W. G. WILLIAMS.

CHIROPRACTIC OPERATING TABLE.

APPLICATION FILED MAY 8, 1917.

1,269,354.

Patented June 11, 1918.

2 SHEETS—SHEET 1.

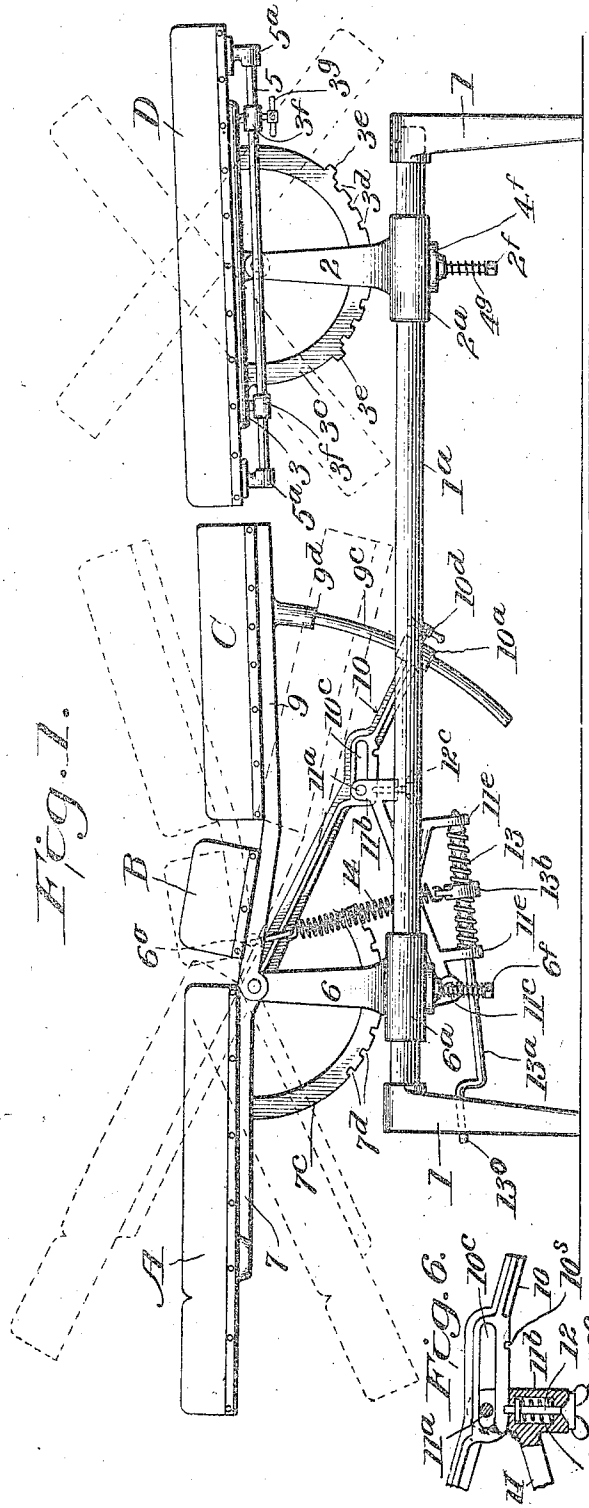


Fig. 1.

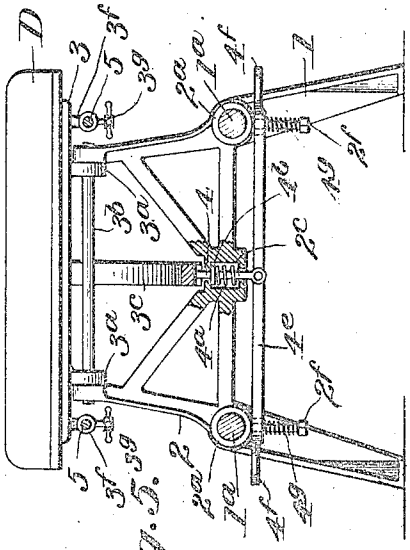


Fig. 5.

