

Nov. 12, 1929.

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1,735,703

TILTABLE CHIROPRACTIC TABLE

Filed Dec. 3, 1924

4 Sheets-Sheet 1

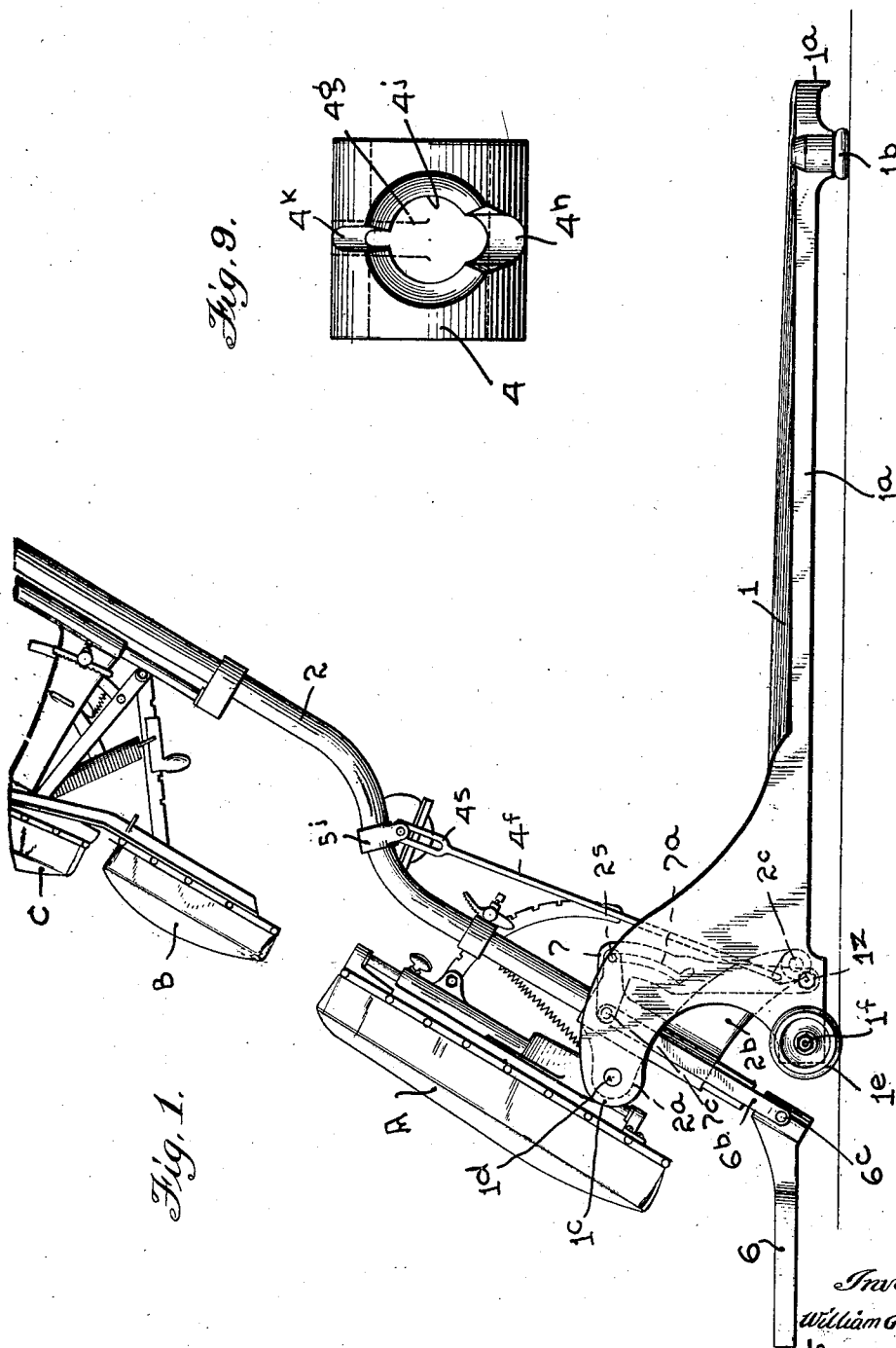


Fig. 9.

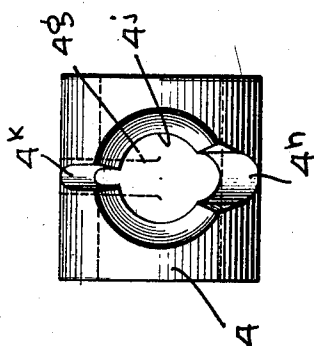


Fig. 1.

