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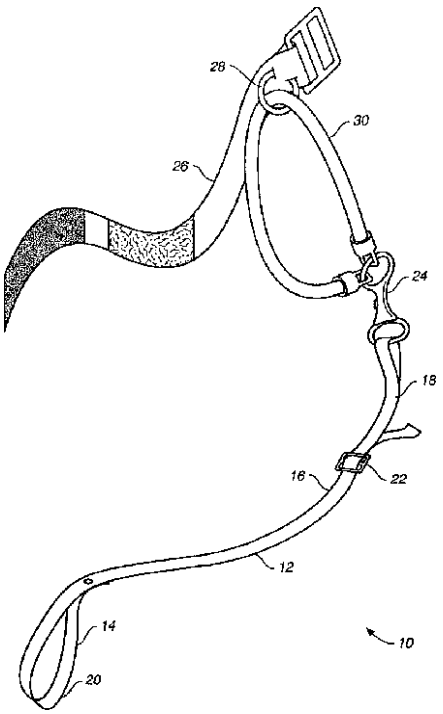
最終頁に続く

(54)【発明の名称】ストレッチ運動を行うための方法および器具

(57)【要約】
本発明は、筋肉および連結する組織をストレッチおよび増強するストラップ器具を提供する。また本発明はストラップ（１２）材料を備えており、このストラップ材料が第一端部と、中間部分と、第二端部とを有し、かつ前記第一端部に形成されたループ（１４）と、前記中間部分に形成された長さ調節手段と、前記第二端部に取付けられた連結部材（２６）とを有している。この連結部材はアンカー部材、例えば先端カフ部材あるいは衣料品への連結に適しており、このアンカー部材は連結部材へ開放可能に取付けるのに適した受け部材を支承している。



【特許請求の範囲】
【請求項１】
筋肉および連結する組織をストレッチおよび増強するためのストラップ器具において、前記ストラップ器具が、
ストラップ材料の部分を備え、前記ストラップ材料の部分が第一端部と、中間部分と、第二端部とを有し、かつ前記第一端部に形成されたループと、前記中間部分に形成された長さ調節手段と、前記第二端部に取付けられた連結部材とを有し、それとともに
受け部材を支承しているアンカー部材を備え、このアンカー部材が受け部材を支承しており、前記受け部材が前記連結部材に解放可能に取り付けるのに適していることを特徴とするストラップ器具。
【請求項２】
前記ストラップ材料が非弾性であることを特徴とする請求項１記載のストラップ器具。
【請求項３】
前記長さ調節手段が調節可能なバックルを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項４】
前記長さ調節手段がストラップ引き込み手段を備えていることを特徴とする請求項１記載のストラップ器具。
【請求項５】
前記連結部材がスイーベルを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項６】
前記連結部材がカラビナを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項７】
前記連結部材がクリップを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項８】
前記連結部材がフックを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項９】
前記アンカー部材が靴を備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１０】
前記アンカー部材が手袋を備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１１】
前記アンカー部材が先端カフを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１２】
前記先端カフ部材が当て物をされたループを備えていることを特徴とする請求項１１記載のストラップ器具。
【請求項１３】
前記先端カフ部材の直径が調節可能であることを特徴とする請求項１１記載のストラップ器具。
【請求項１４】
前記受け部材が紐通しの孔を備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１５】
前記受け部材がＤリングを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１６】
前記受け部材がＯリングを備えていることを特徴とする請求項１記載のストラップ器具。
【請求項１７】
前記受け部材が織物のループを備えていることを特徴とする請求項１記載のストラップ器具。