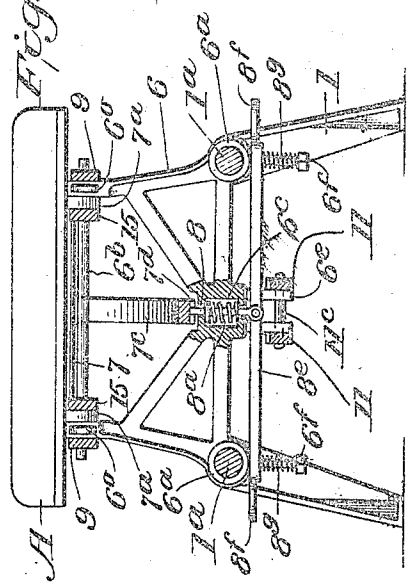


Fig. 4.

Fig. 6.

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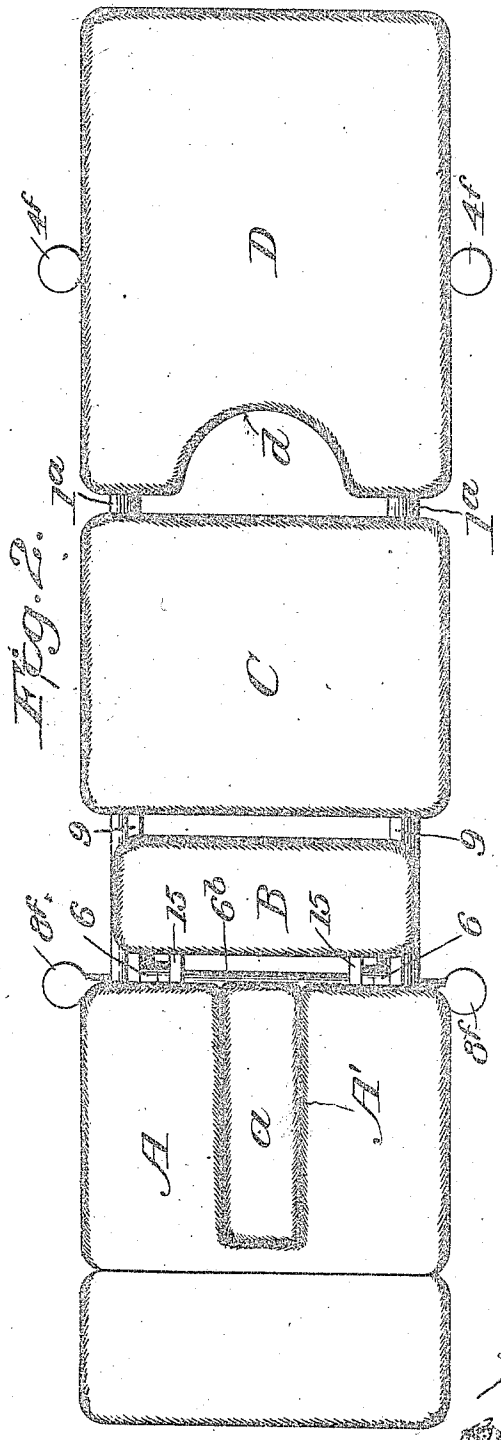


Fig. 2.

