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3,491,998

COT EXERCISING DEVICE

Filed May 2, 1968

2 Sheets-Sheet 1

Fig. 1.

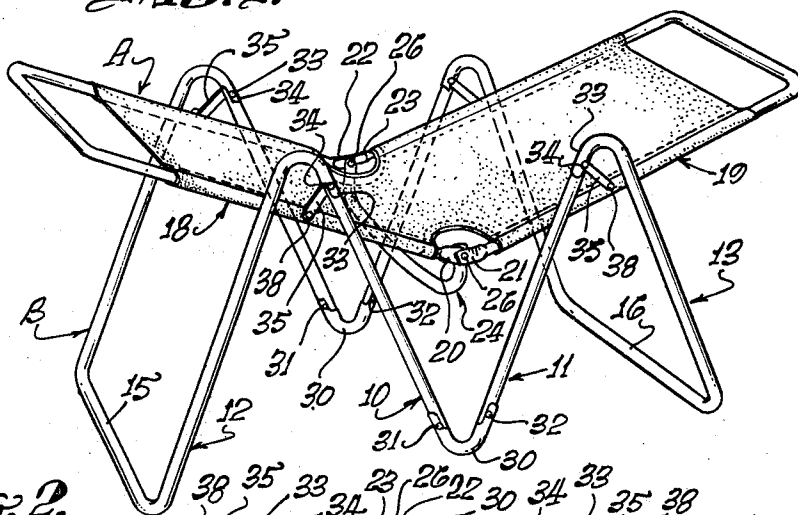
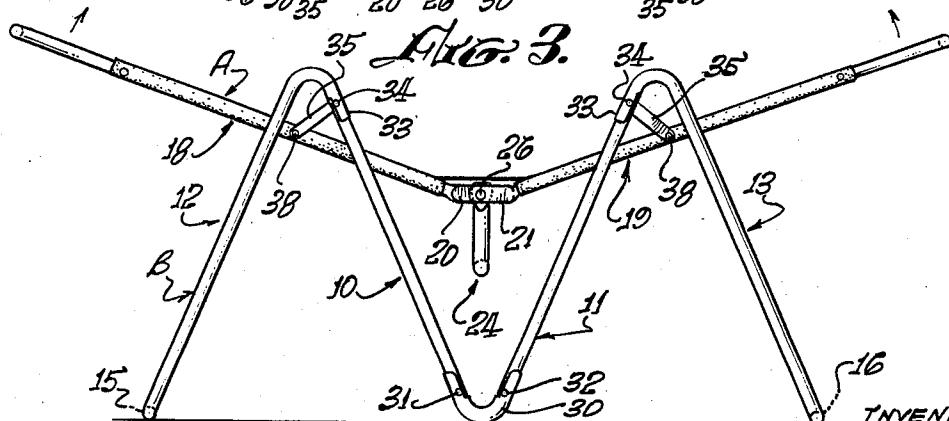
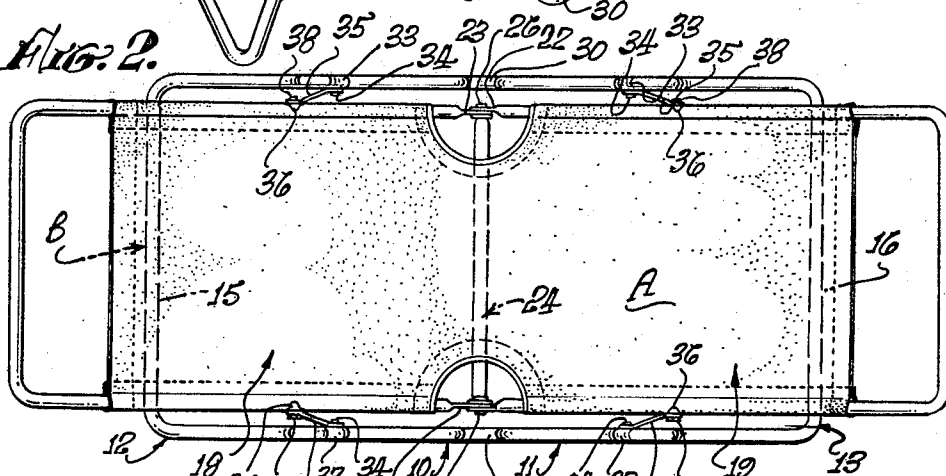


Fig. 2.



