G. W. Bacon.

Gymnastic Appˢ.

No. 69,956. Patented Oct. 22, 1867.

Fig. 10.

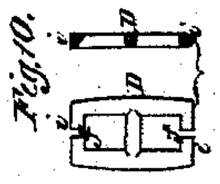


Fig. 8.

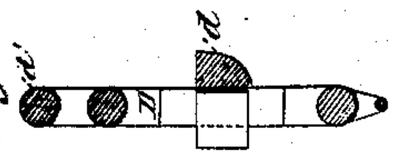


Fig. 6.

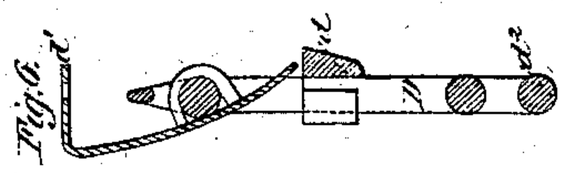


Fig. 9.

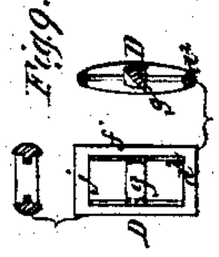


Fig. 7.

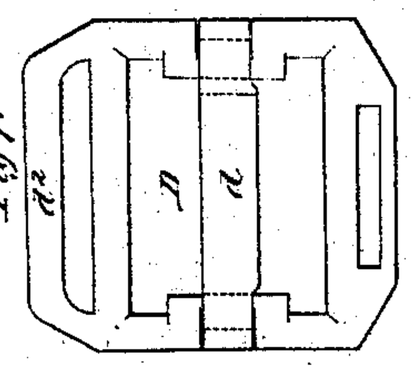


Fig. 5.

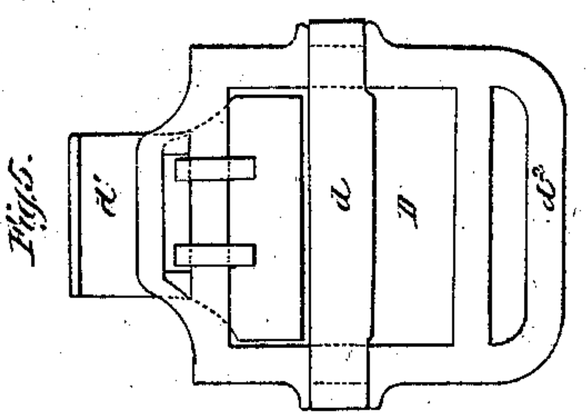


Fig. 12.

Fig. 4.

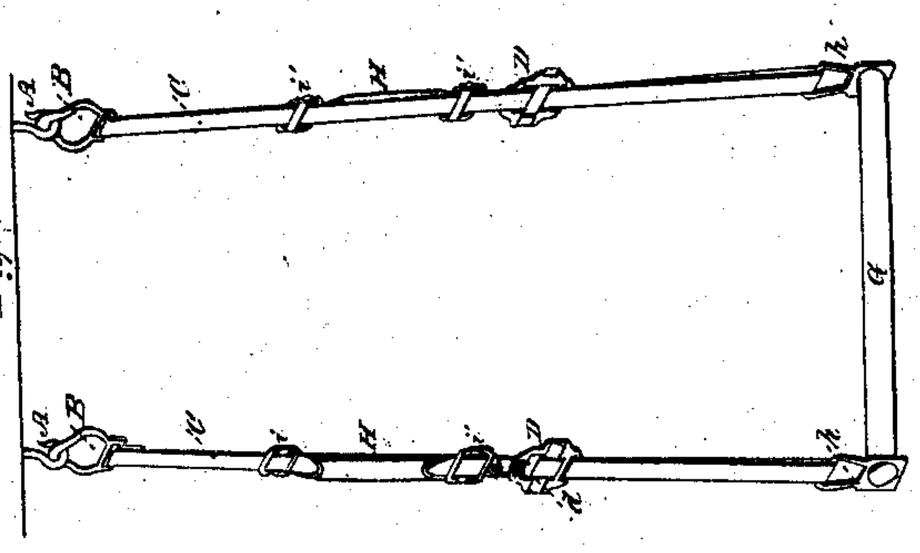


Fig. 11.

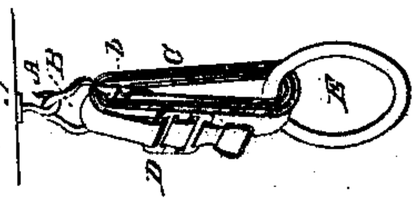


Fig. 3.

