

Nov. 22, 1966

S. MAYER

3,287,016

EXERCISING APPARATUS

Filed April 16, 1965

2 Sheets-Sheet 1

FIG. 2

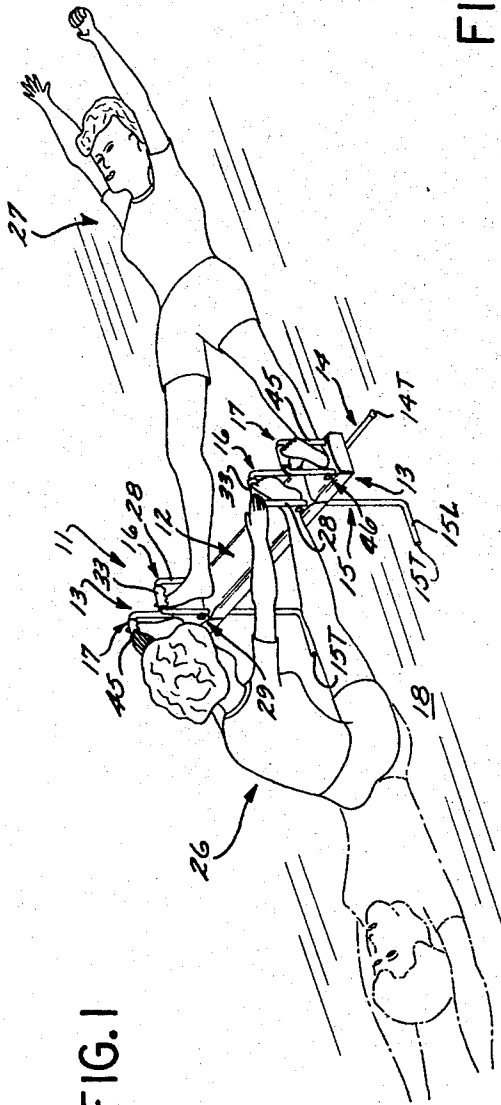
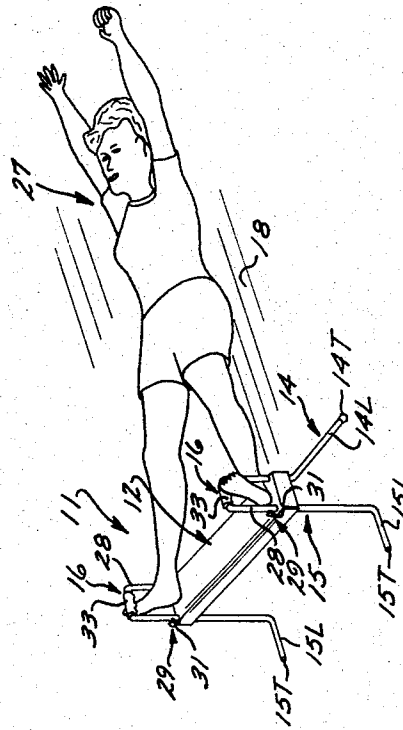