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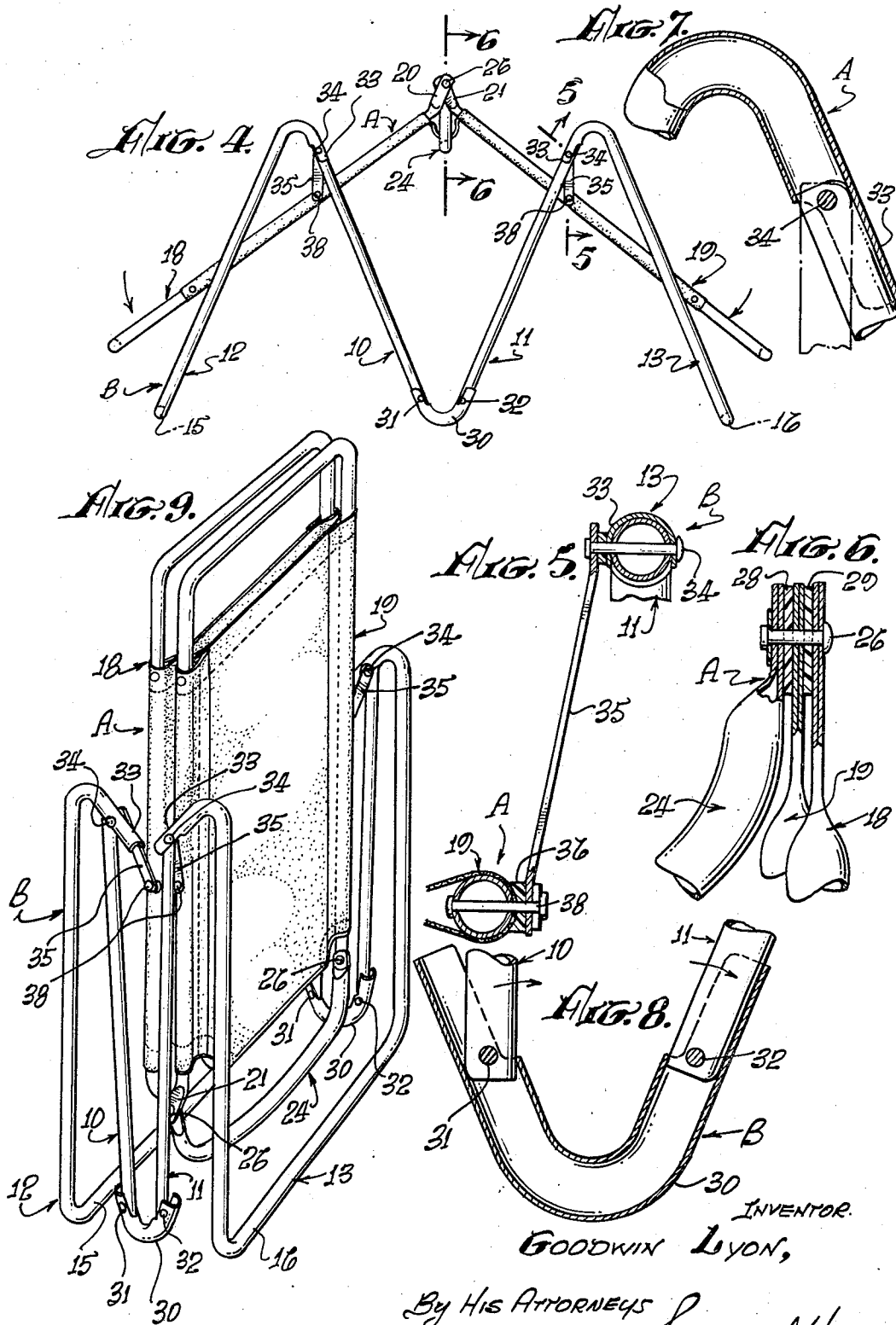
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COT EXERCISING DEVICE

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4 Claims

ABSTRACT OF THE DISCLOSURE

The present invention is an exercising device which includes a cot section for supporting a human body. The cot section is divided into two sections which are pivotally connected at the midpoint of the rectangular cot. The cot section is in turn supported upon a base member such that the two sections of the cot are each pivotally supported from the base member proximate the midpoint of each cot section, such that the cot member will pivot about the base member and in turn pivot at the cot midpoint. The base member is formed of two side members each in the general form of two inverted V's. The two side base members are joined together by a transverse member extending between the two outermost legs of the side base sections. Each of the legs in the opposed side sections are pivotally connected one to the other by means of a U-shaped bracket to allow longitudinal accordion-like collapse and extension of the base member together with the cot member for storage of the device.