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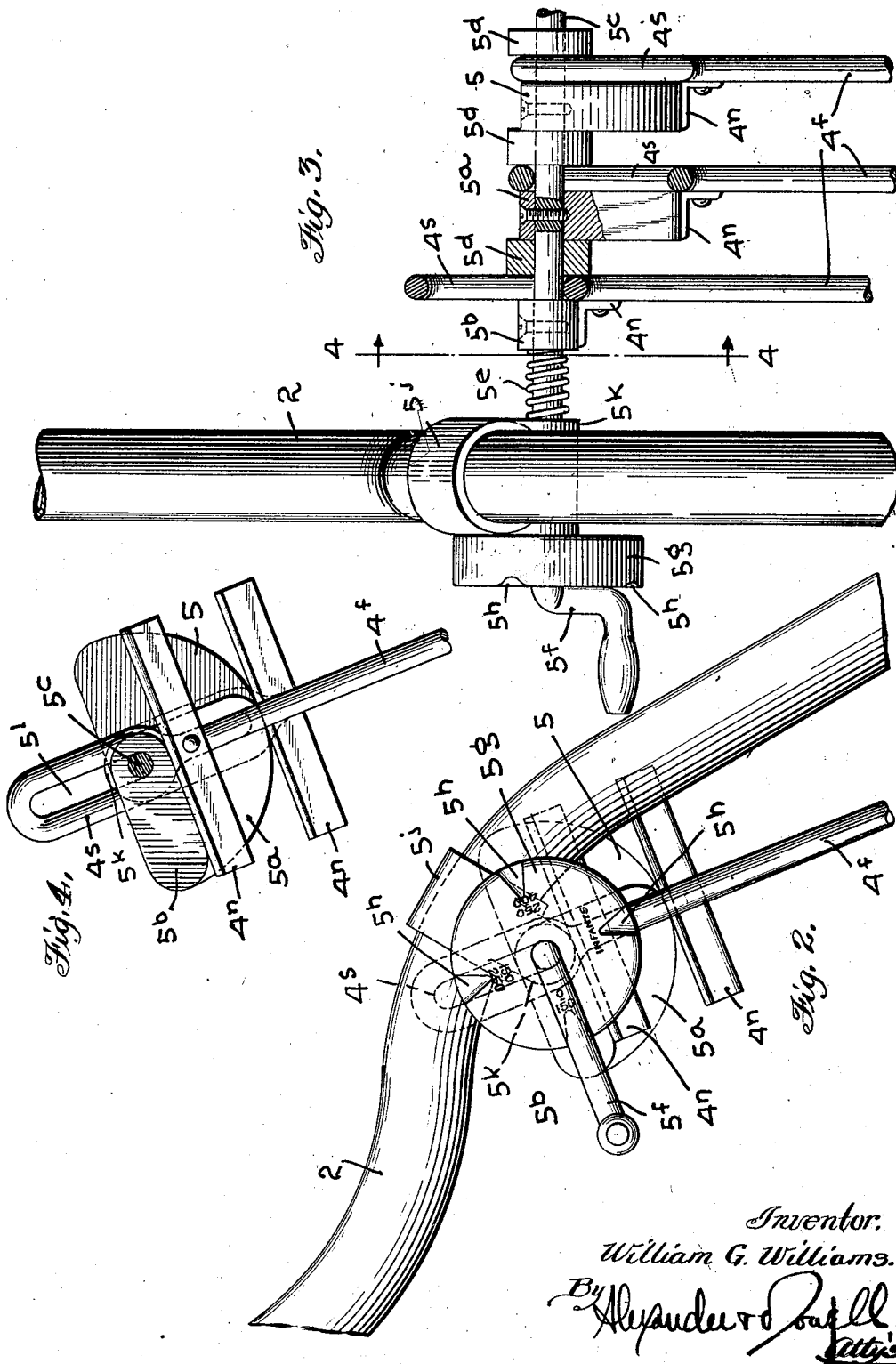
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TILTABLE CHIROPRACTIC TABLE

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4 Sheets-Sheet 2



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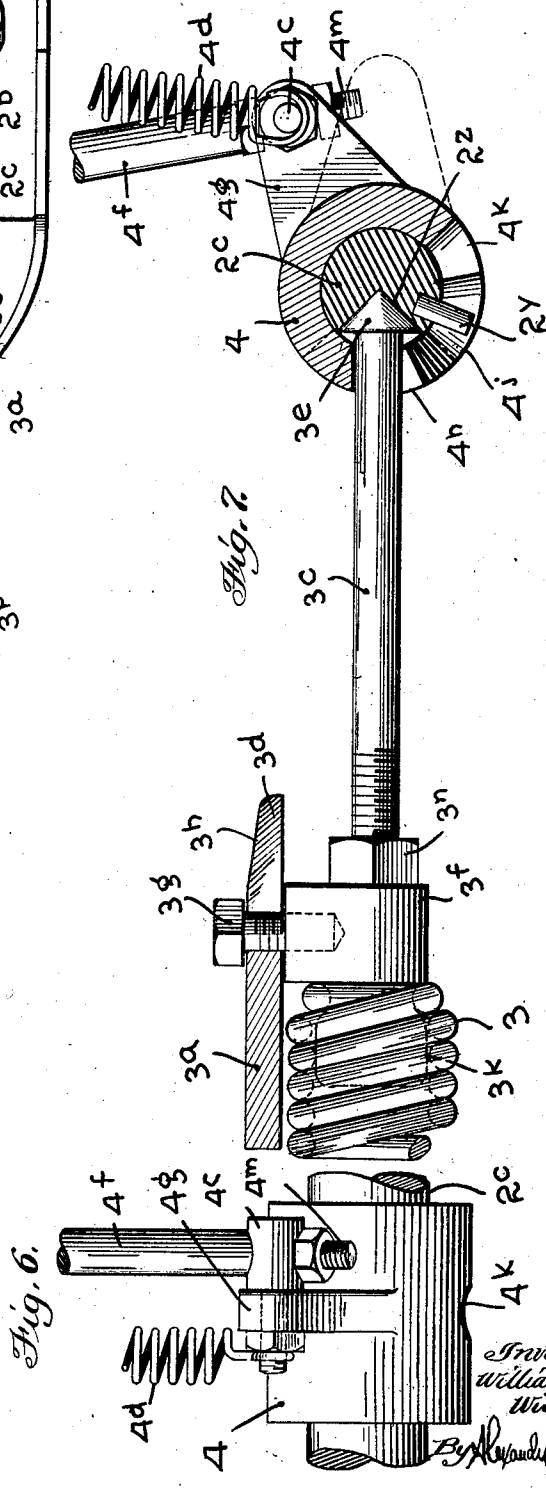
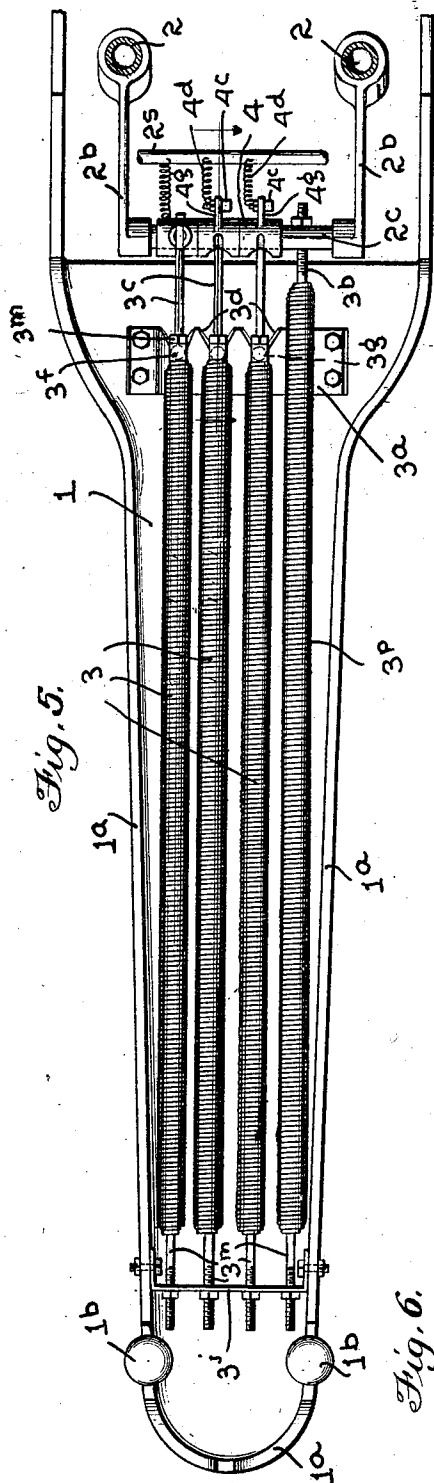
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TILTABLE CHIROPRACTIC TABLE

