

M. V. B. WHITE.  
Exercising-Chair.

No. 217,918.

Patented July 29, 1879.

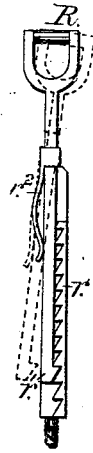


FIG. 5.

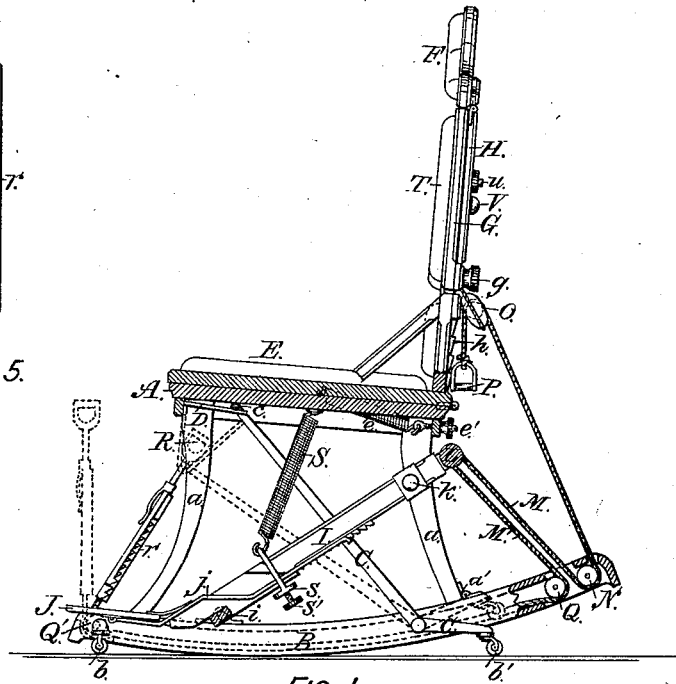


FIG. 1.

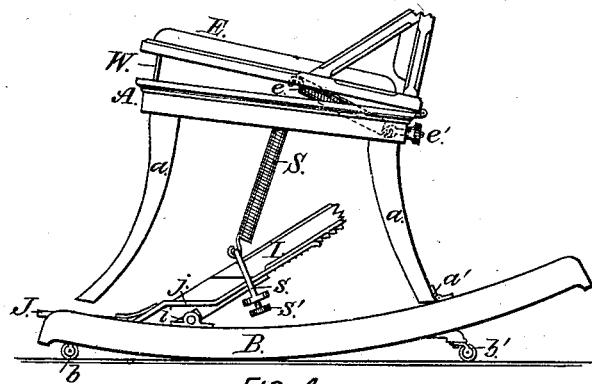


FIG. 4.

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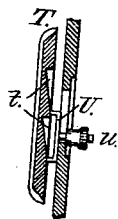


FIG. 6.

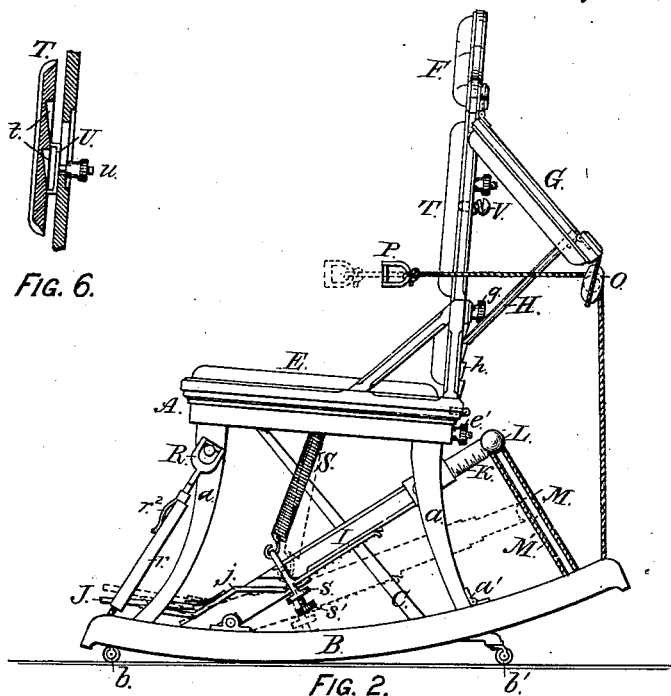


FIG. 2.