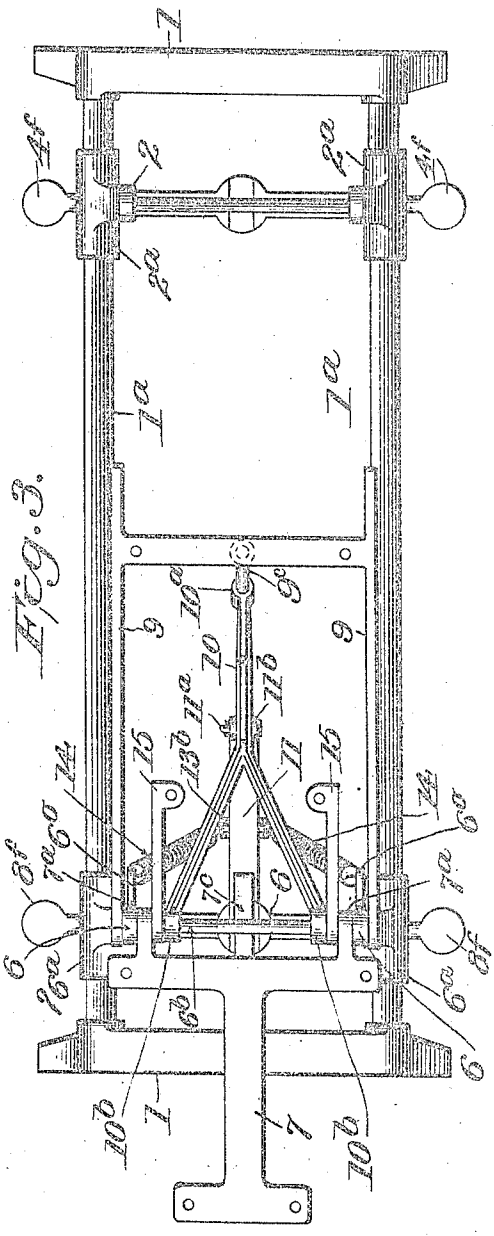


Fig. 3.

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UNITED STATES PATENT OFFICE.

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CHIROPRACTIC OPERATING-TABLE.

1,269,354. Specification of Letters Patent. Patented June 11, 1918.

Application filed May 8, 1917. Serial No. 167,263.

To all whom it may concern:

Be it known that I, WILLIAM GRANT WILLIAMS, a citizen of the United States, residing at Columbus Junction, in the county of Louisa and State of Iowa, have invented certain new and useful Improvements in Chiropractic Operating-Tables; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is a novel improvement in adjustable tables of the general class used by physicians and surgeons and has particular reference to a table for use by chiropractics when operating on patients.

The object of the invention is to provide a novel table which will be comfortable to the patient and can be readily adjusted to support the patient in various positions while being operated upon.

I will describe one practical embodiment of the invention as illustrated in the accompanying drawings to enable others skilled in the art to manufacture the same, but do not consider the invention restricted to the specific construction and form of parts illustrated, and have set forth in the claims the essential features of the invention for which protection is desired.

In said drawings:

Figure 1 is a side elevation of the complete table showing the parts in practically normal position, and indicating in dotted lines some of the extreme positions to which the several cushions may be adjusted.

Fig. 2 is a top plan view of the table.

Fig. 3 is a plan view of the table with the cushions, and some of the parts connected therewith, removed.

Figs. 4 and 5 are detail vertical transverse sections of the table.

Fig. 6 is a detail.

Referring to the drawings A, B, C and D represent the adjustable top members or sections of the table, which sections are supported as hereinafter described, and independently adjustable. These sections are preferably upholstered or cushioned, in any suitable way, to increase the comfort of the patient resting thereon.

As shown in said drawings the table comprises end frames 1 which are preferably connected by side bars or rods 1^a; the frame 1 may be cast and the side rods 1^a be formed of metal pipes or rods, and have their ends secured in sockets in the frames 1 in any suitable way.

Mounted upon the side rods 1^a adjacent one end of the main frame is a support 2, which may be a casting, having sleeves 2^a slidably engaging the bars 1^a and sustaining the support vertically thereon while allowing it to be adjusted longitudinally thereof. The support may be secured in position on the rods, when adjusted, by any suitable means, as by tap bolts 2^f engaging the sleeves 2^a.

Pivotally mounted upon the support 2 is a member 3, which may be cast, and upon which the top section D may be supported. This member 3 is hinged on the support 2 so it can tilt longitudinally of the main frame. As shown it is provided with depending lugs 3^a which are transfixed by a rod 3^b the ends of which are secured in openings in the upper end of the side members of the supports 2, see Fig. 5.

The member 3 is provided with a segment 3^c which is approximately semi-circular and disposed in the longitudinal plane of the main frame. This segment is provided on its under side with notches 3^d which are adapted to be engaged by a bolt 4 confined in a recess 2^e in the lower side of the support 2, see Fig. 5. The bolt 4 is normally pressed upward by means of a spring 4^a confined in the recess 2^e and interposed between the lower end of this recess and a pin 4^b on bolt 4.

When bolt 4 is disengaged from the segment the member 3 and top section D thereon can be tilted longitudinally of the frame to any desired angle intermediate the two extreme angles indicated in dotted lines in Fig. 1; and when adjusted to the desired position can be held in such position by reengaging the bolt 4 with the related notch 3^d in the segment. The segment may be provided with limit stops or lugs 3^e to prevent its being rocked too far in either direction.

