April 1, 1930. H. BLICKMAN 1,752,412

EXERCISING APPARATUS

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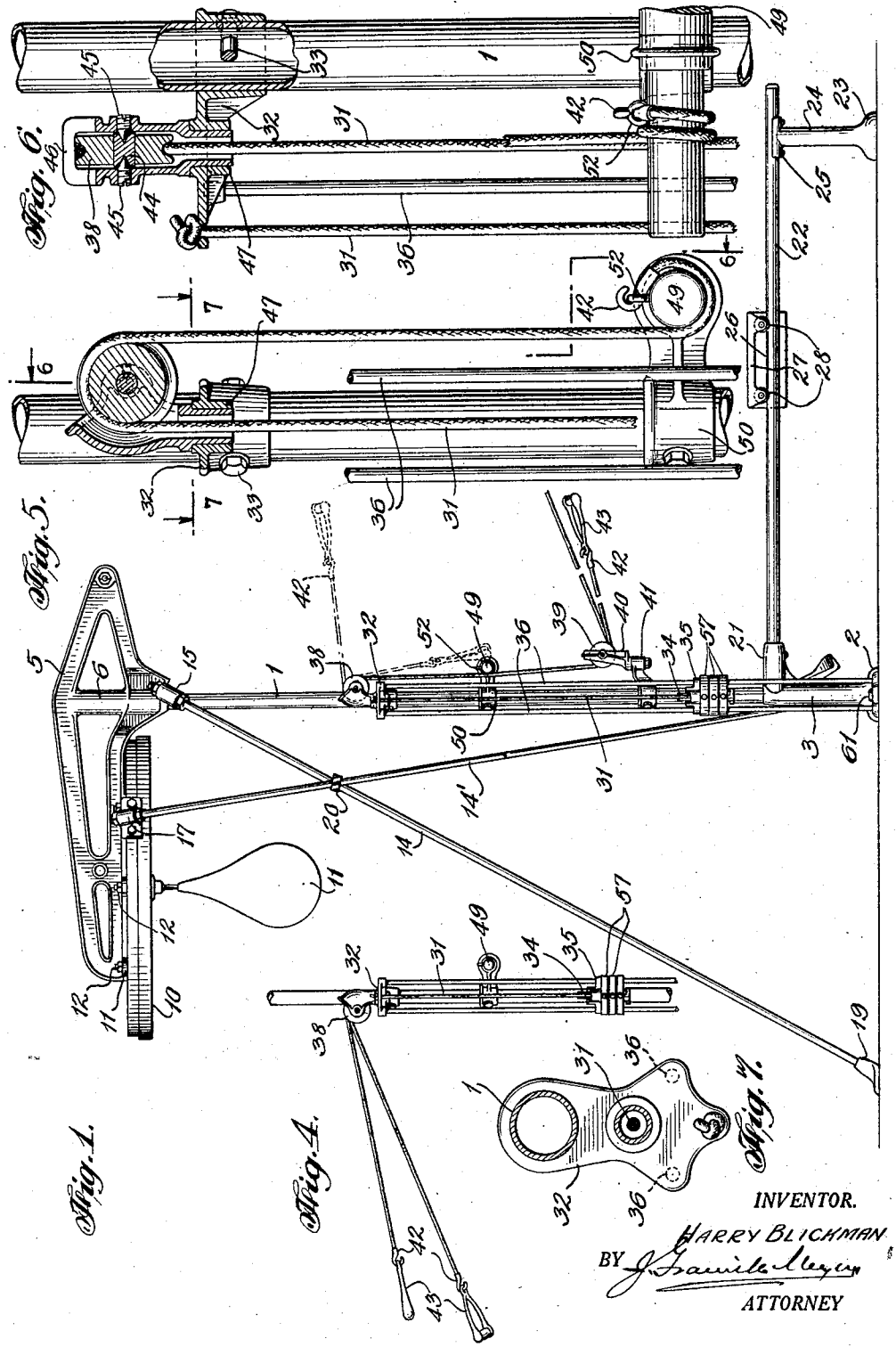


Fig. 6.

Fig. 5.

Fig. 1.

Fig. 4.

Fig. 4.