BACKGROUND OF THE INVENTION

This invention relates in general to exercising devices or exercising cots wherein a cot member adapted to support a human body is so constructed as to pivot at the midpoint of the cot to thereby allow the cot to move upwardly and downwardly at its midpoint to cause it to vary from a shallow V-shape configuration to a shallow inverted V-shape configuration. Such devices known to the prior art are disadvantageous particularly in the fact that they are difficult to store and have prior to this time been built in such fashion as to require disassembly for storage. Due to the necessary size of the device, storage is an important consideration and in order to accomplish such storage it must be possible to reduce the size of the device when it is not being used. In the prior art this has been done by disassembly. Also, since the device is intended to support a human body while imparting considerable motion to the body it is necessary that it be structurally strong and that the construction employed for allowing storage be such as to retain the considerable strength required when the device is in use.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an exercising device, or cot, which is structurally strong in the configuration in which it is being utilized.

It is another object of the present invention to provide such an exercising device which can be readily stored by being put into a collapsed configuration.

It is another object of the present invention to provide such a device which is economical of construction and pleasing in appearance.

In its presently preferred embodiment the present invention comprises an exercising cot having a cot section formed of two V-shaped tubular members with a body support material such as canvas covering both halves of the cot frame to form a body support. The assembled cot section is pivotally mounted upon a frame base section. The base section includes two side sections in the form of two inverted V's with a transverse member connecting the outermost point of the legs forming the inverted V's. The

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legs of the side sections are in turn pivotally connected by means of U-shaped brackets which retain the legs in the inverted V configuration when the device is in use but allow the side members to be collapsed together with the cot section for storage. The cot section is in turn, pivotally mounted upon the frame member by means of straps which extend from the apex of each V in the side members to approximately the midpoint of each frame member of the cot. The straps are pivotally mounted upon both the cot sections and the frame sections by suitable bearings.

DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a view in perspective of the apparatus of the present invention;

FIGURE 2 is a top plan view of the presently preferred embodiment of the present invention;

FIGURE 3 is a view in side elevation showing the cot section in the configuration at which it forms a shallow V;

FIGURE 4 is an end view in elevation showing the cot section in the outermost limit of its travel with the midpoint in the upper direction;

FIGURE 5 is a detailed view in section taken along line 5-5 of FIGURE 4 showing the pivotal mounting of the cot section to the frame section;

FIGURE 6 is a detailed view in section showing the pivotal mounting of the two portions of the cot section and the brace member thereof;

FIGURE 7 is a detailed view partially in section showing the U-shaped bracket having one pivot point for the joiner of the legs at the apex of the two V sections;

FIGURE 8 is a view in section showing the U-shaped bracket which connects the two V's of the side section such that both legs are pivotable therein; and,

FIGURE 9 shows the device of the present invention in its collapsed form for storage.

Description of the preferred embodiment

Referring now to the drawings there is shown a presently preferred embodiment of the present invention which includes in general terms a cot section A and a base frame section B. As shown in FIGURES 1, 2 and 3 the base section B when assembled includes four legs designated as inner legs 10, and 11, and outer legs 12 and 13 in the figures. The four legs are joined at their ends in a configuration which provides two inverted V's or an M-shaped configuration at each side of the cot section. A transverse member 15 and 16 then joins the two side sections of the base member to form a unitary structure. The cot section A includes two cot frame members 18 and 19 which are joined at their end points 20, 21, 22 and 23 to form a rectangular open framework. At the midpoint of the cot section the two frame members are pivotally connected and a transverse brace 24 extends between the two midpoints therebeneath. Thus the brace member 24 is of generally U-shaped configuration and as shown in FIGURE 6 the ends of the two U-shaped cot frame members and the brace member 24 are all joined by a common bearing pin 26. In order to pivotally connect the two sections and the brace, the ends of the two frame members and the brace member are flat and suitable bearings such as nylon washers 28 and 29 are sandwiched between the connected portions. That is, the cot frame sections 18 and 19 are generally U-shaped and formed of tubular metal. At the ends thereof 20 through 23, the tubular metal is flat and is bent upwardly as shown in FIGURE 4 to obtain a connecting surface through which the bearing 26 is inserted. A support material such as canvas 28 is stretched across and sewn about the frame members so that it extends throughout a substantial portion of the length of the cot frame and will support a body thereon. The support material 28 is not as long as the cot frame to thereby leave a space between each end

of the support material and the cot frame members in order that the feet and hands can be used to grip and push against the cot frame sections.