The member 3 is provided at its sides with perforated studs 3^f through which pass guide rods 5 which are connected at their ends to brackets 5^a fastened to the ends of the section D.

The top section D is thus attached to but

adjustable longitudinally of and upon support 3; and it may be fastened in any desired position thereon by means of thumb bolts 3^g tapped in studs 3^f; or by other suitable means.

The bolt 4 may be disengaged from the segment 3^c by any suitable means when it is desired to adjust the segment. As shown a lever 4^e is pivotally connected with the lower end of bolt 4, and said lever extends transversely of the table to and beneath both the sleeves 2^a, beyond which it projects, and is provided on its outer ends with hand or pedal pieces 4^f by which either end of the lever can be depressed. When one end is depressed its other end acts as a fulcrum. The ends of the lever 4^e may be slotted and guided on the bolts 2^f attached to the sleeves 2^a; and helical expansion springs 4^g may be strung on these bolts between their lower ends and the lever 4^e, on said springs tending to return the lever 4^e to normal position after it is depressed.

Slidably mounted on the side bars 1^a adjacent the other end of the main frame is a second support 6, in general similar to the support 2, and having sleeves 6^a engaging the side bars 1^a. Mounted in the upper end of the support 6 is a bar or rod 6^b on which are hinged the supports of the top sections A, B and C.

As shown the section A is attached to a member 7, see Fig. 3, which member may be cast and has perforated lugs 7^a on its inner end transfixed by the shaft 6^b to hinge the member 7 and section A thereon. From the under side of this member 7 depends a segment 7^c which is provided on its under side with a series of notches 7^d any one of which may be engaged with a bolt 8 mounted in a chamber 6^c in support 6 similar to the bolt 4 in support 2.

The bolt 8 may be upheld by a spring 8^a, and may be pivotally connected at bottom to a lever 8^e, which is provided with hand or foot pieces 8^f at its outer ends, and which may be guided by means of bolts 6^f attached to sleeves 6^a, and upheld by springs 8^g on said bolts, substantially as lever 4^e is supported and upheld. If either end of lever 8^e is depressed the bolt 8 will be disengaged from segment 7^c; and then the member 7 and the top section A attached thereto can be adjusted to any desired position intermediate the two extreme positions indicated in dotted lines in Fig. 1.

As shown the top section C is mounted on bars 9 which are hinged on rod 6^b. The section C being suitably attached to these rods but sufficiently removed from the section A to enable section B to be properly located between the sections A and C.

The free ends of the hinged bars 9 supporting section C may be connected, if desired, by a rigid member (Fig. 3) from which may depend a curved rod 9^c which passes through an eye 10^a on one end of a lever 10, the other end of which is preferably bifurcated, and its bifurcations are provided with eyes 10^b engaging rod 6^b and by which said lever is hinged on the rod 6^b.

The rod 9^c may be provided with a shoulder 9^d adapted to engage the eye 10^a, and limit the approach or lowering of the section D relative to lever 10.

When the section C is properly adjusted, the rod 9^c may be fastened to the lever 10, by means of a set screw 10^d tapped through the eye 10^a, or by other suitable means.

The lever 10 has a slot 10^c in its shank, which slot is slidably engaged by a bolt or member 11^a attached to the free end 11^b of a lever 11, which is hinged by a bolt 11^b to depending members 6^c of casting 6, below bolt 8 as shown.

The part of the lever 10 beneath slot 10^c (Fig. 6) may be provided with slots or notches 10^e that may be engaged by a bolt 12 guided in an opening in the end 11^b of the lever 11 (see Figs. 1 and 6) and normally pressed upward into position to engage a notch by means of a spring 12^a. This bolt may have a cam thumb member 12^c on its lower end adapted to engage an opposed cam surface on the end 11^b of lever 11, so that if the bolt 12 is partly rotated the cam will cause it to retract and disengage the notch in lever 10, compressing the spring 12^a, thus allowing the levers 10 and 11 to be relatively fixedly adjusted acording to the length of the slot and number of notches.

