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PHYSICAL CULTURE APPARATUS

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2 Sheets-Sheet 1

Fig. 1.

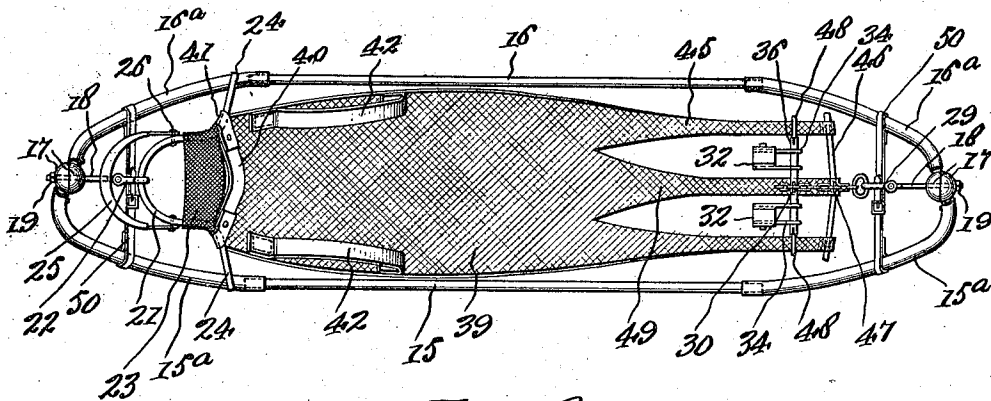
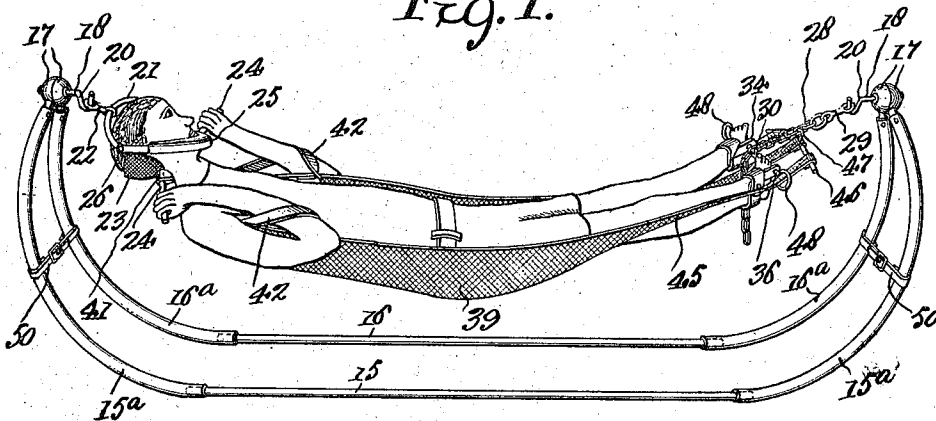


Fig. 2.