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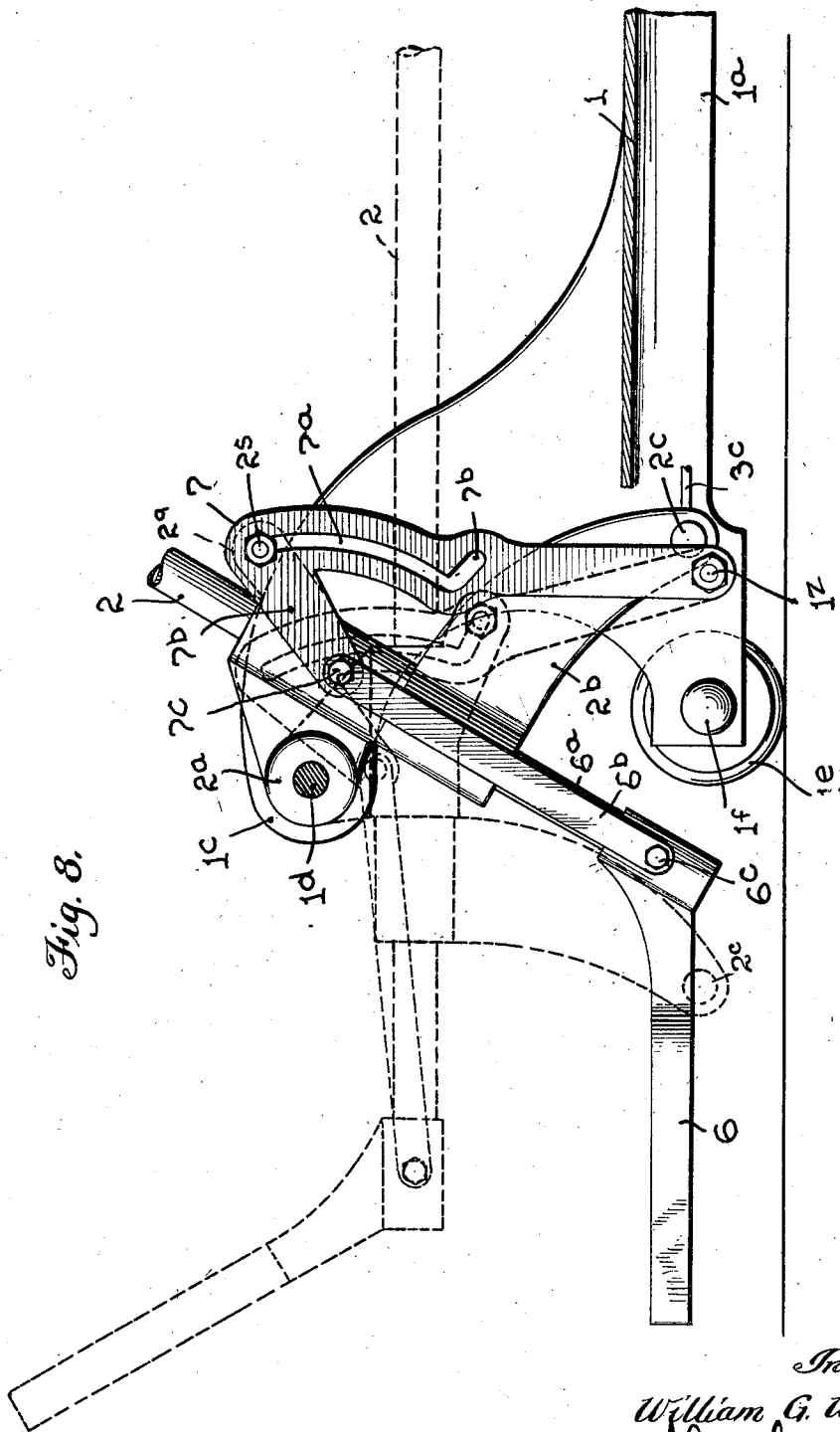
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TILTABLE CHIROPRACTIC TABLE

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4 Sheets-Sheet 4



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TILTABLE CHIROPRACTIC TABLE

Application filed December 3, 1924. Serial No. 753,736.

