E. BISHOP.

CHIROPRACTIC TABLE.

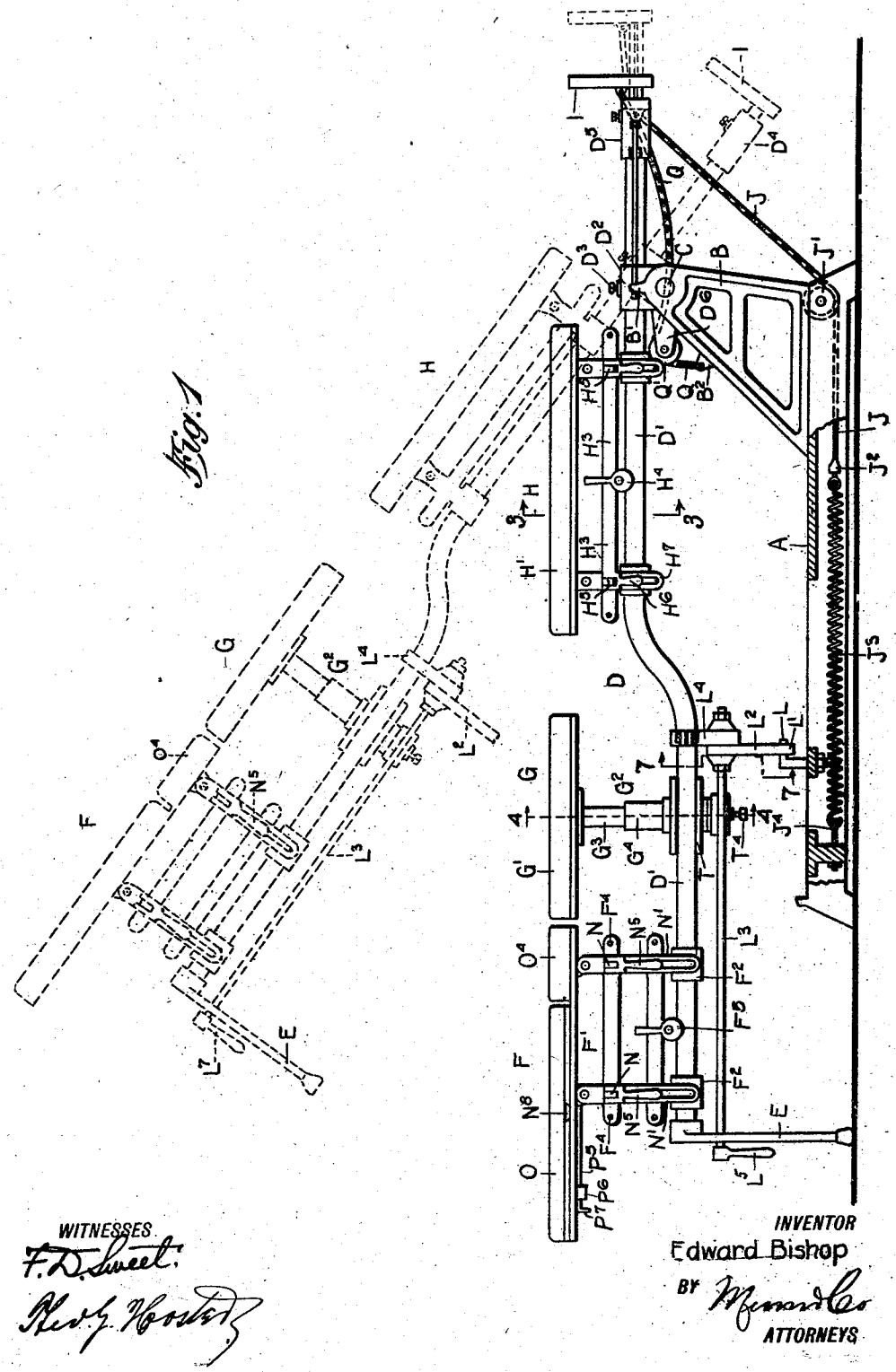
APPLICATION FILED SEPT. 28, 1915.

1,194,939.

Patented Aug. 15, 1916.

3 SHEETS—SHEET 1.

Fig. 1



WITNESSES

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3 SHEETS—SHEET 2.

