F. KOENIGKRAMER.

TREATMENT TABLE.

APPLICATION FILED AUG. 6, 1917.

1,329,611.

Patented Feb. 3, 1920.

2 SHEETS—SHEET 1.

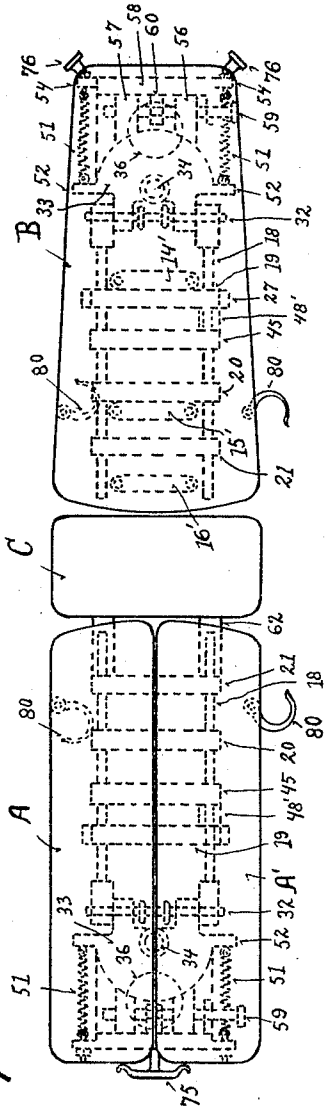


Fig. 1.

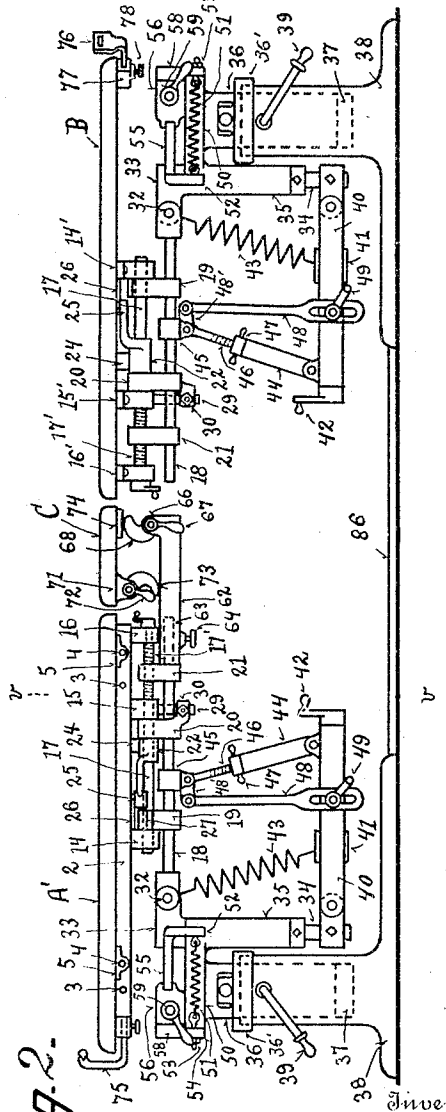


Fig. 2.