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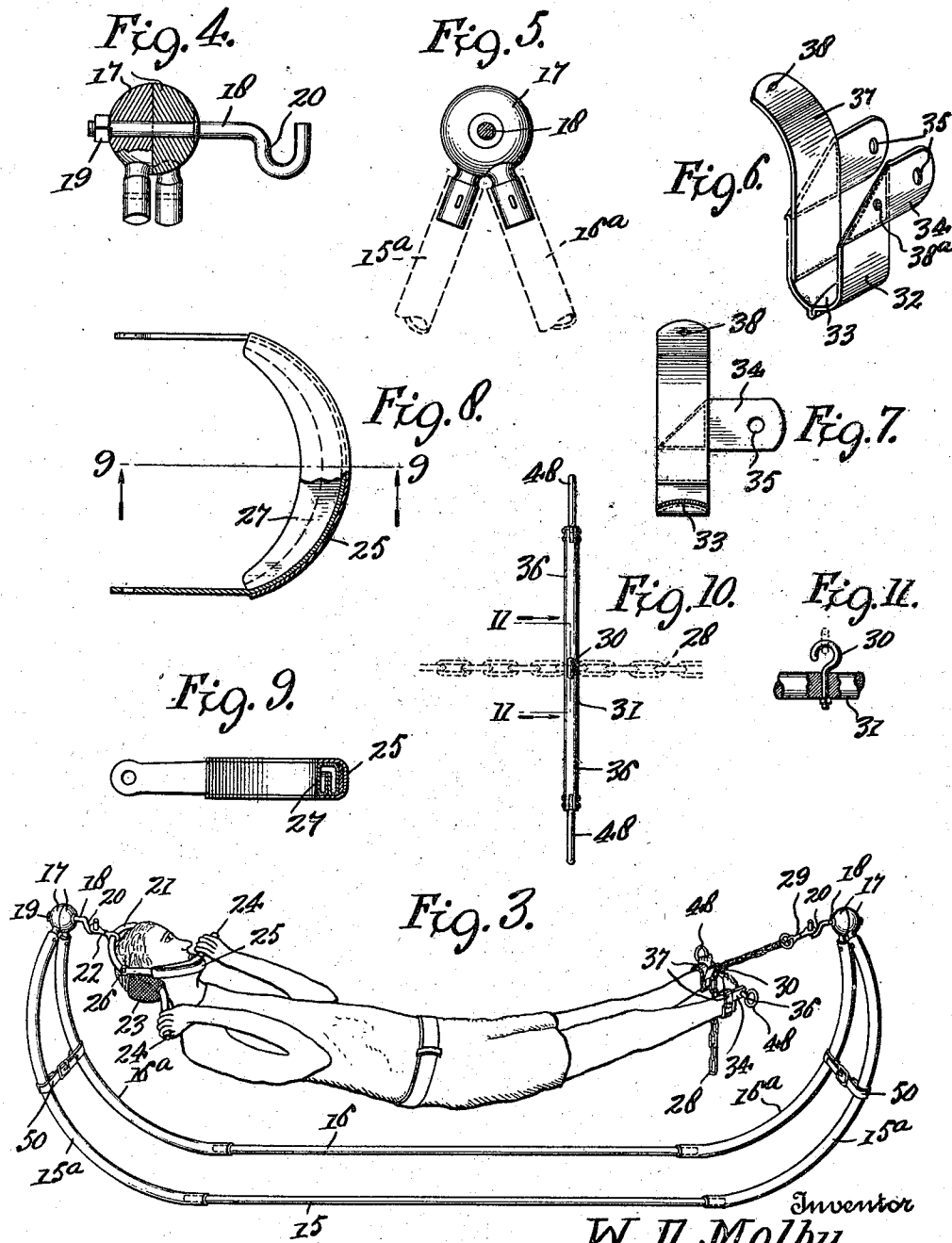
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UNITED STATES PATENT OFFICE.

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PHYSICAL-CULTURE APPARATUS.

Application filed September 3, 1921. Serial No. 498,352.

To all whom it may concern:

Be it known that I, WALTER DAVID MOLBY, a citizen of the United States, residing at Baldwin City, in the county of Douglas and State of Kansas, have invented certain new and useful Improvements in Physical-Culture Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to exercising or physical-culture apparatus.

An object of the present invention is to provide an apparatus of this character adapted for individual use and which is adapted to place the body under tension from head to foot, and which is designed to support the body under tension of its own weight.

The invention further aims at the provision of an apparatus of this character which is relatively light in weight, which is of knock down construction, and which is adjustable according to the height of persons using the apparatus.

A further object is to provide an apparatus of this character with a resilient frame having spaced apart uprights and independent devices for attachment to the head and feet for supporting the body under tension of its own weight and to permit of the yielding of the frame incident to vibration of the body and to thus absorb shock which is detrimental and injurious.