The lever 11 is provided with depending arms 11^e in which are journaled the ends of a coarsely threaded screw 13 mounted on a shaft 13^a, which is provided with a crank 13^c by which it can be turned. On this screw 13 is a slidable nut 13^b to opposite sides of which are connected the lower ends of springs 14, the upper ends of which are engaged with the ends of inwardly projecting horns or brackets 6^c on the support 6 (see Figs. 1–3).

By turning the screw the nut 13^b can be adjusted to or from the pivot 11^c of the lever 11, and thus uphold the outer end of said lever, which is engaged with lever 10, with greater or less pressure, provided the bolt 12 is disengaged from the slots in lever 10. When the bolt 12 is engaged with the notch on lever 10, these levers 10 and 11 are rigidly connected, and the springs become ineffective.

The top section B is shorter than the sections A and C and is preferably attached to hinge straps 15 by which it is hinged on the rod 6^b as shown in Figs. 2 and 3.

As stated the several table sections A, B, C and D are upholstered or cushioned preferably. The section A is preferably provided with a central longitudinally dis-

posed slot A′ which however can be filled with a removable filler section *a* when desired. The section A′ supports the head of the patient, and if he is lying upon his face the section *a* can be removed so the patient's nose will not be injured during treatment.

The section B can be adjusted upwardly with the section C as indicated in dotted lines Fig. 1; but when section D is fully lowered, as also indicated in dotted lines in Fig. 1, the section C will be supported by the horns 6° of the support 6.

The section C is adjustable between the extreme positions indicated in dotted lines in Fig. 1. It is primarily adjusted by loosening the set screw 10^d and adjusting the section C relative to the lever 10, after which it is fastened by setting the screw 10^d.

If the bolt 12 is in engagement with one of the notches 10^s in lever 10 the section C would be rigidly supported, but if it is desired to have it yieldingly supported the bolt 12 is disengaged from the lever 10, and held disengaged by partially turning it as described, and then the section C and lever 10 are yieldingly supported by the springs 14, the pressure of such supporting springs being adjustable by turning screw 13 to shift the nut 13^b toward or from the pivots 11^c.

The section D may be adjusted toward or from the section C, and arranged at any desired angle longitudinally of the frame to suit persons of different lengths. The section D preferably has a cut-out portion or recess *d* in its inner end. This recess is very important, and protects certain parts of the body of a patient lying in certain positions on the table from injury by contacting with the section while the patient is undergoing the treatment that this table is designed for.

From the foregoing it will be seen that the sections A, C and D are all independently adjustable and can be relatively adjusted to support the body of a patient lying upon the table in any desired position. The section C can be either rigidly or yieldingly supported according to the treatment to which the patient is to be subjected.

The abdominal supporting section C can be locked rigid at level or any angle; and can be lowered out of the way if desired. When in its lowermost position the leg rest section D could be moved inward to more or less overlie the section C.

The cushion *a* can be reversed to have an open space in the section A; this is important because when the patient is lying face downward, the nose can enter such open space and be protected. The cushion *a* when in place will fill this open space.

The section D can be moved backward or forward to accommodate patients of different height, and can be given any desired inclination to suit the position it is desired to have that part of the body resting on section D assume.

The sections B and C can be raised or lowered together to any desired positions, until section B rests upon the horns 6°. Then the section C can be further lowered independently of B. The section C can be either rigidly supported when adjusted by levers 10 and 11, or it can be yieldingly supported by springs 14 and levers 10 and 11; and the tension or springy condition, desired by the operator, is obtained by turning the handle 13° to shift the nut 13^b forward or backward.

It will be seen that this table has a wide range of adjustments to suit any position of the patient required in chiropractic operations; and it can be used by surgeons and physicians as an operating table, or readily adapted for such uses.

What I claim is:

1. An operating table comprising a frame, relatively adjustable supports mounted thereon; a top section mounted on one support, means for adjusting said section at different angles longitudinally of the frame; a second top section hinged to the other support, and means for adjusting this second section at different angles longitudinally of the frame; an intermediate section hingedly connected with one support, and means adjusting the intermediate section at different angles longitudinally of the frame; with means whereby the said intermediate section when adjusted may be either rigidly or yieldingly supported on the frame.