INVENTOR.
HARRY BLICKMAN
BY J. Daniel Meyer
ATTORNEY

April 1, 1930. H. BLICKMAN 1,752,412

EXERCISING APPARATUS

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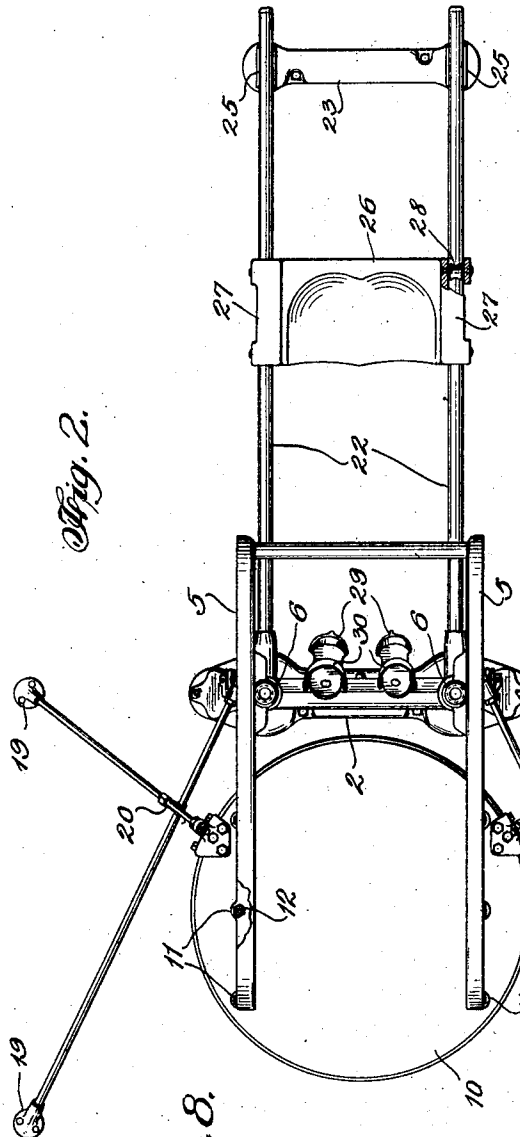


Fig. 2.

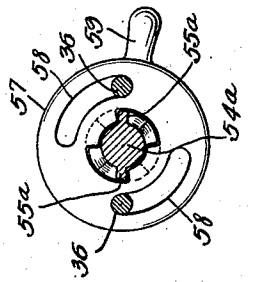


Fig. 11.

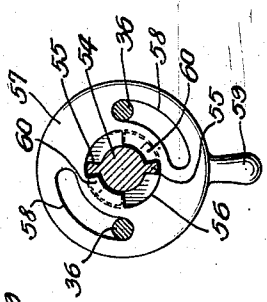


Fig. 10.

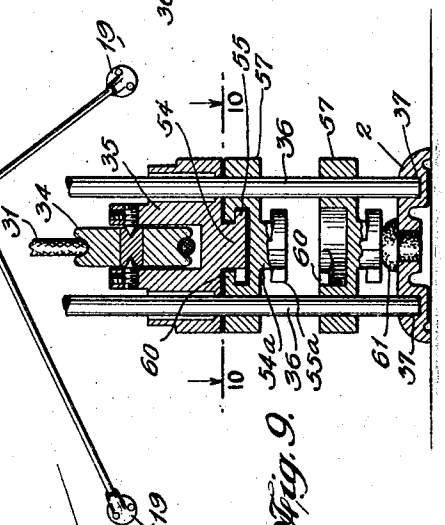


Fig. 9.

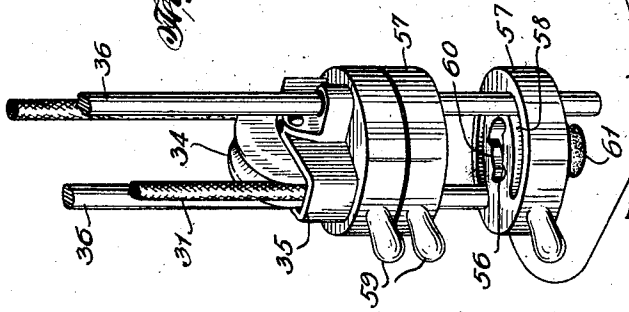


Fig. 8.

