

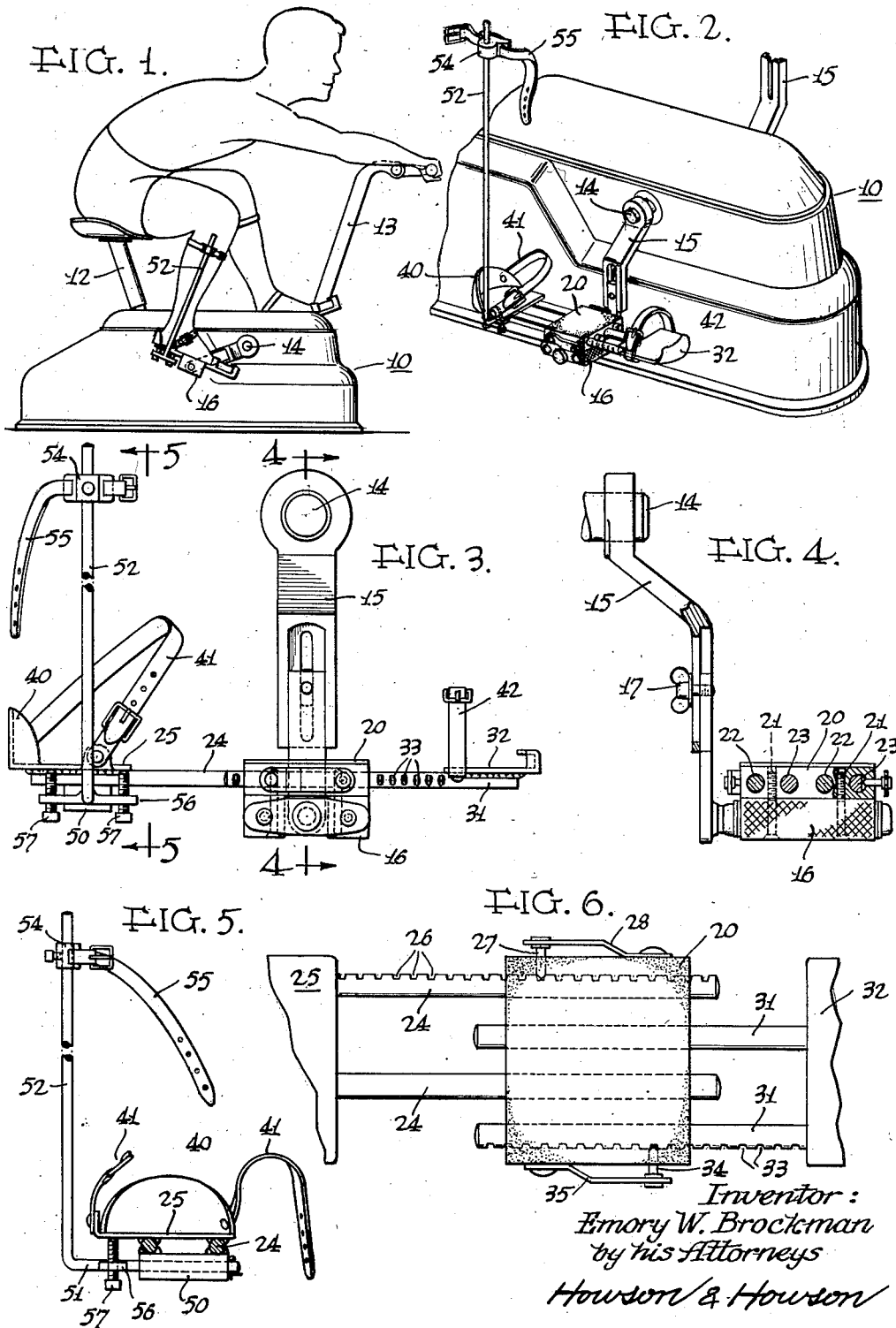
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ADJUSTABLE FOOT SUPPORT DEVICE FOR EXERCISING MACHINES

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ADJUSTABLE FOOT SUPPORT DEVICE FOR EXERCISING MACHINES

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This invention relates to new and useful improvements in exercising machines, and more particularly to exercising machines of the type and construction having a seat and rotational foot support devices, for example, as disclosed in co-pending application for Exercising Machine, now Patent No. 2,565,348, issued August 21, 1951.

The principal object of the present invention is to provide a novel foot support device for the pedals of exercising machines of the type described which are selectively adjustable to variously position the foot of the user of such machine in predetermined fore and aft relation with respect to the rotational axis of the pedals so that different muscles in the foot and heel of the user may be exercised to varying degrees as desired or required.

Another object of the invention is to provide a foot support device for exercising machines of the stated type which includes means for supporting the lower leg of the user in an upright position against lateral displacement—such means being useful in the treatment of persons lacking in control of the muscles.

