US 20020137606A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2002/0137606 A1

Willis et al. (43) Pub. Date: Sep. 26, 2002

(54) PORTABLE RESISTANCE EXERCISE MACHINE

(76) Inventors: **William O. Willis**, Hillsborough, CA (US); **Elbridge W. Thrasher**, Hillsborough, CA (US)

Correspondence Address:
JAMES R. CYPHER
405 14TH STREET
SUITE 1607
OAKLAND, CA 94612

(21) Appl. No.: **09/813,059**

(22) Filed: **Mar. 20, 2001**

Publication Classification

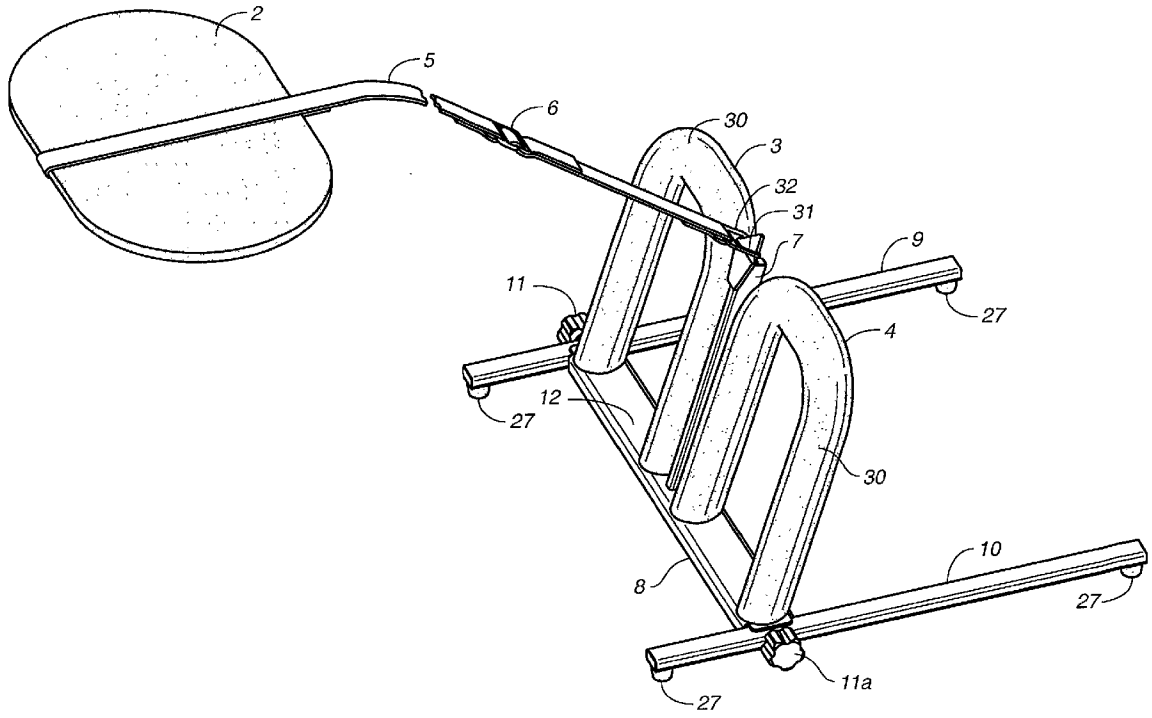
(51) **Int. Cl.**[7] **A63B 21/04**; A63B 21/02

(52) **U.S. Cl.** **482/123**; 482/129

(57) ABSTRACT

A portable leg or arm powered exercise device for a person that may include a seating pad permanently or detachably affixed to a support base upon which one or more resistance members are mounted for engagement by one or both feet or hands of the user.

Preferably the resistance members include coil springs to provide the resistance and spring control guides to prevent overly sharp angular bending of the coil springs.



