Oct. 2, 1945. C. M. MARTIN 2,385,998

STRETCHING TABLE

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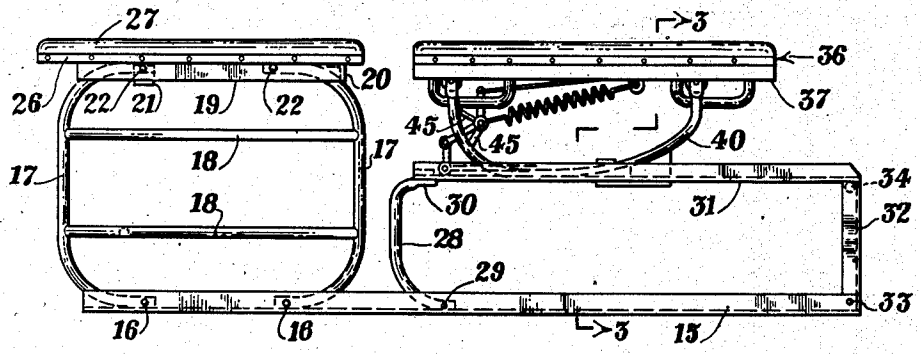


Fig. 1

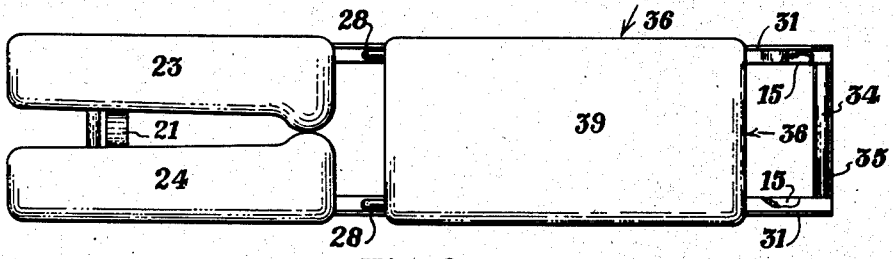


Fig. 2

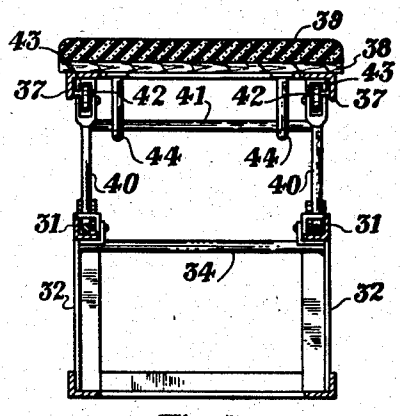


Fig. 3

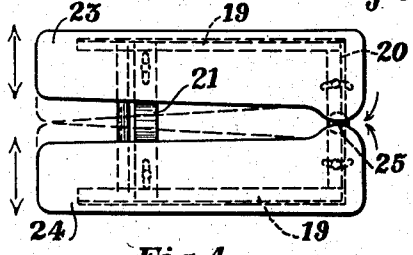


Fig. 4

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STRETCHING TABLE

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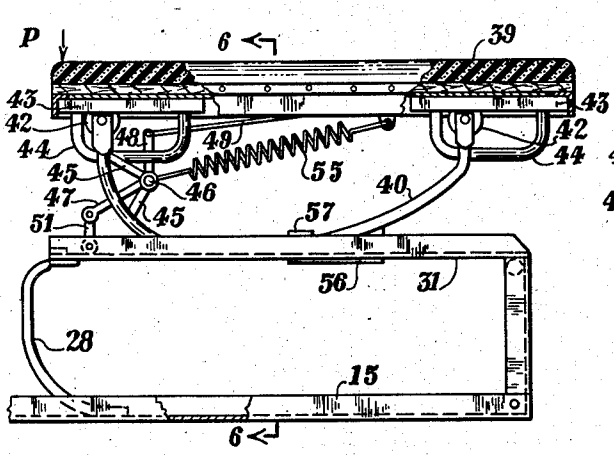