2. In an operating table, the combination of a frame having side bars, a support having sleeves slidably engaging said bars, a member hingedly mounted on said support, a segment connected with the member, means engaging the segment to hold the member in various adjusted positions, and a top section slidably mounted on said support, substantially as described.

3. In a chiropractic operating table, the combination of a frame, a support slidably adjustable thereon, a member hinged to said support, a top section connected with said member, a segment connected with said member for adjusting the same to different angles, a bolt mounted in the support and engaging said segment to lock the member in adjusted position, and a lever connected with said bolt and extending beneath the support and projecting at opposite sides thereof so that either end may be depressed to release the bolt.

4. In a table the combination of a frame, a support mounted thereon, a top section hinged to said support, a lever hinged to said support, a bar connected with the top section and adjustably connected with said

lever, a second lever engaging the first lever at one end and hingedly connected to the support at its other end, and springs for upholding the levers.

5. In a table the combination of a support, a top section hinged to said support, a lever hinged to said support and connected with the top section; a second lever engaging the first lever at one end and hingedly connected to the support at its other end; and means for locking the levers together; with springs connecting the second lever with the support to yieldingly uphold said levers and the section.

6. In combination a support, a top section hinged to said support, a lever hinged to said support, means connecting the top section with said lever, a second lever having a slidable engagement with the first lever at one end and hingedly connected to the support at its other end; springs connecting the second lever with the support to yieldingly uphold said levers, and means for adjusting the tension of the springs.

7. In combination a support, a top section hinged to said support, a lever hinged to said support, means connecting the top section with said lever, a second lever engaging the first lever at one end and hingedly connected to the support at its other end; springs connecting the second lever with the support to yieldingly uphold said levers, and means for adjusting the tension of the spring; with a second member hinged to said support at the side opposite the lever, a segment connected with said member, means on the support engaging said segment to hold the said member in adjusted position, and a top section mounted on said member.

8. In combination a support, a top section hinged to said support, a lever hinged to said support, a bar connected with the top section and adjustably connected with said lever, a second lever having a slidable engagement with the first lever at one end and hingedly connected to the support at its other end, springs connecting the second lever with the support to yieldingly uphold said levers and the sections, and means for locking the levers together; with a second member hinged to said support at the side opposite the lever, a segment connected with said member, means on the support engaging said segment to hold the said member in adjusted position, and a top section mounted on said member.

9. In combination a support, a top section hinged to said support, a lever hinged to said support, a bar connected with the top section and adjustably connected with said lever, a second lever engaging the first lever at one end and hinged to the support at its other end, a second member hinged to said support at the side opposite the lever, a segment connected with said member, means on the support engaging said segment to hold the said member in adjusted position, a top section mounted on said member; and a third top section hinged to said support intermediate the said adjustable sections.

10. In combination a support, a top section hinged to said support, a lever hinged to said support, a bar connected with the top section and adjustably connected with said lever, a second lever engaging the first lever at one end and hinged to the support at its other end, springs connecting the second lever with the support to yieldingly uphold said levers and the sections, and means for locking the levers together; with a second member hinged to said support at the side opposite the lever, a segment connected with said member, means on the support engaging said segment to hold the said member in adjusted position; a top section mounted on said member; and a third top section hinged to said support intermediate the said adjustable sections.

11. In combination a support, a top section hinged thereto, a lever supporting the top section, a second lever below the first lever having its free end engaged with the first lever, a rotatable screw mounted on the second lever, a nut on said screw, and springs connecting said nut with the said support to uphold the levers.

12. In combination a support a top section hinged thereto, a lever hinged to this support and supporting the section, a second lever hinged to the support below the first lever and having its free end connected by a pin and slot with the first lever, a rotatable screw mounted on the second lever, a nut on said screw, and springs connecting said nut with the said support to uphold the levers.

13. In a chiropractic table the combination of a support, a top section hinged thereto, a lever hinged to this support and adjustably connected with said section, a second lever hinged to the support below the first lever and having its free end connected by a pin and slot with the first lever, a rotatable screw mounted on the second lever, a nut on said screw, springs connecting said nut with the said supports to uphold the lever, and means for locking the levers.

In testimony that I claim the foregoing as my own, I affix my signature.

WILLIAM GRANT WILLIAMS.