This invention is an improvement in tilt-
able chiropractic tables, of the type shown in
my U. S. Letters Patent #1,435,037, dated
Nov. 7, 1922, and the principal object thereof
is to provide a novel tilttable chiropractic
table whereby the patient can be comfortably
lowered from a standing to a horizontal posi-
tion when being placed on the table, and can
be raised again to a standing position after,
or any time during, the therapeutical ma-
nipulations.

Other objects of the invention are to pro-
vide means for raising or lowering the table
frame when the patient is placed thereon, and
for cushioning the lowering of the table frame
with or without a patient thereon; to provide
novel means whereby a multiplicity of
springs can be brought into operation one by
one, or detached in like manner, for the pur-
pose of more or less cushioning and counter-
balancing the lowering or raising of the table
frame, either empty or with a patient there-
on; to provide counter-balancing springs for
the tilttable frame, which may be selec-
tively, operatively connected with the table
frame to off-set the weights of patients of
varying weights, from that of small children
to the weight of the heaviest adult; to pro-
vide novel toggle means whereby the foot
step may be automatically caused to recede at
a certain point during the lowering of the
table to a horizontal position, when sufficient
weight of the patient is on the table top to
prevent the patient from slipping back as the
step recedes.

Other minor objects of the invention will
be hereinafter set forth.

I will explain the invention with reference
to the accompanying drawings which illus-
trate one practical embodiment thereof to
enable others to adopt and use the same, and
will summarize in the claims the novel fea-
tures of construction, and novel combina-
tions of parts, for all of which protection is
desired.

In said drawings:

Figure 1 is a side elevation of my novel
tiltable chiropractic table, showing the table
frame tilted into raised position.

Fig. 2 is an enlarged side elevation of the

cams which operate to release the clutches
which connect the springs to the table frame;
also showing the notched dial for locking the
cam shaft and indicator for the various posi-
tions of the cam shaft for different weights.

Fig. 3 is a longitudinal elevation partly in
section of the cam mechanism and clutch
rods.

Fig. 4 is a section on the line 4—4, Fig. 3,
showing one position of the cams and clutch
rods.

Fig. 5 is a bottom plan view showing the
under side of the base, and the one spring
permanently attached to the table frame and
the clutch mechanism for operating the three
other springs.

Fig. 6 is an enlarged view of one section
of the clutch, with its clutch rod pivotally
attached thereto.

Fig. 7 is an enlarged side view of the clutch
locked over the conical headed rods and the
spring means for keeping the clutch collars
normally in locked position.

Fig. 8 is an enlarged longitudinal section
through the base showing the receding step
toggle mechanism.

Fig. 9 is a detail of the clutch collar.

As shown in the drawings, the chiropractic
table comprises a lower supporting or base
portion; an upper adjustable table portion
pivotally mounted upon the base portion so
that it can swing from a substantially verti-
cal to a horizontal position, to facilitate the
patient getting upon or off the table; means
for cushioning the tilting movement of the
table top; and a receding step.

The base portion as shown in Figs. 1, 5 and
8, is substantially the same as that shown in
my Patent #1,435,037, said base comprising
a casting 1, having depending flanges 1^a on
its sides and around one end, and provided at
its flanged end with sockets for the reception
of suitable foot pads 1^b. At the other end
of base 1 are two oppositely disposed up-
standing short curved standards 1^c which
support a shaft 1^d upon which the table
frame is pivotally mounted. The curved
standards 1^c project slightly beyond the ad-
jacent end of casting 1, and said end of the

base is preferably supported on rollers 1^e journaled on stud shafts 1^f.

The table portion consists of two parallel side bars or tubes 2, which are connected and properly spaced apart by any suitable means, said bars 2 adjacent their lower ends being connected in any desired manner to hangers 2^a hung or pivotally mounted on shaft 1^d. On the bars 2, adjacent hangers 2^a are mounted depending arms 2^b, between the lower ends of which extends a bar 2^c to which the cushioning springs, hereinafter described, are attached.

The table frame is provided with cushions sections A, B, and C, which sections are preferably adjustable longitudinally of the frame to suit patients of different heights, and are also capable of being adjusted to other positions relative to the frame, in the usual manner, said sections forming no part of my present invention.

As above described, the table portion is hingedly mounted upon the shaft 1^d. Its tilting movement is cushioned or counterbalanced by means of springs, as shown in Fig. 5, which springs 3 (three being shown) are disposed below the base plate 1, and extend longitudinally thereof, the ends of said springs opposite the rod 2^c being attached to a member 3ⁱ bolted between the depending flanges 1^a of base plate 1, preferably by means of bolts 3^m having their heads embedded in the ends of the springs, the outer threaded ends of said bolts 3^m passing through perforations in the member 3ⁱ and provided with nuts, whereby the tension of springs 3 may be adjusted.