Fig. 5

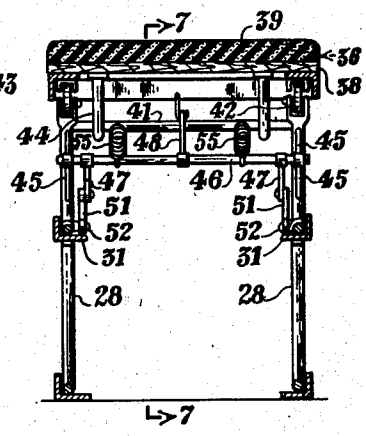


Fig. 6

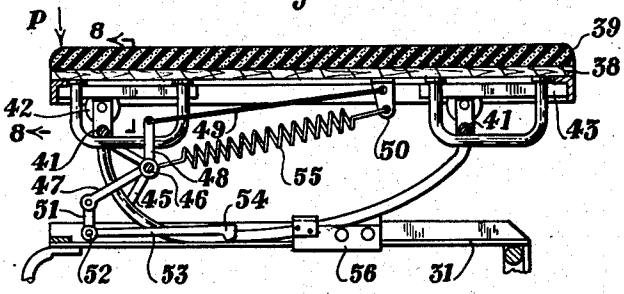


Fig. 7

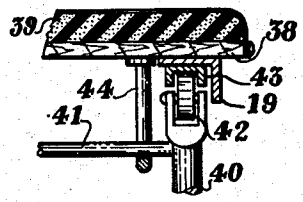


Fig. 8

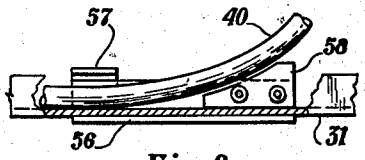


Fig. 9

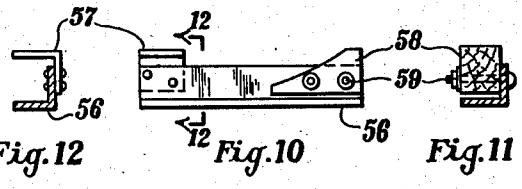


Fig. 12 Fig. 10 Fig. 11

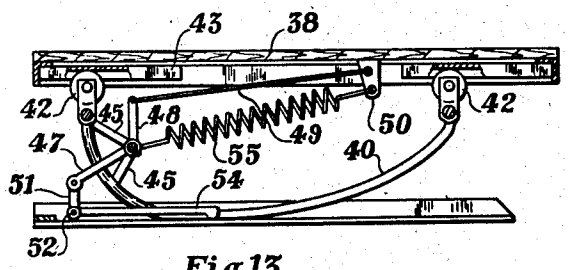


Fig. 13

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2,385,998

STRETCHING TABLE

Clifford Miles Martin, Denver, Colo.

Application February 27, 1945, Serial No. 579,919

6 Claims. (Cl. 128—72)

This invention relates to improvements in stretching tables of the type employed to passively release spinal tensions and restore spinal flexibility.

It is the object of this invention to produce a stretching table that can be readily adjusted and which will automatically maintain a predetermined longitudinal relation with respect to a shoulder support table.

A still further object of the invention is to produce a table of the kind specified, that can be readily adjusted longitudinally to suit pupils of different heights and which, in addition, shall have hand hold rods for the pupil to grasp while being stretched.

A still further object of the invention is to produce a table of the kinds referred to which shall have a shoulder support table that is transversely adjustable.

The above and other objects that may appear as this description proceeds are attained by means of a construction and an arrangement of parts that will now be described in detail, and for this purpose reference will be had to the accompanying drawings in which the invention has been illustrated in its preferred form, and in which:

Figure 1 is a side elevation of the table;

Figure 2 is a top plan view;

Figure 3 is a cross section taken on line 3—3, Figure 1;

Figure 4 is a top plan view of the shoulder support table showing by broken lines the manner in which the same can be adjusted;

Figure 5 is a side view of the rocker table, parts being broken away and shown in section to better disclose the construction;

Figure 6 is a section taken on line 6—6, Figure 5;

Figure 7 is a section taken on line 7—7, Figure 6;

Figure 8 is a section taken on line 8—8, Figure 7;

Figure 9 is a fragmentary side elevation and partial section, showing the means for latching the rocker table;

Figure 10 is a side elevation of the latching member;

Figure 11 is an end elevation of the latching member shown in Figure 10;

Figure 12 is a section taken on line 12—12, Figure 10; and

Figure 13 is a view partly in section, corresponding to Figure 7 and shows the construction in somewhat greater detail.

