This invention relates to a chair, chaise longue, or similar device adapted to vibrate while one is seated thereupon, thus to provide a helpful massaging action intended to invigorate and condition the body.

One important object is to provide a generally improved device of the nature referred to wherein the body supporting assembly, that is, the seat portion of the structure, will be springingly supported upon the main frame, said spring suspension being adapted to impart vibratory motion to the seat portion while permitting the supporting-surface-engageable main frame to remain stationary.

Another object of importance is to provide, in a structure of the nature stated, a construction which can, if desired, be used as a conventional chair or reclining seat without vibration of the same, the spring suspension of the body-supporting portion of the device being adapted to promote the support of the seated or reclining individual in a comfortable manner. This characteristic is particularly advantageous when the chair is used aboard ship as a deck chair, and it is desired to eliminate the transmission of the vibration of the ship's engine to the seat portion of the chair.

Another object of importance is to provide, in a structure of the nature stated, an attractive yet strong construction, capable of long use with a minimum amount of maintenance and repair.

Still another object is to provide a chair as described which will be so designed as to make use of vibrating and vibrator control devices which are, per se, conventional and can be purchased on the open market.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of an electrical vibrating chair formed in accordance with the present invention.

Fig. 2 is a longitudinal sectional view taken substantially on line 2—2 of Fig. 1.

Fig. 3 is an end elevation of the chair as seen from the right of Fig. 2.

Fig. 4 is an enlarged, detail sectional view taken substantially on line 4—4 of Fig. 2, showing the resilient pads at the lower ends of the legs.

Fig. 5 is an enlarged, perspective view of the controlling device and its associated clump, a chair arm on which said device is mounted being illustrated in dotted outline, fragmentarily.

Fig. 6 is an enlarged, fragmentary sectional view taken longitudinally of the chair along one side thereof, showing the support of the seat frame upon the main frame.

Fig. 7 is a sectional view on line 7—7 of Fig. 6.

The reference numeral 10 has been applied generally in the several figures of the drawing to a main frame. This, as shown, can be formed as an elongated, endless, rectangular framework of tubular material, having a generally horizontal, elongated main portion 12 intermediate its ends, an upwardly extending rear end portion 14, and a depending front end portion 16 forming a leg structure at the forward end of the chair. If desired, the main frame need not necessarily be of endless formation, and in some instances it might be desired to utilize side rails that are not connected directly to one another. In other instances it may be desired to form the main frame to a U shape, by eliminating the right portion of the depending leg structure 16.

Secured to the opposite sides of the upwardly extending back end portion 14 are arms 18, said arms being bolted to the portions 14 as at 20. The arms 18 can be of tubular stock, said arms merging at their front ends into downwardly extending legs 22 bolted as at 24 to the intermediate portions 12 of the main frame.

Inserted in the lower end of the legs 22 are rubber cushions or feet 26 adapted to resiliently support the main frame upon a supporting surface.

A seat frame 28 includes a central plate 30 covering the greatest part of the main frame, said seat plate being coextensive in width with the width of the main frame and overlying the end portion 14 and the intermediate portion 12 of the main frame. The seat frame plate 30 is curved longitudinally correspondingly to the curvature of the main frame, as best shown in Fig. 2.

Adhesively or otherwise secured to the upper surface of the plate 30 is a cushion 32 of foam rubber, said cushion overlying the full area of the plate 30. The cushion 32 can, of course, be of any desired thickness, and it will be further understood that the cushion would be covered by a suitable upholstery material.

The entire seat frame is resiliently supported upon the main frame. This arrangement is best shown in Fig. 2, in which it is seen that the plate 30 is spaced above the main frame throughout its length. To provide the desired resilient support for the seat frame, there are utilized a plurality of groups of springs 34 and small rubber pads 36, said groups being spaced along either side of the structure. It is preferred, in this connection, that at each side of the structure, one group be provided at the foot end of the chair, another group be provided medially between the ends of the chair, and the third group be provided at the head end of the chair. Each group includes a spring 34 interposed between and welded at its opposite ends to the plate 30 and seat frame 10 (see Fig. 6). Each group further includes, at opposite sides of said spring, small rubber pads 36, the undersides of which are transversely concaved to complement the curvature of the tubular material of which the main frame is formed, the pads 36 being adhesively secured at their top and bottom surfaces to the plate 30 and main frame respectively.