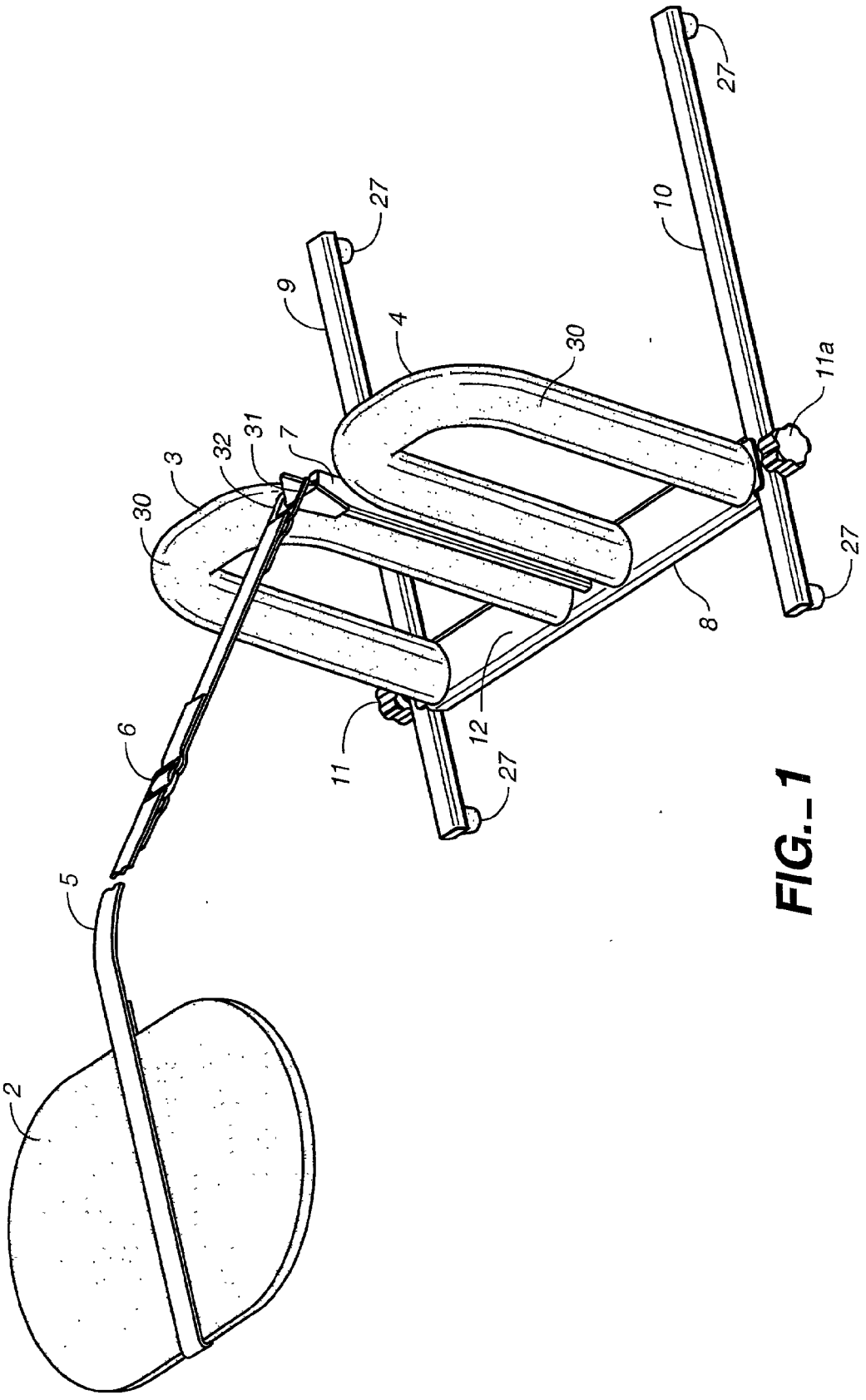


FIG._1

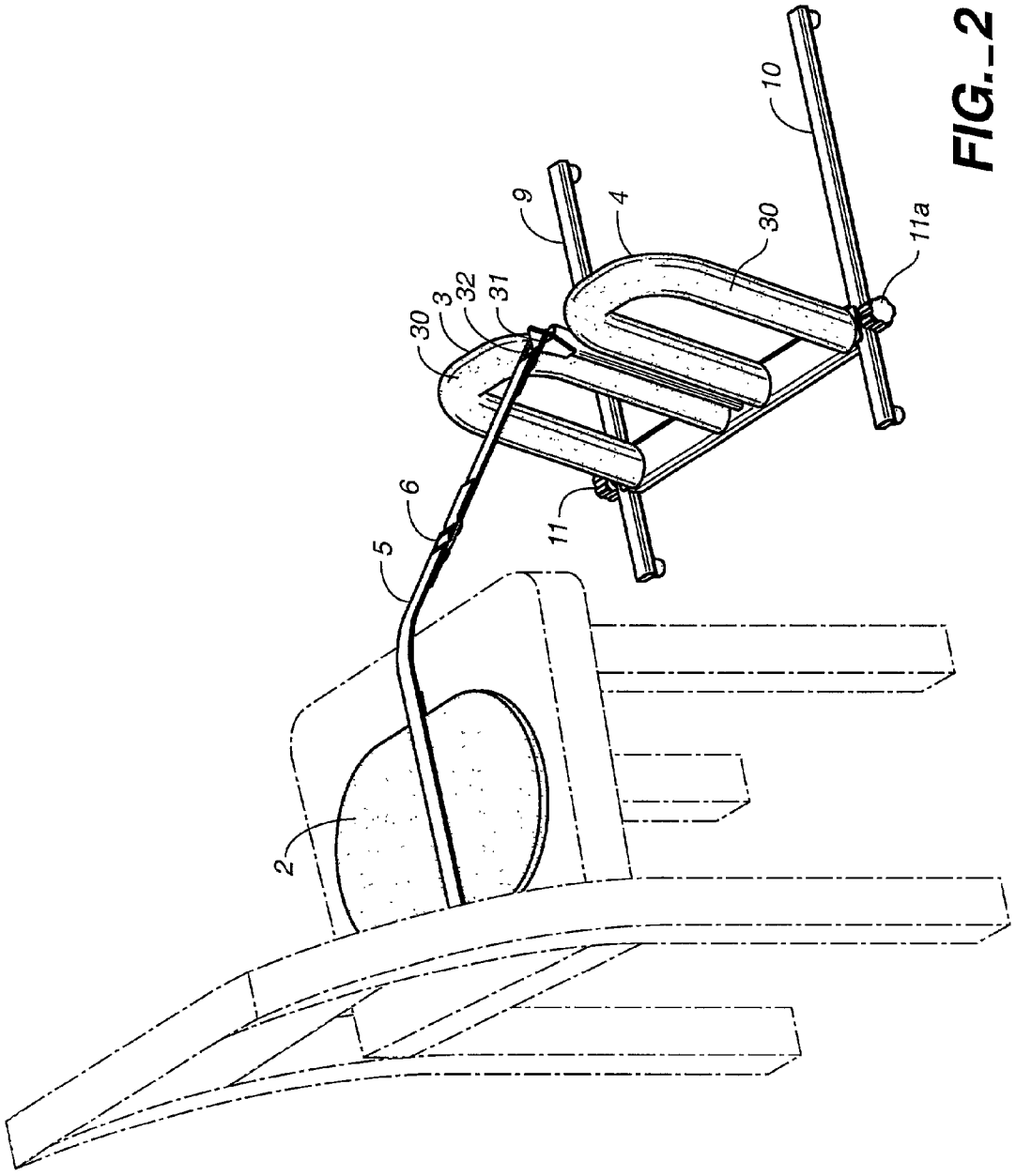


FIG._2

FIG._3B

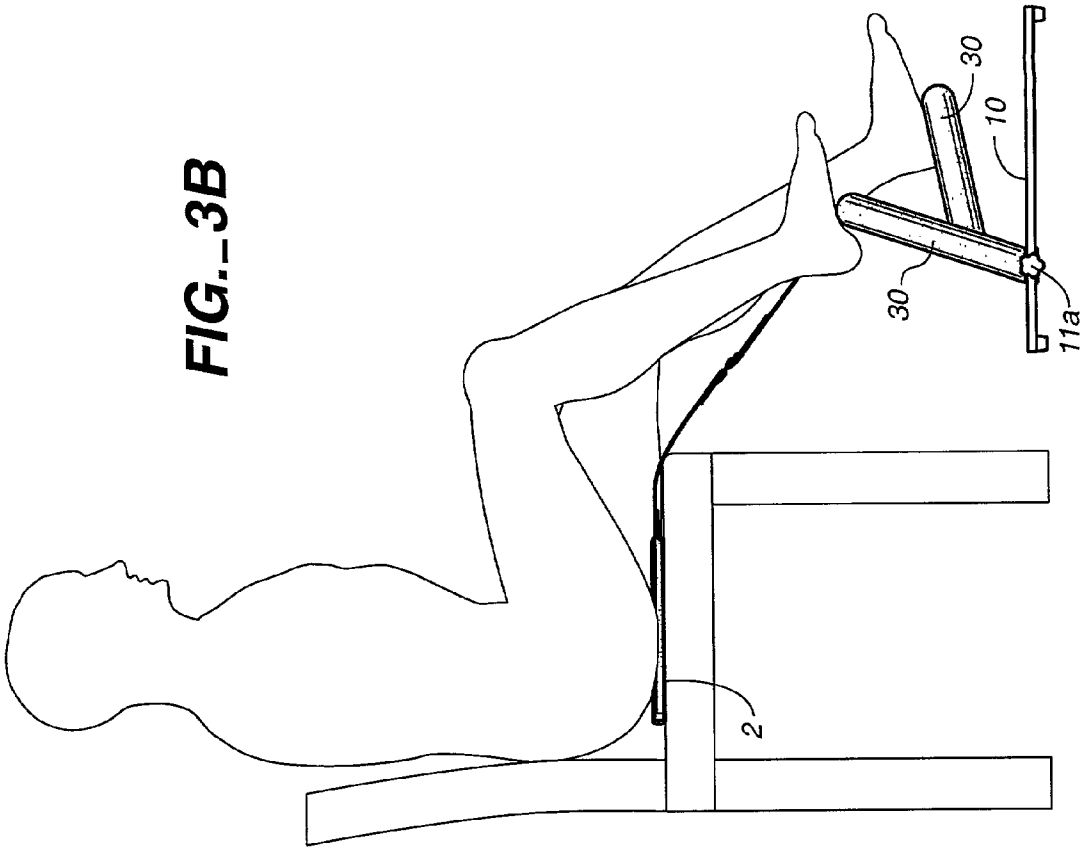
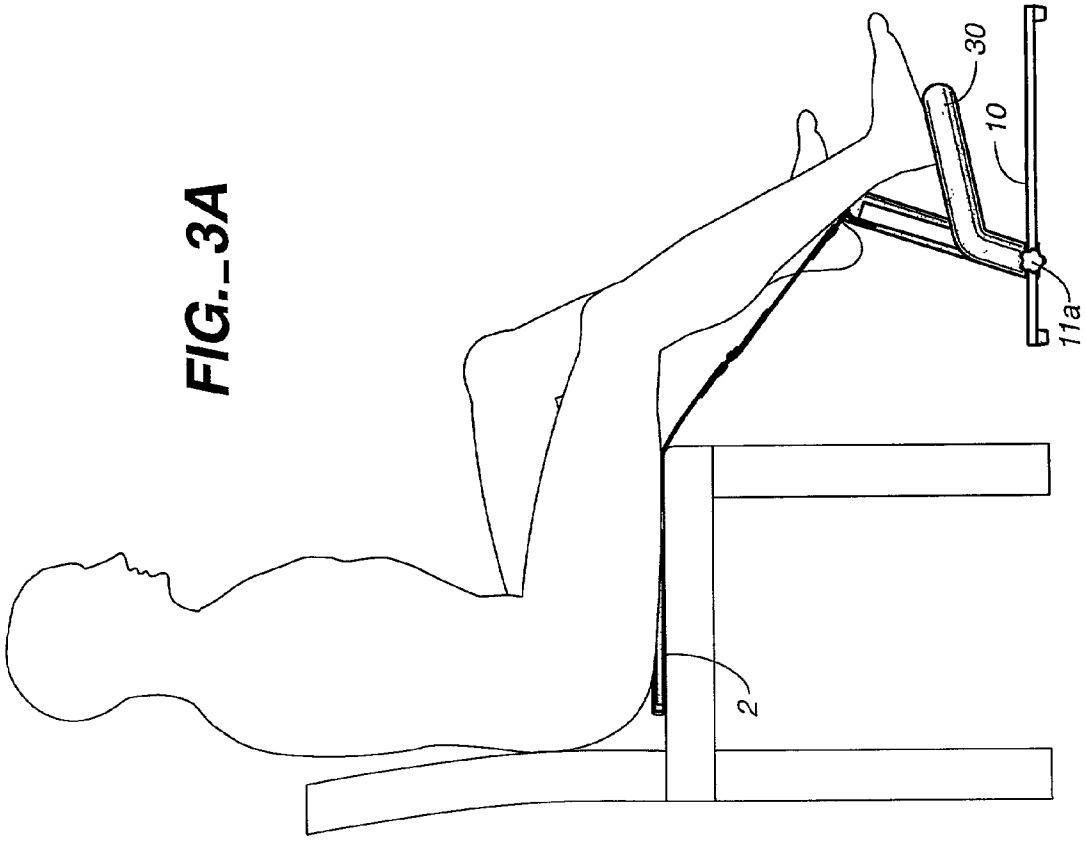