Fig. 3

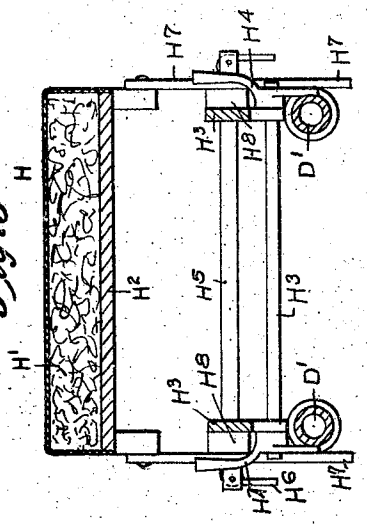


Fig. 5

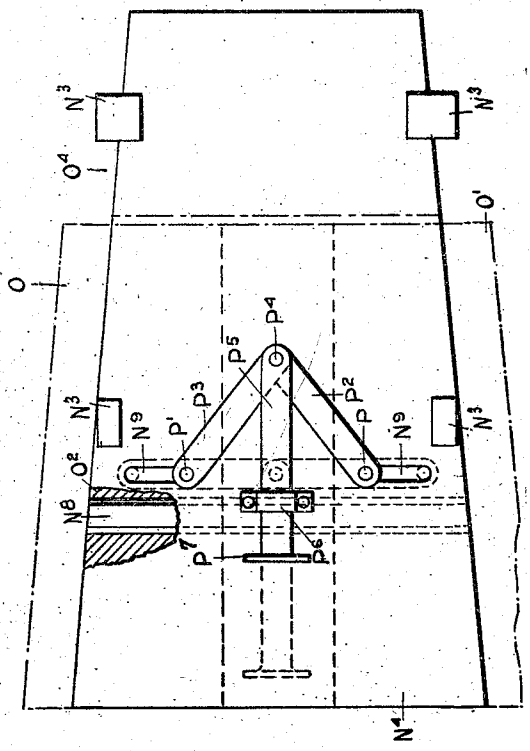


Fig. 8

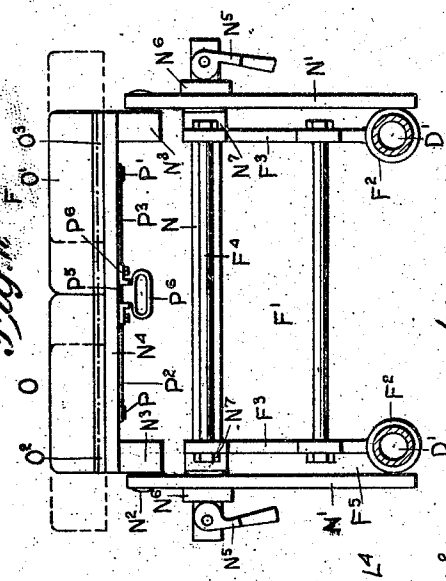


Fig. 4

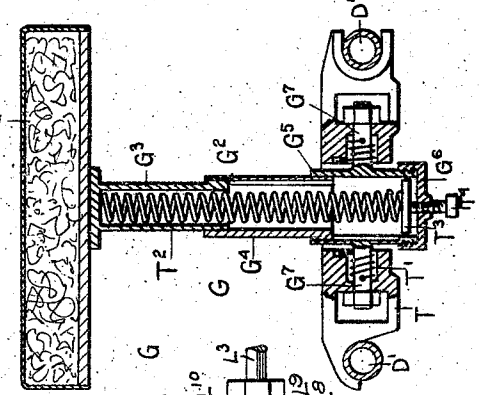


Fig. 9.

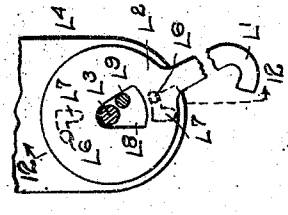
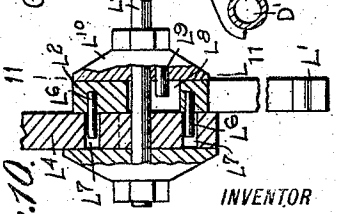


Fig. 10.



WITNESSES

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3 SHEETS—SHEET 3.

