July 13, 1954 G. C. TONG 2,683,453

TABLE

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FIG. 1.

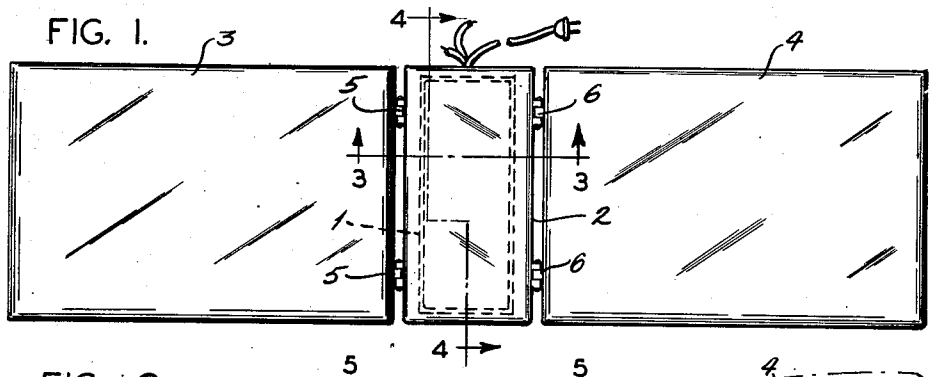


FIG. 2.

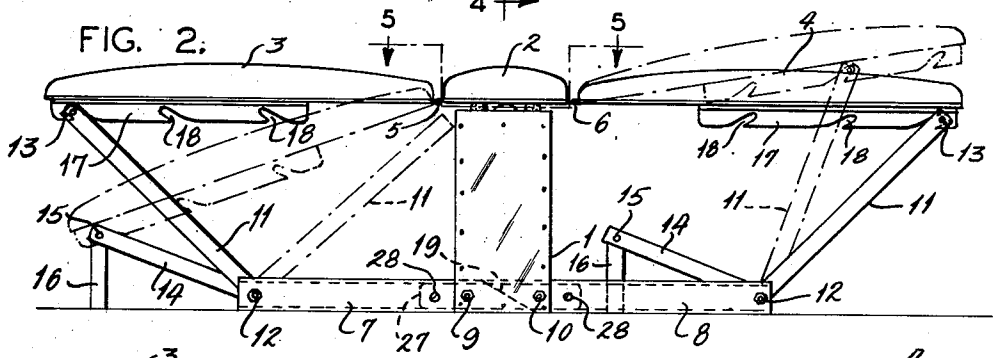
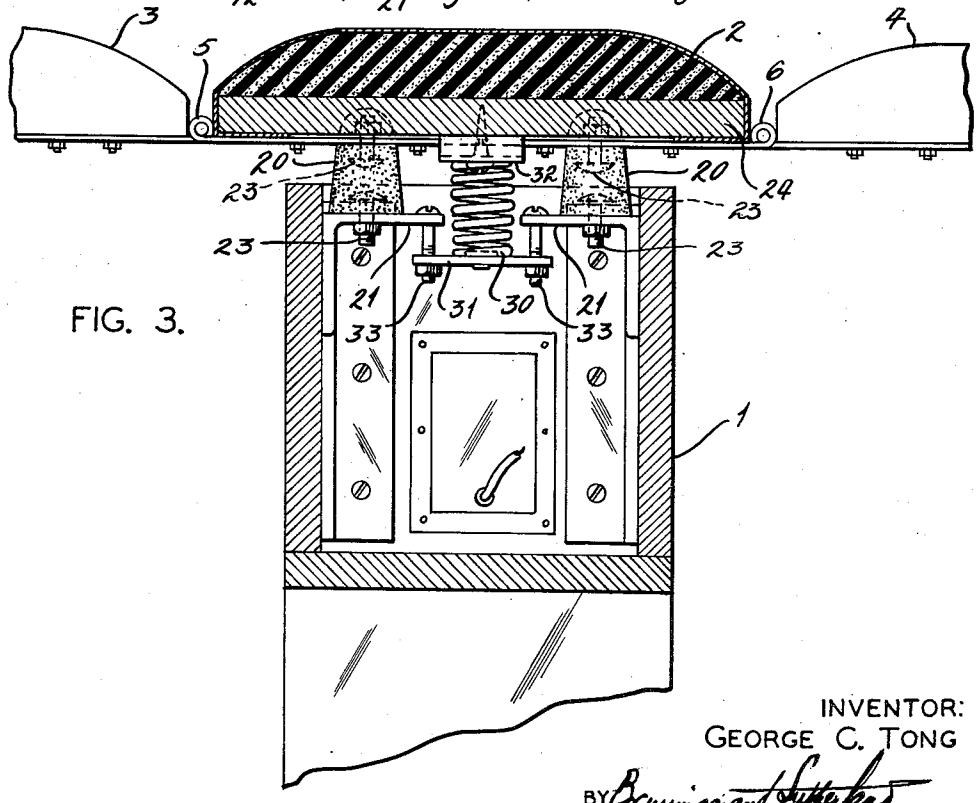