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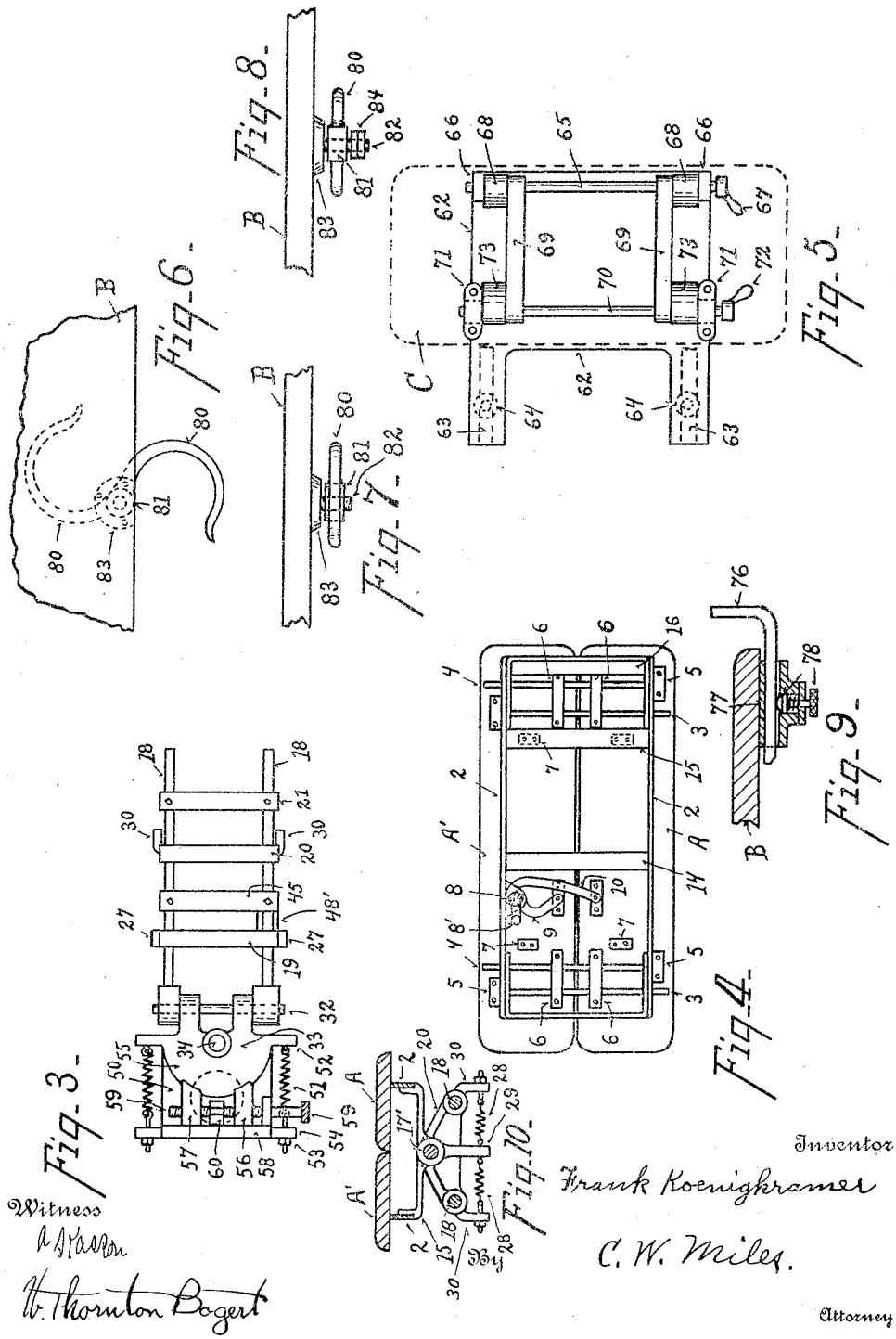
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2 SHEETS—SHEET 2.



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TREATMENT-TABLE.

1,329,611. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed August 6, 1917. Serial No. 184,746.

To all whom it may concern:

Be it known that I, FRANK KOENIGKRAMER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Treatment-Tables, of which the following is a specification.

My invention relates to improvements in treatment tables for use by osteopaths, and for similar purposes. One of its objects is to provide an improved type of resiliently supported table, one or more sections of which are oscillatable. Another object is to provide a table in which two sections are rotatably supported near opposite ends of the table and either or both of said sections oscillatable. Another object is to provide such a table in which the respective sections are adjustable to and from each other. Another object is to provide for oscillating one of said sections relative to the other upon an axis longitudinally of the table. Another object is to provide for the introduction and removal of an intermediate table top section. Another object is to provide for locking either or both oscillatable sections upon one or more axes of oscillation independently. My invention also comprises certain details of form combination and arrangement, all of which will be fully set forth in the description of the accompanying drawings, in which;

Figure 1 is a plan view of a treatment table embodying my improvements.

Fig. 2 is a side elevation of the same.

Fig. 3 a plan view of the supporting mechanism for one of the top sections with the top section removed.

Fig. 4 is a bottom plan view of a divided top section and its adjusting and supporting mechanism.

Fig. 5 is a detail of mechanism to adjustably support an intermediate top section with the top section detached.

Fig. 6 is a detail of a portion of one of the top sections and an attached and adjustable leg hook to assist in oscillating the top section.

Fig. 7 is a side elevation of the same, being for attachment to the right hand or lower side of the table.

Fig. 8 is a view similar to Fig. 7 illustrating a hook suitable for attachment to the opposite or left hand side of the top section.

Fig. 9 is a sectional detail of one of the detachable harness attaching clips, and its supporting means.

Fig. 10 is a vertical section on line *v v* of Fig. 2.

The accompanying drawings illustrate the preferred embodiment of my invention, in which the main table top section is composed of two segments A and A′. B represents the auxiliary table top section and C the intermediate table top section.