At the opposite end of springs 3, adjacent the bar 2^c, is a plate 3^a bolted to the under side of base plate 1, the upper face of said plate 3^a being disposed slightly below the lower face of plate 1 to allow for insertion of the heads of tap-bolts 3^s (hereinafter described) between the plates 1 and 3^a. The edge of plate 3^a, adjacent rod 2^c, is provided with V-shaped recesses 3^d, one such recess being provided directly above the axis of each spring 3, and the upper face of said recessed edge of plate 3^a is beveled slightly downwardly as shown at 3^b in Fig. 7. A block 3^f is mounted on the adjacent end of each spring 3, said blocks 3^f having a cylindrical projection 3^g, provided with an enlarged end, adapted to fit the inside diameter of springs 3, and the end of said spring 3 is wrapped tightly around said enlarged projection to securely bind the block to the spring. Each block 3^f is provided with a tap-bolt 3^s in its upper face, the head of said tap-bolt being disposed above the upper face of the block 3^f a distance slightly more than the normal thickness of the plate 3^a. Tap-bolts 3^s are adapted to engage the V-shaped recesses in plate 3^a, as shown in Fig. 7, whereby the blocks 3^f and hence the adjacent ends of

spring 3 will normally be supported by the heads of bolts 3^s engaged in the V-shaped recesses 3^d. When however springs 3 are stretched, as hereinafter described, the bolts 3^s of blocks 3^f will move out of the V-shaped recesses 3^d, but when the springs are again released the bolts 3^s will again enter the recesses 3^d, the beveled edge 3^b serving to guide the returning bolts, and bolts 3^s will assume their normal positions of rest at the apexes of the recesses 3^d, thereby supporting the ends of springs 3, as shown in Figs. 5 and 7. The springs 3 should be given a slight initial tension in order to maintain the bolts 3^s in the recesses in plate 3^a.

Springs 3 are adapted to be connected or disconnected simultaneously, or in sequence to the bar 2^c, which as above stated is attached to the tiltable table frame, to increase or diminish the leverage or table counterbalance, as desired, when raising or lowering the table frame, to off-set the weight of a particular patient. As shown in Figs. 5 and 7, rods 3^c are threaded into the blocks 3^f, and adjustable thereon by means of lock nuts 3ⁿ engaging the blocks. The outer ends of rods 3^c are provided with enlarged cone shaped heads 3^e, adapted to normally fit into corresponding cone-shaped recesses 2^z extending diametrically into the bar 2^c, as shown in Fig. 7.

Over each of the cone-shaped recesses 2^z in bar 2^c is a collar 4, which is provided with a slot 4^k to receive a pin 2^v on the bar 2^c, whereby the collar may rotate, within the limits of the slot, on the bar 2^c but is not movable axially thereon. In the collar 4 is a circular opening 4^j (Fig. 9) adapted for the passage therethrough of the cone-shaped head 3^e of rod 3^c said opening having a recess 4^h extending into opening 4^j, said recess being of slightly greater width than that of the rod 3^c whereby the head 3^e of rod 3^c may enter the recess 2^z in bar 2^c, and when collar 4 is rotated to engage the slot 4^k with the rod 3^c, as shown in Fig. 7, head 3^e will be locked to the bar. On collar 4 is an arm 4^e (Figs. 6, 7 and 9) to which is pivoted a clutch rod 4^f (hereinafter described), and a spring 4^d connects arm 4^e with a bar 2^s (Fig. 5) preferably extending between the hangers 2^a, to normally maintain each collar 4 in "locked" position, i. e., with its opening 4^j out of alignment with the recess 2^z in bar 2^c, thus maintaining the head 3^e within the said recess. The lower ends 4^m of clutch rods 4^f are reduced and threaded, and pass through stud-shafts 4^c on the outer ends of arms 4^e. Springs 4^d may be also attached to stud-shafts 4^c, as shown in Fig. 6.

The clutch rods 4^f are all of same length, and pass upwardly, and are provided at their upper ends with elongated loops 4^g through which passes a cam-shaft 5^c, housed in suitable bearings 5^j on the table frame members 2,

as shown in Figs. 1, 2 and 3. Adjacent the looped end 4^f of one clutch rod 4^f, is a cam 5 fixedly mounted on shaft 5^c, said cam 5 being semi-circular in shape. Cam 5^a, adjacent the looped end of the next rod 4^f is quarter-circular in shape, but of same radius as the cam 5. Cam 5^b, adjacent the looped end of the next rod 4^f is a straight bar, as shown in Fig. 4, having rounded ends and of width equal to twice the distance from the center of cam shaft 5^c to the straight edge of cam 5. Spacing washers 5^d are preferably interposed between each of the above sets. As shown in Fig. 4 cam 5 has its straight edge disposed at right angles to rods 4^f, and its curved edge is below shaft 5^c. Cam 5^a has one straight edge parallel with that of cam 5, and its curved face disposed to the left of rods 4^f; and cam 5^b extends parallel with the straight face of cam 5, and to the left of rods 4^f. Below and contacting with each cam 5, 5^a, and 5^b, is a bar 4^a mounted on each rod 4^f below said cams, whereby as shaft 5^c is rotated the cams will depress their respective rods 4^f and thereby disconnect their respective clutch collars 4.

On one of the bearings 5ⁱ is a dial 5^e coaxial with cam-shaft 5^c, and the outer end of shaft 5^c is bent substantially at right angles to its axis as at 5^f, so as to contact with the face of dial 5^e, the angle of said portion 5^f being made slightly acute with respect to the axis of said shaft, and the extremity of said portion 5^f is bent parallel to shaft 5^c to form a handle for rotating said cam shaft. In the outer edge of dial 5^e are notches 5^h (four being shown spaced 90° between centers) into which notches the bent portion 5^f of shaft 5^c is adapted to enter to lock shaft 5^c in such position, and a spring 5^g is interposed between the cam 5^b and bearing 5ⁱ for yieldingly maintaining the crank handle 5^f in notches 5^h.