INVENTOR.
HARRY BLICKMAN
BY J. Franklin Meyer
ATTORNEY

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EXERCISING APPARATUS

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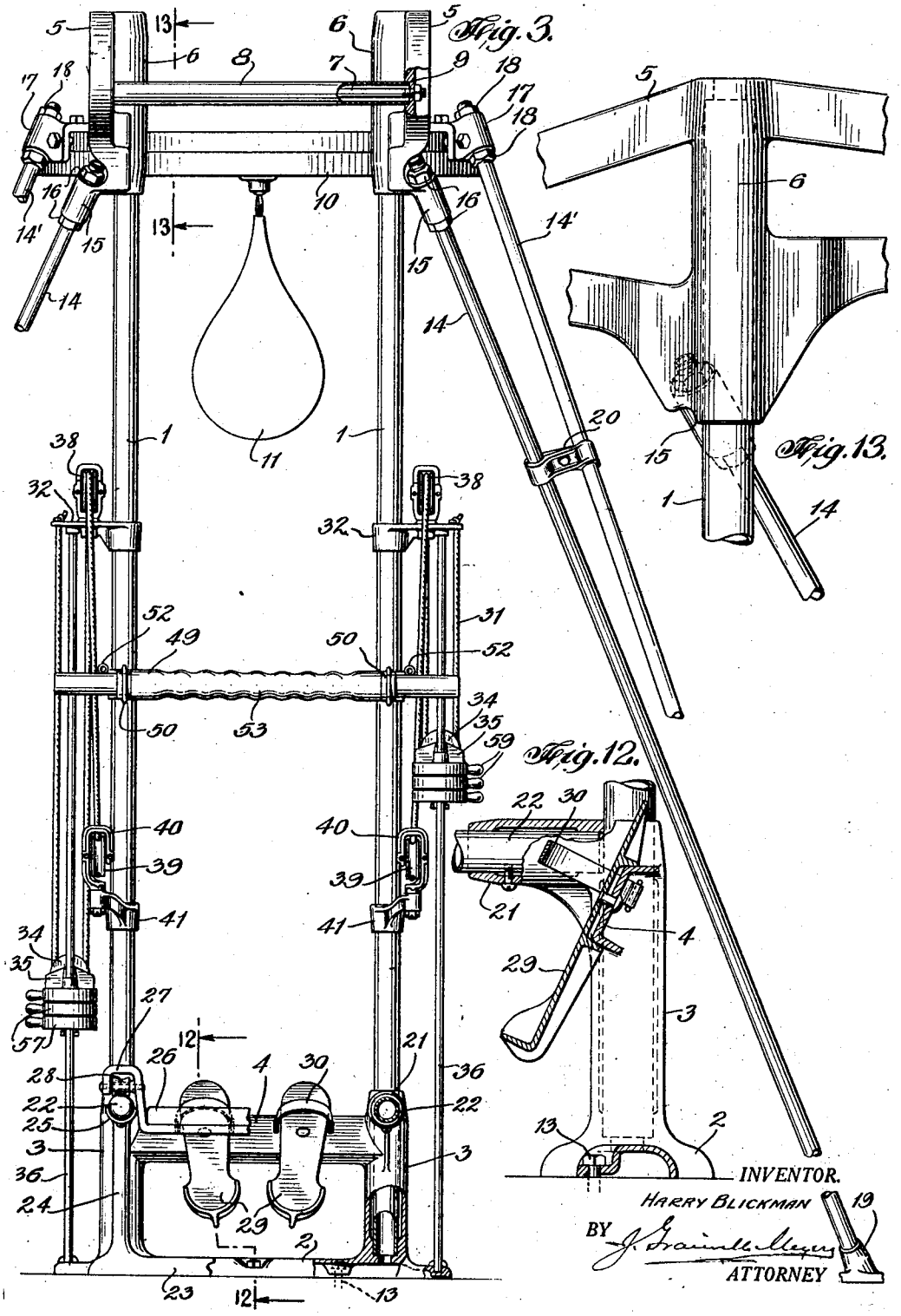


Fig. 3.

Fig. 13.

Fig. 12.