FIG. 1



SOPHIE INVENTOR.
MAYER

Nov. 22, 1966

S. MAYER

3,287,016

EXERCISING APPARATUS

Filed April 16, 1965

2 Sheets-Sheet 2

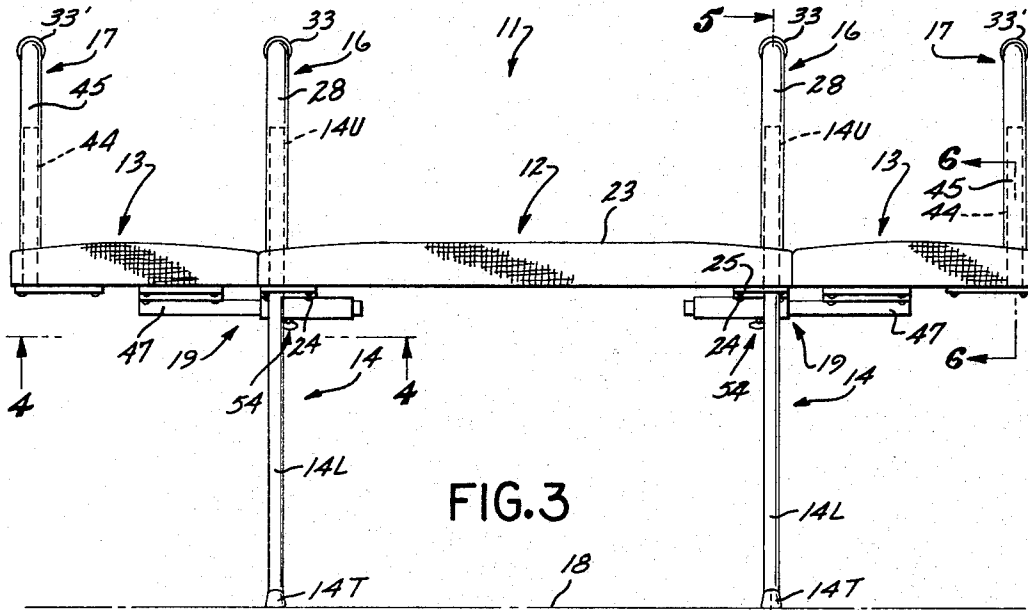


FIG. 3

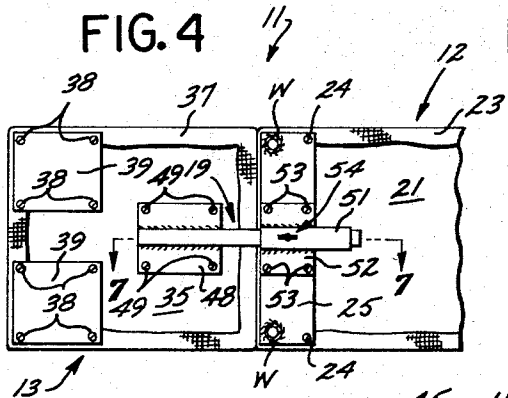


FIG. 4

FIG. 5

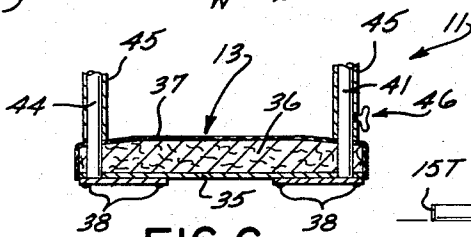
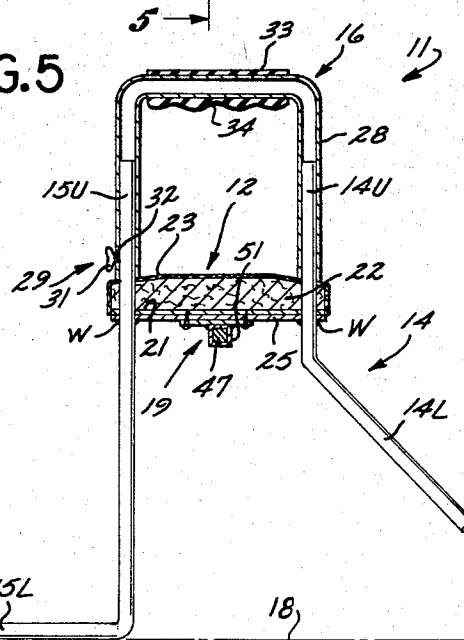


FIG. 6

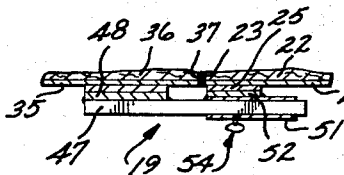


FIG. 7

INVENTOR
SOPHIE MAYER

1

3,287,016

EXERCISING APPARATUS

Sophie Mayer, 321 S. Pickering, Whittier, Calif.