The invention has for a still further object, the provision of a physical-culture apparatus of this type wherein provision is made for easing up tension on the neck and head of the user when desired and for completely supporting the body at times of rest, the apparatus permitting of various contortions, revolutions and swinging of the body in taking exercises when suspended in the apparatus.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Fig. 1 is a perspective view of a physical-culture apparatus constructed according to

the present invention and illustrating a person suspended therein;

Fig. 2 is a top plan view of the same with the person removed;

Fig. 3 is a view similar to Fig. 1, showing the body support detached;

Fig. 4 is an enlarged sectional view taken through one end of the frame showing the detachable connection for the frame parts and the supporting hook for one of the body engaging members;

Fig. 5 is an inner side elevation of the same;

Fig. 6 is a detail perspective view of one of the foot stocks;

Fig. 7 is a longitudinal section taken through the same;

Fig. 8 is a top plan view, partly in section, of the chin strap or support;

Fig. 9 is a transverse section taken through the same on the line 9—9 of Fig. 8;

Fig. 10 is a fragmentary top plan view of the adjustable foot bar, showing the supporting member therefor in dotted lines; and,

Fig. 11 is a transverse section taken through the same.

Referring to the drawings by numerals, the apparatus comprises a resilient frame formed of a pair of bow sections 15 and 16 which are arranged with straight intermediate portions adapted to rest upon the ground and with curved or rounded upstanding ends providing resilient standards adapted to flex toward and from each other as will hereinafter be pointed out. The free ends of the bows 15 and 16 are provided with complementary bearing heads 17 forming hinge sections and the heads 17 at each end of the frame are adapted to fit one against the other and are held in such relation by hinge bolt 18 which is clamped co-axially through the sections 17 by a nut 19 or the like. The bolts 18 in the opposite ends of the frame are in co-axial alignment, or substantially so, and the inner ends of the bolts are arched downwardly to form hooks 20 for pivotally supporting the head and foot sections of the apparatus.

Each of the bows 15 and 16 is preferably formed in three sections, a main floor section which is substantially straight, and opposite end curved sections 15^a and 16^a which are preferably socketed upon their respective floor sections 15 and 16. This construc-

tion admits of the quick knocking down of these sections for transportation and the sockets provide means for holding the bow sections together under weight of the occupant or user of the device.

The head section comprises a yoke 21 of U-shape curved to the configuration of the top of the head and provided with a swivel eye 22 at its intermediate portion adapted to engage over the adjacent hook 20 for pivotally suspending the yoke 21 on the hook. Mounted upon the yoke 21 is a flexible head frame 23 of suitable fabric meshing which forms a pocket to receive the back of the head for supporting it in the yoke 21. The free ends of the yoke 21 are turned outwardly away from each other to form handles 24 extending from the sides of the head section and which are adapted to be grasped by the user for supporting the body and relieving the head and neck from tension.

The head is held in the pocket 23 by a chin strap 25 which, as shown particularly in Figs. 8 and 9, comprises a strap portion pivotally connected at its free ends, as at 26, to the opposite sides of the yoke 21, and arranged to swing inwardly and downwardly to the open end of the yoke to engage beneath the chin for supporting the head. The strap 25 is preferably provided in its closed end with a pneumatic cushion 27 of sufficient length to engage beneath the chin and against the sides of the jaw bone to prevent the direct contact of the strap 25 with the skin.

The foot attaching section comprises a chain 28, or other suitable flexible device which may be connected by a swivel eye 29 detachably to the other hook 20 of the frame. The chain 28 presents a longitudinal row of rings or loops for adjustably receiving therein a hook 30 which may be adjusted in various positions with respect to its distance from the said hook 20. The hook 30 is oscillatorily connected upon a cross arm 31 which extends transversely of the chain 28 and beyond the opposite sides thereof. The hook 30 may be connected in any suitable manner to the cross arm 31 which will permit the hook 30 to oscillate with the rocking motion of the feet while the entire device is revolving, and so that the hook 30 may be quickly engaged and released relatively to the connecting chain 28.

The cross bar 31 carries upon its opposite ends stocks 32 adapted to receive and support the feet of the user for suspending the lower end of the body by the feet. As best shown in Figs. 6 and 7, each foot stock comprises a pair of side members in the form of straps which are stitched together at their lower ends along a line of stitching 33, the line of stitching 33 extending transversely of the side pieces 32 and being arched upwardly to provide a curved arched support

for the bottom of the foot and for snugly and comfortably engaging the foot.