The main table top section is preferably divided longitudinally into the two segments A and A′ in order that when said segments are separated or spaced apart, a patient may be positioned face downward, with the face resting in the gap against the edges of said segments, and be able to breathe conveniently through the gap. Also when the gap is closed the two segments form practically a single top section.

In order to adjustably support the segments A and A′ I provide a rectangular frame 2 which is perforated for the rods 3 and 4 which slide endwise relative to frame 2. Rods 3 and 4 are rigidly attached by brackets 5 to the respective sections A and A′. Brackets 6 also perforated to receive rods 3 and 4, are rigidly attached to sections A and A′. The brackets 5 by contacting with the frame 2 limit the sliding movement of rods 3 and 4 in one direction and stop blocks 7 attached to sections A and A′ limit said movement in the opposite direction. A crank shaft 8 having a one hundred and eighty degree movement is journaled to frame 2 and provided with a hand lever 8′ to actuate said shaft. Links 9 and 10 are pivotally connected at one end to separate crank pins on said shaft 8, and at their opposite ends are connected respectively to segments A and A′ to pull them together or force them apart. At each extremity of the movement of the crank shaft its crank pins are on dead center and serve with stops 5 and 7 to lock the segments A and A′ to their adjusted positions, so that they will not become displaced by the oscillatory movement of the top section.

Three brackets 14, 15 and 16 rigidly attached to frame 2 form journals for an axle 17 and feed screw 17′. A rectangular frame composed of guide rods 18 and cross bars 19, 20 and 21 is hinged to frame 2 by means of the axle 17 and fed longitudinally along

the guide rods 18 by sliding the cross bars 19 and 20 thereon, while cross bar 21 is rigid on rods 18 and threaded to feed screw 17'. A sleeve 22 sliding endwise on axle 17 and actuated by a hand lever 24 interposes its arms 25 between the stop lugs 26 on the frame 2 and stop lugs 27 on cross bar 19 to lock the frame 2 and segments A A' against oscillation on the axle 17. Springs 28 attached at one end to a projection 29 from member 15 and at the opposite ends to projections 30 carried by member 20 serve to resiliently hold and return the frame 2 and main top section to a predetermined position when oscillated upon axle 17.

The rectangular frame 18, 19, 20, 21 is rotatably mounted and supported upon a transverse horizontal axle 32 which axle is carried by a head 33 rigidly attached to a vertical axle 34 which journals in a sleeve 35 mounted upon a vertically adjustable pedestal or hydraulic plunger 36. The plunger seats in a vertical cylinder 37 formed in the base section 38. A pump handle 39 serves to actuate a pump within the plunger 36 to pump a liquid from a chamber in plunger 36 to the cylinder 37 below the plunger to elevate the plunger and main top section and at another position of handle 39 to return the liquid to its storage chamber in plunger 36 and lower the plunger. A locking collar 36' serves to lock the plunger 36 rigidly to the base 38.

Attached to the lower end of axle 34 is a rigid collar to which is pivotally attached a slotted frame 40. A carriage 41 is adjustable longitudinally on frame 40 by means of a feed screw actuated by the hand lever 42. One or more springs 43 are attached at one end to carriage 41 and at the opposite end are looped over axle 32. A tubular member 44 is pivotally attached at one end to frame 40, and at its opposite end is telescoped over the threaded shank of an eye-bolt 46 which is pivotally attached to a cross bar 45 carried by the rods 18. A nut 47 on the eye-bolt 46 rests upon the end of the tubular member 44, and enables the tensional strain of the springs 43 to be transmitted to the rods 18 to resiliently and adjustably support frame 2 and the main top section. The movement of carriage 41 and adjustment of nut 47 enable the resilient support for the main top section to be varied through a wide range to support the weight of different patients. A locking lever or link 48 pivotally attached to a projection 48' from the cross-bar 45 is slotted and may be locked to frame 40 by a bolt and crank actuated nut 49. When so locked the main top section is limited against movement upwardly but will still yield to a limited extent to pressure downwardly due to the downward thrust transmitted through the link 48 causing the nut 47 to separate from the end of tubular member 44.