As above described, one straight edge of cams 5, 5^a and 5^b are parallel and disposed in the same plane, and when the shaft 5^c is rotated so that the parallel faces of the three cams engage their respective plates 4^a (which position is just diametrically opposite to that shown in Figs. 2, 3 and 4) all of the rods 4^f will be held in raised position by the action of their springs 4^d, and hence all the collars 4 on bars 2^c will lock the heads 3^a of rods 3^c to the bar 2^c, whereby the three springs 3 will be operatively engaged with the table frame, giving the maximum cushioning effect or counterbalance. The notch 5^h in which the handle 5^f engages for this result marked "250 to 400" pounds, as shown in Fig. 2, the springs 3 being adjusted so that their combined effects will counterbalance a patient weighing between the above limits.

By turning the handle a quarter turn to the next notch (marked "Infants" in Fig. 2) all of the clutch rods 4^f will be depressed by their cams, and hence all of the springs 3 will be disconnected from the bar 2^c of the table

frame, and hence no tension will be exerted thereby on the table frame.

By turning the handle the next quarter turn (marked "0 to 150" pounds, which is the position shown in Figs. 2, 3, and 4), cams 5, 5^a will depress their respective rods 4^f as shown in Fig. 3, and thus operate their collars 4 to unlock their respective spring 3 from the bar 2^c, but cam 5^b will permit its rod 4^f to remain in raised position whereby its spring 3 will alone engage the bar 2^c of the table frame, and hence only one spring 3 is operative. On the next quarter turn cam 5 will depress rod 4^f, but cams 5^a and 5^b will permit their rods 4^f to remain in raised position to connect two springs 3 to the table frame, and this position may be marked "150 to 250" as shown in Fig. 2.

Hence, for infants, the handle 5^f would be rotated to the notch marked "Infants" on dial 5^e, in which position none of the springs 3 are connected to the table frame. For patients weighing up to 150 pounds the handle should be turned to the notch marked "0 to 150" in which position only one spring 3 is connected to the frame (see Figs. 2, 3, and 4). For patients weighing between 150 and 250 pounds, the handle 5^f should be rotated into the position marked "150 to 250" on the dial 5^e, in which position two springs 3 are connected to the table frame, and for weights between 250 and 400 pounds, the handle should be rotated into the position marked "250 to 400" pounds, in which position all of the springs 3 are operatively attached to the table frame.

The normal weight of the table frame alone, or when empty is counterbalanced, as shown in Fig. 5, by means of a spring 3^p disposed beside the springs 3, and having one end attached to the plate 3ⁱ in a manner similar to springs 3, but having its other end attached directly to the bar 2^c by means of a threaded rod 3^b having an enlarged head embedded in the end of spring 3^p, said rod having a threaded end engaging a hole in rod 2^c, with a nut thereon, whereby spring 3^p is constantly connected to rod 2^c. Its tension may be regulated by adjusting the nuts on rods 3^b and 3^m. Spring 3^p should be so adjusted that its tension counterbalances the table frame when empty, so that the table frame can be lowered for adjusting infants or small children, or for use without danger of the table flying up as in the case where the tension cannot be reduced to such extent.

In connection with my chiropractic table frame I provide a receding step mechanism on the lower end of the table frame. Step 6 is mounted on the lower ends of rods 6^a, which rods are slidably mounted in the lower ends of the tubular frame members 2. Adjacent each frame member 2 is a link 7, having a curved slot 7^a therein. The lower end of said link being pivoted as at 1^a to the standards or

uprights 1^c. The upper end of link 7, has a forward projection 7^b, and a link 6^b is pivotally connected at 6^c to the step 6, and pivoted at 7^c to the forward projection 7^b, whereby links 6^b and 7 together form a toggle connection for operating the step 6. The center of the curvature of slot 7^a is the axis of the shaft 1^d and the lower end of slot 7^a terminates in a slot 7^b disposed substantially radially of the shaft 1^d, for the purpose hereinafter described. Extending between the depending portions 2^a of castings 2^a is a rod 2^s (Fig. 5) to which the springs 4^d which operate the clutch collars 4 are attached, said rod 2^s passing through and slidable in the slots 7^a, 7^b, of toggle links 7, so that when the table frame is in raised position the rod 2^s is at the top of slot 7^a as shown in Fig. 8, and foot step 6 is in its closest proximity to the table frame. As the table is lowered, rod 2^s slides downwardly in slot 7^a without moving link 7 until said rod comes to the lower end 7^b of slot 7^a, at which time rod 2^s acts upon the link 7 and pushes same outwardly, upon further movement of the table frame, into the position shown in dotted lines in Figure 8, by pushing rods 6^a downwardly in the frames 2, and thereby moving the step 6 away from the patient's feet. This receding movement of the step 6 prevents the patient from contracting his muscles by bracing his feet against step 6.

At the point where rod 2^s begins to move the link 7, the table is more than halfway lowered, i. e. disposed at an angle of less than 45 degrees, so that the patient's body rests substantially on the table top, and hence the body will not slide down with the receding step. When the table is being raised the step 6 meets the patient's feet at the same point where the step began to recede during the lowering movement. The substantially radial portion 7^b of slot 7^a is disposed in the direction of the natural path rod 2^s is inclined to travel just as the rod begins to function to operate the toggle links.

I do not limit my table to the exact form shown in the drawing, for obviously changes in the details of construction may be made, without departing from the scope of the invention.

What I claim is:

1. A chiropractic table comprising a base; a normally counter-balanced table tiltably mounted adjacent one end on said base and having a plurality of recesses therein; a plurality of springs each having one end connected to said base and the other end provided with a head adapted to enter its respective recess; and means on the table for selectively connecting and disconnecting the heads of said springs and table, according to the load to be applied to the table.