The upper ends of the side members 32 are preferably overturned on crease lines extending substantially 45° to form laterally projecting lugs 34 which have apertures 35 therein through which the end portions 36 of the cross bar 31 pivotally connect. A locking strap 37 is attached to one of the side members 32 and is of sufficient length to extend over the spaced upper ends of the side members and is adapted to be secured in position by suitable fasteners 38 or the like of two part construction as shown. The foot stocks are adapted to swing upon the ends 36 of the cross bar for accommodating the angles of the feet incident to suspension and exercising. These stocks or halters 32 are thus flexible and conform readily to the feet and thus provide a relatively comfortable foot hold which is also very secure. Of course the securing strap 37 may extend at any suitable angle from the body portion of the halter 32 for the purpose of gripping the foot or ankle and for securely maintaining the foot in the halter.

If desired, the apparatus may be provided with a body support or rest 39 in the form of a hammock or other suitable flexible sheet. This support 39 is gathered at the head end and provided with a binding strap 40 containing loops 41 which may be threaded over the handles 24 to support the head end of the hammock 39 upon the yoke 21. The hammock 39 is provided with arm loops 42 at opposite edges and through which, as shown in Fig. 1, the arms of the user may be inserted for supporting the body to a more or less extent by exerting downward pressure upon the loops 42. The foot end of the hammock 39 is provided at opposite edges with longitudinal extensions 45 which are secured at their free ends to a bow 46 so as to support the foot end of the hammock. The loops 42 at opposite sides of the hammock or support 39 are so arranged, as shown in Figs. 1 and 2, that the forearms may be inserted through the loops with the latter engaging the forearms a short distance below the elbows, in such position the forearms may be swung downwardly or away from the shoulders at substantially right angles to draw upon the loops 42 and thus support the body from the hammock 39 and relieve the neck and head from all strain. This is well known to be the most comfortable and efficient means of relieving the body of strain and supporting the body without placing the muscles under undue tension.

The cross bar 31 is provided, beyond its ends 36, with rings or loops 48 through which the extensions 45 are slidably threaded to hold the hammock body or support 39 in proper relation with respect to the stocks

32. The central portion 49 of the hammock body is reduced in width and extends beneath the chain 28 and may be attached to the bow 46 as shown. To remove the hammock support 39 from the apparatus it is only necessary to slip the hook 47 from the swivel eye 29 and to remove the loops 41 from the handles 24. As shown in Fig. 3, the support 39 is removed and the chain 28 is shown as being free at its end and used only for carrying the foot engaging stocks 32.

The side members or sections 15 and 16 of the frame are held from spreading apart beyond a pre-determined distance by flexible straps 50 which are conveniently secured at preferably opposite ends of the frame for bracing the bows against separation.

In use, the person desiring to use the apparatus places feet in the stocks 32 and secures the retaining straps 37 over the feet to securely hold the feet in the stocks. The head is placed in the yoke 21 and in a position to rest in the support or pocket 23. The chin strap 25 is now swung down over the face and engaged beneath the chin for holding the head in the head rest. During the operation and use of the device, the operator may grasp the handles 24 and elevate the upper end of the body upon the handles so as to relieve the head and neck from such strain as is imposed on them incident to supporting the body.

When the hammock is used, as shown in Figs. 1 and 2, the body may rest entirely in the hammock during the operation of attaching one's self in the frame and may also be used for supporting the body in a state of rest when the user is fatigued. It is apparent that with the device shown in Figs. 1 and 2, the body may be swung, revolved or twisted in various ways to obtain the desired result of bringing into play various normally little used muscles and also for stretching the body and performing other operations of exercise.

It is also apparent from Fig. 3 that when the hammock or support 39 is removed, the body has greater freedom of action and the movements of the body may be more easily observed. The hammock or support 39 is divided into various strips or sections 45 and 49 to provide ample room through which the feet and legs may project for fastening the feet in the stocks and for performing the various exercises.

It is apparent that the apparatus is very light in weight, is resilient in so far that the uprights at the ends of the frame are free to flex toward and from each other, and the device may be quickly and easily collapsed into small space and packed out of the way or may easily be transported.