Filed Apr. 16, 1965, Ser. No. 448,675

9 Claims. (Cl. 272-58)

Generally speaking, the present invention relates to exercising apparatus for facilitating the exercising of various muscles and organs of the human body and, more particularly, to such apparatus which supports the legs of a person utilizing the apparatus in a predetermined manner and orientation particularly designed to bring about optimum results.

It is a frequent prior art practice to engage in exercises which effectively bend the body at the waistline for the purpose of strengthening the abdominal muscles and reducing the waistline of persons having excessive flesh in the abdominal region. Certain of these prior art exercises have been done while standing erect by bending over and touching one's fingers to the floor while maintaining the legs substantially straight. There are, of course, variations of this.

Other common prior art types of waistline-bending exercises have been performed while reclining on a horizontal surface and then lifting either one or both legs upwardly and then lowering them, and repeating same, or by lifting the upper trunk or body portion of a person upwardly from a reclining position and then returning same to the reclining position. I have found it to be particularly beneficial to have the legs supported at a raised level with respect to the rest of the body when doing exercises which are generally of the latter type above referred to since this facilitates the flow of blood in the abdominal region and has certain other advantages which will be detailed hereinafter. Additionally, with the legs so raised, the abdominal muscles and various organs within the abdominal cavity are relieved from gravitational strains to which they are subjected when the person is in upright position, thus facilitating and optimizing the results obtained by exercising when in such a position and orientation.

In one exemplary embodiment of this invention, an exercising apparatus is provided which maintains the legs of a person utilizing the apparatus raised, as referred to above, and also laterally spaced apart or separated.

In its simplest possible form the apparatus includes a platform and two stirrups which extend above the platform in spaced-apart relationship and substantially laterally aligned with each other so that the feet of a person reclining on a horizontal floor surface, with the body of the person extending away from the platform and substantially perpendicular to the length thereof, will be supported on the platform adjacent to the stirrups. When the person's feet are so positioned on the platform, adjacent to the stirrups, a very slight rotation, of the person's toes outwardly will permit them to be slipped under and effectively engaged with respect to the stirrups, after which the person may engage in any of a plurality of different exercises graduated as to severity and number in accordance with the physical condition and state of progress in an exercising program of the person using the apparatus.

By supporting the legs of the exercising person in the above-mentioned manner, a number of advantages in addition to the exercising features described above are achieved. At the same time that the various muscles, including the abdominal muscles (both external and internal) and adjacent muscles, are being exercised, the diges-

2

tive and eliminative organs of the human system are also being stimulated. When the body is positioned with the legs raised in the manner mentioned above, the flow of blood in the abdominal region facilitates this stimulation.

Furthermore, the stimulation of the digestive and eliminative organs produces gases which may be eliminated either through the anal or oral passageways of the body since same are completely relaxed when in the position referred to above. The two spaced-apart stirrups, which are aligned in a lateral direction perpendicular to the length of the exercising person with each being in a similar perpendicular plane parallel to the length of the exercising person, facilitates the supporting of the raised legs in a spaced-apart and slightly outwardly rotated position as the gases are produced during the exercise. With the legs so spaced apart and tilted outwardly in the stirrups, the sphincter muscle of the exercising person is relatively relaxed so that any gases produced during the exercise are readily eliminated. Furthermore, the elimination of the gases produced during the exercise is facilitated by an increase of pressure on the organs when the upper part of the exercising person is raised from the floor.

It should be noted that, in one preferred exemplary form of the invention, the opposite ends of the platform are provided with controllably removable and, in certain cases, also, controllably positionally adjustable horizontal platform extensions each of which is additionally provided with a similar upwardly directed stirrup, thus making it possible for two people to lie on opposite sides of the apparatus and to engage different pairs of the four stirrups provided in this preferred form of the apparatus for exercising use by both of the persons either simultaneously or completely independently.

It should further be noted that, in one preferred form of the apparatus, the various stirrup means are vertically slidably adjustable and controllably lockable in various selected vertical positions to make it possible for persons of different foot sizes to conveniently engage their feet within the stirrups for the most effective and optimum exercising usage of the apparatus.