INVENTOR.
HARRY BLICKMAN
BY J. Grainville Meyer
ATTORNEY

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UNITED STATES PATENT OFFICE

HARRY BLICKMAN, OF NEW YORK, N. Y., ASSIGNOR TO S. BLICKMAN, INC., OF WEEHAWKEN, NEW JERSEY, A CORPORATION OF NEW YORK

EXERCISING APPARATUS

Application filed January 20, 1927. Serial No. 162,259.

This invention is an improvement in exercising apparatus, and more particularly in unitary structures, embodying apparatus enabling exercise of substantially all of the bodily muscles.

Apparatus enabling exercise of all of the body muscles is usually in the form of a number of independent devices, each designed for the development of certain muscles. Such apparatus is expensive, and requires a large amount of room for its proper disposal.

One of the primary objects of the present invention is the provision in a single structure of apparatus enabling the performance of exercises of widely differing character and the development of substantially all of the body muscles.

A further object is the provision of a structure relatively simple, of an inexpensive nature, and occupying a minimum of space.

A further object is to provide in such a structure apparatus so arranged that a plurality of persons may use the same at the same time.

With these and other objects in view the invention consists in the construction and novel combination of parts fully described hereinafter, illustrated in the accompanying drawings, and pointed out in the claims appended hereto, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit of the invention.

In the drawings forming a part hereof:

Fig. 1 is a side view of the improved apparatus.

Fig. 2 is a top plan view, with parts in section and parts broken away.

Fig. 3 is a front elevation, with parts in section.

Fig. 4 is a detail showing another position of the parts from that shown in Fig. 1.

Fig. 5 is an enlarged detail with parts in section of the pulley mounting.

Figs. 6 and 7 are sections on the lines 6—6 and 7—7 respectively of Fig. 5.

Fig. 8 is a detail in perspective of the weight mechanism.

Fig. 9 is a vertical section of the same.

Figs. 10 and 11 are sections taken on the line 10—10 of Fig. 9, showing the parts in different position.

Figs. 12 and 13 are enlarged sectional details taken on the lines 12—12 and 13—13 respectively of Fig. 3.

In the invention forming the subject matter of the present application, which application is a continuation in part of my prior application Serial No. 76,972, filed December 22, 1925, a suitable supporting frame is provided, comprising in the present instance a pair of similar uprights 1 connected at top and bottom. The connection at the bottom is by means of a cross plate or base 2, which has vertical sockets 3 at its ends for receiving the lower ends of the uprights, which are of hollow construction, in the form of piping of suitable size. The sockets are connected near their tops by a cross plate 4 for a purpose to be presently described.

The top of each upright supports a truss member 5, each of the said members extending transversely of the upright and on both sides thereof as shown in Fig. 1, and the truss members are substantially parallel. Each truss member has a socket 6 for receiving the top of the upright, and the truss members are connected at one end by a cross bolt 7, a shell 8 in the form of pipe section encircling the bolt, for spacing the ends of the truss members apart. Referring to Fig. 3, it will be seen that each of the truss members is reamed or socketed as at 9 to receive the end of the shell, thereby to hold the same from lateral displacement, and this shell may serve as a horizontal bar.

At their other ends the truss members are connected by a substantially circular plate 10, which provides a support for a punching bag 11. Referring to Figures 1 and 2, it will be seen that the truss members have perforated ears 11, through which pass bolts 12 connecting the disk to the truss members.

The cross plate base 2 before mentioned is provided with openings, through which may be passed bolts 13 to connect the frame to a suitable supporting surface, as for instance a floor, and the frame is braced against the supporting surface by means of pairs of

braces, each pair consisting of a member 14 and a member 14'. The member 14 of each pair is connected at its top to the adjacent truss member, by means of a sleeve 15 on the truss member through which the upper end of the brace is passed, and nuts 16 are threaded on the brace above and below the sleeve. The upper end of the member 14' of each pair passes through a similar sleeve 17 on the adjacent side of the disk 10, and is engaged by similar nuts 18 above and below the sleeve. At their lower ends the braces have feet 19 which may be secured to the supporting surface or floor. Referring to Figures 1 and 3, it will be noticed that the members of each pair of braces cross each other near the top of the frame, and they are connected at this point by a shackle 20 engaging both braces of the pair.