【請求項１８】
前記連結部材が抵抗運動のための手段を有していることを特徴とする請求項１記載のストラップ器具。
【請求項１９】
抵抗を与える前記手段が抵抗バンドを備えていることを特徴とする請求項１８記載のストラップ器具。
【請求項２０】
ストラップ材料の前記部分が長さの印を備えていることを特徴とする請求項１記載のストラップ器具。
【発明の詳細な説明】
【技術分野】
【０００１】
本発明は一般に運動用具および運動器具に関し、特に人間の体のためのストレッチ運動および増強運動を行うための改良された方法および器具に関する。
【背景技術】
【０００２】
筋肉の正しいストレッチおよび増強は、健康と体力全般に対して必要な側面である。しかしながら、もっともよく知られたストレッチの処方は、個人で行わねばならない独自の運動と動作を与えるにすぎない。構造的器具と運動の付属品の形態の中には、ストレッチで使用するのに設計されたものもあり、例えば固定された面あるいは棒を提供し、ユーザーはこれでストレッチを行うが、これらの構造は大きくて扱いにくく、したがって、実用的には限定されている。さらに公知の器具では、簡単で汎用な形態で、ストレッチと増強の双方に役立つことはできない。
【発明の開示】
【発明が解決しようとする課題】
【０００３】
本発明のストレッチおよび増強運動を行うための方法と器具は、筋肉および連結する組織をストレッチかつ増強するためのストラップ器具を提供することにある。
【課題を解決するための手段】
【０００４】
本発明の器具は、ストラップ材料の部分を備え、このストラップ材料の部分が第一端部と、中間部と、第二端部とを有し、かつ第一端部に形成されたループと、中間部に形成された長さ調節手段と、第二端部に取り付けられた連結部材とを有している。連結部材はアンカー部材、例えば先端カフ部材もしくは衣料品に開放可能に連結するのに適しており、このアンカー部材が受け部材を支承しており、この受け部材が連結部材に開放可能に取り付けるのに適している。限定はされない変形は以下のものを含む。ストラップ材料は伸張しない（非弾性）。長さ調節手段は調節可能なバックルすなわちストラップ長さ調節部材から成る。連結部材はスイーベル，カラビナ，クリップ，スナップ，フックあるいは他の開放可能な締結具から成る。衣料品は適当な受け部材が添付された靴もしくはグローブから成る。先端カフ部材はパッド入りのループから成り、かつ直径方向に調節可能である。受け部材は紐孔，Ｄリング，Ｏリングあるいは織物で作ったループから成る。連結部材は抵抗バンドのような抵抗を与えるための部材を有する。そして、ストラップ材料部分は長さの印を備えている。
【０００５】
本発明の器具の適用は、ジム，ヘルスクラブ，理学療法士オフィス，整形外科医院，スポーツ医学センター，家庭，プロスポーツチーム，病院，学校，老人ホーム，マッサージセンター，カイロプラクティックオフィス，レクリエーションセンター，身体障害者センター，ダンスセンターおよびヨガセンターでの使用を含む。
【０００６】
この器具は体の主要な筋肉類すべてをストレッチするために使用される。本器具の商業的

バージョンは、その器具用の包装容器上、あるいは書面の取り扱い説明書および／またはビデオテープのデモ内における、個別のストレッチ位置のためのチャートと名称と図解のような説明的な資料を含んでいる。

【発明を実施するための最良の形態】

【０００７】

本発明の実施例を図によって以下に詳しく説明する。

【実施例】

【０００８】

図１は本発明のストレッチを行うためのおよびストレッチ運動のための用具の平面図である。本発明の用具１０はストラップ材料１２部分を備え、このストラップ材料部分が第一端部１４と、中間部１６と、第二端部１８とを有し、かつ第一端部１４に形成されたループ２０と、中間部１６に形成された長さ調節手段２２と、第二端部１８に取り付けられた連結部材２４とを有している。連結部材２４はアンカー部材、例えば先端カフ部材２６に解放可能に連結するのに適しており、このアンカー部材が受け部材２８を支承しており、この受け部材が連結部材２４に解放可能に取り付けるのに適している。ここで連結部材とは抵抗バンド３０を含む。

【０００９】

図２Ａは（フックおよびループ材料を支承する）カフもしくはストラップ部材４２によってユーザーの靴４０に添付された通りの本発明の装置の平面図である。さらに靴はその上にフックおよびループ材料も有しており、この材料はストラップの位置と安全を維持するのに役立つ。

【００１０】

図２Ｂは靴に必要なリング部材５２によってユーザーの変形された靴５０に添付された通りの本発明の装置の平面図である。このようなリングもしくは取り付けの手段は、暫定的に靴紐あるいは別の手段を基本にして支持されていることにより安全になっていてもよい。