It should additionally be noted that the apparatus is provided with underlying support legs which differ on opposite sides thereof as to the angular relationship thereof, and the type of supported engagement thereof, with respect to an underlying floor surface so that the legs on one side of the apparatus will allow a slight tilting of the complete apparatus during usage with respect to an underlying floor surface, which minimizes the strain which occurs when raising the upper body during the performance of an exercise and, thus, is suitable for a beginner. On the other hand, the legs on the other side of the apparatus are of a type which positively prevent such tilting movement, however slight, of the apparatus, and thus maximize the strain on the abdominal muscles of a person doing a sit-up or the like while his feet are engaged in the stirrups of the apparatus, thus providing an arrangement suitable for advanced persons who have used the exercising apparatus somewhat longer and have achieved a substantial degree of strengthening of their abdominal muscles.

With the above points in mind, it is an object of the present invention to provide exercising apparatus of the character referred to herein, having any or all of the advantages referred to herein and including any or all of the features referred to herein, generically and/or specifically, and individually or in combination, and which is of relatively simple, inexpensive construction adapted

for ready mass manufacture at relatively low cost whereby to be conducive to widespread use thereof.

Further objects are implicit in the detailed description which follows hereinafter (which is to be considered as exemplary of, but not specifically limiting, the present invention), and said objects will be apparent to persons skilled in the art after a careful study of the detailed description which follows hereinafter.

For the purpose of clarifying the nature of the present invention, one exemplary embodiment of the invention is illustrated in the hereinbelow-described figures of the accompanying two sheets of drawings and is described in detail hereinafter.

FIG. 1 is a reduced-size, three-dimensional pictorial view illustrating one exemplary embodiment of the invention in actual use for exercising purposes by two persons positioned on opposite sides thereof.

FIG. 2 is a view similar to FIG. 1, but illustrates the apparatus in the subcombination form thereof with the platform extensions removed and with the apparatus being used for exercising purposes by a single person.

FIG. 3 is a substantially larger scale elevational view of the remote side of the exercising apparatus as shown in FIGS. 1 and 2.

FIG. 4 is a fragmentary, bottom view taken substantially on the plane indicated by the arrows 4—4 of FIG. 3.

FIG. 5 is a view, partly in vertical section and partly in elevation, taken substantially on the plane indicated by the arrows 5—5 of FIG. 3 except that the support legs are shown in full elevation rather than in section and the two right legs of FIG. 5 are partly broken away for drawing space-saving reasons.

FIG. 6 is a fragmentary, sectional view taken substantially on the plane 6—6 of FIG. 3.

FIG. 7 is a fragmentary sectional view, substantially on the plane 7—7 of FIG. 4.

Generally speaking, the exemplary form of the exercising apparatus is generally designated by the reference numeral 11 and may be said to comprise a platform, generally indicated at 12, having a pair of platform extensions, generally indicated at 13, carried at opposite ends thereof and with the platform 12 being supported by a plurality of legs, which are shown in the example illustrated as being four in number and including two similar legs indicated generally at 14 on one side of the apparatus and two other legs generally designated at 15 on the other side of the apparatus and which are similar to each other but different from the two first-mentioned legs 14 with respect to the angular shape of the lower portions 14L and 15L thereof, the purposes of which will be described hereinafter.

It will be noted that opposite ends of the main platform 12 are provided with a pair of substantially U-shaped (actually inverted U-shaped) upstanding or upright stirrups, generally designated at 16, while outer ends of each of the platform extensions 13 are similarly provided with corresponding inverted U-shaped stirrups generally designated at 17. The arrangement is such that a person may engage his feet in any selected pair of the stirrups 16 and 17, while reclining on a horizontal floor surface, such as that indicated at 18 in FIGS. 1, 2, 3, and 5, and may then do various exercises comprising ordinary sit-ups, cross-over sit-ups, and numerous variations thereof. Actually, this may be done by a single person or by two persons positioned on opposite sides of the exercising apparatus 11, as is clearly shown in FIG. 1 or, if desired, the platform extensions 13 may be removed by controllable disengagement of the two corresponding mounting means, generally designated at 19, and the subcombination form of the apparatus may be employed for exercising purposes by a single person as shown in FIG. 2.