FIG._3A



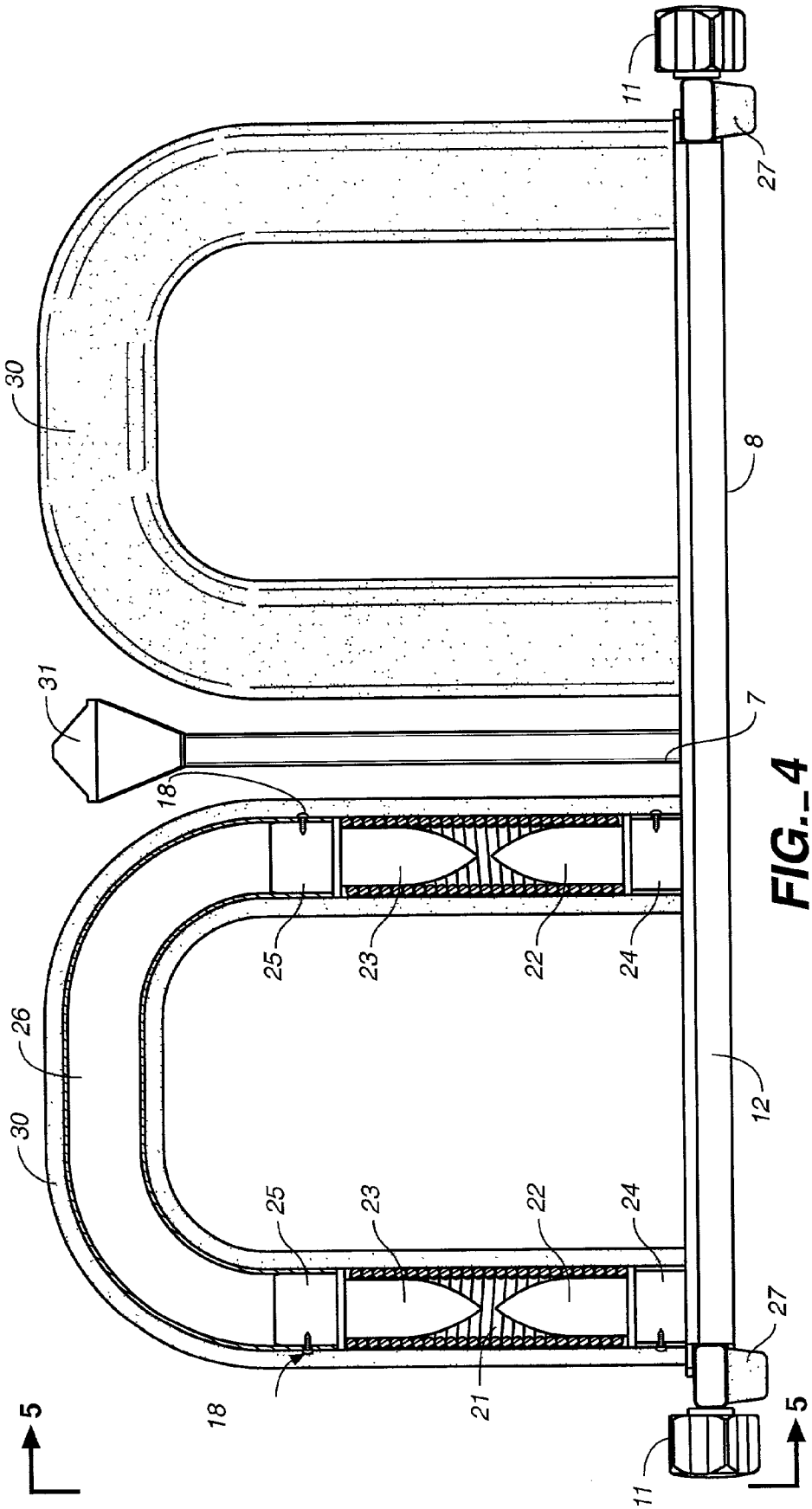


FIG._4

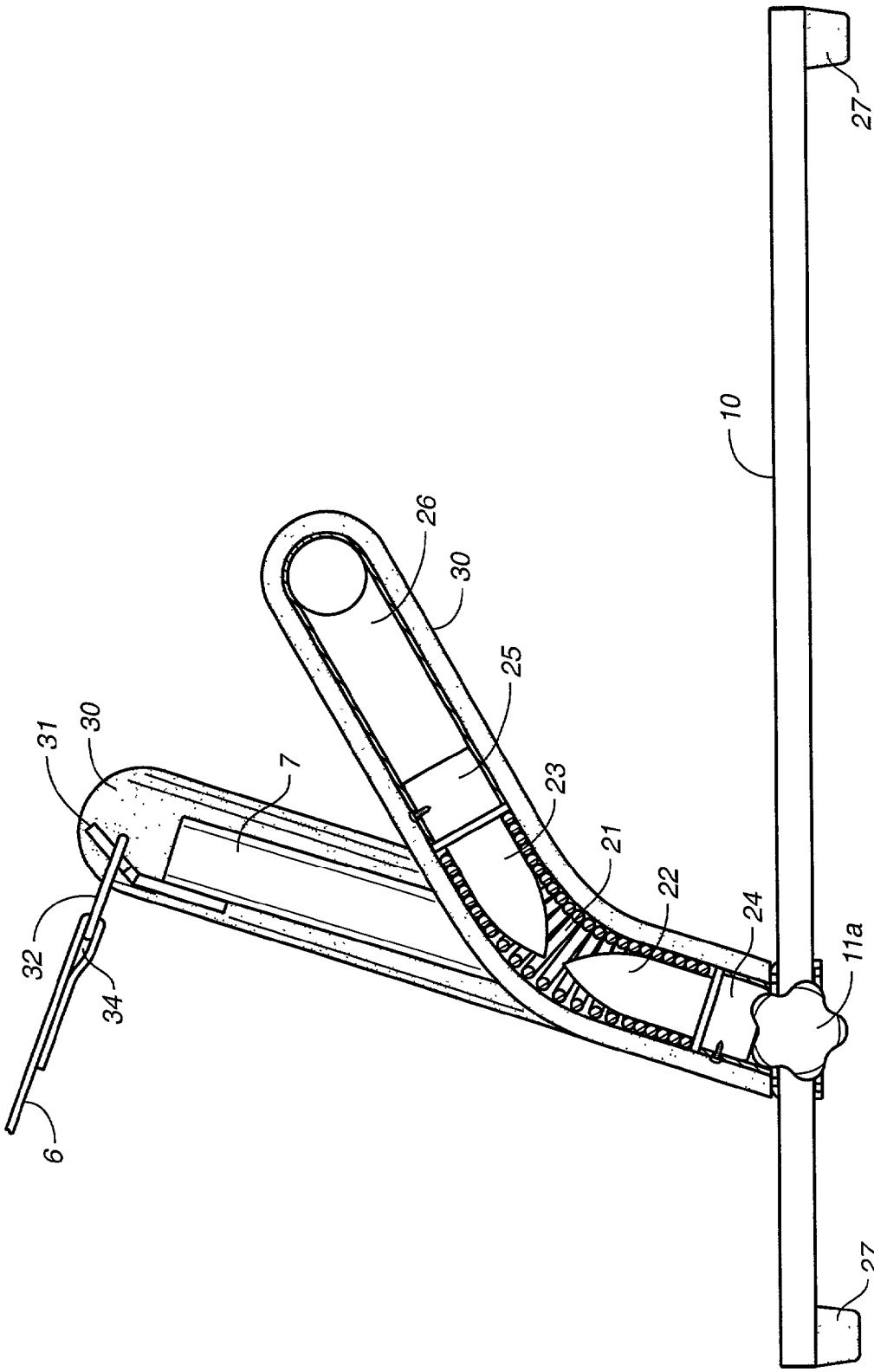


FIG._5

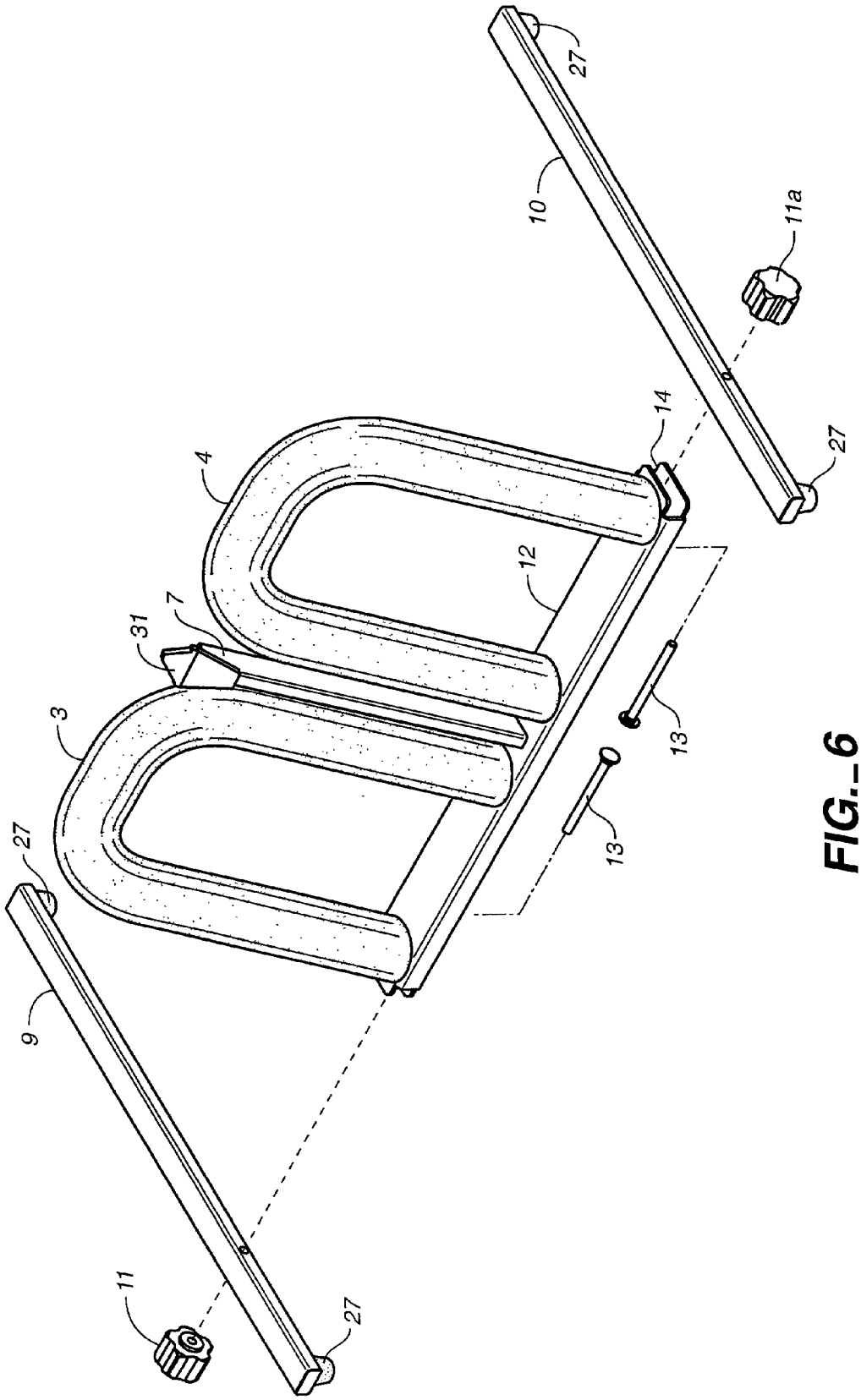


FIG._6

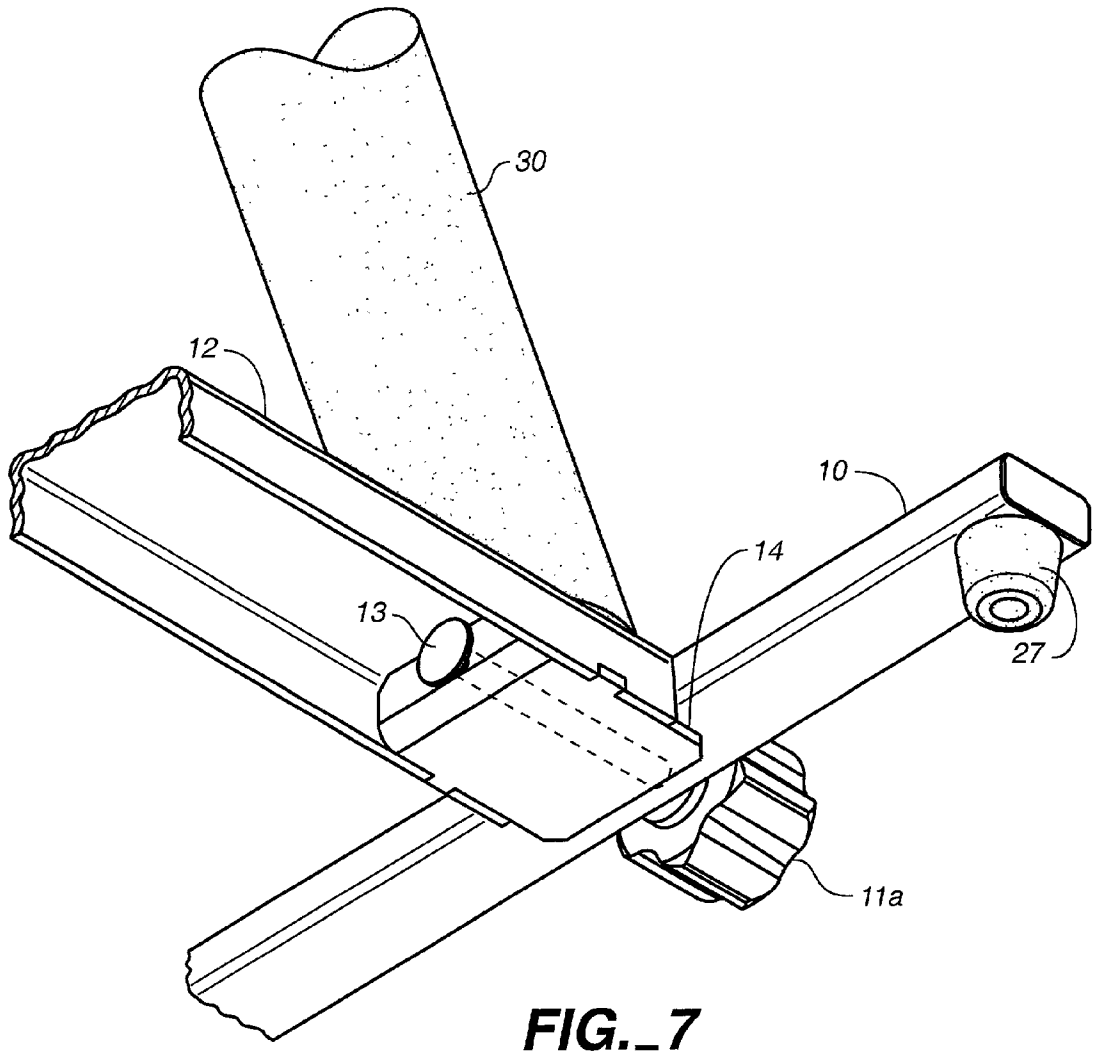


FIG._7

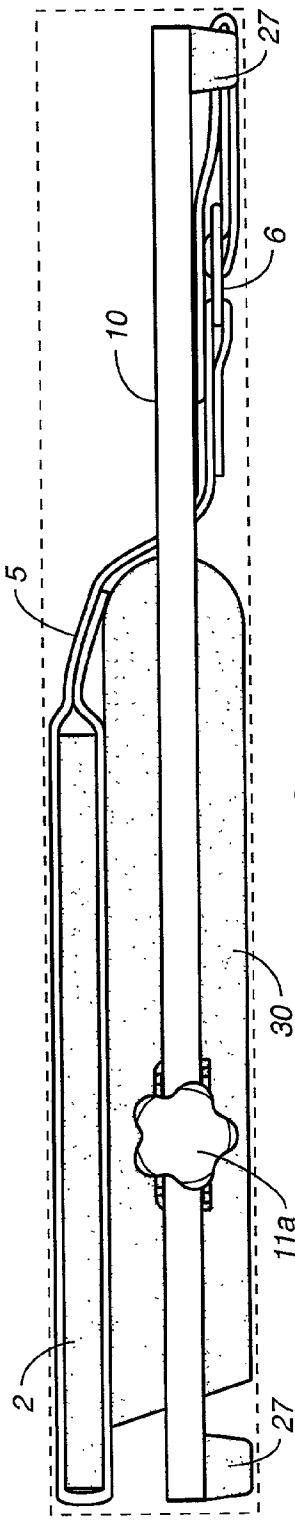


FIG._8

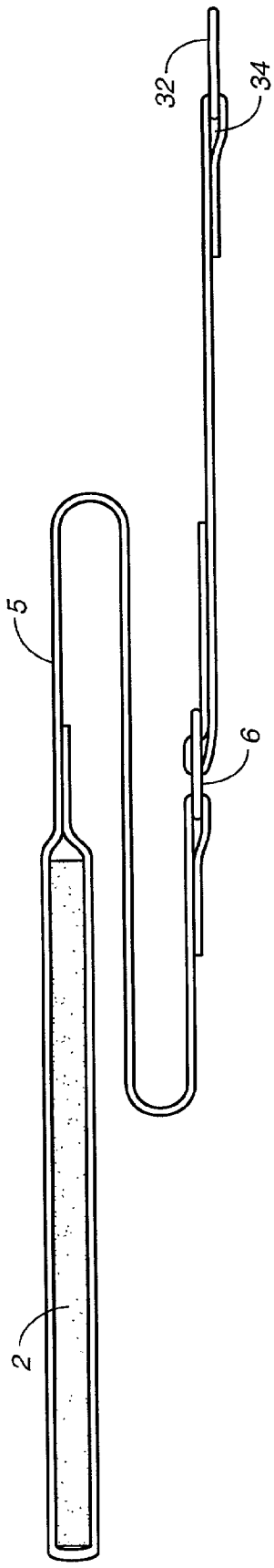


FIG._9

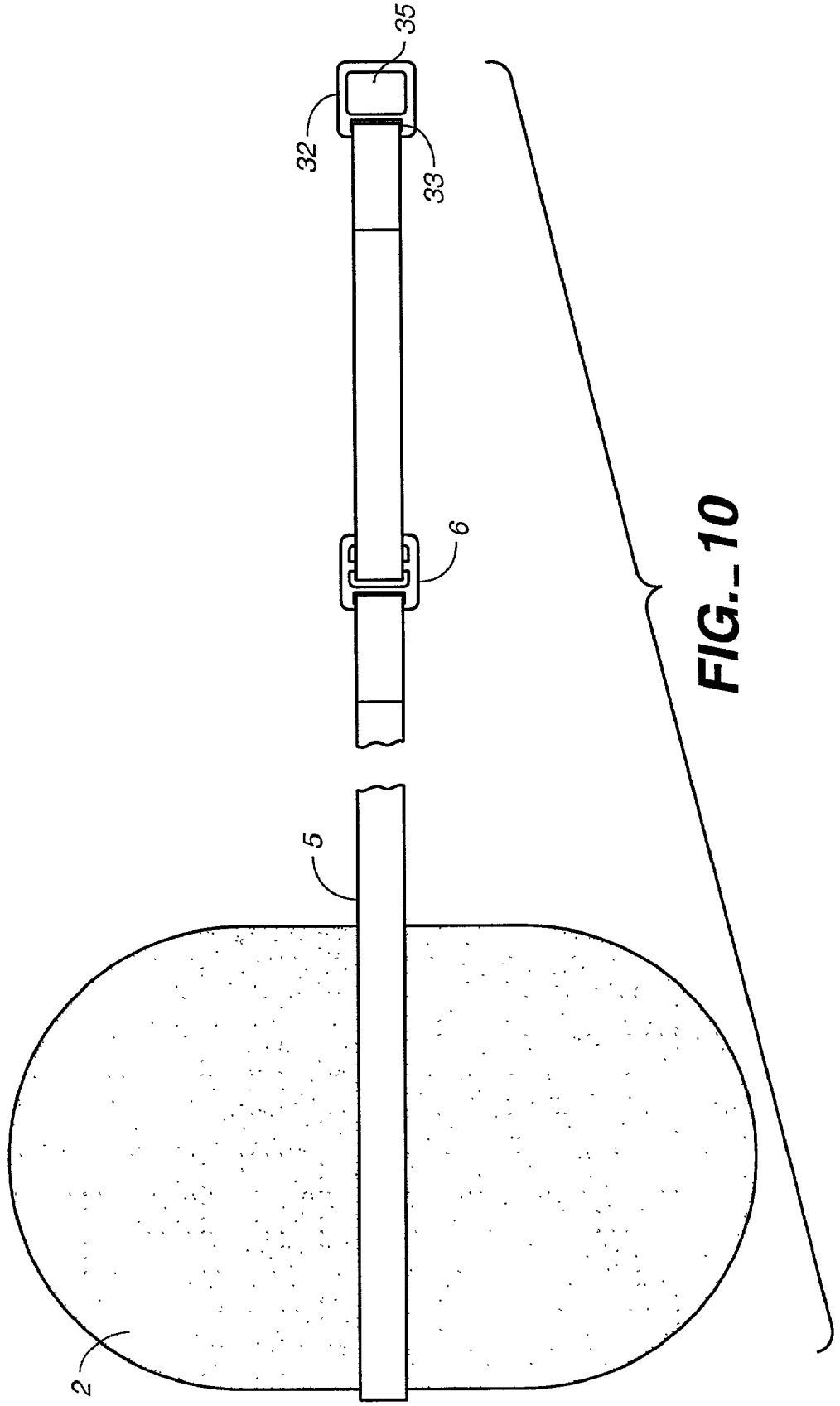


FIG._10

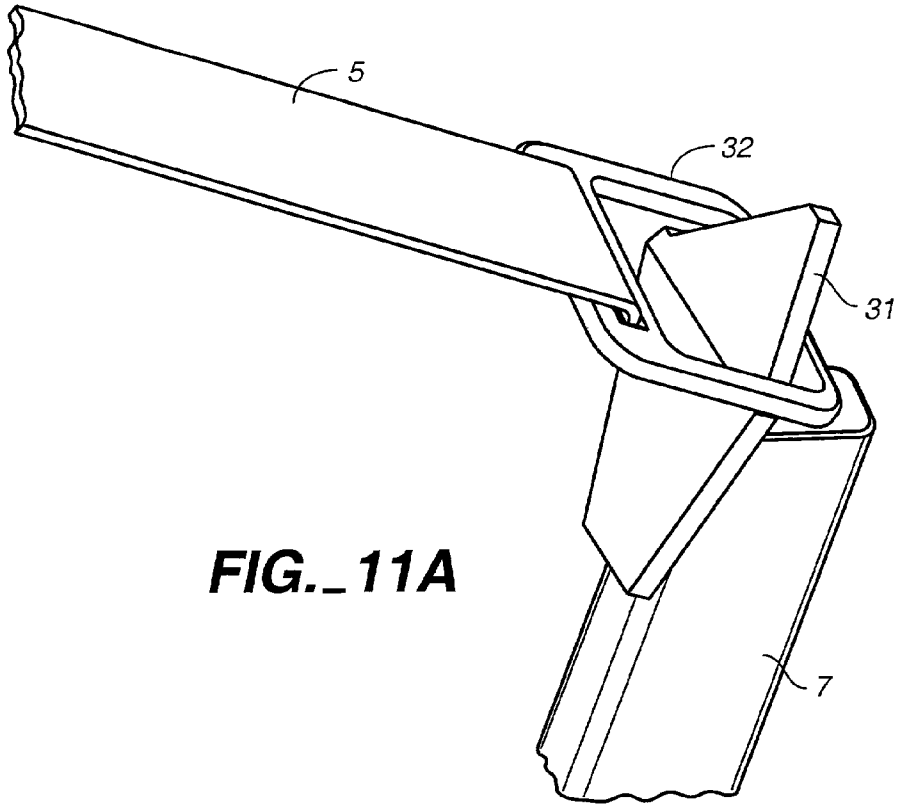


FIG._11A

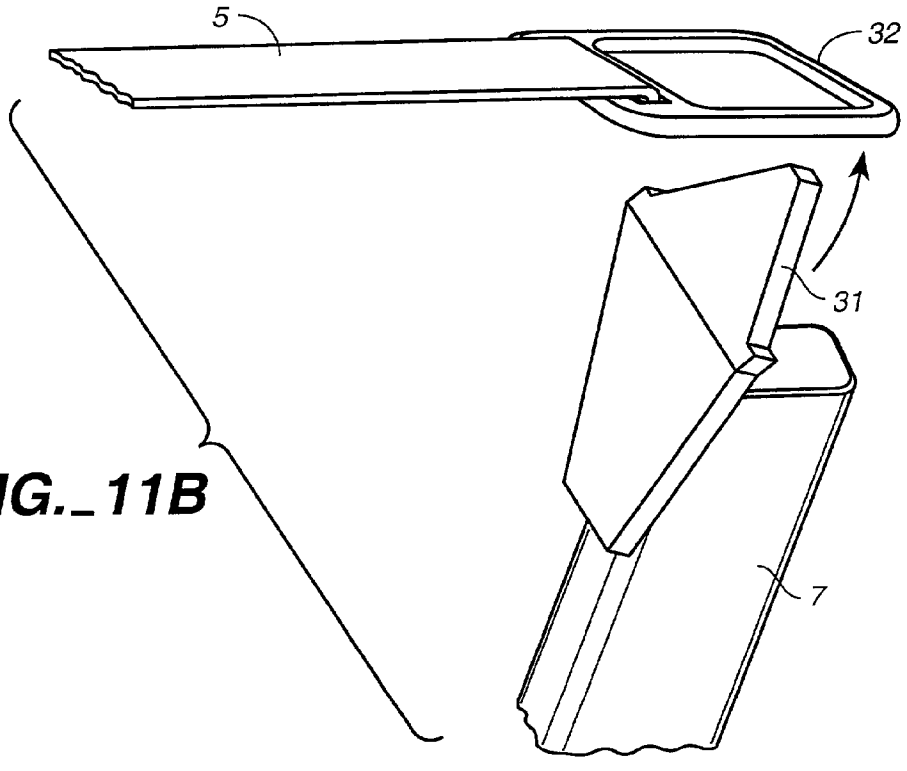


FIG._11B

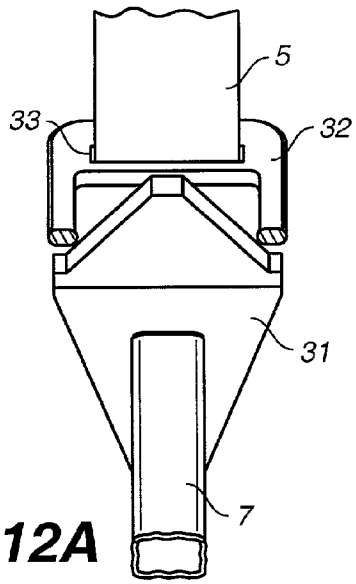


FIG._12A

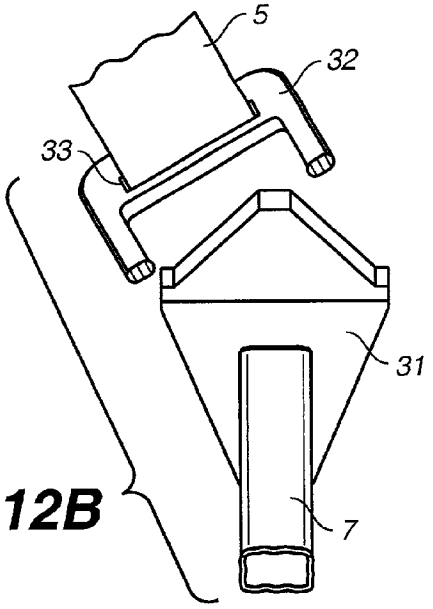


FIG._12B

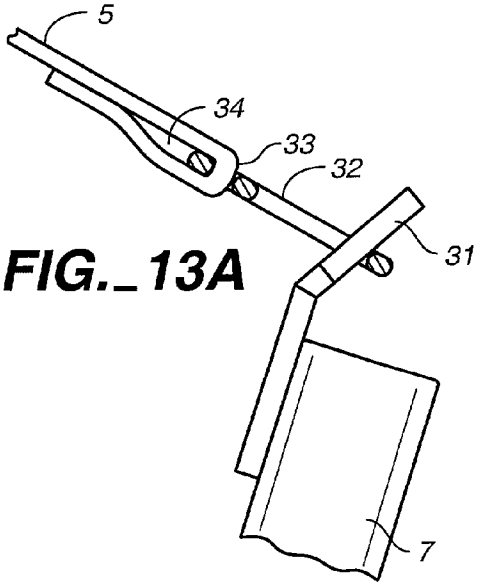


FIG._13A

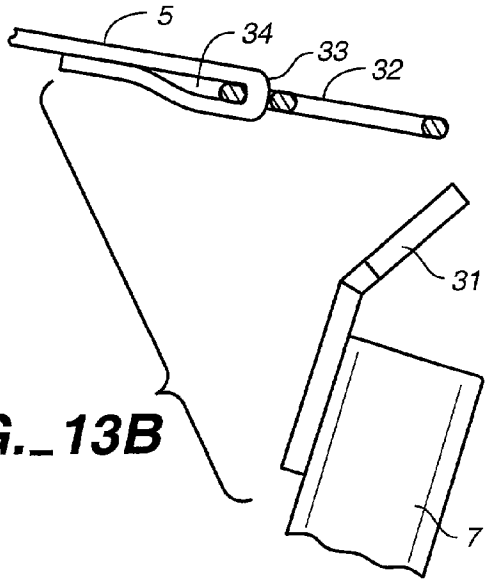


FIG._13B

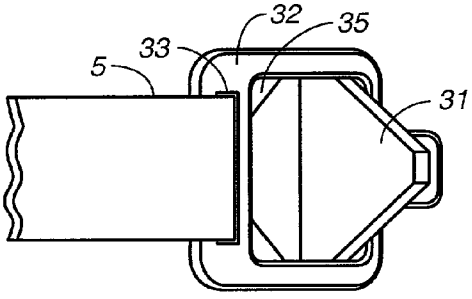


FIG._14A

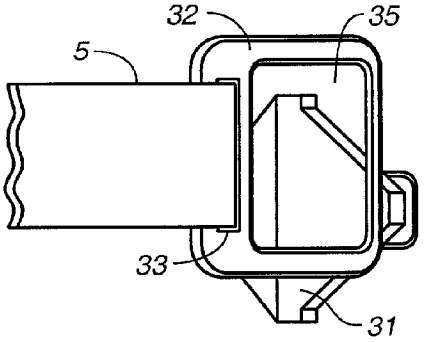


FIG._14B

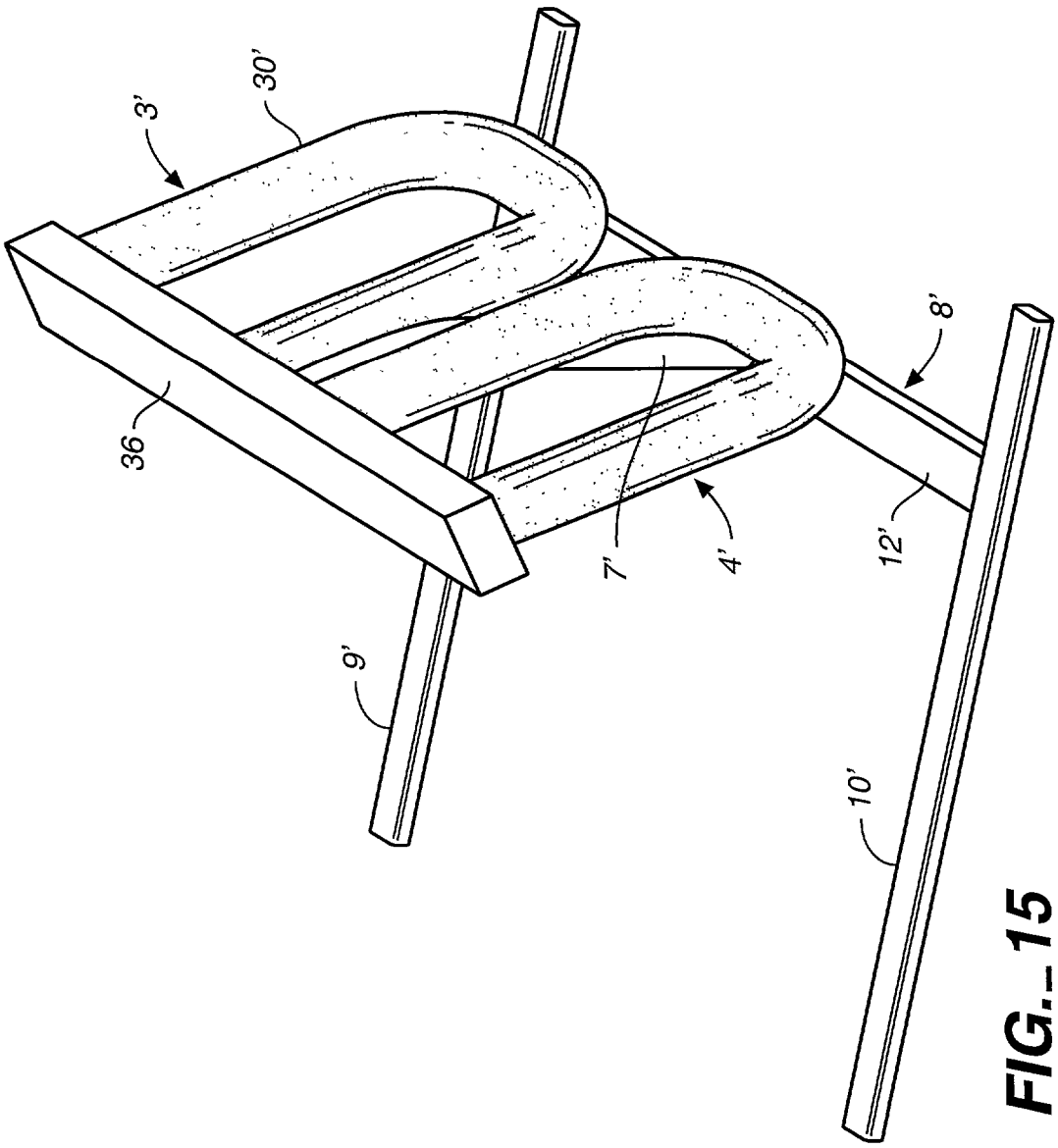


FIG._15

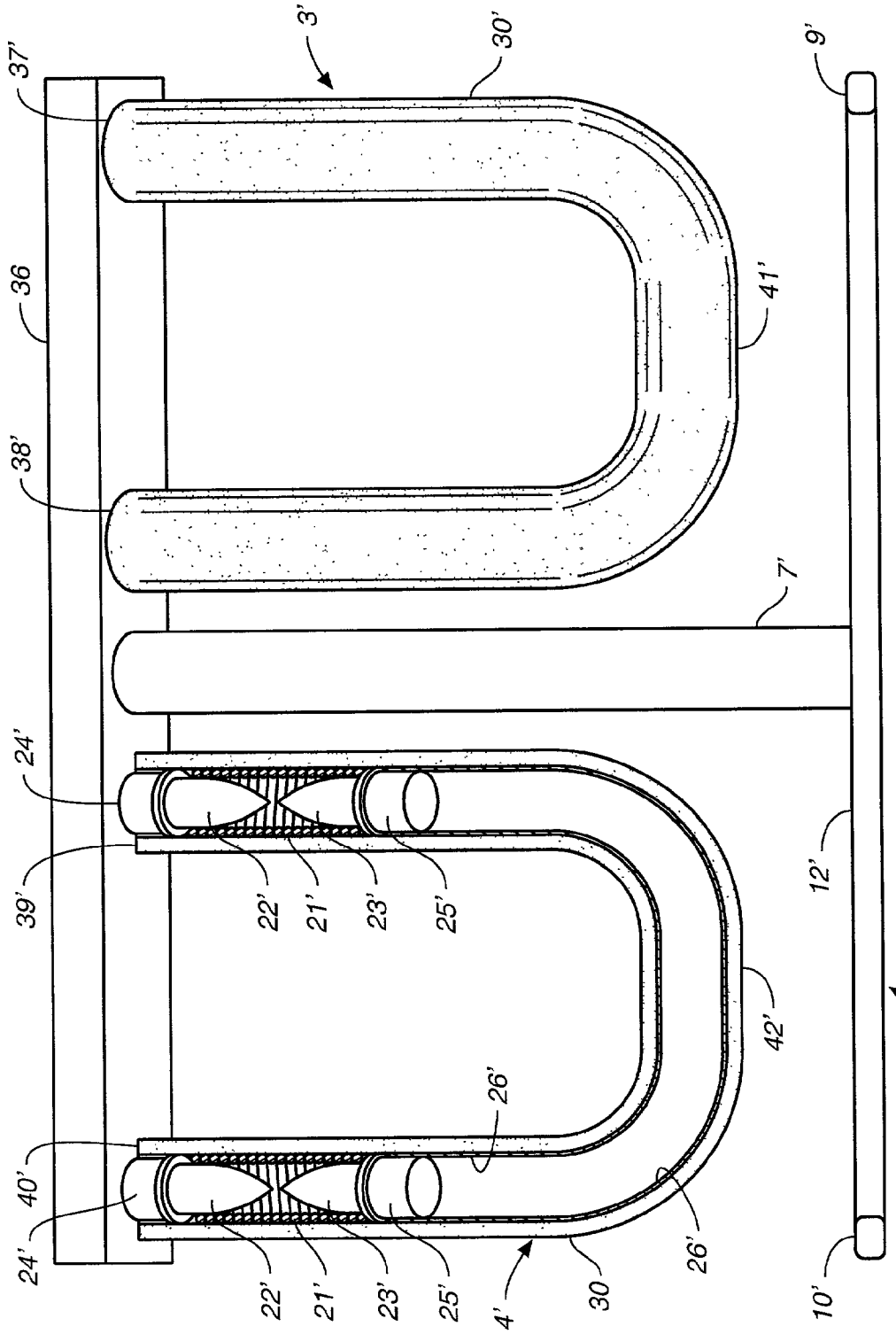

3'
30'
9'
37'
36
41'
38'
7'
24'
39'
22'
21'
23'
25'
12'
42'
8'
26'
40'
24'
22'
21'
23'
25'
4'
30
26'
10'

FIG._16

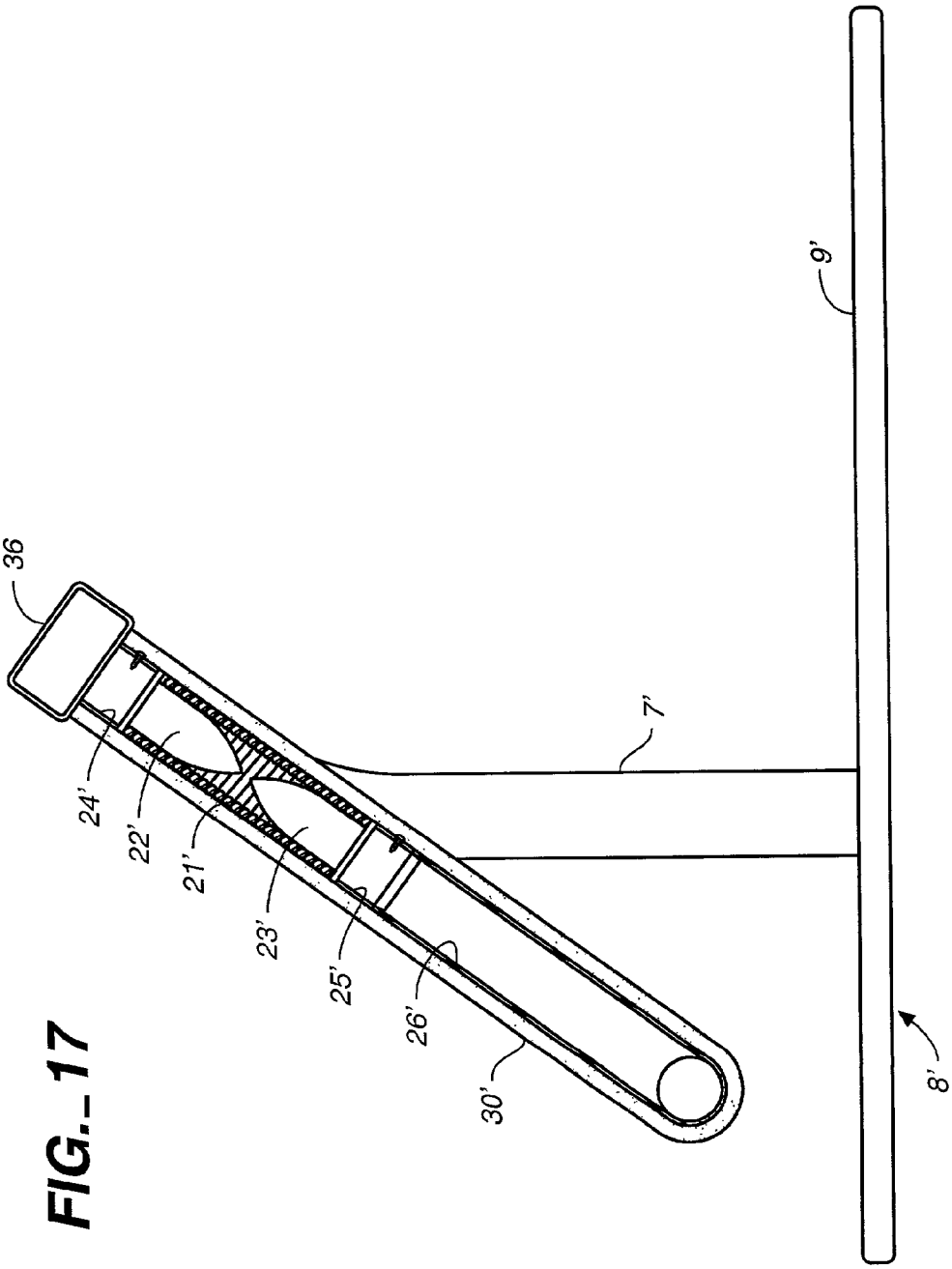


FIG._17

PORTABLE RESISTANCE EXERCISE MACHINE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a portable resistance type exercise assembly and more particularly to an assembly that can be operated while seated and provide various forms of resistive exercise to the muscles of the legs and feet and lower body. The assembly may also be used for exercising the muscles of the arms and upper body.