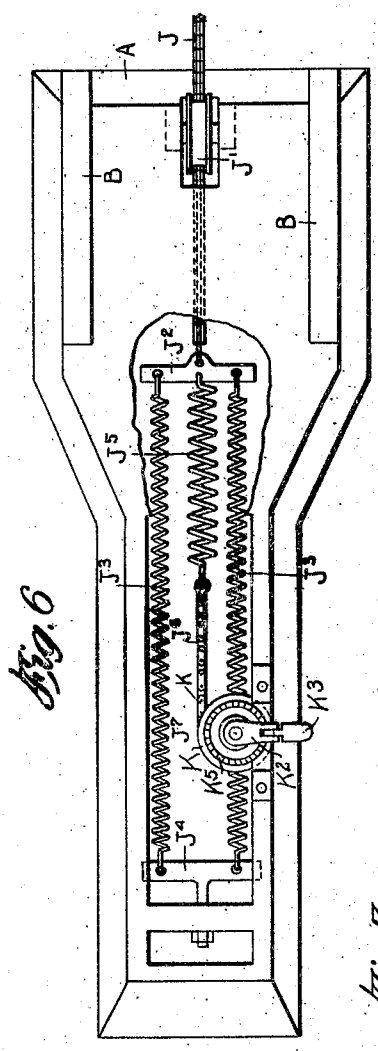


Fig. 6

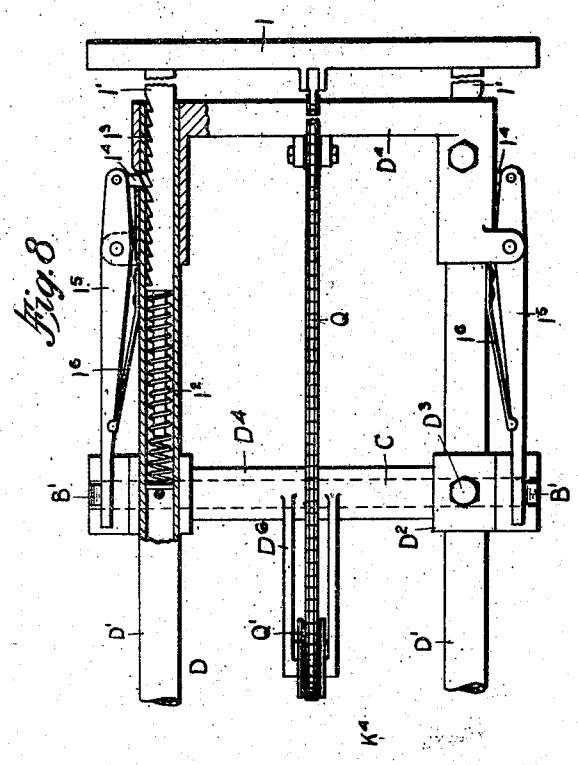


Fig. 8

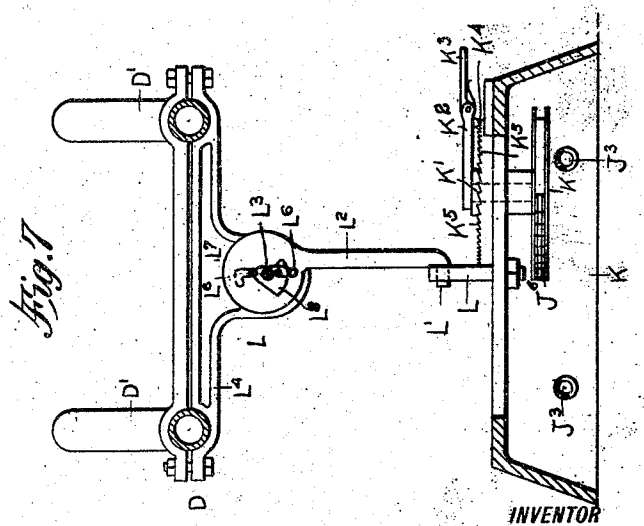


Fig. 7

WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD BISHOP, OF ENDICOTT, NEW YORK.

CHIROPRACTIC-TABLE.

1,194,939. Specification of Letters Patent. Patented Aug. 15, 1916.

Application filed September 28, 1915. Serial No. 53,050.

To all whom it may concern:

Be it known that I, EDWARD BISHOP, a citizen of the United States, and a resident of Endicott, in the county of Broome and State of New York, have invented a new and Improved Chiropractic-Table, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved chiropractic table arranged to permit of readily positioning the patient without discomfort to the same and with the least physical exertion on the part of the attendant, to allow of adjusting the table to suit the stature and weight of the patient, and to enable the attendant to readily apply the desired treatment.