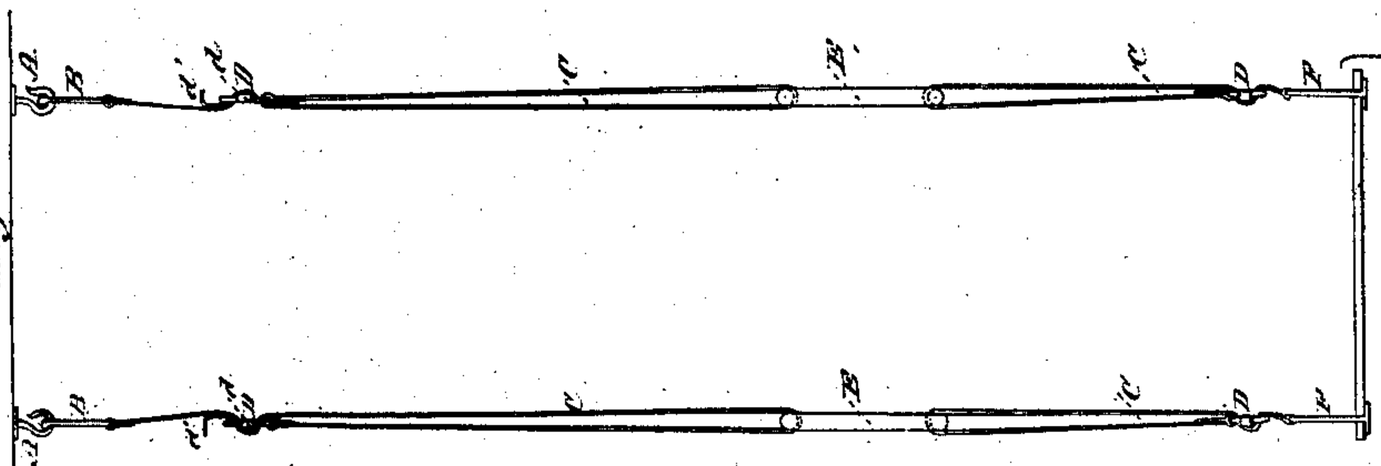


Fig. 2.

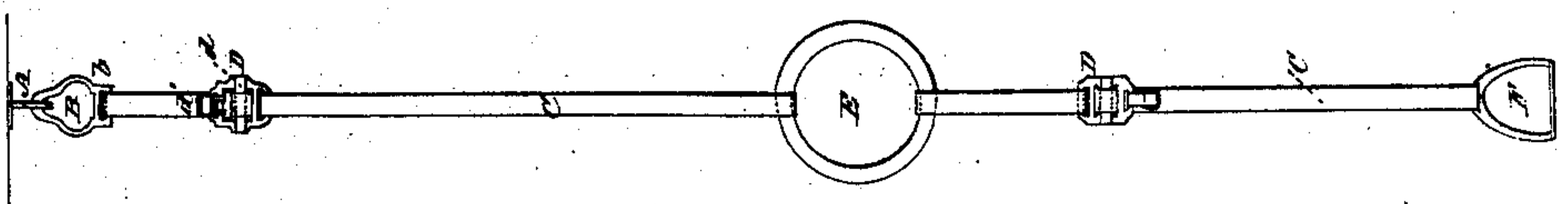
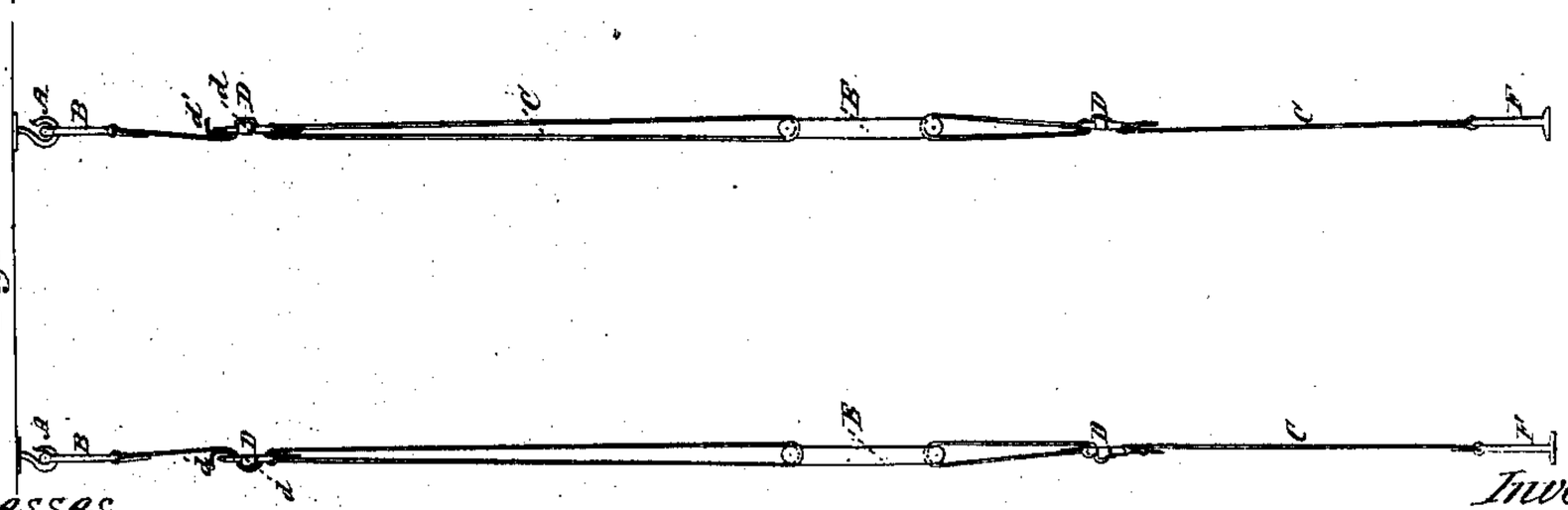