【００１１】

このように本発明は人間の体に向けたストレッチ運動および増強運動のための革新的デザインと汎用的システムを提供する。

【００１２】

本器具は好ましくは、体への取り付け手段（例えば適当な受け取り部を備えたカフもしくは衣料物品）を備えている。

【００１３】

さらに、本器具は増強のためのある程度の抵抗を与えるための手段（例えば管材，抵抗バンド，バネあるいはストラップ）を備えている。この抵抗の特性がストレッチ運動中に“ギブ”を提供し、それによりそれらの運動は安全になる（“ギブ”は特にストレッチをしていない人たちに必要な過剰運動を防ぐことに役立っている）。

【００１４】

またさらに、本器具は長さを調節するための手段（例えばストラップ）を備えている。この長さを調節するための手段は好ましくは、手動でつかまるか、ドアフレーム内で閉じるかあるいは固定される対象の周りに取り付けるためのループあるいは取っ手を備えている。取り付けは、例えば固定される対象の周りで他端（例えばカフ）を取り、その次にその対象をループに通すことにより達成できる。調節可能なストラップに連結されていることにより、ストラップの長さを調節することが可能になり、それによって抵抗あるいはストレッチの量も調節可能になる。このループあるいは取っ手は、調節のための手段（例えばストラップ）に固定されているか、あるいはこのループあるいは取っ手は、着脱可能でありかつサイズが調節可能である。

【００１５】

あるいはこの長さを調節するための手段は好ましくは、プーリーとカムの滑り止め（あるいは安全にするための別の手段）のような手段を備えた固定されたフレームに取り付ける

ための手段を備えており、それによりユーザーはストレッチの量と抵抗の量を調節することができる。

【００１６】

上記の部材は全て様々な連結により互いに取り付けられているか、あるいは異なる形状で取り付けられている。

【００１７】

例えば体に取り付ける手段は、パッド付きのカフや、様々な方法で固定されたストラップもしくはループや、グローブや、靴、あるいは靴もしくはグローブの周りのストラップであってもよい。この取り付けはリングもしくは他の特徴を用いて作られていてもよいし、金属や、ナイロンや、もしくは他の材料でできていてもよい。

【００１８】

さらに例えば特に抵抗材料は、抵抗チューブや、弾性バンド、あるいはバネであってもよく、かつ抵抗の量の変化をもたらすために長さおよび／または厚さが多様であってもよい。

【００１９】

調節可能な手段は様々な材料でできていてもよく、様々な方法で、抵抗材料に対して、あるいは体に取り付ける手段に対して連結されてもよい。調整可能な手段の重要な特徴は、この調整可能な手段が体への取り付け手段に連結される抵抗材料に連結されるか、あるいはこの調節可能な手段が体への取り付け手段に直接連結されるか（言い換えれば抵抗材料なしで連結されるか）のどちらかである。

【００２０】

上記発明を好ましい実施形態に関連して説明したが、様々な変形、変更、あるいは構成が、本発明の特徴および範囲から出発せずとも当業者により作られることは明白である。したがって、本発明の範囲は添付の特許請求の範囲とその法的な同等物によってのみ限定されるものである。

【図面の簡単な説明】

【００２１】

【図１】本発明のストレッチ運動および増強運動のための装置の平面図。

【図２Ａ】カフ部材もしくはストラップ部材によってユーザーの靴に添付された通りの本発明の装置の平面図。

【図２Ｂ】靴に必要なリング部材によってユーザーの靴に添付された通りの本発明の装置の平面図。

【符号の説明】

【００２２】

１０　器具
１２　ストラップ材料
１４　第一端部
１６　中間部
１８　第二端部
２０　ループ
２２　調節手段
２４　連結部材
２６　カフ部材
２８　受け部材
３０　抵抗バンド
４０　ユーザーの靴
４２　ストラップ部材
５０　ユーザーの靴
５２　リング部材

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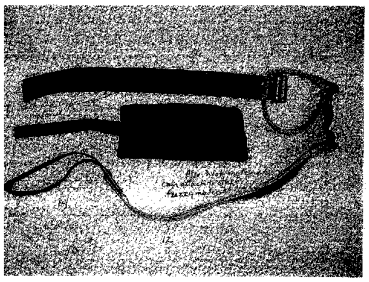
(54) Title: METHOD AND APPARATUS FOR PERFORMING STRETCHING EXERCISES