In order to produce the desired result, use is made of a table frame, a head and chest rest, a leg rest and a foot rest or step, the said several rests being held lengthwise adjustable on the said table frame. Use is also made of a yielding abdominal rest mounted on a table frame intermediate the leg rest and the head rest. Use is further made of a head rest having two cushions adapted to be moved transversely apart to provide steps between the cushions for accommodating portions of the face of the patient.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the chiropractic table with parts of the base of the stand shown in section; Fig. 2 is an enlarged elevation of the head end of the table and with the side beams of the table frame shown in cross section; Fig. 3 is an enlarged cross section of the leg rest and the table frame, the section being on the line 3—3 of Fig. 1; Fig. 4 is an enlarged cross section of the abdominal rest, the section being on the line 4—4 of Fig. 1; Fig. 5 is an inverted plan view of the head and chest rest and showing the means for moving the cushions toward or from each other; Fig. 6 is a plan view of the stand with parts of the base broken out to show the counterbalancing spring device for the table frame; Fig. 7 is an enlarged cross section of the chiropractic table on the line 7—7 of Fig. 1; Fig. 8 is an enlarged plan view of the foot end of the table frame with parts in section; Fig. 9 is an enlarged cross section of the locking device for the table frame, the section being on the line 11—11 of Fig. 10; and Fig. 10 is a sectional side elevation of the same on the line 12—12 of Fig. 9.

On a suitably constructed base A are mounted standards B carrying at their upper ends a pivot C on which is mounted to swing the table frame D provided at its head end with legs E adapted to rest on the floor a distance beyond the base A, as plainly indicated in Fig. 1. On the table frame D are mounted the head and chest rest F, the abdominal rest G, the leg rest H and the foot or step rest I, the several rests F, G, H and I being lengthwise adjustable on the table frame D to accommodate persons of different stature.

The table frame D is preferably provided with tubular side beams D′ provided near the foot end with connected sleeves D^2 mounted to swing on the pivot C and adapted to be fastened in place on the side beams D′ by set screws D^3 or other means to permit of adjusting the table frame D lengthwise relatively to the pivot C with a view to project the foot end of the table frame a desired distance beyond the pivot C, as plainly indicated in Fig. 1. The sleeves D^2 are rigidly connected with each other by a tubular crosspiece D^4 through which extends the pivot C. The middle portions of the side beams D′ are curved to locate the head portions of the sides of the table frame in a different plane from the foot portions thereof so that the head portions of the table frame are lower at the time the table frame is in horizontal position than the foot portions of the table frame. The foot ends of the side beams D′ of the table frame D are connected with each other by a crosspiece D^5 on which is secured one end of a chain J extending downwardly and passing around a guide pulley J′ journaled in the stand at the foot of the base A. The chain J then extends forward and connects with a crosshead J^2 connected by counterbalancing springs J^3 with a crosshead J^4 attached to or forming part of the base A. The springs J^3 are sufficiently strong to approximately counterbalance the table frame D with a person of ordinary weight in position on the table. In case the table is to be used for a patient of more than ordinary weight, use is made of an auxiliary counterbalancing spring J^5 secured at one end to the crosshead J^2 and connected at its other end to a chain J^6, at-

tached to the peripheral face of a pulley K secured on the lower end of a vertical shaft K′ journaled on the base A. The upper end of the shaft K′ is provided with an arm K^2 to allow of turning the shaft K′ to cause the pulley K and chain J^6 to give more or less tension to the auxiliary spring J^5 according to the direction in which the arm K^2 is turned. On the arm K^2 is pivoted a locking pedal K^3 provided with a tooth K^4 adapted to engage a toothed segment K^5 fixed on the base A to lock the arm K^2 in the adjusted position. When the table frame D is swung from inclined position into horizontal position then the counterbalancing springs J^3 are placed under tension by the pull exerted by the chain J on the crosshead J^2. The movement of the crosshead J^2 toward the foot end of the table causes the spring J^5 and the normally slack chain J^6 to be carried along, but as the pulley K is free to turn by the operator pressing the pedal K^3 into unlocked position, it is evident that the spring J^5 is normally not placed under tension during the movement of the table frame D from inclined to horizontal position. When, however, a patient of more than ordinary weight is to be supported on the table then the operator manipulates the arm K^2 and the pedal K^3 to turn the pulley K with a view to draw the chain J^6 taut and to lock the arm K^2 against movement by the pedal K engaging the toothed segment. When the table frame D is now swung from inclined position into horizontal position and the crosshead J^2 is thereby moved to the right then not only the springs J^3 are placed under tension but also the spring J^5 to compensate for the extra heavy load on the table frame D. It is understood that by moving the arm K^2 more or less to the right, it is possible to increase or decrease the tension of the spring J^5 to suit existing conditions.