Fig. 1.



Witnesses.

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United States Patent Office.

GEORGE WASHINGTON BACON, OF LONDON, ENGLAND.

Letters Patent No. 69,956, *dated October* 22, 1867.

GYMNASTIC APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, GEORGE WASHINGTON BACON, F. R. G. S., of Lockport, New York, now of No. 48 Paternoster Row, in the city of London, England, publisher, have invented certain new and useful "Improvements in Gymnastic Apparatus, parts of which improvements are applicable for other purposes;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed sheet of drawings, making a part of this specification, in which—

Figure 1 represents a front view of my improved gymnastic apparatus suspended for use.

Figure 2 represents a side view of the same.

Figure 3 represents the apparatus with a swing seat attached.

Figure 4 represents the upper part of the apparatus with a trapeze bar and brakes attached.

Figure 5 represents a front view of an upper buckle, detached.

Figure 6 represents a central section of the same.

Figure 7 represents a front view of a lower buckle.

Figure 8 represents a central section of the same.

Figures 9 and 10 represent modified forms of buckles.

Figure 11 represents one of the rings raised near the suspending hook.

Figure 12 represents a cross-section of the tubular webbing with a central core.

Like letters refer to corresponding parts in the several figures.

The object of my invention is the construction of a portable, neat, and cheap apparatus, upon which a great variety of gymnastic exercises can be performed in a limited space. This apparatus I term the "Home Gymnasium." The said invention consists chiefly in the novel mode of and means for suspending and adjusting the several parts of the apparatus.

A A are the hooks upon which the apparatus is suspended. These hooks are screwed into a beam or joist about eighteen inches apart. The apparatus can be instantly placed upon these hooks and as readily removed. B B are the suspending-links. These links are made of metal, and are so formed as to admit of their free movement in any direction upon the hooks A A. They are formed with an enlargement at the top, as shown, to prevent their slipping off when the exercises are being performed, while they may be readily attached or removed by passing the contracted portion of the link over the point of the hook. By the use of this link the friction caused by the swinging of the apparatus is also thrown upon the joint between the hook and link, and the wear of the strap is prevented. C C are the straps, formed of webbing, or leather, or other suitable material. When it is desirable that the webbing should be ornamental it may be made of silk or worsted, by which a display of colors may be secured, and by making it in a tubular form, a strip of strong linen or cotton webbing or other suitable material may be passed through it to give it the required strength, thus lessening the expense. The strap C is secured to the lower side of the slot *b* in the link B, while the second layer of webbing is passed over the upper side, to prevent friction between the two contiguous layers. The ring E is formed of a thin strip of wood wound round a cylinder of the required size in parallel layers, one above another. These layers are glued together as the strip is wound around, and the number of layers is sufficient to give the required strength and thickness to the finished ring. The strip or sheet employed may be of sufficient width to be sawed into several rings after the cylinder is formed. The rings are turned, to give them the required shape and smoothness. These rings are preferable to metal, as they combine cheapness with great strength and lightness. D D are the buckles or friction-slides, the frame of which is somewhat similar to an ordinary buckle. The tongue *d* is made triangular in section, and is attached to the side of the buckle-frame at right angles with the strap or band, with its acute or thinner edge downward, either immovably or by a hinged joint on one side. To the top of the buckle-frame D is attached a brake, d^1, fig. 5. The upper ends of the webbing may be secured to the links by sewing, riveting, or in any other convenient manner, and the lower end of the webbing similarly secured to the part d^2 of the buckle-frame. Where the centre bar *d* of the slide D is immovable, the lower end of the strap is first passed through said slide, (under its end pieces and over its centre bar,) and then, after being passed through the ring E, is brought back and secured firmly to the lower bar d^2 of the said slide. Otherwise the lower end of the strap is first attached to the slide or buckle D, and, together with the same, is passed through