2. In combination with a table as set forth in claim 1, a step reciprocally mounted on the

end of the table; and toggle means for automatically causing said step to recede from the table during a predetermined portion of the tilting movement of the table.

3. A chiropractic table comprising a base, a table tiltably mounted on said base; a spring having one end attached to said base; means for connecting the other end of said spring to said table comprising a member on said table having a recess; a rod on said spring having an enlarged head adapted to enter said recess; and means for normally retaining said head in said recess; and devices on the table for operating said connecting means.

4. In a table as set forth in claim 3, said devices comprising a shaft on the table, a cam on said shaft; a rod engaging said connecting means and said cam; whereby as the cam shaft is rotated the rod will actuate said connecting means.

5. In combination with a table as set forth in claim 3, a step movably mounted on said table; a toggle for moving said step, and means for operating said toggle during a predetermined portion of the tilting movement.

6. A chiropractic table, comprising a base, a table tiltably mounted on said base; a plurality of springs each having one end attached to said base; means for individually connecting the other ends of said springs to said table; means for maintaining said springs in predetermined fixed position with the engageable ends thereof adjacent and in alignment with said connecting means and devices on the table for operating said connecting means, whereby the springs may be brought into action according to the load to be carried by said table.

7. In a table as set forth in claim 6, said connecting means comprising a member on said table having a plurality of recesses therein; rods on said springs having enlarged heads adapted to enter said recesses; and means for normally retaining said heads in said recesses.

8. In a table as set forth in claim 6, said devices comprising a shaft rotatable on the table; a plurality of cams on said shaft; a plurality of rods each engaging a connecting means and a cam; whereby as the cam shaft is rotated the rods will actuate their respective connecting means.

9. In combination with a table as set forth in claim 6, a step movably mounted at one end of said table; a toggle for moving said step; and means for automatically operating said toggle during a predetermined portion of the tilting movement.

10. A chiropractic table, comprising a base, a normally counter-balanced table tiltably mounted adjacent one end on said base; a plurality of springs each having one end attached to said base; means for individually

connecting the other ends of said springs to said table; means for maintaining said springs in predetermined fixed position with the engageable ends thereof adjacent and in alignment with said connecting means and devices on the table for operating said connecting means, whereby any number of said springs may be brought into action according to the load to be carried by said table.

11. In a table as set forth in claim 10, said connecting means comprising a member on said table having a plurality of recesses therein; rods on said spring having enlarged heads adapted to enter said recesses; and means on said member for normally retaining said heads in said recesses.

12. In a table as set forth in claim 10, said devices comprising a cam shaft rotatably mounted on the table; a plurality of cams on said shaft; a plurality of rods each engaging a connecting means and a cam; and means for adjusting the position of said cam shaft, whereby any number of said rods may be actuated to operate their respective connecting means.

13. In combination with a table as set forth in claim 10, a step reciprocally mounted at one end of said table; a toggle for reciprocating said step; and means on said table for operating said toggle during a predetermined portion of the tilting movement of said table.

14. A chiropractic table comprising a base; a table tiltably mounted on said base; a spring having one end attached to said base; said table having a recess therein; a rod on said spring having an enlarged head adapted to normally enter said recess; means for normally supporting said rod; and means for retaining and releasing said head.

15. In a table as set forth in claim 14, said rod supporting means comprising a bar extending transversely of said rod, and having a V-shaped recess therein adjacent said rod; and a bolt on said rod having a head adapted to normally engage the apex of said recess.

16. In a table as set forth in claim 14, said head retaining and releasing means comprising a member movably mounted over said recess and having an opening therein for the passage of said head, said opening having a slot therein for the reception of the rod while the head is in said recess; an arm on said member; spring means for normally maintaining said member in position to lock said head in said recess; and means for moving said member to release the head.

17. In combination with a table as set forth in claim 14, a step movably mounted on said table; bars pivoted at their lower ends to the base; links pivotally connecting said step with the upper ends of said bars; said bars having arcuate slots therein concentric with the tilting axis of the table when said bars are in normal position; the lower ends of said

slots terminating in a slot substantially radial of the tilting axis; means on said table engaging said slots, whereby as the table is tilted the means will slide in said arcuate slots without moving said arms, but when the means engage said radial slots the bars will be moved to actuate the step.

18. A chiropractic table comprising a base; a table tiltably mounted on said base; a plurality of springs each having one end adjustably attached to said base; said table having a plurality of recesses therein; rods on said springs having enlarged heads adapted to normally enter said recesses; means for normally supporting said rods; and means for retaining and releasing said heads, whereby any number of said springs may be brought into action according to the load on said table.

19. In a table as set forth in claim 18, said supporting means comprising a bar extending transversely of said rods, and having a plurality of V-shaped recesses in one edge, one such recess being provided adjacent each rod; and a bolt on each rod having a head adapted to normally engage its respective recess, whereby the head of said bolt at the apex of said recess will support its related rod.

20. In a table as set forth in claim 18, said head retaining and releasing means comprising a plurality of members movably mounted over said recesses, said members having openings therein for the passage of said heads; said openings having slots therein for the reception of said rods while the heads are in said recesses; arms on said members; spring means for normally moving said members into position to lock said heads in said recesses; and means for moving said members to release said heads.

21. In combination with a table as set forth in claim 18, a step movably mounted on said table; bars pivoted at their lower ends to the base; links pivotally connecting said members with the upper ends of said bars; said bars having arcuate slots therein concentric with the tilting axis of the table when said bars are in normal position; the lower ends of said slots terminating in a slot substantially radial of the tilting axis; pins on said table engaging said slots, whereby as the table is tilted the pins will slide in said arcuate slots without moving said arms, but when the pins engage said radial slots the bars will be moved to actuate the step.