FIG. 3.



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FIG. 4.

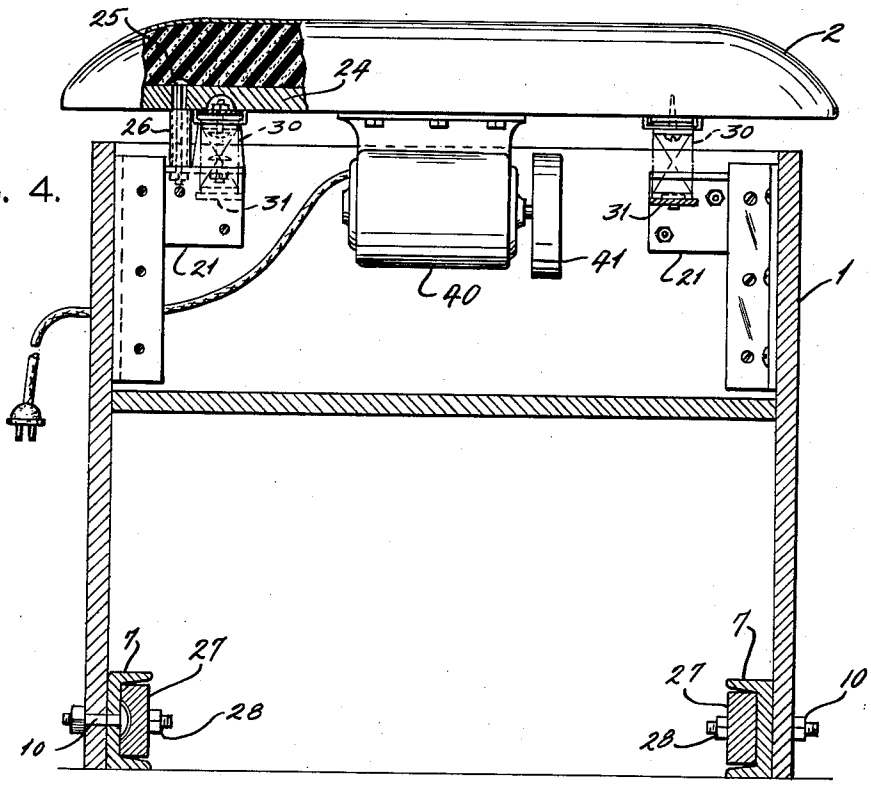


FIG. 8.

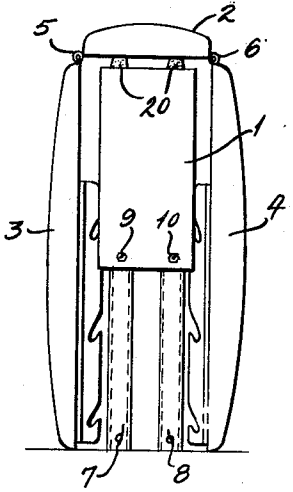


FIG. 6.

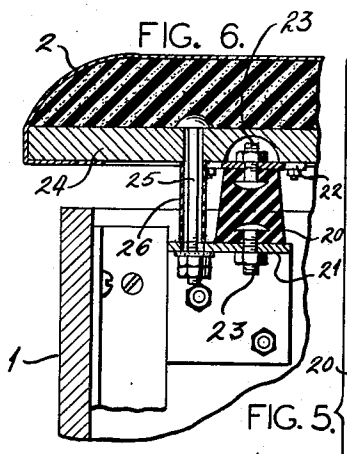


FIG. 5.