[0002] The present invention utilizes our spring bend control devices set forth in our copending application Ser. No. 09/612,796 filed Jul. 07, 200 entitled, Coil Spring Assembly and Mounting Device with Bend Control. The teachings of Ser. No. 09/612,796 are incorporated herein by reference.

[0003] Due to limited time and places to take part in exercising, a convenient form and device to help an individual accomplish meaningful resistive exercise is desirable. Persons interested in exercise are continually looking for a device to assist them to gain suitable exercise for that purpose. For most conventional indoor exercise devices a large space is usually required to contain and position their large structures. The use of an indoor exercise device that is convenient and safe to the user is most appealing and meets the needs of the exerciser.

[0004] Most prior art describe devices that have limited exercise capability and are either rigidly attached to a chair or attached in an inconvenient manner or in a manner that would damage most chairs. Some devices are designed for specific exercises and are large and hard to store, which make their usefulness and portability limited. Other prior art depicts an inconvenient wrist band safety measure to prevent injury from accidental release of the spring loaded resistance member, such as wristband attachments.

[0005] The present invention is specifically directed towards a portable device which can be used in conjunction with a chair or similar seating equipment, in which the individual can perform leg and foot exercise programs while sitting. The individual can be doing other things while exercising. The chair or seating device does not have to be set up or dismantled as is the case with many prior art collapsible, convertible, or large stationary devices. Further, it does not require the seated individual to leave his seat to set up and perform the resistive leg exercise routines.

[0006] Examples of typical prior art include the following. U.S. Pat. No. 5,470,298 discloses an exercise apparatus including a chair with an arm exercising station and a leg exercising station. The leg exercising station is mounted within the foot rest of the chair and consists of a rotating foot pedal fixedly attached to a support bar connected to the chair. The chair is neither portable nor easily stored.

[0007] U.S. Pat. No. 4,921,247 relates to an exercise chair apparatus incorporating an exercise apparatus therein. The chair can be considered a piece of furniture with an extendible frame that supports a removable attached pedal arrangement. The chair is not collapsible or convertible, and is not easily stored and is not portable.

[0008] Similarly, U.S. Pat. No. 5,044,633 discloses an office chair with occasional leg exercise capability. The chair includes an extendible exercise mechanism mounted under the seat bottom and has a pair of foot handles for exercise. The foot exercise mechanism is affixed to the bottom of the seat, hence it is not portable.