As previously described and as shown in the figures, the base section B has opposed side sections pivotally joined so as to be longitudinally collapsible. Thus, inner legs 11 and 12 are pivotally connected at their lower ends while legs 12 and 13 and 10 and 11 are pivotally connected respectively at their upper ends. Referring now to FIGURE 8 the means of the present invention for joining the inner legs 11 and 12 is shown. A U-shaped bracket 30 is provided at each of the opposed side frames. The bracket has the legs of the U formed at the angle which the legs 11 and 12 are to be supported in the open position as shown in FIGURES 1, 3 and 4. Thus, the bracket 30 is formed of tubular material having an inside diameter approximately equal to the outside diameter of the tubes from which the legs 11 and 12 are formed. A length of the tubular inner wall of the bracket is removed at the upper ends of the bracket to form an open chordal section with the chord equal to or greater than the diameter of the legs 11 and 12 while leaving the remaining tubular portion with an arcuate extent greater than 180°. Accordingly, pins 31 and 32 extend through the walls of the bracket and the legs 11 and 12 proximate the lower ends of the legs and near the lower end of the chordal opening in the bracket legs. The legs can then be pivoted from the bracket to an approximately parallel position as shown in FIGURE 9 and at leg 11 in FIGURE 8 to an open position as shown by leg 12 in FIGURE 8. In the open position the legs are supported by being cradled in the bracket walls.

In FIGURES 7 and 5 a comparable pivot arrangement is shown for the upper ends of legs 11 and 12. Thus, for these pivotal connections the upper ends of the outer legs are bent downwardly to the angle corresponding to the open angle of legs 11 and 12. A single chordal section is removed from the downwardly directed end 33 of the leg 11 and a pivot pin 34 is inserted as previously described. Leg 11 is then restricted to the open angle at which it abuts the surface of the leg within which it is pivoted.

Accordingly, the maximum angle to which the legs can be pivoted to the open position is as shown in FIGURES 1, 3 and 4. At that position the forces exerted upon the legs force them into bearing contact, one with the other, and no collapse of the device under forces encountered during exercising can occur. For storage, however, it is necessary merely to fold the legs longitudinally inwardly to the configuration shown in FIGURE 9. No such collapse can occur in use since the resultant forces due to weight on the cot all tend to move the legs outwardly which movement is resisted by the bracket construction.

The cot is suspended from the base member by straps which are pivotally supported near the apex of the side sections. Thus, as shown in FIGURE 5 a metal strap 35 is pivotally mounted upon each of the four bearing pins 34 which connect the upper end of legs 10 and 11 and 12 and 13 of each side member. A nylon bearing 36 is positioned between the strap and the leg sections 10 and 13. Each strap at its lower end is pivotally connected to a respective side of the two cot frame sections 18 and 19. A

bearing pin 38 is thus inserted through each side of the two cot sections 18 and 19 at approximately the midpoint thereof, extended through a nylon bearing 39 and suitably affixed through a respective strap 35. The cot frame is accordingly suspended pivotally from the base member at approximately the midpoint of the two pivotally connected cot sections.

The present invention thereby provides a construction which is strong in the open position while being readily collapsible for storage.

What is claimed is:

1. An exercising cot comprising:

a base member;

a rectangular cot section including two sections pivotally interconnected at the longitudinal midpoint of said cot section;

said cot section being pivotally suspended from said base member at opposed points intermediate the length of each of said two cot sections;

said base member including first and second opposed side members extending longitudinally at each side of said cot section;

each side member having four legs pivotally interconnected in a generally M-shaped configuration such that each side section rests upon three points on the floor, each of said four legs being pivotally connected to the adjacent leg to be movable to a collapsed position at which said legs are substantially parallel; and

cross-bracing means between said opposed side members.

2. The apparatus as defined in claim 1 in which the two innermost legs are pivotally mounted in and connected by a U-shaped bracket in which a wall of the bracket is in bearing contact with each leg in the open position of said apparatus and that a portion of the inner surface of the U-shaped bracket is removed to allow pivotal movement of said inner legs one toward the other.

3. The apparatus as defined in claim 2 wherein the outermost legs of each side section are pivotally connected to the inner legs of said side section, said outer legs having a downward turned upper end, said downwardly turned upper end being at the angle of said inner legs at the open position of the apparatus, said inner legs being pivotally connected within said downwardly turned end of said respective outer leg such that said inner leg is in bearing contact with the inner surface of said downwardly turned end at said open position to restrict further pivotal movement of said legs.

4. The apparatus as defined in claim 3 in which said cot is suspended from the pivotal connections between the outer and inner legs of each side section.

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U.S. Cl. X.R.

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