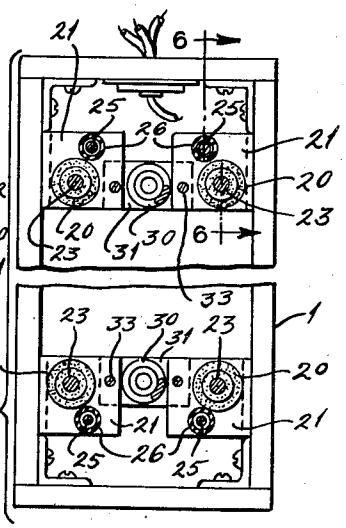
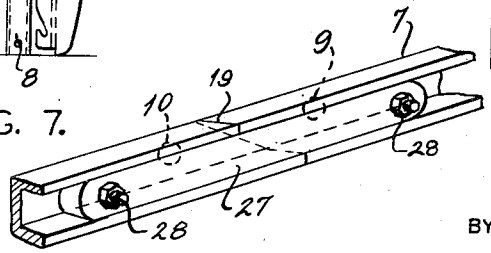


FIG. 7.



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TABLE

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Application February 1, 1950, Serial No. 141,625

8 Claims. (Cl. 128—33)

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This invention relates generally to tables for the accommodation of persons in recumbent or semi-recumbent position while undergoing therapeutic treatment and massage.

The object of the invention, generally stated, is to provide a table for accommodating persons undergoing therapeutic treatment or massage in recumbent or semi-recumbent position, and which is adjustable in a variety of ways, so as to best suit the physical condition being treated.

Another object of the invention is to provide a table of the character described having apparatus for vibrating the body resting thereon.

A further object of the invention is to provide a table of the character described, which is collapsible into a convenient, compact unit for shipment and storage.

Other objects will become apparent to those skilled in the art when the following description is read in connection with the accompanying drawings, in which:

Figure 1 is a plan view of the table;

Figure 2 is a view in side elevation showing in dotted lines several adjusted positions of the parts;

Figure 3 is a sectional view taken along line 3—3 of Figure 1;

Figure 4 is a sectional view taken along line 4—4 of Figure 1;

Figure 5 is a sectional view taken along line 5—5 of Figure 2;

Figure 6 is a sectional view taken along line 6—6 of Figure 5;

Figure 7 is an interior perspective view of the bottom portion of an upright frame showing the manner of connecting the base thereto; and

Figure 8 is a view in side elevation of the table when collapsed, as for storage or shipment.

The present invention contemplates a table of the character described having a central upright frame, mounted atop of which is a central section of the table, preferably upholstered. At opposite sides of the central section of the table, end-sections of the table are hingedly connected to the central section, so as to be adjustable into a variety of positions about the horizontal axis of said hinged connection. The central section of the table is also provided with a vibrating mechanism, and the end-sections are provided with supporting legs in positions remote from their hinged connection with the central section, each having freedom for movement relative to the table, so that the end-sections are free for response to the vibratory impulses imparted to the end-sections by the vibrating center-section of the table.

Referring now to the drawings for an illustrative embodiment of the invention, the table comprises an upright supporting frame 1 having at the top thereof a central-table-section 2. On

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opposite sides of the table-section 2, table-end-sections 3 and 4 are provided. The end-sections 3 and 4 are connected to the central-section 2 by hinges 5 and 6, respectively, each having a horizontal hinge-axis.