[0009] Other prior art includes, U.S. Pat. No. 5,851,167 which discloses an elastic ring exerciser that uses a spiral spring for obtaining resistance exercises. U.S. Pat. No. 5,772,563 discloses a multipurpose exerciser comprising two n-shaped frames pivotally connected. One of the frames has a coil spring on each side for obtaining resistance exercise. Two safety wrist straps in the form of hand loops are included. U.S. Pat. No. 4,452,449 discloses an office seating system, which incorporates a resistance pedal pumping feature while seated.

SUMMARY OF THE INVENTION

[0010] In contrast to these prior art devices, the present invention relates to a resistance exercise device which is portable and easily stored. Once the seat pad is placed in position on a chair seat and the resistance foot pedal members positioned in front of the chair, the present device enables an individual to perform leg exercises while seated in the chair and doing other mental or physical activities. After performing exercise routines the device can be either left in place or easily stored or transported to another location and chair.

[0011] In accordance with one aspect of the present invention, there is provided a rigid base with two inverted U-shaped resistance members attached. These resistance members are completely covered with a substantial layer of soft flexible foam or similar material, and are not wide enough to simultaneously accommodate both feet on the same member. In this manner the possibility of injury from accidental release or breakage, of a spring-loaded resistance member can be mitigated or obviated. This arrangement also makes it possible to obtain both a pedaling action or a simultaneous dual leg press action from the same members.