The structure preferably includes, in addition, a back frame 38 intended to provide added strength at the back or head end of the chair. The back frame 38 has been shown in Figs. 2 and 3, and is of inverted U-shape, being formed of tubular material, the bight portion and the legs of the back frame being bolted as at 40 to the plate 30. The back frame thus will be resiliently supported and vibrated along with the seat frame, but could if desired be secured to the main frame, so as to cause only the seat frame to be resiliently suspended for vibratory motion.

A vibrator 42 is fixedly secured to the midlength portion of the underside of the plate 30, and is of conventional construction, said vibrator being capable of being purchased on the open market. Extending from the vibrator 42 is an electric cord 44, which supplies power to the vibrator through a controller 46. Controller 46 is also purchased on the open market, and includes a rheostat 48.
which controls the degree of vibration. Also included in the controller is a control switch 50, which is conveniently disposed for manual operation by one seated in the chair. A cord 52 extends from the controller, and is adapted to be plugged into the house supply.

The controller 46 is attached to a split clamp 54, which is connectable to one of the arms 18. The construction illustrated and described is such as to permit one to initiate the vibratory movement of the seat while seated in the chair. The entire seat frame vibrates, owing to the direct connection of the vibratory mechanism 42 thereto, and owing, further, to the resilient suspension of the seat frame. It will be noted that not only are springs employed, but also resilient pads adjacent the springs. The pads serve to dampen the springs during the vibration, thus to prevent excess motion of the seat frame during use.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A vibrating chair comprising a main frame, a seat frame overlying the frame, resilient means connected between the main and seat frames, a vibrator mechanism secured to the seat frame, and control means for actuating said vibrator mechanism, the main frame being formed with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto.

2. A vibrating chair comprising a main frame, a seat frame overlying the frame, resilient means connected between the main and seat frames, a vibrator mechanism secured to the seat frame, and control means for actuating said vibrator mechanism, the main frame being formed with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto.

3. A vibrating chair comprising a main frame, a seat frame overlying the frame, resilient means connected between the main and seat frames, a vibrator mechanism secured to the seat frame, and control means for actuating said vibrator mechanism, the main frame being formed with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto, the main frame being formed as an endless open framework generally rectangular when viewed in plan.

4. A vibrating chair comprising a main frame, a seat frame overlying the frame, resilient means connected between the main and seat frames, a vibrator mechanism secured to the seat frame, and control means for actuating said vibrator mechanism, the main frame being formed with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto, the main frame being formed as an endless open framework generally rectangular when viewed in plan, the seat frame being coextensive in width with the main frame and being so proportioned as to length as to cover the intermediate and back portions of the main frame, said seat frame including a metal plate and a resilient cushion overlying and secured to said plate, and a resilient cushion overlying and secured to said plate, said resilient means comprising a plurality of groups, each of which includes a spring and a pair of resilient cushions at opposite sides of the spring.
with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto, the main frame being formed as an endless open framework generally rectangular when viewed in plan, the seat frame being coextensive in width with the main frame and being so proportioned as to length as to cover the intermediate and back portions of the main frame, said seat frame including a metal plate and a resilient cushion overlying and secured to said plate, said resilient means comprising a plurality of groups, each of which includes a spring and a pair of resilient cushions at opposite sides of the spring, each spring being secured fixedly at its opposite ends to the main frame and to said plate of the seat frame respectively, said groups being extended along opposite sides of the chair.

10. A vibrating chair comprising a main frame, a seat frame overlying the frame, resilient means connected between the main and seat frames, a vibrator mechanism secured to the seat frame, and control means for actuating said vibrator mechanism, the main frame being formed with a generally horizontal intermediate portion, an upwardly extended back portion, and a downwardly extended front end portion, the seat frame being shaped so as to generally parallel the main frame in closely spaced relation thereto, the main frame being formed as an endless open framework generally rectangular when viewed in plan, the seat frame being coextensive in width with the main frame and being so proportioned as to length as to cover the intermediate and back portions of the main frame, said seat frame including a metal plate and a resilient cushion overlying and secured to said plate, said resilient means comprising a plurality of groups, each of which includes a spring and a pair of resilient cushions at opposite sides of the spring, each spring being secured fixedly at its opposite ends to the main frame and to said plate of the seat frame respectively, said groups being extended along opposite sides of the chair, there being, at each side of the chair, one group intermediate the ends of the chair, a second group at one end of the chair, and a third group at the other end of the chair.

References Cited in the file of this patent

UNITED STATES PATENTS

2,497,751 Wettlauer February 14, 1950
2,587,207 Peterson February 26, 1952

FOREIGN PATENTS

28,714 Sweden April 23, 1910
190,221 Germany October 21, 1907