In the drawings reference numerals 15 designate two angle irons that form the base of the table frame. Secured to the angle irons by means of bolts or rivets 16, is a table frame comprising four corner members 17, forming two pairs, each pair being interconnected by means of bars 18 that serve as hand grips. A frame comprising two angle irons 19 connected at one end by an angle iron 20 and connected intermediate their ends by means of a flat bar 21, is secured to the upper ends of the corner members 17 by means of bolts or rivets 22. The bar 21 is curved downwardly at the center. Connected with the frame is a table top comprising two sections 23 and 24 that are pivoted to the angle iron 20 at point 25. These sections can be moved inwardly and outwardly as indicated by the dotted lines in Figure 4. The two adjustable sections each comprise a board base 26 and a rubber foam cushion 27.

The table which has just been described will be designated hereafter as the shoulder support table and is held stationary with respect to the frame member 15 and at a fixed distance above the latter.

A rockable adjustable table is secured to the other end of the frame members 15 and will now be described.

Supports 28 are secured to the angle irons 15 by bolts or rivets 29 and extend upwardly terminating in rearwardly projecting end portions 30 to which the angle irons 31, that serve as rocker supports, are connected. At the rear end of the frame, angle irons 32 extend downwardly from the angle irons 31 and are connected with the base angles at points 33. A spacer bar 34 extends between the upper ends of the corner angle irons 32 and another angle iron 35 connects the rear ends of the angle iron frame members 15. The two angle irons 31 form rocker supports and serve to adjustably support the rocker table which has been designated in its entirety by reference numeral 36. This table consists of a rectangular frame comprising angle irons 37 to the upper flanges of which a board 38 is secured and this in turn supports a rubber foam cushion 39.

A rocker assembly supports the table 36 and this comprises two rockers 40 that are interconnected by bars 41 (Figures 6 and 8). Mounted for rotation in the upper ends of the rockers are rollers 42 that are positioned in channels 43 which serve as guides. It is now evident that table 36 can move longitudinally with respect to the rockers. For the purpose of resisting forces tending to separate the table from the rockers, elongated U bars 44 are secured to the board 38 and extend down below the cross bars 41. When-

ever any force is exerted tending to raise the table relative to the rockers, the U bars will engage the transverse bars and resist separation. The rocker table can, however, move longitudinally as is clearly evident from Figures 5, 7 and 13.

Secured to each rocker is a bracket comprising two arms **45** that are connected by a shaft **46**. Secured to the shaft **46**, adjacent the brackets, are two crank arms **47** and a central crank arm **48**. A connecting rod **49** extends from the end of the crank **48** to a bracket **50** secured to the part **38** of the table. Extending downwardly from the cranks **47** are links **51** whose lower ends are provided with rollers **52** that rest on the horizontal flanges of the rocker supports **31**. Flexible straps **53** have one end connected with the rockers at **54**, and the other end connected with the links **51**, all as shown in Figure 7. The straps **53** permit the links to move vertically in response to the tilting action of the rockers on the rocker supports. If the front end of the rocker table moves downwardly in response to forces P, the crank arms **47** and **48** will rotate in a clockwise direction and will move the rocker table longitudinally towards the right, when viewed as in Figures 5, 7 and 13. Springs **55** have one end connected with the shaft **46** and the other with the bracket **50** and are under tension so that when the table rocks in such a direction as to move the end to the left in Figure 7 upwardly, the springs will move the table towards the left with respect to the rockers. The parts are so proportioned that during the rocking of the table, the end adjacent the shoulder support table will move in a vertical line when the table rocks and therefore when a pupil is resting on the tables, there will be no tendency to slide the pupil with respect to the tables because the distance between the tables remains substantially constant during the rocking operation.