[0012] The primary objective of the present invention is to provide a fully portable resistance type leg exercise device. The resistance exercise device of the present invention can be used equally well while seated in an office chair with caster wheels or an overstuffed home chair with stationary legs and the device can be easily stored when the exercise routine is completed.

[0013] Another feature of the present invention is the ability to perform various levels of static leg exercises, without disturbing the operator while performing other tasks, such as typing, using a telephone, viewing television, or reading.

[0014] It is a further object of the invention, to provide means for returning the resistance members to a predetermined rest point without overrunning this point using tightly wound coil springs to furnish both the required resistance and return force to the members.

[0015] A further object of the invention is to provide an effective, safe, simple and convenient means for connecting and disconnecting a portable exercise device to a chair to prevent undesired movement.

[0016] A further object is to prevent damage to chairs, not designed to withstand the severe strain developed during the

operation of a resistance type exercise device, when the device is used in cooperation with the chair.

[0017] An additional object of the invention, is to provide automatic disconnect means for disconnecting the strap and seat pad from the resistance unit, with a predetermined amount of side movement. This is desirable in the event the operator forgets to disconnect the pad from the resistance unit. This safety feature minimizes the chance of the strap causing the operator to trip as he leaves the chair.

[0018] A further object of the invention is to provide means that prevents a tethered resistance exercise machine from lifting off the floor, when substantial pressure is applied to the resistance members.

[0019] Still another object is to provide an exercise device that can be operated by hand power to exercise the muscles in the arms and upper body.

[0020] A still further object is to provide an exercise device that need not be attached to any other object.

[0021] Yet another object is to provide an exercise device that can be used while seated with the exercise device placed under a desk or table having limited vertical dimensions.

[0022] It is yet a further object of the invention to provide progressive means for decreasing the leverage of the resistance members during the initial part of each bending cycle. The foregoing features, advantages and benefits of the present invention, along with additional ones, will be seen in the following description and claims which should be considered in conjunction with the accompanying drawings. The drawings disclose preferred embodiments of the present invention according to the best mode contemplated at the present time in carrying out this invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The various features and advantages of the present invention will become more apparent from the following appended drawings in which:

[0024] **FIG. 1** is a perspective view of the elements of the total device of the present invention with the resistance foot pedal members in their relaxed positions and the seat pad in its approximate spaced apart position.

[0025] **FIG. 2** is a perspective view of the present invention with two resistance foot pedal members in their relaxed positions and the seat pad in its approximate spaced apart position and positioned as placed on the top surface of a chair seat.

[0026] **FIGS. 3A and 3B** are alternate views with one resistance member depressed and the other resistance member in its relaxed position, respectively.

[0027] **FIG. 4** is a front plan view, which shows one resistance pedal member with a foam cover and one resistance pedal member with the foam cover partially removed and a cut away view thereof showing the detail position of the bullet shaped interior spring mounting.

[0028] **FIG. 5** is a side view of the device of this invention with a cut away taken along Line **5-5** in **FIG. 4** with one resistance member partially depressed.

[0029] **FIG. 6** is perspective exploded view of the device of this invention.

[0030] **FIG. 7** is a perspective detail view of the underside of a portion of the assembly base.

[0031] **FIG. 8** is a side view of the device of this invention in a folded stored position.

[0032] **FIG. 9** is side view of the seat anchor pad and the attached connecting adjustable strap.

[0033] **FIG. 10** is a plan view of the seat anchor pad and the attached connecting adjustable strap.

[0034] **FIGS. 11A and B** are detailed perspective views of the top of the upright support center post connection assembly.

[0035] **FIGS. 12A and B** are front views with the retainer ring cut away showing its action on the top of the center post connection assembly.

[0036] **FIGS. 13A and B** are side views with the retainer ring cut away showing its action on the top of the center post connection assembly.

[0037] **FIGS. 14A and B** are top views of the top of the center post connection assembly with the retainer in place and removed.

[0038] **FIG. 15** is an alternate form of the invention.

[0039] **FIG. 16** is a front elevation view of the device of **FIG. 15** with portions of the foot pedal member removed for illustrative purposes.

[0040] **FIG. 17** is a side view of the device illustrated in **FIG. 16** with portions of the pedal member removed for illustrative purposes.

DETAILED DESCRIPTION OF THE INVENTION

[0041] While the present invention is open to various modifications and alternative constructions the embodiments shown in the drawings will be described here in detail. It is understood, however, there is no intention to limit the invention to the particular form described. It is intended that the invention cover all modifications, equivalencies and alternative constructions falling within the spirit and scope of the appended claims.

[0042] **FIGS. 1, 2** and **3** show the concept on which one form of the present invention is based. As will be readily seen in these views, the preferred form of the device of this invention is comprised of four basic elements: a base assembly **8**, a rigid upright center post **7**, two resistance foot or hand pedal members **3** and **4**, and a seat pad **2**, with means, such as connecting strap member **5** and adjusting member **6**, for connecting the seat pad **2** to the center post **7**.

[0043] Referring to FIGS. **1-6** the portable leg or arm exerciser of the present invention includes a seat anchor pad **2** having a chair seat shape or contour. Securely connected to the anchor pad **2** is an adjustable connecting strap **5** with an adjusting member **6** in its length and at the distant terminal portion having a retainer ring member **32**. Associated with the seat anchor pad **2** and strap **5** is a base assembly **8** with horizontal support members **9** and **10** and a connecting crossbar **12**.

[0044] Securely affixed to the crossbar **12** is an upright support post **7**. Similarly, securely affixed to the top of the support post **7** is a modified inverted V-shaped member **31**. Detail can be seen in **FIGS. 11A and 11B**. Mounted on the connecting crossbar is at least one, and preferably two upright n-shaped upright foot pedal members **3** and **4**. The n-shaped upright foot pedal members **3** and **4** are mounted on the crossbar with one on each side of the upright support post **7**.

[0045] In this arrangement, two detachable horizontal support side members **9** and **10** stabilize the base assembly **8**. Each side member **9** and **10** have floor contact buttons **27** adjacent each end of the side members **9** and **10**. Preferably the buttons **27** are rubber or other friction material.

[0046] **FIG. 6** illustrates the horizontal support side members **9** and **10** attached to the base with bolts **13** secured by the corresponding knobs **11** and **11***a*. Slots **14** at each end of the connecting crossbar **12** assist to maintain the alignment of the side members **9** and **10**. **FIG. 7** shows the underneath side of the base assembly **8** and the location and placement of the connecting support slot **14** with carriage bolts **13** and securing knob **11***a*.

[0047] The center upright post **7** is securely affixed, as by welding, to the crossbar **12** in the base assembly **8**. The center post **7** has a retainer as an inverted "V" shaped member **31** welded to the top of the post **7**. As shown in **FIGS. 14A and 14B**, inverted "V" shaped member **31** engages opening **35** in retainer ring **32**. In cooperation the center post **7** with the inverted "V" member **31** will automatically release the adjustable connecting strap **5** when the strap is moved to either side a predetermined distance, and the retainer ring **32** is tilted as shown in **FIG. 12B**. The quick disconnect retainer ring member **32** has a connecting strap slot **33** for connection with a closed loop **34** on the strap **5**. An adjustable length strap **5** is permanently attached to the seat anchor pad **2** on one end and having a length adjusting member **6** attached between the seat pad **2** and the quick disconnect retainer ring member **32** on the other end. The strap **5** can have various conventional means for strap length adjustment **6** not shown in detail, but should be familiar to those skilled in the art.

[0048] In the preferred embodiment of the present invention, the foot pedal members include a coil spring **21** in each leg thereof. One end of coil spring **21** is attached to U-shaped tubular member **26** by a distal spring control mounting member **25** having a tapered portion, such as a bullet shaped portion **23** and the other end is attached to base assembly **8** by a base spring control mounting member **24** having a tapered portion, such as a bullet shaped portion **22**.

[0049] The spring **21** is a tightly wound coil spring of normal configuration having opposite ends. The coil springs are inter positioned between the base spring control mounting member **24** and the distal spring control mounting member **25** in each leg of the foot pedal members. The coil spring **21** defines a hollow interior section therein. Each coil spring **21** is contained by the tapered or bullet shaped portions **22** and **23** of base spring control mounting members **24** and distal spring control mounting members **25** respectively through the hollow interior sections of the coil spring. The tapered or bullet shaped portions **22** and **23** of the spring control mounting members **24** and **25** are an extended portion with a taper in the range of at least about 3 degrees. The diameter size at the base of the tapered or bullet shaped portions **22** and **23** of spring control mounting members **24** and **25** is slightly larger in diameter than the nominal inside diameter of the coil spring **21**. A tight and secure attachment is formed between the coil spring and the tapered surface, by screwing or pressing each tapered or bullet shaped portion **22** and **23** into each end of the coil spring **21**.

[0050] The tapered or bullet shaped portions **22** and **23** can be made of various materials which will accept the coil spring either by a tight friction fit or by a threaded relation therewith. The threads thereof being of such amplitude and pitch as to receive the coils of the spring in a threaded relation therewith. The preferred material of construction is wood, in particular hardwood, however, other common materials such as plastic, metal and the like, can be used. The mechanical action of the coil spring is to, naturally tighten the grip on the mounting member when an attempt is made to pull or unscrew the coil spring therefrom. This arrangement has been found to produce an almost unbreakable attachment between the coil spring **21** and the mounting members.

[0051] Since many different materials can be used in making the tapered portions of the mounting members, it should be noted that some materials may require other and special methods of attachment to the coil spring. For example, the threaded mount is suitable for metal, plastic or wood materials. Another example, when using metal tapered portions is by welding of the ends of the spring to the mounting members.

[0052] Hence in the present invention the base spring control mounting members **24**, such as four elongated stub tubes are securely affixed, as in welding, to the connecting cross bar **12** of the base assembly **8** as attachment members for the n-shaped resistance pedal assemblies **3** and **4**. Each pedal resistance member **3** and **4** includes a corresponding rigid U-shaped tubular member **26** joining coil springs **21** through the distal spring control mounting members **25**. The U-shaped tubular members **26** are bent adjacent each end as shown in **FIG. 4** to coincide and be in cooperation with spring members **21**. A tapered or bullet shaped portion **23** is pressed into each individual spring member **21**, and are held in position by the natural grip of the springs. The distal spring control mounting members **25** such as stub tubes are pressed into each end of the U-shaped tubular members **26** and further secured with screws **18**.

