This invention relates generally to a new and improved surgical chair, and more specifically to a chair known as a spinal traction chair which is particularly adapted to selectively stretch or extend different portions of the spine to separate the vertebrae.

One of the objects of this invention is to provide a spinal traction chair of simple and rugged construction having adjustable devices thereon which may be selectively applied or adjusted to various portions of the body and head and a means of obtaining relative movement between said devices and the seat of the chair, so that different portions of the spine may be stretched.

A further object of this invention is to provide a chair having relatively few parts, and which is inexpensive to manufacture, which may be used by the practitioner without the necessity of the person operated upon having to first make preliminary operations before use.

Another object of this invention is to provide a device having adjustable means associated therewith which may be adjusted and applied to different parts of the person while occupying a sitting position, together with a means for mechanically actuating said device so as to stretch various portions of the spine, to separate the vertebrae.

More specifically, one of the objects of this invention is to provide a spinal traction chair having a seat, a relatively movable back, and a means adjustable on a back, and a plurality of devices vertically adjustable on the back to different portions of the body and head so that by relative movement between the seat and back, different portions of the spine may be stretched or exercised at will.

In the practical embodiment of the invention shown, the device comprises a chair having a seat, a relatively movable standard extending upwardly from the back of the chair, and a suitable connection for obtaining relative movement, which in the form shown comprises a rack and pinion, a pawl being provided for the rack to hold the parts in any given position, and a handle being provided for actuating the pinion. A plurality of devices are adjustable on the standard, said device including an adjustable head support, an adjustable chin support, and an adjustable body support, each of which are adjustable vertically, and to conform to body and head characteristics of persons.

Other objects and advantages will be apparent from the following description and the accompanying drawings.

Similar characters and references designate like parts in the several views.

In the drawings showing a practical embodiment of the invention:

Figure 1 is a front elevation view.
Figure 2 is a side elevation view.
Figure 3 is a plan view showing in detail the head rest showing the standard in section.
Figure 4 is a detailed plan view of the head and chin support, showing the standard in section.
Figure 5 is a detailed plan view of the body support, showing the standard in section.
Figure 6 is a detailed side view of the chin rest or support, showing a fragment of the arm.
Figure 7 is a detailed plan view of the chin rest showing a fragment of the arm.

In the drawings showing a practical embodiment of the spinal traction chair, the invention is shown as comprising a seat 1, which may be of any suitable kind, and legs 2 for the seat. A relatively movable standard 3 is shown extending upwardly from one side 4 of the seat, a suitable frame 5 having a casing 6 mounted thereon which functions as a guide for the standard 3. The lower end of the standard passes through a slot 7 in the side of the chair. A suitable means comprising a rack 8 carried 100 by the standard 3, and a pinion 9 rotatably mounted on the frame 5, is provided for effecting relative movement between the seat 1 and the standard 3. A pivoted pawl 10 engaging a ratchet 11 rotatable with the pinion, is provided to hold the seat and standard in any predetermined position. A suitable handle 12 is connected to the pinion in any suitable manner to rotate the same.

A body supporting means comprising a
plurality of arms 13 and 14 pivotally connected to the slide 15 vertically adjustable on the standard 3, is provided to support that portion of the body between the trunk and the shoulders. In the form shown, the arms 13 and 14 are slightly curved, to conform to the lines of the body, and are pivotally connected at one end with the slide 15 which slide is provided with forked ends 16 into which one end of the arm extends, a pin 17 or other suitable means extending there-through to properly position the arms. The slide 15 may be adjustably positioned on the standard 3 by any suitable means, but in the form shown a screw 18 having a handle 19 is provided. By providing the adjustable body support, any portion of the spine, from the shoulders down, may be stretched or exercised, by proper adjustment of the body support and manipulation of the actuating means producing relative movement between the standard and the seat. The arms 13 and 14 may be provided with any suitable covering 13' and 14'.

As a means of providing a support for the head, and for holding the head in any desired position, a plurality of devices are provided which are adjustably supported on the standard 3 the said device including a chin rest and a head rest, each of which are independently adjustable on the standard. The chin rest comprises a slide 20 having arms 21 and 22 pivotally connected there-with. As a means of readily and conveniently supporting the head at the chin, chin plates 23 and 24 are pivotally supported at one end of the rods 25 and 26 so that the said plates may revolve in a horizontal plane, the said rods in turn being rotatably supported in sleeves 27 and 28 arranged at the outer end of the arms 21 and 22 respectively. The rotary movement of the plungers is limited by a pin 29 passing through one end of the plunger, the end of the pin extending outward from the said plunger, and limiting the movement thereof by contacting with the sides of a slot 30 formed in the end of the sleeve. The chin plates 23 and 24 may be of any suitable form, and composed of any suitable material. In the form shown, they comprise a piece of angle iron bent and cut to a form to accommodate the chin. One end 31 of the plate is split so as to prevent the corners thereof from pressing on the throat. If desired, a cushion 32 made of any suitable material may be arranged on the chin plates. It is thus seen that the chin plates are adjustable in a horizontal plane and a vertical plane so that they are readily adjustable to different positions. If after the arms 21 and 22 and the chin plates 23 and 24 have been adjusted to their proper position on a person, it is desirable to maintain them in such a position, so for this purpose there is provided a means of holding the pivotal connected arms 21 and 22 in the adjusted position. In the form shown, this is accomplished by providing a fastening means between the arms 21 and 22 and the slide 20. In the form shown, the arms are provided with an extended portion 33 having a slot 34 therein, and the slide is provided with a lug 35 having a slot 36 therein. A bolt 37 extends through the slots 34 and 36, and is provided with a center nut 38 so that by tightening the wing nut, the arms 21 and 22 may be held in any given position. It is understood however that any suitable means may be provided for fixing the position of the arms. The slide 20 may be held in a vertically adjusted position on the standard 3 by a means similar to that provided for the body slide 15, by such for instance as a screw 39 and handle 40.

After the chin support has been properly adjusted to screw the proper distance between the seat and the chin for a particular person, it is then desirable to provide a means for holding the head in any desired position or at a certain angle. For this purpose, there is provided a head support comprising the slide 41 vertically adjustable on the standard 3 and held in any given position by a screw and handle 42 or other suitable means. As a means of providing a comfortable support or rest for the head, and to hold the head in any position desired, a cup or U-shaped member 43 is provided, having a flexible covering 44 extending across the open side thereof the said covering being connected to the sides by lacing 45 or in any other suitable manner. In order to effect a forward or backward movement of the head, horizontal adjustment of the head rest is effected by providing rods 46 connected to the head rest, and guided in openings formed in the slide 41. Any suitable means such as a thumb screw 47 may be provided to hold the head rest in proper adjusted position relative to the slide 41. It is to be understood that any suitable construction may be provided for the head rest so long as the proper provision is made for proper adjustment thereof.

In operation, the head support and the body support may be used either separately or together to separate the vertebrae of the spine from the head or shoulders downward. It is thus seen that the device may be applied to selectively stretch different portions of the spine.

Particular advantage of a chair of this character is that a person may be operated upon to stretch or exercise various portions of the spine to stimulate circulation, with the clothing in position.

While but one practical embodiment of the invention has been shown herein, it is understood that various changes and modifi-
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