The head 33 rests upon a platen 50 formed at the upper end of pedestal 36 and is rotatable relative thereto, being resiliently held in a predetermined position by means of springs 51 each attached at one end to a projection 52 from head 33, and at the opposite end to an eye-bolt adjustable by means of a nut 53 relative to a projection 54 from the platen 50. A segment of a disk 55 carried by the head 33 is engaged by brake-shoes 56 and 57 to lock the head 33 to any desired position. The shoes 56 and 57 bear at their rear against a ledge 58 on the platen 50 and are separated or drawn together by means of a right and left hand feed screw 59 which is journaled to a bracket 60 on the platen 50 and actuated by hand.

If desired the auxiliary top section may be longitudinally divided into two segments adjustable to and from each other as described for the main top section, and in that event the auxiliary top section and its supporting mechanism would be an exact counterpart or duplicate of that illustrated and described for the main top section, and operable separately or in conjunction with the main top section in the same manner as the main top section and like reference numerals designate like parts in the mechanism of both main and auxiliary actuating mechanism. Ordinarily however, only one of these sections is required to be longitudinally divided and I have therefore illustrated as a modification the auxiliary top section in one piece attached directly to the members 14', 15' and 16' corresponding to the members 14, 15 and 16 employed to support the frame 2 and indirectly thereby the main top section.

The intermediate top section is supported upon a frame 62 which may be detachably connected to the rods 18 of either the main or auxiliary top section, by slipping the ends of rods 18 into sockets 63 and clamping them therein by set screws 64. A shaft 65 is journaled in ears 66 on frame 62 and is provided with a hand actuating lever 67, cams 68 rigidly mounted thereon and links 69 pivotally mounted thereon. A shaft 70 is journaled in ears 71 attached to the under face of section C and provided with a hand actuating lever 72, cams 73 rigidly mounted thereon and the links 69 pivotally mounted thereon. The cams 68 engage shoes 74 on the under face of section C to raise or lower section C at one end while the cams 73 engage the frame 62 to raise or lower section C at its opposite end, thus enabling section C to be inclined either toward the main or toward the auxiliary top section, and also to be elevated and lowered horizontally.

When the section C is detached, the main and auxiliary top sections may be adjusted longitudinally by means of the feed screws

17′ of the respective sections to secure any desired amount of gap between the main and auxiliary top sections. Also the pedestals 36 of the main and auxiliary top sections may be independently adjusted vertically, and the several locking means employed independently on the main and auxiliary top sections to secure a great variety of both rigid and oscillatable positions and combinations suited to a great variety of treatments required, and changes from one adjustment to another quickly effected.

In Figs. 1 and 2 I have illustrated a detachable bracket or support 75 to which a flexible harness secured about the neck or chest of a patient may be secured and detachable supports 76 to which flexible ankle cuffs may be attached, and through the feed screws 17′ strain may be applied longitudinally to the spine. In order to prevent the members 76 becoming detached through the oscillatory movement of the top section I preferably provide as illustrated in Fig. 1, sockets 77 to receive the shanks of members 76, and spring actuated studs 78 with limited movement to yieldingly bear upon said shanks, thus providing for their convenient insertion and removal without liability of their dropping out when the top section is oscillated.

As illustrated in Figs. 6, 7 and 8 I preferably employ leg-hooks 80 pivotally attached to the main and auxiliary top sections at opposite sides thereof and which in operative position extend out from the sections so as to engage and partially encircle the leg of the operator to enable the operator to oscillate one of the top sections using his leg for the purpose and with his hands free for other purposes. When not in use the leg hooks are shifted to an idle position under the table, and there held in place against movement due to oscillation of the top section preferably by threading the hub 81 of the leg hook upon a stud bolt 82 carried by a bracket 83 secured to the top section so that when in operative position the hub 81 is out of contact with the bracket 83, and when in idle position the face of hub 81 is in contact with bracket 83 and serves to lock the leg hook against displacement, while at the same time the leg hook is in condition to be pulled forward into operative position. As these hooks are to be employed as right and left hand hooks, in one set, say the right hand hooks, the hub 81 is arranged to contact with the face of the bracket 83, as illustrated in Fig. 7, while in the other, say the left hand set of hooks, I provide a nut or pair of nuts 84 on the bolt 82 against which one face of hub 81 may engage to lock the hook in idle position as illustrated in Fig. 8.

The respective base members 38 are preferably spaced a predetermined distance apart by means of one or more spacing bars 86.

The mechanism herein illustrated is capable of considerable modification without departing from the principle of my invention.

Having described my invention, what I claim is:

1. A treatment table comprising a main table top section and an auxiliary table top section each resiliently and oscillatably supported, and each top section with its resilient supporting means independently vertically adjustable.