A further object of the invention is to provide a foot support device for the pedals of exercising machines having the foregoing features and characteristics which is of relatively simplified construction and highly efficient and effective in use.

These and other objects of the invention and the various features and details of the construction and use thereof are hereinafter fully set forth and described with reference to the accompanying drawing, in which:

Fig. 1 is a side elevational view of an exercising machine of the stated type embodying a foot support device made in accordance with the present invention;

Fig. 2 is an enlarged fragmentary view in perspective of an exercising machine showing the foot support device of the present invention;

Fig. 3 is an enlarged side elevational view of the device;

Fig. 4 is a sectional view on line 4—4, Fig. 3;

Fig. 5 is a sectional view on line 5—5, Fig. 3; and

Fig. 6 is an enlarged fragmentary view in plan showing other details of the construction and arrangement of parts of the foot support device.

Referring now more particularly to the drawing, a foot support device made in accordance with the present invention is shown in conjunction with an exercising machine of the construction described in Patent No. 2,565,348, aforesaid. Such a machine embodies a base structure 10, a

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relatively fixed seat 12, a handle member 13 which is mounted for oscillatory movement toward and away from the seat 12, and a driven shaft 14 which projects laterally outward from each side of the machine and has fixed thereon the shank 15 of a pedal or support 16, the latter being adjustably connected to the shank 15 by a sliding connection which may be secured in adjusted position, for example, by wing nut 17.

A foot support device made in accordance with the present invention comprises a block or body member 20 which is fixedly secured in position flat upon the pedal or support 16, for example, by means of screws 21. Extending through the body member 20 in a direction longitudinally of the exercising machine and in the plane of rotational movement of the pedal 16 are pairs of passages 22 and 23, respectively, with the openings of each pair arranged alternately with respect to the other pair, for example, in the relation shown in Fig. 4 of the drawing.

Mounted for sliding movement longitudinally within the first pair of passages 22 are the spaced parallel rod elements 31 of a toe support section 25 which is fixedly mounted or secured in any appropriate manner to the said rod elements 24. The outermost rod element 24 is provided with an aligned series of notches 26 extending longitudinally thereof and facing laterally outward in position for engagement by a pin 27. The pin 27 extends laterally inward of the body member 20 through a suitable opening therein and acting on the outer end of said pin is a leafspring or the like 28 fixed to the body member 20 and operable normally to urge the pin 27 into one of the notches 26 in the rod element 24 to thereby predeterminedly position the heel support section 25 with respect to the body member 20.

Mounted for sliding movement longitudinally within the second pair of passages 30 are the spaced parallel rod elements 31 of a toe support section 32 which is fixedly mounted or secured in any appropriate manner to the rod elements 31. The outermost element 31 is provided with an aligned series of notches 33 extending longitudinally thereof and facing laterally outward in position for engagement by a pin 34. The pin 34 extends laterally inward of the body member 20 through a suitable opening therein and acting on its outer end is a leafspring or the like 35 fixed to the body member 20 and operable normally to urge the pin 34 into engagement with one of the notches 33 to thereby predeterminedly position the toe support section 32 with respect to the body member 20.

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The heel support section 25 is provided with an upstanding integral rear wall portion 40 against which the heel of the user is placed. Also carried by said heel section 25 is an adjustable strap piece 41 which is adapted to extend over the instep portion of the user's foot and retain the heel portion thereof properly positioned upon the heel section 25 of the attachment. Likewise, the front toe section 32 carried an adjustable strap 42 for securing the front or toe portion of the user's foot in proper position on the said toe section 32.

By the construction described, it will be apparent that the heel and toe support sections 25 and 32 of the attachment may be selectively positioned with respect to each other and to the attachment body member 20 to meet different requirements. Thus by releasing the spring-pressed pins 27 and 34 and sliding the rod elements 24 and 31 relative to each other and to the body portion 20 the heel and toe sections 25 and 32 may be selectively spaced relative to each other as required and the relative fore and aft positions of these sections 25 and 32 in any given spaced relationship with respect to the attachment body portion 20 may be provided.

In this manner the heel section 25 may be positioned adjacent or relatively close to the body portion 20 with the toe section 32 relatively spaced forwardly thereof so that maximum exercise is afforded the muscles in the heel and adjacent portions of the foot and leg of the user. Conversely, the toe section 32 may be positioned adjacent or close to the attachment body portion 20 and the heel section 25 thereof spaced substantially rearwardly of said portion 20 so that in the operation of the device the muscles in the forepart of the foot are afforded maximum exercise.