It should be noted that the platform 12, in the exemplary form illustrated, comprises a board member 21

provided with compressible pad means 22 thereover and having a cover member 23 positioned over same and around and under the edges of the board member 21 and being fastened thereto by appropriate fastening means, such as the fastening screws 24, either individually or in combination with other fastening screws of fastening cement, glue, or the like (not shown) so as to provide an effectively padded and upholstered upper surface for the platform 12.

In the exemplary form illustrated, the two similar legs 14 have vertical directed upper leg portions 14U which extend vertically through corresponding end corner portions of the platform 12 and are fastened thereto, in the example illustrated, rigidly fastened thereto by welding or the like W connecting same to a bottom plate member 25 fastened by the fastening screws 24 underneath the corresponding end of the platform 12. However, it should be noted that adjustable fastening means may be employed in lieu of the rigid welded fastening shown at W, and these may be of any of the type referred to hereinafter in connection with the slidable telescopic mounting means 19 for the platform extensions 13 and the vertical telescopic mounting means, and the fastening means, employed in connection with any of the upwardly directed U-shaped stirrups 16 and 17, as will be described hereinafter.

It will be noted that the lower portion 14L of each of the just mentioned legs 14 on the one side of the platform 12 extends downwardly and then outwardly in a predetermined angular relationship with respect to the upper leg portion 14U and is provided with a rubber or plastic tip 14T. In the example illustrated, said predetermined angular relationship comprises substantially a 45 degree angular relationship (the lower portion 14L being displaced substantially 45 degrees from vertical alignment with the upper portion 14U) which I have found to be very effective for the purposes of the present invention, although it is not specifically so limited to precisely a 45 degree angular relationship in all forms of the invention.

It will be noted that the other pair of legs 15 also have vertically directed upper leg portions 15U which are parallel to the previously mentioned upper leg portions 14U of the other pair of legs 14 and similarly extend upwardly through corresponding oppositely positioned corner portions of the platform 12 and are similarly welded, as indicated at W, to the corresponding ones of the two bottom end positioned plate members 25, which are fastened by the screws 24 to the bottom surfaces of opposite ends of the platform 12. However, in the case of this pair of similar legs 15, it should be noted that the lower portions 15L thereof are each in a predetermined angular relationship with respect to the upper portions 15U thereof (actually, at right angles thereto on the example illustrated) with said predetermined angular relationships being different from those of the previously mentioned lower leg portions 14L relative to the upper leg portions 14U of the other pair of legs 14. In fact, in the exemplary form illustrated, it will be noted that said lower leg portions 15L are substantially horizontal and are adapted to directly rest upon the underlying ground surface 18 for a substantial distance and thus to completely prevent the tipping of the exercising apparatus 11 toward a person using same and positioned on the same side thereof as the lower leg portions 15L of the exercising apparatus 11.

In other words, the person generally designated at 26 in FIG. 1 will be able to use the exercising apparatus 11 without any tipping thereof toward the person 26, while, on the other hand, the other person 27 positioned on the opposite side of the exercising apparatus 11 will find that the other lower leg portions 14L on that side of the exercising apparatus 11 will permit a very slight tipping of the exercising apparatus 11 toward that person when it is used individually and is not counterbalanced by the weight of

5

the person 26 using same on the opposite side of the exercising apparatus 11. Thus, when the person 27 is exercising along as shown in FIG. 2, it will be found that the exercising apparatus 11 can tip very slightly toward the person 27, when it is being used, and this is desirable for a beginner since it minimizes the excessive strain on the person's abdominal muscles. On the other hand, when the person 26 is positioned on the near side of the exercising apparatus 11, either in the complete combination form shown in FIG. 1 or the sub-combination form shown in FIG. 2, it will not tip at all, and this is ideal for an experienced person (experienced with the exerciser and, therefore, in very good physical condition). The leg portions 15L also have protective tips 15T.