In order to lock the table frame D in horizontal position, the following arrangement is made, special reference being had to Figs. 1, 7, 9 and 10: On the base A is fixed a keeper L adapted to be engaged by a hook L′ extending from a disk L^2 mounted to turn loosely on a shaft L^3 extending lengthwise of the table frame D. The shaft L^3 is journaled in the leg E and in a bracket L^4 attached to the side beams of the table frame D (see Figs. 1 and 7), and the outer end of the shaft L^3 is provided with a suitable handle L^5 under the control of the operator for turning the shaft L^3. The arm L^2 is provided with pins L^6 extending into L-shaped slots L^7 formed in the bracket L^4 and the arm L^2 is also provided with an opening L^8 through which extends loosely the shaft L^3. Into the opening L^8 extends a pin L^9 held on a collar L^{10} attached to the shaft L^3. Now when the latter is turned the pin L^9 turns the arm L^2 to engage the hook L′ with the keeper L and during this turning movement of the arm L^2 the pins L^6 move into the vertical portions of the slots L^7 thus allowing the arm L^2 to yield downwardly. By the arrangement described the table frame is locked against upward swinging motion but is free to yield slightly in a downward direction.

The head rest F is constructed in detail as follows, special reference being had to Figs. 1, 2 and 5: On the side beams D′ of the table frame D is slidably mounted a carriage F′ having sleeves F^2 slidably engaging the side bars D′ and having uprights F^3 extending from the sleeves and connected with each other by crossbars F^4 to form a rigid structure. On the uprights F^3 are mounted crossbars N to extend through vertical slots in arms N′ pivotally connected at their upper ends at N^2 with lugs N^3 of a table N^4 supporting transversely adjustable cushions O and O′, as hereinafter more fully described. On the outer ends of the crossbars N are pivoted cam levers N^5 adapted to engage washers N^6 slidable on the crossbars N and abutting against the outer faces of the slotted arms N′. The inner faces of the said slotted arms N′ rest against washers N^7 held against the uprights F^3 of the head rest carriage. Thus the arms N′ are adjustably fastened in place on the crossbars N. On swinging the cam levers N^5 upwardly the pressure on the washers N^6 is released to allow of raising, lowering or inclining the table N^4 and with it its cushions O and O′, and when the desired position is reached the cam levers N^5 are swung downward to exert pressure against the washers N^6 to clamp the side arms N′ firmly in place against the washers N^7 to hold the table N^4, with its cushions O, O′, in the adjusted position. On opposite sides of the carriage are mounted clamping levers F^5 (see Fig. 1) adapted to engage the side beams D′ of the table frame D to permit of securely locking the carriage F′ in place after the same has been adjusted lengthwise on the table frame D.

The bottoms O^2, O^3 of the cushions O, O′ are of wood or other rigid material and are mounted to slide transversely on a dovetail tongue N^8 fixed transversely on the top of the table N^4. In order to move the cushions O and O′ toward or from each other, use is made of pins P, P′ engaging the bottoms O^2, O^3 and extending through transverse slots formed in the table N^4. The pins P and P′ are attached to links P^2, P^3 pivotally connected with each other by a pivot P^4 engaged by a rod P^5 mounted to slide lengthwise in a suitable bearing P^6 secured to the under side of the table N^4. The rod P^5 is provided with a suitable handle P^7 under the control of the operator for im-

parting a lengthwise movement to the rod P^5 to cause the links P^2, P^3 and their pins P, P′ to slide the cushions O and O′ toward or from each other, the cushions being guided on the dovetail tongue N^8 of the table N^4. It is understood that when the cushions O and O′ are moved apart, the face of the patient can be readily accommodated between the cushions at the time the patient is supported face downward on the rests F, G and H. An auxiliary cushion O^4 is mounted on the lower end of the table N^4 and extends entirely across the same to support the chest of the patient when the latter is supported in face-down position on the table.

The abdominal rest G is in the form of a cushion G′ mounted on a standard G^2 (see Fig. 4) formed of tubular telescoping sections G^3, G^4 and G^5, of which the telescoping section G^5 is provided at its bottom with a cap G^6 and is provided at its sides with transverse trunnions G^7 mounted to turn in a base T slidably mounted on the side beams D′ of the table frame D. Torsion springs T′ connect the base T with the trunnions G^7 to normally hold the standard G^2 in upright position but to allow the standard to swing in a lengthwise direction. The telescoping sections G^3, G^4 and G^5 are held normally in an extended position by a spring T^2 arranged within the sections and bearing with its upper end on the closed top of the section G^3 while the lower end of the said spring T^2 rests on a plate T^3 engaged by a set screw T^4 screwing in the cap G^6 to allow of adjusting the tension of the spring T′ by screwing the screw rod T^4 up or down in the cap G^6. The base T can be readily disengaged from the side beams D′ whenever it is desired to remove the abdominal rest G, that is, when it is desired not to use the said rest.