Cuff with detachable hook and loop strap that can be used independently around shoe, foot, ankle, wrist

(57) Abstract: The invention provides a strap apparatus for stretching and strengthening muscles and connective tissue, and includes a segment of strap (12) material having a first end, a medial portion, and a second end, having a loop (14) formed in the first end, length adjustment means formed in the medial portion, and a connector element (26) attached to the second end. The connector element is adapted for releasable connection to an anchor article, e.g., an extremity cuff member or a clothing article, bearing a receiver adapted for releasable attachment to the connector element.

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METHOD AND APPARATUS FOR PERFORMING STRETCHING EXERCISES

DESCRIPTION

Technical Field

The present invention relates generally to exercise equipment and sports apparatus, and more specifically to an improved method and apparatus for performing stretching and strengthening exercises for the human body.

Background Art

It is widely recognized and generally accepted that proper stretching and strengthening of the muscles is an important aspect to overall fitness and health. However, most known stretching regimens simply provide independent exercises or movements that the individual must perform. Some forms of structural apparatus and exercise accessories have been designed for use in stretching, e.g., to provide a stationary surface or bar against which a user may stretch, but these structures can be large and unwieldy, and therefore of limited utility. Furthermore, no known apparatus enables the combined benefits of stretching and strengthening in a simple, versatile form.

Disclosure of Invention

The method and apparatus for performing stretching and strengthening exercises of this invention provides a strap apparatus for stretching and strengthening muscles and connective tissue. The inventive apparatus includes a segment of strap material having a first end, a medial portion, and a second end, having a loop formed in the first end, length adjustment means formed in the medial portion, and a connector element attached to the second end. The connector element is adapted for releasable connection to an anchor article, e.g., an extremity cuff member or a clothing article, bearing a receiver adapted for releasable attachment to the connector element. Variations include, but are not limited to, the following: the strap material may be non-stretching (non-elastic); the length adjustment means may consist of an adjustable buckle or strap retractor member; the connector element may consist of a swivel, carabiner, clip, snap, hook, or other releasable fastener; the clothing article may consist of a shoe or glove to which an appropriate receiver has been affixed; the extremity cuff member may consist of a padded loop, and may be adjustable in diameter; the receiver may consist of an eyelet, a D-ring, an O-ring, or a fabric loop; the connector element may include means for imparting resistance such as a

resistance band; and the segment of strap material may bear length indicia.

Applications for the inventive apparatus include use in gyms, health clubs, physical therapist offices, orthopedic offices, sports medicine centers, homes, professional sports teams, hospitals, schools, senior citizen homes, massage and bodywork centers, chiropractors offices, recreation centers, handicap centers, dance centers, and yoga centers.

The apparatus can be used to stretch every major muscle group of the body. The commercial version of the apparatus may include explanatory materials such as charts, names and diagrams for specific stretch positions, either on the packaging for the apparatus or in a written manual and/or videotape demo.

Brief Description of the Drawings

Fig. 1 is a top plan view of an apparatus for performing stretching and strengthening exercises of this invention;

Fig. 2A is a top plan view of the inventive apparatus as affixed to a user's shoe by a cuff or strap member; and

Fig. 2B is a top plan view of the inventive apparatus as affixed to a user's shoe by a ring element integral to the shoe.

Best Mode for Carrying out the Invention

Fig. 1 is a top plan view of an apparatus for performing stretching and strengthening exercises of this invention. The inventive apparatus 10 includes a segment of strap material 12 having a first end 14, a medial portion 16, and a second end 18, having a loop 20 formed in the first end 14, length adjustment means 22 formed in the medial portion 16, and a connector element 24 attached to the second end 18. The connector element 24 is adapted for releasable connection to an anchor article, e.g., an extremity cuff member 26, bearing a receiver 28 adapted for releasable attachment to the connector element 24. Here, the connector element includes a resistance band 30.

Fig. 2A is a top plan view of the inventive apparatus as affixed to a user's shoe 40 by a cuff or strap member 42 (bearing hook and loop material. The shoe can also have hook and loop material on it, which may help maintain position and security of the strap.

