature. The amount of pressure can be varied obviously by the amount the finger pieces are turned and obviously the curvature would become gradually corrected in successive treatments. The various adjustments provided permit me to locate the pads 40 and 41 and apply the pressure to best advantage in regard to the case being treated.

It may be desirable also at times and for certain cases to utilize the pad 58 at one side of the table and one of the pads 40 or 41 on the other side of the table. In such a case a pad 58 is placed against one side of the patient's body and rested against the bars 35 and 37 or those 34 and 36 and the paid 40 or 41 at the opposite side of the table is used. One can vertically adjust the shaft 32 and also vertically adjust the bar 36 or 37 at this time to place them in the best adjusted position for holding the lateral body pressure on the pad 58 and can also adjust the pad 41 or 42 as the case may be in the manner hereinbefore described to apply the pressure on the opposite side of the body and at the most advantageous point.

There are many other various uses of this table which an experienced practitioner will readily appreciate and I have accordingly not considered it necessary to give in more minute details the various uses to which it may be put. Obviously the adjustability of the side frame and of the pads 40 and 41 carried thereby and the usage of the pad 58 permit pressure to be exerted on the body lying on the table at the point where it is most desired depending on the particular deformity to be treated.

What I claim as my invention is:—

1. The combination with a table, of upstanding side frames carried by the table and extending lengthwise thereof and bodily adjustable inwardly or outwardly of the table, means for locking the side frames in any adjusted position and pressure pads carried by the side frames and normally overhanging the table and mounted on the frames to permit of the shifting of the pads in a direction lengthwise of the table, the up and down swinging movement of the pads towards and away from the table and the in and out movement of the pads towards or away from the side frames.

2. The combination with a table, of upstanding lengthwise extending side supports carried by the table and bodily adjustable inwardly or outwardly thereof and

presenting elevated lengthwise extending bars, means for locking the side frames in any adjusted position in respect to the table, endwise shiftable sleeves mounted on the bars and rotatable thereon to permit of the adjustment of the sleeves, means for locking the sleeves to the bars in any adjusted position, endwise adjustable spindles carried by the sleeves and having their inner ends overhanging the table, means for retaining the spindles in any endwise adjusted position and pressure pads carried by the inner ends of the spindles.

3. The combination with a table, of upstanding lengthwise extending side frames carried by the table and adjustable inwardly and outwardly thereof and presenting elevated side bars, sleeves rotatably mounted on the side bars and endwise shiftable thereon and provided with lateral extensions, jam screws carried by the sleeves and engaging the bars, screw threaded spindles carried by the extensions and having their inner ends overhanging the table and their outer ends provided with finger grips and pressure pads carried by the inner ends of the spindles.

4. In combination with a table, of opposing lengthwise extending upstanding side frames, guide members mounted on the table and adjustable inwardly and outwardly thereof and slidably receiving the side frames, means for retaining the guide members in any adjusted position on the table, means for locking the side frames in any adjusted position to the guide members and adjustable pressure pads normally overhanging the table and carried by the side frames.

5. In combination, a table provided with spaced pairs of transversely extending slots and transversely extending pairs of wearing plates at the sides of the slots, a jam plate above and below the table at each slot and riding the wearing plates, bolts connecting the jam plates and passing through the slots, means for drawing the jam plates together to clamp them to the table in adjusted positions, opposing upstanding lengthwise extending side frames above the table, said side frames presenting downwardly extending standards passing slidably through the jam plates and elevated lengthwise extending bars, means for adjustably fastening the standards to the uppermost jam plates and pressure pads normally overhanging the table and carried by the elevated bars, said pressure pads being mounted to permit of their shifting endwise of the table, their rotary movement around the bars towards or away from the table and their in and out movement in a direction at right angles to the latter bars.

Signed at Winnipeg, this 22nd day of February, 1926.

ALEXANDER THEODORE MINTY.