In the treatment of paralytics and other persons having no control of the muscles in their legs it is necessary to support the leg at a point just below the knee in order to retain the person's leg in proper upright position. For this purpose there may be secured to the underside of the heel section 25 of the device a bracket 50. This bracket 50 rotationally receives the lower horizontal end portion 51 of a rod or standard 52 which is adapted to extend upward along the lower leg of the person using the machine. Adjustably mounted upon the upper end portion of the standard 52 is a bracket 54 which carries a strap or belt 55 for attachment to the user's leg at a point just below the knee. The lower end portion 51 of the standard 50 is provided with a cross-head portion 56 through the opposite outer ends of which are threaded screws 57 which may be adjusted to engage against the underside of the heel section 25. By virtue of this construction and by proper adjustment of the screws 57 the support or standard 52 may be afforded limited pivotal movement between predetermined fixed limits as desired or the said standard 52 may be fixedly anchored with respect to the heel section 25.

While a particular embodiment of the present invention has been illustrated and described herein, it is not intended to limit the invention to such disclosure, and changes and modifications may be made herein and thereto within the scope of the following claims.

I claim:

1. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attach-

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ment to each pedal support, heel and toe support sections each slidably mounted in the body member for adjustable positioning with respect to each other and said body member, and latch means to secure said heel and toe sections in the respective positions to which adjusted.

2. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support, heel and toe support sections each slidably mounted in the body member for adjustable positioning with respect to each other and said body member, latch means to secure said heel and toe sections in the respective positions to which adjusted, an upwardly extending leg support pivotally carried by the heel section and arranged to lie outwardly adjacent the lower leg portion of a person on the machine, and means on said support to anchor the user's leg thereto.

3. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support, heel and toe support sections each slidably mounted in the body member for adjustable positioning with respect to each other and said body member, latch means to secure said heel and toe sections in the respective positions to which adjusted, an upwardly extending leg support pivotally carried by the heel section and arranged to lie outwardly adjacent the lower leg portion of a person on the machine, means on said support to anchor the user's leg thereto, and means to selectively and predeterminedly limit pivotal movement of the leg support relative to the heel section.

4. An attachment for exercising machines having a seat and rotationally driven pedal supports, comprising a body member for attachment to each pedal support, heel and toe support sections each having a portion slidably mounted in the body member for adjustably positioning said heel and toe sections with respect to each other and the body member, and latch means carried by the body member operable to secure said heel and toe sections in the respective positions to which adjusted.

5. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support, heel and toe support sections slidably mounted in the body member for adjustable positioning with respect to each other and the body member, and spring urged latch means in the body member operable to engage and secure said heel and toe sections in the respective positions to which adjusted.

6. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, latch means in said body member positioned to engage one of the heel and toe projecting elements and thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member.

7. An attachment for exercising machines

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having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, latch means in said body member positioned to engage one of the heel and toe projecting elements and thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member, an upwardly extending leg support pivotally carried by the heel section and arranged to lie outwardly adjacent the lower leg portion of a person on the machine, and means on said support to anchor the user's leg thereto.

8. An attachment for exercising machines having a seat for rotationally driven pedal supports; comprising a body member for attachment to each pedal support having pairs of spaced parallel openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, latch means in said body member positioned to engage one of the heel and toe projecting elements, and resilient means acting on said latch operable normally to urge the same into engagement with said elements to thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member.

9. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having pairs of spaced parallel openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, at least one of the projecting elements of both the heel and toe sections having recesses formed therein, and latch means in said body member positioned to engage one of the slots in said one of the heel and toe projecting elements to thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member.

10. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having pairs of spaced parallel openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, at least one of the projecting ele-

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ments of both the heel and toe sections having recesses formed therein, latch means positioned to engage one of the slots in said one of the heel and toe projecting elements, and resilient means acting on said latch means operable normally to urge said latch means into engagement with said slots to thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member.

11. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having pairs of spaced parallel openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, at least one of the projecting elements of both the heel and toe sections having recesses formed therein, latch means positioned to engage one of the slots in said one of the heel and toe projecting elements, resilient means acting on said latch means operable normally to urge said latch means into engagement with said slots to thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member, an upwardly extending leg support pivotally carried by the heel section and arranged to lie outwardly adjacent the lower leg portion of a person on the machine, and means on said support to anchor the user's leg thereto.

12. An attachment for exercising machines having a seat and rotationally driven pedal supports; comprising a body member for attachment to each pedal support having pairs of spaced parallel openings in said body member, a heel support section having projecting elements slidably mounted in certain of said openings in the body member for adjustably positioning the heel section with respect thereto, a toe support section having projecting elements slidably mounted in others of said openings in the body member for adjustably positioning the toe section with respect thereto, at least one of the projecting elements of both the heel and toe sections having recesses formed therein, latch means positioned to engage one of the slots in said one of the heel and toe projecting elements, resilient means acting on said latch means operable normally to urge said latch means into engagement with said slots to thereby retain the heel and toe sections in selected positions of adjustment with respect to each other and the body member, an upwardly extending leg support pivotally carried by the heel section and arranged to lie outwardly adjacent the lower leg portion of a person on the machine, means on said support to selectively and predeterminedly limit pivotal movement of the leg support relative to the heel section.

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