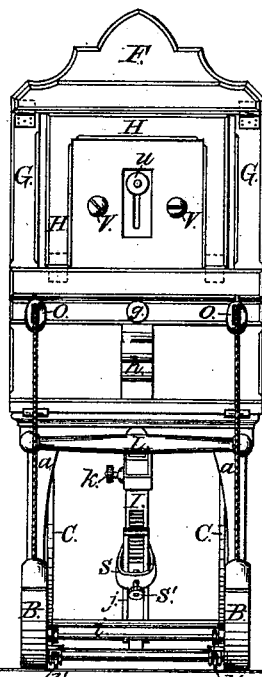


FIG. 3.

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# UNITED STATES PATENT OFFICE

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## IMPROVEMENT IN EXERCISING-CHAIRS.

Specification forming part of Letters Patent No. **217,918**, dated July 29, 1879; application filed October 24, 1878.

### *To all whom it may concern:*

Be it known that I, MARTIN V. B. WHITE, of the city and county of Albany, and State of New York, have invented certain new and useful Improvements in Exercising-Chairs, of which the following is a full and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation, with the lower part in section, showing the chair in condition for ordinary use; Fig. 2, a side elevation, showing the chair arranged for exercising; Fig. 3, a rear elevation; and Figs. 4, 5, and 6, detached details of construction.

My invention consists of a chair constructed and arranged to operate substantially as hereinafter fully set forth.

As shown in the drawings, A is the lower part of the seat, supported by the legs *a*, resting on the rockers B, to which the hind legs are hinged by the hinges *a'*. The rockers are made hollow, for the purpose hereinafter set forth. Attached to the front end of the rockers are the casters *b*, made in the ordinary form; but near the rear end the casters *b'* are attached to the levers C. These levers are pivoted to the rockers, and are joined together at the front by a cross-bar, *c*, by which the levers are operated. A yoke, D, pivoted to the seat A, secures the cross-bar *c* against the under side of the seat, when the casters *b'* are thrown down to put the chair in condition to be rolled on its casters. Said yoke, when swung down, as shown by the dotted lines in Fig. 1, supports the cross-bar *c*, and prevents it from dropping on the floor when the rear casters, *b'*, are raised to permit the chair to be used as an ordinary rocking-chair.

The seat E is hinged to the lower part, A, at its back edge, and is held down by the spring *e*, to which is attached the adjusting-screw *e'*, for increasing and diminishing the tenacity of the spring. F is the back of the chair, fixed to the seat E. A pendent swinging frame, G, is hinged to the back F, and is secured in its closed position by the thumb-screw *g*; or any other suitable fastening. Hinged to the swinging frame G, and folding flush therewith when

the chair is closed, as shown in Figs. 1 and 3, is another frame, H, which lets down, as shown in Fig. 2, to form a support for the frame G when the chair is used for exercising purposes. By means of the rack *h*, in which the frame H engages, the swinging frame G is made adjustable. Beneath the seat of the chair, and fulcrumed to the rockers by the cross-shaft *i*, is a lever, I, provided at its front end with a foot-board, J, on which the feet of the occupant bear during the time of exercising.

By means of the yoke *j*, to which the foot-board is attached, the distance between the foot-board and the seat, as well as the distance between the foot-board and the fulcrum, can be adjusted to suit the requirements of the person occupying the chair. This adjustment is effected by shifting the upper end of the yoke into different teeth of the rack secured to the lever I for that purpose. The rear end of the lever is tubular, and is fitted with a graduated slide, K, which is held by the set-screw *k*, so as to adjust the slide at different lengths, as the violence of the exercise may require. Secured to the slide K is a cross-bar, L, to the ends of which the cords M and M' are attached. The cords M pass around the sheaves N in the rear ends of the rockers, and thence upward through the sheave-blocks O, and at their upper ends they are provided with the handles P for the use of the person exercising. The cords M' pass around the sheaves Q, thence forward, through the hollow rockers B, around the sheaves Q' at the front end of the rockers, and are provided at their upper ends with the adjustable handles R. (Shown detached and enlarged in Fig. 5.) These handles consist of a ratcheted piece, *r*, (to which the cord is attached,) and a sliding piece carrying the handle R, and provided with a catch, *r'*, which engages with the ratchet-teeth of the piece *r*, in which the catch is retained by the spring *r''*, attached to the hoop (at the head of the piece *r*) through which the sliding piece passes.

To lengthen the handle, the sliding piece is forced out sidewise, as indicated by the dotted lines in Fig. 5, to disengage the catch *r'* from the ratchet-teeth of the piece *r*,

The sliding piece can then be moved upward until the required length is attained. The side pressure on the sliding piece is then released. The catch  $r^1$  engages with the proper tooth of the ratchet, and is held by the spring  $r^2$ . The handle is shortened by simply forcing down the sliding piece, the catch  $r^1$  passing freely over the ratchet-teeth for this purpose.