Fig. 2B is a top plan view of the inventive apparatus as affixed to a user's modified shoe 50 by a ring element 52 integral to the shoe. Such a ring or means of attachment can be also temporarily secured by being held at the base of the shoelaces or other means.

The present invention thus provides an innovative design and versatile system for stretching and strengthening exercises for the human body. The apparatus itself preferably

includes:

a means of attachment to the body (e.g., a cuff or clothing article with the appropriate receiver);

a means to provide some degree of resistance (e.g., tubing, resistance bands, spring, or strap) for strengthening. This resistance feature also provides some "give" during stretching exercises, thereby making those exercises safer (the "give" helps prevent over-stretching, especially important for people who have not been stretching); and

a means for length adjustment (e.g., a strap) which preferably includes:

a loop or handle to manually hold on to, or to close in a door frame, or to attach around a fixed object. Attachment can be accomplished, for example, by taking the other end (e.g., the cuff) around a fixed object and then threading it through the loop. Being connected to an adjustable strap makes it possible to adjust the length of the strap and thereby the amount of resistance or stretch. This loop or handle can be fixed to the means for adjustment (e.g., strap), or it can be removable and can be adjustable in size; or

a means to attach to a fixed frame with means such as a pulley and a cam cleat (or other means to secure) which allows the user to adjust the amount of stretch or resistance.

All of the above components can be attached to each other by various connections and can be in different forms. For example:

The means of attachment to the body can be a padded cuff, a strap or loop secured in different ways, a glove, a shoe, or a strap around a shoe or glove. The attachment can be made with a ring or other feature, made of metal, nylon, or other material.

The resistance material can be, among other things, resistance tubing, elastic bands, or a spring, and can be of various lengths and/or thickness to yield varying amounts of resistance.

The adjustable means can be made of a variety of materials and be connected to the resistance material or to the means of attachment to the body in a variety of ways. An important feature of the adjustable means is that it can either be connected to the resistance material, which is then connected to the means of attachment to the body, or it can be connected directly to the means of attachment to the body (i.e., without the resistance material).

While this invention has been described in connection with preferred embodiments, it is obvious that various modifications, changes or substitutions therein may be made by those skilled in the art to which it pertains, without departing from the spirit and scope of the invention. Accordingly, the scope of the present invention is to be limited only by the appended claims and their legal equivalents.

CLAIMS

What is claimed as invention is:

1. A strap apparatus for stretching and strengthening muscles and connective tissue, said strap apparatus comprising:

a segment of strap material, said segment having a first end, a medial portion, and a second end, having a loop formed in said first end, length adjustment means formed in said medial portion, and a connector element attached to said second end; and

an anchor article bearing a receiver, said receiver adapted for releasable attachment to said connector element.

2. The strap apparatus of claim 1 wherein said strap material is non-elastic.

3. The strap apparatus of claim 1 wherein said length adjustment means comprises an adjustable buckle.

4. The strap apparatus of claim 1 wherein said length adjustment means comprises a strap retractor member.

5. The strap apparatus of claim 1 wherein said connector element comprises a swivel.

6. The strap apparatus of claim 1 wherein said connector element comprises a carabiner.

7. The strap apparatus of claim 1 wherein said connector element comprises a clip.

8. The strap apparatus of claim 1 wherein said connector element comprises a hook.

9. The strap apparatus of claim 1 wherein said anchor article comprises a shoe.

10. The strap apparatus of claim 1 wherein said anchor article comprises a glove.

11. The strap apparatus of claim 1 wherein said anchor article comprises an extremity cuff.

12. The strap apparatus of claim 11 wherein said extremity cuff member comprises a padded loop.

13. The strap apparatus of claim 11 wherein said extremity cuff member is adjustable in diameter.

14. The strap apparatus of claim 1 wherein said receiver comprises an eyelet.

15. The strap apparatus of claim 1 wherein said receiver comprises a D-ring.

16. The strap apparatus of claim 1 wherein said receiver comprises an O-ring.

17. The strap apparatus of claim 1 wherein said receiver comprises a fabric loop.

18. The strap apparatus of claim 1 wherein said connector element includes

means for resistance exercise.