22. A chiropractic table comprising a base; a table tiltably mounted adjacent one end on said base; a plurality of springs each having one end adjustably attached to said base; said table having a plurality of recesses therein; rods on the free ends of said springs having enlarged heads adapted to normally enter said recesses; means for normally supporting the free ends of said rods; and means for

retaining and releasing said heads, whereby any number of said springs may be brought into action according to the load to be carried by said table.

23. In a table as set forth in claim 22, said supporting means comprising a bar parallel with said rods and extending transversely thereof, said bar having a plurality of V-shaped recesses in its outer edge, one such recess being provided adjacent each rod; and a bolt on each rod adapted to normally engage its respective recess, whereby the head of said bolt at the apex of said recess will support the rod.

24. In a table as set forth in claim 22, said head retaining and releasing means; comprising a plurality of members movably mounted over said recesses, said members having openings therein for the passage of said heads; said openings having slots therein for the passage of said rods while the heads are in said recesses; arms on said member; spring means for normally moving said members into position to lock said heads in said recesses; a shaft rotatably mounted on said table; a plurality of cams on said shaft, a plurality of rods each engaging a cam and an arm; a crank for rotating said shaft; whereby different combinations of said rods will be actuated according to the position of said crank, to operate their respective members.

25. In combination with a table as set forth in claim 22, a step movably mounted on the lower end of said table; bars pivoted at their lower ends to the base; links pivotally connecting said members with the upper ends of said bars; said bars having arcuate slots therein concentric with the tilting axis of said table when said bars are in normal position; the lower ends of said slots terminating in a slot substantially radial of the tilting axis; pins on said table engaging said slots, whereby as the table is tilted the pins will slide in said arcuate slots without moving said arms, but when the pins engage said radial slots the bars will be moved to actuate the step.

26. A chiropractic table comprising a base; a normally counter-balanced table tiltably mounted adjacent one end on said base; a plurality of springs each having one end adjustably attached to said base; said table having a plurality of recesses therein; adjustable rods on the free ends of said springs having enlarged heads adapted to normally enter said rods; means for normally supporting the free ends of said springs; and means for normally retaining said heads in said recesses and for releasing said heads whereby any number of said springs may be brought into action according to the load to be carried by said table.

27. In a table as set forth in claim 26, said supporting means comprising a bar parallel with said rods and extending transversely

thereof, said bar having a plurality of V-shaped recesses in its outer edge, one such recess being provided adjacent each rod; and a bolt on each rod adapted to normally engage its respective recess, whereby the head of said bolt at the apex of said recess, will support the rod; the recessed edge of said bar being beveled for the purpose specified.

28. In a table as set forth in claim 26, said head retaining and releasing means comprising a plurality of collars rotatably mounted over said recesses, said collars having openings therein for the passage of said heads, and said openings having slots therein for the reception of said rods while the heads are in said recesses; means for limiting the rotation of said collars; arms on said collars; spring means for normally rotating said collars into position to lock said heads in said recesses; a cam shaft rotatably mounted on said table; a plurality of cams on said shaft, a plurality of rods each engaging a cam and an arm; a crank for rotating said cam shaft; and a notched member engaging said crank, whereby different combinations of said rods will be actuated according to the position of said crank, to operate their respective collars.

29. In combination with a table as set forth in claim 26, members slidably mounted on the table frame; a step on the lower ends of said members; bars pivoted at their lower ends to the base adjacent said members; links pivotally connecting said members with the upper ends of said bars; said bars having arcuate slots therein concentric with the tilting axis of table when said bars are in normal position; the lower ends of said slots terminating in a slot substantially radial of the tilting axis; pins on said table engaging said slots, whereby as the table is tilted the pins will slide in said arcuate slots without moving said arms, but when the pins engage said radial slots the bars will be moved to actuate the step.

30. A chiropractic table comprising a base, a table tiltably mounted on said base, a plurality of springs each having one end fixedly secured to the base and the opposite end provided with a head, means carried by the table for selectively engaging said heads, whereby a desired number of said springs may be brought into action as may be required to counterbalance the different weights carried by the table in raising and lowering; and means accessibly positioned upon the table for operating said last-mentioned means when the table is in its up position for connecting a desired number of said springs to said table.

31. A chiropractic table comprising a base, a table tiltably mounted on said base, a plurality of springs each having one end fixedly secured to the base and the opposite end normally free from but adapted to be connected

with the table, rotatable means carried by the table and adapted to be operatively connected to said springs selectively, and means accessibly arranged upon said table for operation of said rotatable means to connect a selective number of springs with the table in accordance with the weight to be carried by the latter.

32. A chiropractic table comprising a base, a table tiltably mounted on said base, a plurality of springs each having one end fixedly secured to the base and the opposite end normally free from but adapted to be connected with the table, means carried by the table and adapted to be operatively connected to said springs selectively, said means being normally spring-held in inoperative position, and means accessibly arranged upon said table for operation of said means to connect a selective number of springs with the table in accordance with the weight to be carried by the latter.

33. A chiropractic table comprising a base, a plurality of springs supported in horizontal position by said base, a table tiltably connected with the base and normally disconnected from the springs, said springs being fixedly secured to the base at one end, means on the table adapted to be connected with the other ends of said springs selectively when the table is in the up position, and means accessibly arranged upon the table for hand operation whereby said connecting means may be engaged with a selected number of said springs according to the weight to be carried thereby.

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

WM. G. WILLIAMS.