The body rest H, shown in detail in Fig. 3, is in the form of a cushion H′ having its bottom H^2 made of wood or other suitable material. The body rest H is vertically adjustable on a carriage H^3 mounted to slide lengthwise on the side beams D′ of the table frame D. The carriage H^3 is provided at opposite sides with clamping levers H^4 adapted to engage the side beams D′ to lock the carriage in position after the same has been adjusted to the desired position on the side beams D′. The means for raising and lowering the body rest on the carriage H^3 are the same as above described relatively to the head rest F and carriage F′. The carriage H^3 is for this purpose provided with crossbars H^5 in which are mounted cam levers H^6 engaging slotted arms H^7 pivoted at their upper ends on the bottom H^2. The arms H^7 are clamped against washers H^8 held on the crossbars H^5.

The foot rest I is provided with bars I′ slidably engaging the side beams D′ of the table frame D, as plainly indicated in Fig. 8. The bars I′ are pressed on at their forward ends by springs I^2 held within the hollow side beams D′. The side beams I′ are provided with ratchet teeth I^3 engaged by pawls I^4 held on levers I^5 fulcrumed on the beams D′ and pressed on by springs I^6 to normally hold the pawls I^4 in engagement with the ratchet teeth I^3 with a view to hold the rest I against an outward movement by the action of the springs I^2. When the frame D swings from vertical into horizontal position then the forward ends of the levers I^5 are adapted to move in engagement with the cam lugs B′ formed on the upper ends of the standards B. By the arrangement described the levers I^5 swing toward each other against the tension of the springs I^6 and thereby withdraw the pawls I^4 from the ratchet teeth I^3 to allow the springs I^2 to push the foot rest I outwardly. When the rest I is in innermost position and the table frame is in upright position then the rest I is close to the floor to allow the patient to readily step onto the foot rest I and when the table frame D has been returned to normal horizontal position and the patient is supported on the rests F, G and H then the rest I is automatically released, as above described, and moves into outermost position and away from the patient's foot, thus preventing the patient from straining the body during the time the adjustment is made. In order to return the foot rest I automatically to innermost position after the adjustment is completed, use is made of a chain Q attached at one end to the foot rest I and extending forwardly over a pulley Q′ journaled in arms D^6 forming part of the cross piece D^4, as shown in Fig. 8. The forward end of the chain Q extends downward from the pulley Q′ and is attached to a crossbar B^2 forming part of the standard B. When the table frame D is swung into horizontal position with the foot rest I in forward position then the chain Q becomes slack owing to the downward swinging of the pulley Q′, and when the foot rest I is released and moved rearward as above explained then the chain Q is drawn taut. When the table frame D is swung from horizontal position into upright position the pulley Q′ also swings upwardly and in doing so it exerts a pull on the chain Q whereby a pull is exerted on the foot rest I to draw the latter upwardly into position for supporting the feet of the patient at the time the frame D nears an upright position. It is understood that when the foot rest I is drawn upwardly as above described, it is automatically locked in place by the pawls I^4 engaging the ratchet I^3, the levers I^5 at this time being free of the cam lugs B′ are pressed into locking position by their springs I^6. The foot rest is

now again in position to support the patient's feet when the table frame reaches an upright position to allow the patient to conveniently step off the foot rest.

From the foregoing it will be seen that by the arrangement described, the patient can be readily positioned on the table without discomfort and with the least physical exertion on the part of the operator. It will also be noticed that the various rests F, G, H and I can be readily adjusted lengthwise on the table frame to suit the stature and weight of the patient, and if the patient is supported face downward then provision is made for free breathing by supporting the head between the spaced cushions O and O'.

Although I have described the table for chiropractic purposes, it is evident that it can be used by surgeons and other practitioners.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A table of the class described, comprising a table frame, a head and chest rest having a base, cushions adjustable transversely on the base toward and from each other, a leg rest, an abdominal rest and a foot rest, the said several rests being held lengthwise adjustable on the said frame.