19. The strap apparatus of claim 18 wherein said means for imparting resistance comprises a resistance band.

20. The strap apparatus of claim 1 wherein said segment of strap material bears length indicia.

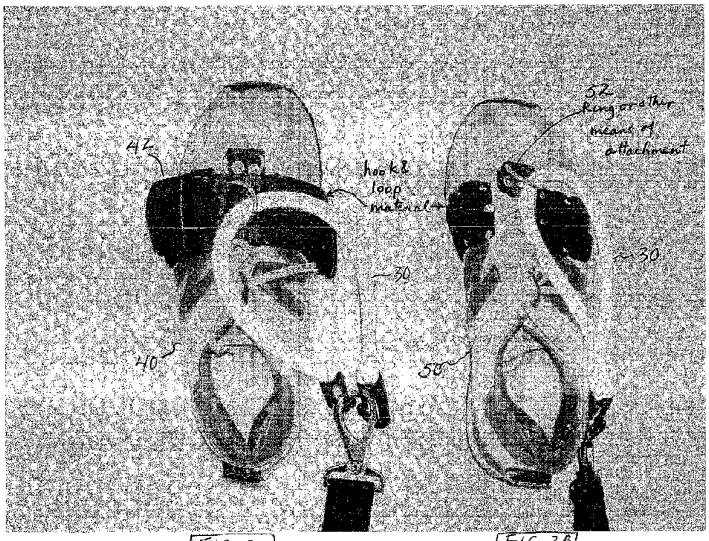

FIG. 2A FIG. 2B

2 variations of attachment to shoe

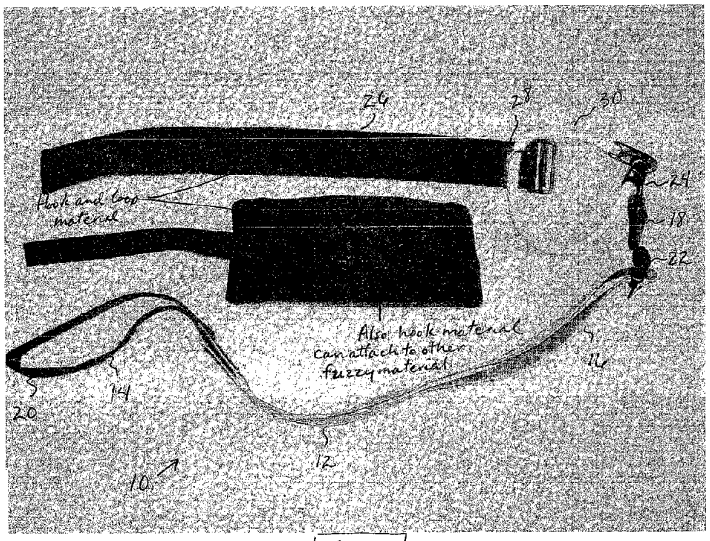

FIG. 1

Cuff with detachable hook and loop strap that can be used independently around shoe, foot, ankle, wrist.

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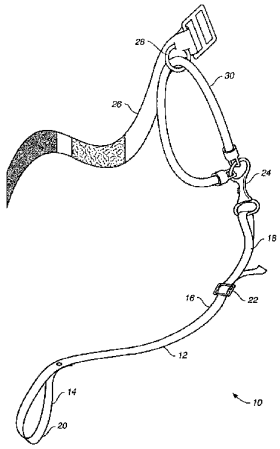
[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR PERFORMING STRETCHING EXERCISES



(57) Abstract: The invention provides a strap apparatus for stretching and strengthening muscles and connective tissue, and includes a segment of strap (12) material having a first end, a medial portion, and a second end, having a loop (14) formed in the first end, length adjustment means formed in the medial portion, and a connector element (26) attached to the second end. The connector element is adapted for releasable connection to an anchor article, e.g., an extremity cuff member or a clothing article, bearing a receiver adapted for releasable attachment to the connector element.

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Method and Apparatus for Performing Stretching Exercises

DESCRIPTION

Technical Field

The present invention relates generally to exercise equipment and sports apparatus, and more specifically to an improved method and apparatus for performing stretching and strengthening exercises for the human body.