By means of this arrangement, the frame is securely braced in all directions, against stress on the horizontal bar 8, and against lateral stress on the uprights by means of the exercising apparatus to be later described. As will be seen from the inspection of Fig. 3, the opposite faces of the plane through the uprights are left free, so that access to the punching bag, to the horizontal bar, and to the other mechanism to be described is free and unhindered, while at the same time the arrangement thoroughly braces the frame in all directions. The lower ends of the braces 14 diverge both laterally and rearwardly, considering the face of the frame opposite the punching bag as the front, and the same is true with the braces 15.

Each socket 3 of the cross plate 2 is provided with a laterally extending auxiliary socket 21 near its top, for receiving the end of a rail 22, the rails cooperating to form a trackway between which is mounted a rolling carriage. The opposite ends of the rails are supported by a cross plate 23 similar to the plate 4, and provided near each end with an upright 24, having a saddle 25 in which rests the adjacent rail, the rails being secured to the saddles in any suitable manner, as for instance by bolts as shown. The cross plate 23 may be secured to the floor in the same manner as the plate 2 is secured.

A seat or carriage 26 is mounted to roll upon the rails. This carriage at each end is provided with extensions 27 which overlie the rails, the extensions being in the form of stirrups, and a pair of rollers 28 is journaled in each extension. The arrangement is such that the body of the carriage, that is the central portion or seat, depends just below the bottom of the rails, thus greatly reducing the liability to displacement of the carriage during the movement thereof.

The rollers 28 are annularly grooved to fit the rails, and foot plates 29 are secured to the cross plate 4 before mentioned, the foot plates being inclined as shown more particularly in Fig. 12. Each foot plate is provided with a loop 30 beneath which the toe passes, and the plates furnish supports for the feet during the movement of the carriage in the exercises to be described.

The carriage or sliding seat is used in exercises to simulate rowing, and counterpoise mechanism is provided for use in connection with the carriage. The said mechanism includes flexible members 31, one of which is arranged adjacent to each upright. Each of the flexible members, which are cords of suitable size, has one end passed through an opening in an arm 32 extending laterally outward from the adjacent upright. The brackets being secured to the uprights in any suitable manner, as for instance by bolts and nuts 33 shown. From the arm each member passes downwardly beneath a pulley 34 journaled in an opening in a weight support 35, which has vertical guided movement on a pair of guide rods 36.

Each of the guide rods is supported at its upper end by the arm 32 before mentioned, and at its lower end by the cross plate 2, the lower ends of the rods being received in sockets 37 in the cross plate. From the pulley 34 each flexible member passes upwardly over a pulley 38 mounted in a manner to be described, and downwardly beneath the pulley 39 journaled in a hanger 40, which is supported by a bearing arm 41 held on the adjacent upright at the desired point. The end of each flexible member remote from the arm 32 is provided with a snap hook 42, with which is connected a hand piece 43, each hand piece being in the form of a stirrup. The hangers 40, (Fig. 3) are open at the inner side, so that the flexible member may be readily disengaged from the pulley 39 for a purpose to be later mentioned.

Each of the pulleys 38 before mentioned is of wood, peripherally grooved to receive the cord 31, and mounted upon an axis 44. The axis has axial recesses in its ends which are engaged by pointed screws 45 passing through the sides of the hanger 46 which supports the pulley. The hanger has a tubular portion, which is rotatably received in a hub 47 in the arm 32 before mentioned, the arrangement being such that the hanger may swing into the position of Fig. 1, or that of Fig. 4. Referring to these figures and to Fig. 5, it will be seen that the hanger is open at the top and from the pulley so that no interference is offered to the swinging of the flexible member over more than 180°, and the handles 43 may be used at either side of the plane of the supporting frame. That is the counterpoise mechanism may be used with the sliding seat, or without the same. as may be desired, and from either side of the upright frame.

Mechanism is also provided for enabling the use of the counterpoise mechanism in developing the wrists and forearms. The said

mechanism includes a cylindrical bar 49 which is roughened as shown, and which is journaled near its ends in bearing arms 50 on the uprights. Outside of each bearing the bar is provided with an eye 52, with which may be engaged a snap hook 42 of the adjacent flexible member 31 in the manner shown in Figures 5 and 6. When now the ends of the bar are turned, the flexible members will be wound thereon, and the weights to be described will be lifted, a suitable poundage being used for the purpose desired. That portion of the bar 49 between the bearing arms is roughened, or annularly corrugated as indicated at 53 for enabling abdominal and lumber massage.