2. A table of the class described, provided with a table frame having tubular side beams, a head and chest rest having depending slotted arms, a carriage mounted to slide lengthwise on the said side beams, cross bars fixed on the carriage and extending through said slotted arms, and a clamping device including cam levers fulcrumed on the ends of said cross bars for adjustably connecting the said slotted arms with the said carriage to raise or lower the head rest.

3. A table of the class described provided with a head and chest rest having cushions, comprising a base, cushions mounted to slide transversely on the base, and manually controlled means connected with the cushions for moving the cushions toward or from each other to form a space between the said cushions.

4. A table of the class described, provided with a head and chest rest, comprising a base, cushions mounted to slide transversely on the said base, links pivotally connected with the said cushions and guided transversely on the said base, and a rod slidable lengthwise on the base and pivotally connected with the said links.

5. A table of the class described provided with a head and chest rest having cushions, the bottoms of which are of rigid material, a dovetail tongue extending transversely of the table and on which the cushions are mounted to slide transversely, pins engaging the bottoms of the cushions and extending through transverse slots formed in the table, links connected with the said pins and pivotally connected with each other, and a rod provided with a handle and mounted to slide lengthwise in a bearing on the underside of the table, the rod engaging the pivot of said links.

6. A table of the class described provided with a table frame having side beams, a carriage mounted to slide on the said beams, and clamping levers on opposite sides of the carriage and adapted to engage the said side beams to lock the carriage against movement, and a rest vertically adjustable on the said carriage.

7. A table of the class described provided with a carriage, a crossbar fixed on the said carriage, a rest having depending slotted arms slidingly engaging the said bar, and cam levers fulcrumed on the ends of said bar and adapted to engage the said slotted arms to clamp the latter to the carriage.

8. A table of the class described provided with a table frame having side beams, a carriage having sleeves slidably engaging the side beams, uprights extending from the sleeves, cross bars fixed to the uprights, a rest vertically adjustable on said carriage and provided with depending slotted arms, slidingly engaging the said cross bars, cam levers fulcrumed on the outer ends of said cross bars, washers on the cross bars against which the slotted arms are clamped by the said cam levers, and means for locking the carriage against movement on the side beams.

9. A table of the class described provided with a table frame, an abdominal rest having a base mounted on the said frame, a standard mounted to swing on the said base, a cushion mounted on the said standard, and springs pressing the said standard to hold the same in upright position and to allow the standard to swing forward or backward.

10. A table of the class described provided with a table frame, an abdominal rest having a base mounted on the said frame, a standard mounted to swing on the said base and made in hollow telescoping sections, a spring in the said sections to hold the same in yielding relation to each other, a cushion mounted on the said standard, and springs pressing the said standard to hold the same in upright position and to allow the standard to swing forward or backward.

11. A table of the class described, provided with an abdominal rest having a cushion, a standard carrying the cushion and made in hollow telescoping sections, and a spring in the said sections to hold the same in yielding relation to each other.

12. A table of the class described, provided with an abdominal rest having a base, a standard provided with transverse trunnions journaled in the said base, torsion

springs on the said trunnions, and a cushion mounted on the said standard.

13. A table of the class described provided with an abdominal rest having a cushion, a standard carrying the cushion and made in hollow telescoping sections, a spring in the said sections to hold the same in yielding relation to each other, and means for adjusting the tension of the said spring.

14. A table of the class described, comprising a stand, a table frame mounted to swing thereon and provided with a leg, a keeper held on the said stand, a hook mounted to swing loosely on the said frame and adapted to engage the said keeper to lock the table in horizontal position and connections between the pivoted end of the hook and the frame to allow the hook to yield in a downward direction.

15. A table of the class described, comprising a stand, a table frame mounted to swing thereon and provided with a leg, a keeper held on the said stand, a hook mounted to swing on the said frame and adapted to engage the said keeper to lock the table in horizontal position, pins on the pivotal end of the said hook, and a bracket on the frame and having cam slots engaged by the said pins.

16. A table of the class described, comprising a stand, a table frame mounted to swing on the said stand and provided at its head end with a leg, a keeper held on the said stand intermediate the said leg and the fulcrum of the table frame, a shaft journaled on the said stand and provided with a collar having a pin, a hook mounted to swing loosely on the said shaft and adapted to engage the said keeper, the hook having an opening into which extends the said pin for imparting a swinging motion to the hook on turning the shaft.

17. A table of the class described, comprising a stand, a table frame mounted to swing on the said stand, and provided at its head end with a leg, a keeper held on the said stand intermediate the said leg and the fulcrum of the table frame, a shaft mounted to turn and provided with a collar having a pin, a dish mounted to swing loosely on said shaft, a hook extending from said disk and adapted to engage the said keeper, the disk having an opening into which extends the said pin for imparting a swinging motion to the hook on turning the shaft.