2. A treatment table comprising a main table top section and an auxiliary table top section each resiliently and oscillatably supported, and each top section together with its resilient supporting means independently vertically adjustable, and means to independently lock said respective top sections against oscillatory motion.

3. A treatment table comprising a main table top section and an auxiliary table top section arranged end to end and each oscillatably supported with the region of maximum oscillatory motion at the meeting ends of said sections.

4. A treatment table comprising a main table top section and an auxiliary table top section arranged end to end, said top sections being oscillatably supported near their distal ends, and adapted to serve jointly as a support for a patient.

5. A treatment table comprising a main table top section and an auxiliary table top section arranged end to end said top sections being independently oscillatably supported near their distal ends and adjustable to and from each other to vary the gap between their adjacent ends.

6. A treatment table comprising a main table top section and an auxiliary table top section arranged end to end, said top sections being oscillatably supported near their distal ends each upon a substantially vertical axle and upon a transverse substantially horizontal axle independent locking means to lock either top section against oscillatory movement upon either of said axles.

7. A treatment table comprising a main table top section, and an oscillatory auxiliary table top section, detachable harness brackets having their shanks inserted into sockets carried by said oscillatable top section, and yielding means to engage said shanks to retain them against displacement due to the oscillatory movement of said top section.

8. A treatment table comprising a main table top section, an oscillatory auxiliary table top section and a leg hook rotatably mounted upon a threaded stud carried by said oscillatable top section, the hub of said leg hook when in idle position engaging a stationary face adjacent to said stud bolt to lock said leg hook against displacement due

to the oscillatory movement of said top section.

9. A treatment table comprising a base, independent vertically adjustable pedestals near opposite ends of said base, a main table top section oscillatably and resiliently supported relative to one of said pedestals and extending toward the opposite pedestal, and an oscillatable and resiliently supported table top section supported relative to the opposite pedestal.

10. A treatment table comprising a base independent vertically adjustable pedestals near opposite ends of said base, a main table top section oscillatably and resiliently supported upon a plurality of transversely arranged axles, means to selectively lock said main top section against oscillatory movement upon either of said axles independently, an auxiliary table top section oscillatably and resiliently supported relative to the opposite pedestal upon a plurality of transversely arranged axles, and means to selectively lock said auxiliary top section against oscillatory movement upon either of its axles.

11. A treatment table comprising a base independent vertically adjustable pedestals near opposite ends of said base, a main table top section oscillatably and resiliently supported upon a plurality of transversely arranged axles, means to selectively lock said main top section against oscillatory movement upon either of said axles independently, an auxiliary table top section oscillatably and resiliently supported relative to the opposite pedestal upon a plurality of transversely arranged axles, and means to selectively lock said auxiliary top section against oscillatory movement upon either of its axles, and means to adjust said main and auxiliary sections toward and from each other.

12. A treatment table comprising a base independent vertically adjustable pedestals mounted upon said base near opposite ends, a main table top section oscillatably and resiliently supported relative to one of said pedestals upon a substantially vertical axle, a transverse substantially horizontal axle and a substantially parallel longitudinal axle, independent locking means to lock said main top section against oscillatory movement upon either of said axles, an auxiliary table top section oscillatably and resiliently supported relative to the opposite pedestal upon a substantially vertical axle, a substantially horizontal transverse axle, and a substantially parallel longitudinal axle, independent locking means to lock said auxiliary top section against oscillatory movement upon either of said axles, and means to adjust said top sections to and from each other.

13. A treatment table comprising a main table top section, an auxiliary table top section and an intermediate table top section, said main and auxiliary top sections being independently oscillatably and resiliently supported, and said intermediate top section being adjustably and detachably supported relative to said main or auxiliary top section.

14. A treatment table comprising a base independent vertically adjustable pedestals mounted upon said base near opposite ends, a main table top section oscillatably and resiliently supported relative to one of said pedestals upon a substantially vertical axle and a substantially horizontal transverse axle, independent locking means to lock said main top section against oscillatory movement upon either of said axles, an auxiliary table top section oscillatory and resiliently supported relative to the opposite pedestal upon a substantially vertical axle and a substantially horizontal transverse axle, independent locking means to lock said auxiliary top section against oscillatory movement upon either of its axles, and a table top section adjustably supported intermediate of said main and auxiliary top sections.

In testimony whereof I have affixed my signature in the presence of two witnesses.

FRANK KOENIGKRAMER.

Witnesses:
C. W. Miles,
W. Thornton Bogert