It will be noted that the upper leg portions 14U and 15U slidably engage and carry corresponding upper inverted U-shaped downwardly directed tubular members 28 which, together with said upper leg portions 14U and 15U slidably telescopically carrying same, effectively comprise the previously mentioned first and second stirrup members generally designated at 16.

It will also be noted that each of said stirrup members 16 is vertically slidably adjustable by merely moving the inverted U-shaped tubular member 28 upwardly and downwardly to a selected height where it can be fastened and locked by the corresponding one of two similar fastening means, one of which is clearly shown in FIG. 5 and is generally designated at 29 (it being understood that the other one is identical) and which comprises a fastening screw 31 threadedly engaged in an aperture 32 in the tubular member 28 and adapted to be tightened against the inner upper portion 15U of the pair of leg members 15 for positively locking the corresponding stirrup member 16 at any desired height.

In the exemplary form of the invention illustrated, each of the stirrups 16 is provided with a soft compressible elastomeric combination hand hold and protective portion 33 which may be made of rubber, plastic, or the like, and which may have finger-shaped portions 34 on the underside thereof to facilitate manual engagement therewith during the performance of certain exercises. Also, these protective portions 33 act to prevent bruising of the instep portion of a person's foot when engaged within the corresponding stirrup 16 during the performance of exercises as shown in FIGS. 1 and 2.

It should be noted that each of the platform extensions 13 is constructed in a manner similar to the central or main platform 12, having a board member 35, compressible padding 36 thereover, and a cover portion 37, all fastened thereto by fastening screws 38, usually associated with glue and various other fasteners also, and which also fasten the pair of lower plate members 39 to the bottom surface of the corresponding platform extension 13 for rigidly and firmly carrying a corresponding pair of upwardly directed rod members 41, which extend upwardly through the corresponding corner edges of the correspond platform extension 13 in a manner parallel to, and substantially simulating in appearance, the four previously mentioned upwardly directed upper leg portions 14U and 15U. Said upwardly directed rod members 44 slidably receive thereon a corresponding pair of inverted U-shaped tubular members 45 which, together with the upwardly directed rod members 44 slidably telescopically carrying same, comprise the previously mentioned upwardly directed stirrups 17 carried at the outer ends of the two platform extensions 13.

It will be noted that each of said outer stirrups 17 is vertically telescopically slidably adjustable by merely moving the U-shaped tubular member 45 upwardly and downwardly on the rod member 44 and is adapted to be fastened and locked in any selected position by fastening means, such as generally designated at 46 and similar to the previously mentioned fastening means, generally designated at 29, for adjustably fastening and locking the stirrups 16 at various selected heights. Also, the stirrups

6

17 may be provided with soft compressible hand hold and protective portions 33' similar to those shown at 33 and carried by the stirrups 16, as previously described.

Each of the platform extensions 13 is controllably removably mounted at opposite ends of the main and centrally positioned platform 12 by the previously mentioned mounting means, generally designated at 19, each of which comprises a corresponding underlying two-element telescopic engaging means having one male element 47 fixedly fastened to a bottom plate member 48, which is fastened by fastening screws 49 to the bottom of the corresponding platform extension 13, with each of said male elements 47 being horizontally inwardly and alignedly directed toward each other and toward a position underlying the main or central platform 12 where it is slidably telescopically received within a corresponding or second female element 51, which is fixedly carried by a corresponding plate 52 which is fastened by corresponding fastening screws 53 to the corresponding one of the two previously mentioned end plates 25.

It will be noted that each of the two male elements 47 and each of the two female elements 51 are of square cross section so as to properly maintain the horizontal position of each of the platform extensions 13. However, various other effectively keyed and controllably disengageable types of mounting means may be employed in lieu of the two telescopic mounting means generally designated at 19.