Each of the weight supports 35 is provided with an axial depending pin 54, which has oppositely extending segmental ribs 55 at its lower end. This pin and the ribs are designed to fit in similarly shaped openings 56 in the upper faces of the disk weights 57, slidably mounted on the guide rods 36. Each of the disk weights has a pair of oppositely arranged arc shaped slots 58, through which the guide rods pass, the arrangement enabling angular movement of the weights with respect to the rods, and each weight has a handle 59 for convenience in manipulating the same. The ribs 55 of the weight support 35 pass into the recess 56 of the adjacent weight, and when the weight is moved annularly with respect to the weight support, the ribs 55 pass beneath similar ribs 60 extending into the recess, thus locking the weight to the weight support. Each weight has a depending rim 54^a and ribs 55^a on its underface, similar to those of the weight support, so that each weight may be connected to the weight immediately above in the manner just described. As many weights 57 may be provided as may be necessary, and the poundage of each will be in accordance with conditions to be served.

With the improved apparatus substantially all of the exercises usual in developing the muscles may be carried out. The use of the punching bag is obvious, as is also that of the horizontal bar. The counterpoise mechanism may be used to develop the arms and upper body, with the user standing at the opposite side from the sliding seat, or at the said side. When the sliding seat is used in rowing exercises, the flexible members are engaged with the pulleys 39.

It will be apparent from a consideration of the drawing, that the improved apparatus includes an upright frame suitably braced in such a manner that the opposite faces of the frame are freely accessible. The braces are adjustable with respect to the frame, so that any looseness due to wear or use may be compensated for. The poundage of the weights is easily adjusted to suit conditions, as many or as few weights being used as may be desired. Preferably the base 2 is provided at each end with a buffer 61 of rubber or the like, on which the weights rest when not in use.

What is claimed as new is:

1. In home exercising apparatus, an upright supporting frame, a pair of substantially horizontal rails extending laterally from one face of the frame, counterpoise mechanism supported by the frame, and a sliding seat on the rails for cooperation with the counterpoise mechanism, the seat being removable, and the rails elevated to enable use thereof as horizontal bars, and the counterpoise mechanism reversible to enable use from either side of the frame, the counterpoise mechanism including flexible members having counterpoises at one end and grips at the other, pulleys intermediate the top and bottom of the frame over which the flexible members pass, said pulleys journaled on vertical axes and at the outer sides of the frame to enable free swinging of the flexible members toward either side of the frame.

2. In home exercising apparatus, an upright supporting frame composed of spaced substantially parallel uprights, a base connecting the bottoms of the uprights, truss members extending transversely of the tops of the uprights and in substantially parallel relation, a horizontal bar connecting the truss members at one end, a punching bag support connecting the members at the other end and a pair of braces for each upright, the members of each pair connected with the adjacent truss member and the punching bag support respectively, the members of each pair extending outwardly and crossing each other, and a rigid connection between the members at the crossing.

3. In home exercising apparatus, an upright supporting frame composed of spaced rigidly connected uprights, a massage roll journaled on the uprights intermediate the top and bottom thereof, and a horizontal bar supported by the uprights at the tops thereof in laterally offset relation with respect to the massage roll, whereby when the horizontal bar is grasped by the user with the body across the roll, the weight of the body will be supported by the roll for massaging movement as the body is reciprocated.

4. In home exercising apparatus, a pair of standards, means for supporting the standards in upright spaced position, a bar journaled transversely of the standards, and having its middle in position to be grasped, thereby to turn the bar in wrist development exercises, a pair of grips, and counterpoise mechanism supported by the standards, and having means for detachably engaging the grips or the bar, the bar corrugated intermediate its ends, the corrugations extending annularly of the bar to provide a roughened surface for abdominal and lumbar massage.

5. In home exercising apparatus, a pair of substantially horizontal parallel rails, means near the ends of the rails for supporting them above the floor a distance sufficient to enable them to serve as parallel bars, the supporting means at one end including standards, and a punching bag support connecting the upper ends of the standards.

Signed at Weehawken in the county of Hudson and State of New Jersey this 17th day of January A. D. 1927.

HARRY BLICKMAN.