[0053] In operation, as illustrated in **FIG. 5**, the tapered or bullet shaped portions **22** and **23** of spring control mounting members **24** and **25** prevent the coil springs **21** from bending at too sharp a bend angle; particularly when the pointed ends of tapered or bullet shaped portions **22** and **23** are positioned in close but not touching proximity. In **FIG. 5**, the pedals are only partially depressed and the spring control feature of the bullet shaped portions **22** and **23** have not yet come into effect. When the pedal members **3** and **4** become more fully depressed, the inside edges of coil springs **21** progressively touch the tapered sides of the bullet shaped portions **22** and **23** and thus the curvature of the coil spring is guided and limited by the curvature of the bullet shaped portions **22** and **23**. The bullet shaped portions prevent the coil spring from bending at a sharp angle and exceeding the elastic limit of the spring and putting a kink in it. This spring control effect at extreme bends such as a right angle bend is illustrated in

our copending application Ser. No. 09/612,796 fully identified above. Attention is called specifically to **FIG. 3A** of our application Ser. No. 09/612,796.

[**0054**] It has been found that the tapered or bullet shaped portions **22**, and **23** of spring control mounting members **24** and **25** extend the life of the coil spring **21** far beyond the life of a spring which does not have the tapered or bullet shaped portions of spring control mounting members **24** and **25**.

[**0055**] In operation the portable exercise assembly of this invention effectively accomplishes the objectives set forth above with tightly wound coil springs provided in each leg, that furnishes both the required resistance and returns the members to the desired predetermined point. Further, this is accomplished by providing a seat pad that incorporates a nonskid surface and has an adjustable length strap, that connects to the seat pad to the exercise machine, with an automatic disconnect member on the connected end. When the seat pad assembly is placed on the surface of any seat, the weight of the operator sitting on the seat pad, generally accomplishes the stated objective of securing the end of the strap.

[**0056**] The other end of the strap is secured by providing a rigid upright center post of proper height for seat strap attachment and a base of proper length. The spring resistance members are set at an angle with respect to the operator, preferably at 18-degrees, with the top further away from the operator, so that some downward pressure is applied, at the beginning of the initial bending movement. These features mitigate or obviate the tendency to lift the machine off the floor.

[**0057**] This feature develops an increasing workload as the operator's legs simultaneously develop additional leverage. It is also a further object of the invention to provide means for mitigating coil spring breakage. These requirements are met by using an internal member in each coil spring, adjacent the rigid mounting point, that has a bullet shaped end that progressively controls the bending. Our co-pending patent application Ser. No. 09/712,796 filed Jul. 10, 2000 fully describes these features.

[**0058**] Before attaching the base spring control mounting members to the base assembly **8**, the foam tubes **30** are installed on the pedal assemblies. The ends of the foam tubes **30** are temporarily compressed until after the base spring control mounting members are connected to the base assembly; after which the foam tubes **30** are pulled down to the bottom of the pedal assemblies.

[**0059**] Referring to **FIGS. 15, 16** and **17**, an alternate form of the invention is illustrated. The distinguishing feature of this alternate form of the invention is the fact that U-shaped resistance foot or hand operated pedal members **3'** and **4'** are inverted with respect to the foot pedal members **3** and **4** illustrated in **FIG. 1**. This configuration permits the portable resistance leg or arm powered exercise assembly to be used while the assembly rests under a piece of furniture such as a desk with less leg room. When using the portable resistance type exercise assembly illustrated in **FIG. 1**, the upper portions of a person's feet protrude above the top of the pedals **3** and **4**, whereas in using the assembly illustrated in FIGS. **15-17**, the upper portion of a user's feet are below the upper cross bar member **36**.

[**0060**] In most other respects, the form of the assembly in FIGS. **15-17** are like the assembly illustrated in **FIG. 1**. Like parts of the assembly shown in FIGS. **15-17** are indicated by the same number with the addition of a prime (') mark.

[**0061**] The assembly of FIGS. **15-17**, like the assembly illustrated in **FIG. 1** can be utilized with or without strap **5** and seat pad **2**. Thus, both assemblies can be operated by simply being seated on the floor and moving the pedal members **3** and **4** with the feet or arms. The bases of both members may be coated with a non-slip coating to provide resistance against sliding in relation to a floor or carpet. The preferred form, however, is illustrated in **FIG. 1** with a pad which may be placed on a chair or bench and kept in place by placing the weight of the user on the pad and a strap attaching the pad to the base assembly such as to the top of upright member **7'**. Thus the assembly illustrated in FIGS. **15-17** could be used with the apparatus illustrated in **FIGS. 10 through 14**B.

[**0062**] The base assembly could be outfitted with a single member pedal or a single U-shaped pedal member, but the preferred form is to furnish a pair of U-shaped pedal members **3'** and **4'**. Pedal members **3'** and **4'** preferably have ends **37'-40'** operatively attached to the support base **8'**, preferably at upper cross bar member **36**. The pedal members **3'** and **4'** provide flexible resistance as will be described more fully below. Thus the distal ends **41'** and **42'** of U-shaped pedal members **3'** and **4'** move through an arc. Portions of the foot pedal members **3'** and **4'** are made flexible by inserting flexible resistance members into the foot pedal members such as flexible rubber or plastic members. In the preferred form, coil springs **21'** formed with hollow interior portions are provided in the foot or hand pedal members **3'** and **4'**.

[**0063**] In the preferred form of the invention, each of the pedal members **3'** and **4'** are formed with U-shaped rigid members **26'** to prevent bending of portions of the pedal members and to receive the foot, hand or other body member.

[**0064**] Preferably a pair of spring control members **24'** and **25'** are mounted within the hollow interior portions of each of the coil spring members **21'**. Both the base spring control mounting member **24'** and the distal spring control mounting member **25'** include tapered or bullet shaped portions **22'** and **23'** respectively. We have found that the best spring control is achieved when the points of the tapered portions **22'** and **23'** are close together without touching during the flexion of the spring **21**.

[**0065**] As illustrated in FIGS. **15-16**, each of the pedal members **3'** and **4'** are operatively attached to the support base so that the movable distal ends **41'** and **42'**, move in an arc below their attached ends. As illustrated, attached ends **37'-40'** are attached to upper cross bar member **36** connected to the upper end of upright member **7'**.

[**0066**] The form of the invention illustrated in FIGS. **15-17**, could be a single arm pedal with its upper end attached to an upper cross arm **36**, or a single U-shaped pedal with both ends attached to an upper cross arm **36**. The preferred form is the double U-shaped pedal illustrated.

[**0067**] The form of the invention illustrated in FIGS. **15-17** is not attached to any other object. Preferably a strap as illustrated in **FIG. 1** is attached to the assembly and to some other object. Preferably the assembly is attached to a

seating device such as a pad as illustrated in **FIG. 1** which can be placed upon the seat of a chair so that the user can sit on it.

[**0068**] The pedal members **3'** and **4'** are preferably encased in foam tubes **3'** to protect the user should his feet or arms slip off the pedals and permit the springs **21** to rapidly return the pedals to the rest position.

[**0069**] The above descriptions are presented to be exemplary only and are not to be construed as limiting the scope of the invention. It is to be realized that the optimal dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

[**0070**] Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not intended to limit the invention to the exact construction and operation shown and described, and all suitable modifications and equivalents may be resorted to and which may fall by within the scope of the present invention.

We claim:

1. A portable resistance leg or arm powered exercise assembly in cooperation with a seating member comprising:

a. a seat anchor pad for adjustable placement on said seating member;

b. a strap securely attached to said anchor pad;

c. a support base and securely affixed thereto an upright support member for connection with strap; and

d. at least one resistive leg exercise foot or arm pedal member securely affixed to said support base.

2. The exercise assembly of claim 1 comprising:

a. said seating member is a chair and said seat anchor pad conforms to said chair seat and allows an individual to sit thereon;

b. said support base has spaced apart lateral supports having a rigid connecting cross member attached across said supports and said upright support member is attached to said cross member; and

c. said strap includes adjustable lengthening means.

3. The leg exercise assembly of claim 1 wherein:

a. said exercise foot or arm pedal member includes a pair of coil springs having distal ends connected to said support base.

4. The exercise assembly of claim 3 wherein:

a. each coil spring is formed with a hollow proximal section, into which a first interiorly disposed spring control member having a tapered end extends, and a hollow distal section into which a second interiorly disposed spring control member having a tapered end extends; and

b. said bend control members are positioned so that their respective tapered ends are adjacent without touching one another.

5. The exercise assembly of claim 4 comprising:

a. a pair of exercise foot pedal members having an n-shape are securely affixed to said support base.

6. The exercise assembly of claim 2 comprising:

a. said adjustable strap has a distal end with a retainer ring attached thereto which is releasably connected to said support base.

7. The exercise assembly of claim 6 wherein:

a. said upright support member includes disconnect means for disconnecting the strap when it is moved to either side a predetermined distance.

8. The exercise assembly of claim 7, wherein:

a. said disconnect means is a member attached to said upright support member having a general inverted "V" shape with the top portion of said inverted "V" bent forward to disengage from said retainer ring on said adjustable connecting strap upon a predetermined side movement of said strap in relation to said upright support member.

9. A portable resistance leg or arm powered exercise assembly comprising:

a. a support base,

b. a pair of laterally spaced foot or arm pedal members having an attached end operatively attached to said support base and a distal end movable through an arc and each foot or arm pedal member including a coil spring formed with hollow interior portions,

c. a pair of spring control members mounted within said hollow interior portions of each of said coil springs and each spring control member having a tapered end, and

d. said tapered ends of said pairs of control members in each foot or arm pedal member are disposed with their tapered ends adjacent one another.

10. A portable resistance leg or arm powered exercise assembly as described in claim 9 comprising:

a. each of said pedal members is formed in a generally U-shape having elongated portions having attached ends and a distal end movable through an arc;

b. each of said elongated portions of said U-shaped pedal members include a coil spring having a hollow portion;

c. each of said elongated portions of said U-shaped pedal members include a pair of spring control members mounted within said hollow portion of said coil spring and each control member having at least one tapered end; and

d. said spring control members are disposed in each of said elongated portions with the tapered ends adjacent without touching one another.

11. A portable resistance exercise assembly as described in claim 9 comprising:

a. wherein each of said pedal members are operatively attached to said support base so that said movable distal ends move in an arc below said attached end.

12. A portable resistance exercise assembly as described in claim 10 comprising:

a. wherein each of said U-shaped pedal members are operatively attached to said support base so that said distal ends of said elongated portions move in an arc below said attached ends.

13. A portable resistance exercise assembly as described in claim 9 comprising:

a. said exercise assembly is attached to a seating device.

14. A portable resistance exercise assembly as described in claim 10 comprising:

a. said exercise assembly is attached to a seating device.

15. A portable resistance exercise assembly as described in claim 9 comprising:

a. a seat member;

b. a seat anchor pad for placement on said seat member; and

c. a strap attached to said seat anchor and operatively connected to said leg exercise assembly.

16. A portable resistance exercise assembly as described in claim 10 comprising:

a. a seat member;

b. a seat anchor pad for placement on said seat member; and

c. a strap attached to said seat anchor and operatively connected to said exercise assembly.

* * * * *