It is obvious that various changes and modifications may be made in the details of construction and design of the above speci-

cally described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims:

What is claimed is:

1. In physical culture apparatus, a frame having resilient spaced upright end portions, and freely pivoted means carried by said end portions for engaging the opposite extremities of the body of the operator for suspending his body between said upright portions and permitting the free twisting bending and turning of the body by the exercising contortions of the operator.

2. In physical culture apparatus, a pair of upright spaced supports, a head engaging member freely pivoted on one support, a foot engaging member, and means adjustably and freely pivotally connecting the foot engaging member to the other support whereby to adapt said apparatus to operators of different lengths and permit the free turning and twisting of the operator when suspended in the supports.

3. In physical culture apparatus, a frame having resilient spaced apart supports, a head engaging member freely pivoted on one support, a foot engaging member adjustably mounted upon the other support and arranged for free pivotal movement thereon, said members being adapted to engage the opposite extremities of the body of the operator for suspending the body under tension of the weight of the operator, and a rest suspended between said head and foot engaging members to receive the body of the operator and support the same when relieved of tension from said members.

4. In physical culture apparatus, a two-part bow frame, means for hingedly connecting adjacent ends of the two-parts of the frame together, a head section swivelly connected to one end of the frame, and having handles thereon for relieving the head of the tension of the body, a foot section swivelly connected to the other end of the frame, and a support detachably connected to said head and foot sections and having arm engaging straps, whereby said support may be used with and independently of said head and foot sections for supporting the weight of the body.

5. In physical culture apparatus, a frame having spaced upstanding supports, a head rest swivelled upon one of the supports and having a pocket portion adapted to receive the back of the head therein, a chin strap pivoted upon the head rest and arranged to swing down over the face and beneath the chain to hold the head in the rest and adapted to be swung upwardly to free the head, foot engaging means mounted on the other upright of the frame, and handles connected to the head rest for supporting

the weight of the body and relieving strain on the head and neck.

6. In physical culture apparatus, a frame having spaced supports, a head section on one support, a chain connected to the other support, a cross bar connected to the chain, foot engaging means mounted on the chain, cross bar for engagement with the feet to suspend the body between the head rest and said chain, and means for adjusting said cross bar upon the chain to accommodate the apparatus to persons of different heights.

7. In physical culture apparatus, a frame having spaced supports, a head rest on one support, a foot engaging member mounted on the other support, said head rest and foot engaging member being adapted to suspend the body of the operator between the supports and a detachable hammock mounted at opposite ends upon the head rest and foot engaging member.

8. In physical culture apparatus, a collapsible frame, detachable foot and head engaging sections carried by the frame, said head engaging section having hand engaging means for relieving the head of strain, and a detachable hammock support carried in the frame for engaging beneath the body of the operator and having arm engaging means for relieving the body of its weight.

9. In physical culture apparatus, a frame having spaced supports, a head rest mounted on one support, a cross bar adjustably mounted on the other support for movement

toward and from the head rest, and a pair of foot stocks pivoted upon the cross bar for clamping engagement with the feet whereby to suspend the body of the operator between said bar and the head rest.

10. In physical culture apparatus, a frame having spaced supports, a head portion mounted on one support, a foot engaging portion on the other support, said foot engaging portion comprising a chain, a cross bar adjustably mounted on the chain for movement toward and from the head engaging portion, and a pair of stocks pivotally mounted upon the opposite ends of the cross bar and adapted to engage the feet for suspending the body of the operator between the cross bar and the head engaging portion.

11. In physical culture apparatus, a frame having spaced uprights, head and foot sections mounted in the uprights adapted to respectively engage the head and the feet, a hammock suspended between said head and foot sections adapted to support the body at times, and a pair of loops carried upon the opposite edges of said hammock near the said head section for receiving the forearms therethrough, said loops extending away from said head section whereby swinging of the forearms downwardly at substantially right angles to the longitudinal axis of the device is adapted to support the body in the hammock and relieve the head and neck from strain.

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