Extending from the bottom of the upright frame 1 is a base frame consisting of a pair of bars 7 and 8, each hinged to the frame 1 by means of pins 9 and 10, respectively. One pair of such bars is shown clearly in Figure 2 and it will be understood that a corresponding pair of such bars is provided at the opposite side of the frame 1. At the extremities of the bars 7 and 8, remote from their hinge-axes 9 and 10, hinged legs are provided. In the embodiment shown, two sets of such legs are provided at the end of bars 7, and a corresponding pair of sets at the end of bars 8. One set of legs consists of a pair of struts 11, one of which lies adjacent each of the bars 7 and is hingedly connected thereto by a bolt or rivet 12. The upper extremities of the two struts 11 (only one of which appears in Figure 2, but it will be understood that the companion part at the opposite side of the table is aligned therewith) are connected together by a rod 13 extending perpendicularly to the elevation shown in Figure 2. Likewise, a pair of shorter struts 14 are connected to the bars 7 by the hinge-pin 12. The opposite extremities of the short struts 14 are connected together by a rod 15 similar to the rod 13 described above. A pair of feet 16 is hingedly mounted upon the rod 15 so that the feet depend therefrom and may have their opposite extremities resting upon the floor surface. The shorter struts 14 are arranged inside and closely adjacent the longer struts 11, so that both pairs of struts are freely movable about the hinge-axis 12 without interfering one with the other. A similar arrangement of struts is provided between the opposite bars 8.

Beneath the end-section 3 of the table, a pair of rails 17 is provided. Each of the rails has a series of notches 18, the notches in the respective rails being aligned in the elevation shown in Figure 2, so as to receive selectively either the rod 13 or the rod 15 in any desired pair of notches. The rails 17 are spaced apart a distance just less than the distance between the respective struts 14, so as to be receptive to either the rod 15 or the rod 13, depending upon the adjusted position of the end-section 3 of the table. A similar pair of rails is provided beneath the end-section 4 of the table.

With the arrangement of parts just described, a variety of positions is obtainable. The rod 13 may engage with one of the notches 18 to provide a horizontal position for the end-section 3, and with other notches to more or less elevate that end-section. Similarly, the rod 15 may engage with one or more of the notches 18 to adjust the

end-section 3 to the dotted-line position shown in Figure 2 or to a position intermediate the dotted-line position and the full-line position, i. e., horizontal. When the end-section 3 is in its lowermost position, the feet 16 are intended to rest upon the floor and thus relieve the struts 14 of the major components of the load which would otherwise be imposed thereon. When the end-section 3 is in its lowermost position, indicated by dotted lines, the struts 11 and their conjoining rod 13 may be folded back into the dotted-line position. Likewise, when the end-section, such as 4, is in its elevated position, the struts 14 and their conjoining rod 15 may be folded back into the full-line position shown beneath the end-section 4 of Figure 2. In order to accommodate such movement of the struts 11 and 14, the upper flange of the base-bars 7 and 8 may be cut away adjacent the hinge-pins 12.

The center-section 2 of the table may be resiliently mounted upon the frame 1 when it is desired to provide a vibrating table. In the embodiment shown, the resilient mounting comprises a plurality (four as shown in the drawings) of cushion-blocks 20, formed of rubber or the like, each having its lower end resting upon a bracket 21, constituting a part of the frame 1, and having its upper end engaging a bearing-plate 22 (which may be the plate of hinge 5) secured to sub-base 24 of the center-section. From each end of blocks 20, studs 23 extend, and these are connected to parts 21 and 22, respectively. Sub-base 24 is countersunk to accommodate the end of stud 23 and its nut, at each position. Adjacent each block 20 is a bolt 25 extending through the sub-base 24 and through the bracket 21, but having a loose fit with each of them, so that the sub-base 24 is free for limited lateral movement relative to the bracket 21. Surrounding the bolt 25, an anti-rattle-sleeve 26 may be provided if desired. The principal function of the bolts 25 is to prevent separation of the sub-base 24 from the frame 1 as by accidental uprooting of stubs 23 from the blocks 20. In addition to the series of blocks 20, there is provided a pair of coil-springs 30, each having its lower end resting upon a thrust-plate 31 (supported between opposite brackets 21 as shown in Figure 3), and its upper end engaging a bearing-plate 32 secured to the sub-base 24. The thrust-plate 31 is sustained by a pair of bolts 33, the nuts of which may be tightened or loosened to adjust the tension on spring 30, as desired. Accordingly, in the embodiment shown, the center-section 2 of the table is resiliently mounted both through rubber cushion-blocks and coil-springs, each of which may be adjusted to vary the resilience and vibration characteristics of the sub-base 24 of the center-section 2.