the ring E. A loop of the strap is then passed into the said slide or buckle-frame D, between the end pieces thereof, (its tongue or bar *d* being raised or removed for the purpose,) far enough to admit of the replacement of the bar or tongue *d* under the loop. Instead of riveting the strap or band to the link, as above described, a buckle may be attached to each end of the strap, (after passing it through the slot *b*.) When constructed in this manner the lower buckle is not used for adjusting the rings, but merely when the rings are removed to put in the trapeze bar; and the adjustment is then performed by means of the upper buckle. The lower straps C are secured to the stirrup and to the part d^2 of the lower buckles in the same manner as the upper straps, and are regulated and adjusted in all respects in the same manner. They can be instantly removed or replaced, as the different exercises require. In performing the different exercises it is frequently necessary to change the height of the rings E and stirrups F, and to adapt the apparatus to the height of different performers, and for the different exercises. Some of the exercises require the rings to be adjusted with great precision, and the value of such an apparatus depends very much on the facility and accuracy of adjustment. In gymnastic apparatus heretofore in use, when adjustable rings have been employed, a separate point for attaching the end of the rope has been used, and where the ordinary buckles are employed the precision of adjustment is limited to the distance between the holes. But by the use of these buckles or slides, in connection with the link B, admitting the buckle to pass through it, I dispense with the necessity of a second point for attaching the upper end of the rope or strap, and with the surplus cords, hooks, and stays for adjusting the rings, and at the same time the rings may be readily raised and lowered and securely held at any desired height. It allows a loop of the band to be inserted at any point, without the necessity of passing the end through the buckle. It dispenses with holes, and thus increases the durability and enables webbing to be substituted for leather. The whole is therefore more neat and simple, less expensive, occupies less space, and is better suited for use in dwelling-houses. Although I prefer the above form of buckle, there are several modifications by which the same objects may be accomplished. A buckle may be employed in which the centre-bar (fig. 10) is immovable, and the straps are inserted through apertures *f*, in the triangular sides *i i*, formed through any portion of the frame, the end of the strap being sewed to the centre bar. Or the frame may be made solid, as in fig. 9, and the triangular cross-bar *g* made removable by first turning it into a diagonal position, so as to free it from a projection formed on the interior of each side of the buckle-frame *f'*. When turned in that position, this cross-bar can be taken out to allow the strap to be inserted, and can then be replaced in a similar manner. When this form is used, the strap is secured to the part d^2 of the buckle-frame, fig. 9, and the movable centre bar *g* and the part *j* are triangular in shape. The brake d^1 is so constructed that when the weight of the performer is applied to the ring the strain upon the strap produces a pressure upon the upper end of the lever, causing the lower end to press upon the buckle-tongue *d* and to bind the webbing so as to prevent slipping, and the greater the weight applied the greater the pressure on the lever. The upper end of this lever d^1 is bent forward, and a tab sewed into it, and when the tab is pulled for sliding the buckle up, the pulling of it throws the lever into a position which removes the pressure from the strap and allows the buckle to be moved with ease. When leather or linen webbing is used, as in the lower straps, the brake is dispensed with, the action of the triangular tongue being sufficient to prevent the slipping when the weight of the performer is applied to the ring E, and at the same time the buckle can readily be moved upwards or downwards upon the strap when the weight is removed. The projecting edge of the buckle-tongue *d* being downwards the buckle does not slip in that direction so readily as in the opposite direction, and thus the liability of slipping when the weight of the performer is applied to the rings or stirrups is greatly diminished. When it is desirable to raise the rings higher than can be done by the strap being merely doubled once, it is done by unhooking the buckle D from the strap and passing it through the link B and attaching said buckle to one thickness of the strap again at any desired point. When the rings are required to be still higher, the buckle may now, without being unhooked, be drawn down upon the webbing through the ring and up again through the link, as shown at fig. 11, as many times as is desired, until the ring is drawn close up to the suspending-link in the same manner as two pulley-blocks are drawn together, but having the advantage of keeping the end of the strap constantly wound upon said strap, and capable of being stopped at any desired height without liability of slipping, and with no loose end or slack to be disposed of. These friction-slides or brakes can also be advantageously employed in all cases wherever it is desirable to insert and remove the strap or band without passing its end through said slide, and also when it is desirable to avoid forming holes in straps or bands, or to adjust the strap to any desired point without being limited to the distance of the holes from each other. The trapeze-bar G is made of wood, about thirty inches long, and one and one-half inch in diameter, and is provided with a link, *h*, fig. 4, on each end. In using the apparatus as a trapeze, as represented in fig. 4, the hand-rings E are removed by unhooking the buckles, and the links on each end of the bar are attached to the upper straps in the same manner as the hand-rings, and the bar is thus adjustable in the same manner by means of the friction buckle or slide D. In using the apparatus for the exercises with the bar, the flat strap will be found inconvenient for holding firmly with the hand. To obviate this difficulty, and still retain the flat strap for exercises with the hand-rings, I use a cylindrical piece of wood, H, to each end of which are attached metal slides, *i'*, provided with a movable tongue similar to the other buckles, to admit of the strap being inserted. When the cylindrical piece H, fig. 4, is adjusted in any desired position the operator grasps it and the strap in his hand, and is thus enabled to obtain a firm hold, and as long as he retains his hold the friction of the strap against the cylindrical piece prevents the latter from slipping, and when released the said slide can readily be moved up or down or removed from the straps. The same purpose may be accomplished by various other arrangements, the object being to combine the advantages of a flat strip with those of a round rope by means of a piece of wood to give a firm grasp.