18. A table of the class described, comprising a stand, a table frame mounted to swing thereon, and provided with a leg, a keeper held on the said stand, a bracket on the table frame, a shaft journaled on the said leg and bracket and having a handle for turning the same, the shaft being provided with a collar having a pin, a disk mounted to swing loosely on said shaft, a hook extending from said disk and adapted to engage the said keeper, the disk having an opening into which extends the said pin for imparting a swinging motion to the hook on turning the shaft, and pins on the said disk, the said bracket having L-shaped slots engaged by the said pins.

19. A table of the character described, provided with a table frame having side beams, a foot rest having toothed bars slidably engaging the said side beams, pawls engaging the toothed bars for locking the same in position on the said side beams and spring pressed levers carrying the said pawls.

20. A table of the class described provided with a table frame having side beams, a foot rest having bars slidably engaging the said side beams, springs in the said beams and pressing the said foot rest bars, and locking means for locking the said foot rest bars in position on the said side beams.

21. A table of the class described provided with a table frame having side beams, a foot rest having bars slidably engaging the said side beams, the said bars having ratchet teeth, springs pressing the said bars, pawls engaging the said ratchet teeth, and spring-pressed levers fulcrumed on the said side beams and carrying the said pawls.

22. A table of the class described, provided with a table frame having tubular side beams, a rest having sleeves slidable on the said side beams, and handled clamping levers pivoted on opposite sides of the rest and adapted to engage the said side beams to clamp the rest in place.

23. A table of the class described, comprising a stand, a table frame pivoted on the said stand and having its foot end projecting beyond the fulcrum of the table frame, a guide on the said stand, a flexible connection attached at one end to the said foot end of the table frame, and passing around the said guide, a crosshead at the base of the stand and to which the other end of the said flexible connection is attached, counterbalancing springs attached at one end to the base of the stand and at the other end to the said crosshead, an auxiliary counterbalancing spring connected with the said crosshead, a device mounted to turn and connected with the said auxiliary counterbalancing spring, the said device being controlled by an operator to throw the said spring into action when the weight on the table exceeds that of the said counterbalancing springs and means for locking the said device.

24. A table of the class described, comprising a stand, a table frame pivoted on the said stand and having its foot end projecting beyond the fulcrum of the table frame, a guide on the said stand, a flexible connection attached at one end to the said foot end of the table frame and passing around the said guide, a crosshead at the base of the

stand and to which the other end of the said flexible connection is attached, counterbalancing springs attached at one end to the base of the stand and at the other end to the said crosshead, an auxiliary counterbalancing spring connected at one end with the said crosshead, a chain connected with the other end of the said auxiliary counterbalancing spring, a pulley to which the said chain is fastened, an arm for turning the said pulley, and a pedal locking mechanism for the said arm.

25. A table of the class described provided with a stand, a table frame mounted to swing thereon and having its foot end projecting beyond the fulcrum of the table, a spring-pressed foot rest slidable on the said table, locking means for the said foot rest and automatically controlled by the swinging movement of the table, and returning means for the said foot rest to automatically draw the foot rest into return position on swinging the table from horizontal into upright position.

26. A table of the class described, provided with a stand, a table frame mounted to swing thereon and having its foot end projecting beyond the fulcrum of the table, a spring-pressed foot rest slidable on the said table and provided with toothed side bars, spring-pressed levers fulcrumed on the said table frame and having pawls engaging the said toothed side bars, and cam lugs on the said stand and adapted to be engaged by the said levers on the table frame swinging into a horizontal position to withdraw the pawl from the toothed side bars to allow the springs of the foot rest to move the latter into extended position.

27. A table of the class described provided with a stand, a table frame mounted to swing thereon and having its foot end projecting beyond the fulcrum of the table, a spring-pressed foot rest slidable on the said table, a chain connected at one end with the said foot and at the other end with the said stand, and a pulley engaging the said chain and mounted on the said table frame.

28. A table of the class described provided with a table frame having side beams, a foot rest having bars slidably engaging the said side beams, the said bars having ratchet teeth, springs pressing the said bars, pawls engaging the said ratchet teeth, spring-pressed levers fulcrumed on the said side beams and carrying the said pawls, and means connected with the said foot rest to draw the latter into closed position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD BISHOP.

Witnesses:
Mrs. W. M. Wood,
Roscoe H. English.