In order to impart a vibratory movement to the resiliently suspended center-section 2, any suitable vibrating device may be connected therewith. As shown in Figure 4 of the drawings, the vibrating device may take the form of an electric motor 40 secured beneath and to sub-base 24. The motor 40 has an eccentric fly-wheel 41 so that, when the motor is operating, it and the parts upon which it is mounted are subject to vibration, the frequency of which depends not only upon the speed of the motor, but upon the adjustment of the several cushioning devices.

With the arrangement shown, the vibratory impulses imparted to center-section 2 of the table are delivered through hinges 5 and 6, respectively, to the table-end-sections 3 and 4, which are free to follow the vibratory movement in view of the double-hinge-connection existing between the struts 11 or 14 and the base-bars 7 and 8. Since the struts are hingedly connected with their cooperating members at both ends, relative movement between all of the parts is free to take place, so that the end-sections of the table may respond to the vibration of the center-section.

As shown in the drawings, the base-bars 7 and 8 are formed of channel sections and the ends thereof, between the hinge-pins 9 and 10, are cut diagonally, as shown at 19, so that, when in their extended position shown in Figure 2, the diagonal ends thereof abut. In order to maintain the base-bars 7 and 8 in their extended position, an insert bar 27, of proportions such as to be received within the channel to bridge the diagonal cut 19, is provided. Any suitable means may be provided for retaining the insert bar 27 in position within the channel, as, for example, a pair of bolts 28, one at each end of the insert bar, passing through the same and the adjacent channel member. The insert bar 27 overlies the head of hinge-pins 9 and 10 within the channel.

When it is desired to collapse the structure, the insert bar 27 is removed, so that the base-bars 7 and 8 may hinge about the axes of pins 9 and 10 and assume the position shown in Figure 8. The struts 11 and 14, with their adjunct parts, may be removed from connection with the respective base-bars or may be folded away, as desired. The end-sections 3 and 4 are then free to be folded down alongside the frame 1 and collapsed base-bars 7 and 8, as shown in Figure 8.

From the foregoing description, those skilled in the art should readily understand that the invention accomplishes its objects and provides a recumbent table of the character described, which is versatile in its disposition and makes possible a vibration of the complete structure, when and if desired.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A recumbent table of the character described comprising a frame, a center-section resiliently supported on the frame, and end-sections hinged to the center-section, said end-sections being supported in a raised position by hinged legs.

2. A recumbent table of the character described comprising a frame, a center-section resiliently supported on the frame, and end-sections hinged to the center-section, said end-sections being supported in a raised position by hinged legs interconnecting said frame with said end-sections for relative movement therebetween.

3. A recumbent table of the character described comprising a frame, a center-section resiliently supported on the frame, end-sections hinged to the center-section, and legs on said frame selectively connectible with said end-sections.

4. A recumbent table of the character described comprising a frame, a center-section resiliently supported on the frame, end-sections hinged to the center-section, means for vibrating said center-section, and legs extending between said frame and end-sections, said legs being connected to said frame and said end sections for movement relative to their respective end-sections whereby the end-sections may respond to

the vibration of said center-section without loosening the support of said legs.

5. A recumbent table of the character described comprising a frame, a center-section resiliently supported on the frame, end-sections hinged to the center-section, means for vibrating said center-section, and legs extending between said frame and end-sections, said legs being hinged to said frame and removably connectible at any of a series of hinge-axes on said end-sections.

6. A recumbent table of the character described comprising an upright frame, a central-table-section mounted atop the upright frame, end-table-sections hinged to said central-section outwardly from the upright frame, a base frame collapsibly mounted at the lower end of said upright frame and having at each extremity a pair of hinged legs arranged to engage and support the respective end-table-sections.

7. A recumbent table of the character described comprising an upright frame, a central-table-section mounted atop the upright frame, end-table-sections hinged to said central-section outwardly from the upright frame, a base frame connected to the bottom of said upright frame, said base frame comprising bars pivotally connected to said upright frame for movement between positions whereat they are aligned and whereat they are parallel, and means for locking said bars in their aligned position.

8. The combination of claim 7 wherein struts are provided at the ends of said bars remote from their pivotal connection with the upright frame, and said struts are movable relative to said bars between positions whereat they engage the end-table-sections and whereat they are free of said sections.

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