It frequently happens that the rocker table is to be held firmly against rocking and for this purpose a latching device is provided. This latching device consists of a short piece of angle iron that has been designated by reference numeral **56** and to one end of which an angle bracket **57** is secured as shown in Figures 10 and 12. A block of wood **58** is secured to the vertical flange of the angle iron by means of bolts **59**, as shown most clearly in Figure 11. This latching means, of which two are provided, is positioned on the rocker supports in such a way that the flange of the latter projects into the space between the block **58** and the horizontal flange. The bracket **57** extends over the rocker all in a manner quite clearly shown in Figure 9. With this latching means in place, the table will be held against any substantial rocking movement.

It is pointed out here that the means illustrated for producing relative movement between the rocker and the rocker table, when the assembly is rocked with respect to the rocker supports, is merely illustrative of means for this purpose. It is evident that the same movement can be accomplished by specifically different means. The object sought is to produce a substantially vertical movement of the end of the rocker table as it is tilted by movement of the rockers on the rocker supports.

From the above description it will be apparent that the stretching table that forms the subject of this invention is so constructed that the elongated frame has one end provided with a stationary shoulder support table and the other with a tiltable or rockable table that can be secured in any desired tilted position, and which, when it is rocked about its support, will be automatically shifted relative to the rockers, so that the end adjacent the shoulder support table will move substantially in a vertical direction, thereby preventing the development of forces tending to slide the pupil on the tables.

Having described the invention, what is claimed as new is:

1. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, a rocker table resting on the rockers and connected therewith for relative longitudinal movement, and means for moving the rocker table relative to the rockers in the direction of the upwardly moving end whenever the table is tilted.

2. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, a rocker table resting on the rockers and connected therewith for relative longitudinal movement, means for moving the rocker table relative to the rockers in the direction of the upwardly moving end, whenever the table is tilted, and means for interconnecting the rockers and the rocker supports to hold the rocker table in any desired tilted position.

3. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, the upper ends of the rockers having rollers pivotally connected therewith, a rocker table having its under surface provided with guide channels operatively related to the rollers, whereby the table may move longitudinally relative to the rockers, means for retaining the table and the rockers in assembled relation, and means for moving the table relative to the rockers in the direction of the upwardly moving end of the table when the latter is tilted.

4. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, the upper ends of the rockers having rollers pivotally connected therewith, a rocker table having its under surface provided with guide members operatively related to the rollers, whereby the table may move longitudinally relative to the rockers, means for retaining the table and the rockers in assembled relation, means for moving the table relative to the rockers in the direction of the upwardly moving end of the table when the latter is tilted, and means for interlocking the rockers and the rocker supports to hold the table in a predetermined tilted position.

5. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, the upper ends of the rockers having rollers pivotally connected therewith, a rocker table having its under surface

provided with guide channels operatively related to the rollers, whereby the table may move longitudinally relative to the rockers, means for retaining the table and the rockers in assembled relation, a bell crank lever pivoted to the rockers for movement about a pivot perpendicular to the planes of the rockers, a connecting rod having one end connected with the table and the other end with one arm of the bell crank, means comprising a spring for urging the table in one direction relative to the rocker, and means interconnecting the other arm of the bell crank with the rocker supports for effecting a movement of the table relative to the rockers in a direction to tension the spring when the table is tilted in one direction.

6. A stretching device comprising, in combination, an elongated frame, a shoulder support table at one end thereof, two spaced parallel rocker support members extending inwardly from the other end, two spaced, parallel rockers resting on the rocker supports, the upper ends of the rockers having rollers pivotally connected therewith, a rocker table having its under surface provided with four guide channels operatively related to the rollers, whereby the table may move longitudinally relative to the rockers, means for retaining the table and the rockers in assembled relation, a bell crank lever pivoted to the rockers for movement about a pivot perpendicular to the planes of the rockers, a connecting rod having one end connected with the table and the other end with one arm of the bell crank, means comprising a spring for urging the table in one direction relative to the rocker, means interconnecting the other arm of the bell crank with the rocker supports for effecting a movement of the table relative to the rockers in a direction to tension the spring when the table is tilted in one direction, and means for interlocking the rockers and the rocker supports to hold the rocker table in any desired tilted position.

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