The lever I is connected to the lower seat, A, by the spring S. The lower end of said spring is attached to the lever by means of a stirrup,  $s$ , which is provided with an adjusting-screw,  $s'$ , for regulating the tension of the spring.

The back-cushion T is made adjustable, to adapt the chair for use for both large and small persons. For this purpose the back-board of the cushion is provided with inclined plane  $t$ , against which a sliding piece, U, bears, so as to increase or diminish the distance between the cushion and the back of the chair. Said sliding piece is arranged to move in a slotted opening in the back of the chair, in which it is secured by the thumb-nut  $u$  to its required place.

The back-cushion is drawn back by the springs V, which keep the cushion against the sliding piece or the back of the chair, as the occasion requires.

A check-strap, W, between the seats A and E prevents the latter from rising too far.

When the rear casters,  $b'$ , are thrown down, as shown in the drawings, the chair may be used as an ordinary seat, movable on its casters. With the rear casters raised, as indicated by the dotted lines in Fig. 1, the chair may be used as an ordinary rocking-chair.

For exercising to strengthen the muscles of the arms and body and to expand the chest, the chair is arranged as shown in Fig. 2, with the frames G and H extended. The exerciser sits in the chair, with his back and head bearing against the back of the chair, his feet close together on the foot-board J, and his legs maintained in a rigid condition. In grasping the handles P with his hands, the elbows and shoulders are thrown backward. Then, by extending the arms forward, sidewise, or in any other direction whereby the cords M are drawn through the sheaves O, the rear end of the lever I is depressed, as indicated by the dotted lines in Fig. 2, against the resistance of the spring S and the weight of the exerciser. By keeping the legs in a rigid condition the upper seat, E, is tilted, as shown in Fig. 4, against the resistance of the spring  $e$  until the check-strap W transfers the strain to the lower seat, A, when the chair will be tilted backward on its hinges  $a'$ , as shown in Fig. 4. On retracting the arms the several parts of the chair are returned to their normal positions, and the operation may be repeated at the pleasure of the exerciser.

By adjusting the slide K and foot-board J

to change the leverage of the lever I, the violence of the exercise may be varied; or it may be increased and diminished by adjusting the tension of the springs S and  $e$ .

When the chair is tilted on its hinges  $a'$  and the lever C is secured to the seat A, (by the yoke D,) the casters  $b'$  are depressed, thereby raising the chair and its occupant.

To use the apparatus as a "health-lift," the exerciser stands on the foot-board J, the handles R being adjusted within reach of the grasp of his hands, while the body is kept erect, the knees only being slightly bent. On straightening the knees, the cords M' are drawn up, depressing the rear end of the lever I and raising the foot-board J, with the exerciser thereon. By means of the graduated scale on the slide K the resistance against the efforts of the exerciser can be readily determined and regulated.

My invention embraces an exercising-chair fixed upon base-pieces resting on the floor, instead of being placed upon rockers, as hereinbefore described. It also includes a construction wherein the sheaves O are attached directly to the back of the chair without using the adjustable frames G and H.

It will readily be seen that, as hereinbefore described, I combine in one article of furniture an ordinary chair on casters, a rocking-chair, an exercising-chair, and a health-lift.

I claim as my invention—

1. In an exercising-chair, the combination of the lever I and foot-board J with the cords M and sheaves N and O, as and for the purpose herein specified.
2. In an exercising-chair, the combination of the lever I and foot-board J with the cords M', and sheaves Q and Q', and handles R, as and for the purpose herein specified.
3. In an exercising-chair, the adjustable frames G and H, adapted to support the sheaves O, as and for the purpose specified.
4. In an exercising-chair, the combination of the lower seat, A, the upper seat, E, hinged to the lower seat, as described, and spring  $e$ , as and for the purpose herein specified.
5. In an exercising-chair, the lever I, provided with a slide, K, adapted to vary the resistance of the exercising mechanism, as herein specified.
6. The hollow rockers B, adapted to contain the cords M' and sheaves Q and Q', as specified.
7. The combination of a chair hinged to the rockers B or other base-pieces, as herein described, and the levers C, provided with the casters  $b'$ , as and for the purpose herein specified.
8. The yoke D, pivoted to the seat A, in combination with the levers C and casters  $b'$ , as specified.
9. In an exercising-chair, the lever I, provided with the adjustable foot-board J, as and for the purpose specified.

10. In an exercising-chair, the combination of the lever I with the spring S, stirrup s, and adjusting-screw s', arranged to operate as herein specified.

11. In an exercising-chair, the combination, with the lever I, provided with a foot-board, J, and slide K, and the spring S, of the cords

M and M', and sheaves N, O, Q, and Q', as specified.

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