Incidentally, it should be noted that, in the exemplary form illustrated, each of the telescopic mounting means 19 is provided with a fastening means, such as is generally designated at 54 and which is of the same general type as the previously mentioned fastening means 46 and 29, and which is adapted to lock either or both of the telescopic mounting means 19 or to unlock same to allow positional readjustment of, or complete removal of, the platform extensions 13 in a manner such as is best shown in FIG. 2.

For purposes of illustration only, it should be noted that I have found that a very effective form of the apparatus may be of the following general proportions, although this is not to be construed as specifically limiting the invention. Each of the platform extensions 13 may be of approximately 8½ to 9 inches long in a lateral horizontal direction, and the central or main platform 12 may be of approximately 26 to 27 inches long in a lateral horizontal direction, thus making the complete combination platform shown in FIG. 1 approximately 45 inches long, approximately 11 inches wide, and 1½ to 2 inches thick in a vertical direction. The bottom of the complete platform may be elevated above the underlying floor 16 to 17 inches and the horizontal length of the lower leg portions 15L may be approximately 10 inches while the angular relationships of the lower portions 14L of the other two legs 14 may be approximately 45 degrees with respect to the underlying floor surface 18. The stirrups 16 and 17 should range in height from approximately 10 to 15 inches to accommodate different foot sizes, although an even greater range of adjustment may be provided if this seems necessary or desirable.

It should be noted that various types of exercises can be performed with the exercising apparatus 11. For example, when a person, such as either the person 26 or person 27 shown in FIG. 1, starts, she is usually in a reclining position with her hands very nearly fully extended along the floor surface 18 beyond her head. Then she normally sits erect and reaches forward with her hands and touches the stirrups engaging her feet. This may be done directly or she may touch her right hand to the left stirrup and then the left hand to the right stirrup, and so on. Numerous other exercises may also be performed in this position, such as resting one's hands, elbows, or upper body on the floor surface 18 while the feet are engaged in the stirrups and then elevating the intermediate portions of the body and gyrating or moving same in various desired ways for the purpose of providing

7

appropriate exercises and/or the gravitational relocation of the abdominal viscera and vital organs, etc.

It is also possible to stand erect and to grasp the hand holds 33, or 33', and to then step over the central or main platform 12 and then back to the initial position and repeat this any desired number of times. This repeated stepping forward and backward over the platform 12 provides the equivalent of a very extended and vigorous walk and does so in a relatively short period of time. The high lifting of the legs in order to clear the platform 12 is the important feature of this exercise. This latter exercise may also be repeated somewhat faster and comprise the equivalent of a dogtrot or slow run, which is thought to be a very desirable form of exercise.

Also, one may sit upon the central platform 12 and hook one's insteps under the angularly projecting lower leg portions 14L and then lower the person's upper body rearwardly from its seated position on the platform 12, thus providing a very vigorous form of exercise.

The above is merely exemplary of the many forms of exercises which may be performed in a very desirable way through use of the novel exercising apparatus of the present invention, and it should be clearly understood that the apparatus is not specifically limited to the few exemplary exercises referred to above.

It should be understood that the figures and the specific description thereof set forth in this application are for the purpose of illustrating the present invention and are not to be construed as limiting the present invention to the precise and detailed specific structure shown in the figures and specifically described hereinbefore. Rather, the real invention is intended to include substantially equivalent constructions embodying the basic teachings and inventive concept of the present invention.

I claim:

1. An apparatus for facilitating exercise of the various muscles of the body and for facilitating the emission of gases generated as a result of the stimulation of the digestive and eliminative organs of the exercising person during the exercise, comprising: four support legs each having a vertical upper portion and a lower portion at a predetermined angle downwardly directed with respect to the upper portion, the lower portions of two of said legs forming right angles with respect to their upper portions in order to prevent a tilt of the apparatus in a first direction and the lower portions of the other two of said legs forming angles substantially greater than right angles and no more than 150 degree angles with respect to their upper portions in order to permit a very slight tilt of the apparatus in a second and opposite direction; a first inverted substantially U-shaped tubular member slidably engaging the upper portions of two of said four legs and effectively comprising a first inverted tubular substantially U-shaped upright stirrup; a second inverted substantially U-shaped tubular member slidably engaging the upper portions of the other two of said four legs and effectively comprising a second inverted tubular substantially U-shaped upright stirrup; said U-shaped members being supported on the vertically upwardly directed portions of said legs in parallel laterally spaced positions with respect to each other so that the openings formed and defined therein by the U-shaped members are laterally spaced and aligned; and a longitudinal horizontal platform engaging each of the vertically upwardly directed upper portions of said four legs at a position below said tubular members so that said tubular members extend vertically above said platform and so that the lower portions of said four legs extend below said platform.