The apparatus may also be converted into a swing for children by attaching a flat board to the stirrups F, as represented in fig. 3. The seat is formed with notches near each end, and can be inserted through the stirrups when turned edgewise, but when placed in a level position it is bound by the sides of the stirrup and cannot slip out.

While it is not necessary, nor practicable without illustrations, to describe the various gymnastic exercises that may be performed upon my improved apparatus, it may be remarked that it is adapted to all or nearly all the exercises performed on the bars, ladder, swing, and other apparatus of an ordinary gymnasium, while the cost of the apparatus is comparatively trifling, and from its peculiar construction the exercises may be performed in a small room. It combines all the advantages of a public gymnasium without any of its inconveniences. Most of the exercises may be performed by ladies without impropriety. It proves an amusement to children, and, properly used, cannot fail to increase the strength of the muscles, and the vigor of both body and mind.

I do not claim the employment of rings and stirrups in themselves for gymnastic purposes, as I am aware that these have been used in gymnastic apparatus of other constructions; nor, on the other hand, do I intend to limit myself to the details as herein set forth and illustrated, as these may be considerably varied without departing from the principle of my invention; but what I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a ring, E, with a friction-slide or buckle, D, when the latter is secured to one end of a strap, C, and so arranged as to pass readily through said ring and through a suspending-link, B, and slide upon the outside layer of the strap, all substantially in the manner and for the purpose herein set forth.

2. The combination of a hand-piece, H, with the straps or bands C of my improved gymnastic apparatus by means of adjustable slides secured thereto, substantially in the manner and for the purpose herein set forth.

3. The adaptation and combination of a swing seat with the stirrups F of a gymnastic apparatus, substantially as and for the purpose herein set forth.

4. The friction-slide or buckle D of my apparatus, consisting of a suitable metallic frame, in combination with a hinged or movable centre bar, *d* or *g*, constructed and operating substantially in the manner and for the purpose herein set forth.

5. The use of a brake, d^1, in combination with a slide, D, substantially as and for the purpose herein specified.

6. Constructing the rings E of my improved apparatus of layers of wood, arranged and combined substantially in the manner and for the purpose herein set forth.

G. W. BACON.

Witnesses:

GEORGE HASELTINE,

HENRY MACKER.