2. Apparatus as defined in claim 1, wherein said stirrups are provided with soft compressible elastomeric combination hand hold and protective portions.

3. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, each of said plat-

8

form extensions being provided with a tubular U-shaped upright stirrup similar to said upright stirrups engaged and carried by said upper portions of said four legs and lying in similar substantially parallel horizontally spaced vertical planes.

4. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, each of said platform extensions being provided with a tubular U-shaped upright stirrup similar to said upright stirrups engaged and carried by said upper portions of said four legs and lying in similar substantially parallel horizontally spaced vertical planes, said stirrups being provided with soft compressible elastomeric combination hand hold and protective portions.

5. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, said platform extensions each having a pair of similar upwardly extending rod members substantially parallel to the upper portions of said four legs and each being provided with an inverted U-shaped tubular member slidably engaging said upwardly directed rod members in a manner similar to the engagement of said first and second inverted U-shaped tubular members on the corresponding upper portions of said legs and lying in similar laterally spaced parallel vertical planes.

6. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, and mounting means normally controllably removably and horizontally positionally adjustably mounting said platform extensions at said opposite ends of said platform and comprising a pair of corresponding underlying two-element telescopic engaging means each having one male element fixedly carried in a horizontally inwardly aligned directed manner underneath the corresponding platform extension and each having a second female element horizontally alignedly carried under the corresponding end portion of said platform and slidably receiving the corresponding male element carried by the corresponding platform extension.

7. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, and mounting means normally controllably removably and horizontally positionally adjustably mounting said platform extensions at said opposite ends of said platform and comprising a pair of corresponding underlying two-element telescopic engaging means each having one male element fixedly carried in a horizontally inwardly aligned directed manner underneath the corresponding platform extension and each having a second female element horizontally alignedly carried under the corresponding end portion of said platform and slidably receiving the corresponding male element carried by the corresponding platform extension, each two-element telescopic engaging means being provided with a manually operable fastener means for fastening and locking the two-elements thereof in a selected horizontal relationship.

8. Apparatus as defined in claim 1, including fastening means for maintaining said tubular members in telescopic engagement with the corresponding four upper portions of said four legs at any one of a number of vertical positions.

9. Apparatus as defined in claim 1, including a pair of controllably removable platform extensions normally carried at opposite ends of said platform and effectively extending the horizontal length thereof, said platform extensions each having a pair of similar upwardly extending rod members substantially parallel to the upper

portions of said four legs and each being provided with an inverted U-shaped tubular member slidably engaging said upwardly directed rod members in a manner similar to the engagement of said first and second inverted U-shaped tubular members on the corresponding upper portions of said legs and lying in similar laterally spaced parallel vertical planes; and fastening means for maintaining any of said tubular members in telescopic engagement with the corresponding vertically directed members mounting same, comprising said four upper portions of said four legs and said four upwardly directed rod members, at any one of a number of vertical positions.

References Cited by the Examiner

UNITED STATES PATENTS

1,456,800	5/1923	Headley	297—445 X
2,759,730	8/1956	Berry	272—57 X
2,895,736	7/1959	Adler et al.	272—79 X
2,919,918	1/1960	Horn	272—60
2,960,701	11/1960	Nawara	272—58 X
3,130,968	4/1964	De Feen	272—58

10 RICHARD C. PINKHAM, *Primary Examiner*.

A. W. KRAMER, *Assistant Examiner*.