Background Art

It is widely recognized and generally accepted that proper stretching and strengthening of the muscles is an important aspect to overall fitness and health. However, most known stretching regimens simply provide independent exercises or movements that the individual must perform. Some forms of structural apparatus and exercise accessories have been designed for use in stretching, e.g., to provide a stationary surface or bar against which a user may stretch, but these structures can be large and unwieldy, and therefore of limited utility. Furthermore, no known apparatus enables the combined benefits of stretching and strengthening in a simple, versatile form.

Disclosure of Invention

The method and apparatus for performing stretching and strengthening exercises of this invention provides a strap apparatus for stretching and strengthening muscles and connective tissue. The inventive apparatus includes a segment of strap material having a first end, a medial portion, and a second end, having a loop formed in the first end, length adjustment means formed in the medial portion, and a connector element attached to the second end. The connector element is adapted for releasable connection to an anchor article, e.g., an extremity cuff member or a clothing article, bearing a receiver adapted for releasable attachment to the connector element. Variations include, but are not limited to, the following: the strap material may be non-stretching (non-elastic); the length adjustment means may consist of an adjustable buckle or strap retractor member; the connector element may consist of a swivel, carabiner, clip, snap, hook, or other releasable fastener; the clothing article may consist of a shoe or glove to which an appropriate receiver has been affixed; the extremity cuff member may consist of a padded loop, and may be adjustable in diameter; the receiver may consist of an eyelet, a D-ring, an O-ring, or a fabric loop; the connector element may include means for imparting resistance such as a

resistance band; and the segment of strap material may bear length indicia.

Applications for the inventive apparatus include use in gyms, health clubs, physical therapist offices, orthopedic offices, sports medicine centers, homes, professional sports teams, hospitals, schools, senior citizen homes, massage and bodywork centers, chiropractors offices, recreation centers, handicap centers, dance centers, and yoga centers.

The apparatus can be used to stretch every major muscle group of the body. The commercial version of the apparatus may include explanatory materials such as charts, names and diagrams for specific stretch positions, either on the packaging for the apparatus or in a written manual and/or videotape demo.

Brief Description of the Drawings

Fig. 1 is a top plan view of an apparatus for performing stretching and strengthening exercises of this invention;

Fig. 2A is a top plan view of the inventive apparatus as affixed to a user's shoe by a cuff or strap member; and

Fig. 2B is a top plan view of the inventive apparatus as affixed to a user's shoe by a ring element integral to the shoe.

Best Mode for Carrying out the Invention

Fig. 1 is a top plan view of an apparatus for performing stretching and strengthening exercises of this invention. The inventive apparatus 10 includes a segment of strap material 12 having a first end 14, a medial portion 16, and a second end 18, having a loop 20 formed in the first end 14, length adjustment means 22 formed in the medial portion 16, and a connector element 24 attached to the second end 18. The connector element 24 is adapted for releasable connection to an anchor article, e.g., an extremity cuff member 26, bearing a receiver 28 adapted for releasable attachment to the connector element 24. Here, the connector element includes a resistance band 30.

Fig. 2A is a top plan view of the inventive apparatus as affixed to a user's shoe 40 by a cuff or strap member 42 (bearing hook and loop material. The shoe can also have hook and loop material on it, which may help maintain position and security of the strap.

Fig. 2B is a top plan view of the inventive apparatus as affixed to a user's modified shoe 50 by a ring element 52 integral to the shoe. Such a ring or means of attachment can be also temporarily secured by being held at the base of the shoelaces or other means.

The present invention thus provides an innovative design and versatile system for stretching and strengthening exercises for the human body. The apparatus itself preferably

includes:

a means of attachment to the body (e.g., a cuff or clothing article with the appropriate receiver);

a means to provide some degree of resistance (e.g., tubing, resistance bands, spring, or strap) for strengthening. This resistance feature also provides some "give" during stretching exercises, thereby making those exercises safer (the "give" helps prevent over-stretching, especially important for people who have not been stretching); and

a means for length adjustment (e.g., a strap) which preferably includes:

a loop or handle to manually hold on to, or to close in a door frame, or to attach around a fixed object. Attachment can be accomplished, for example, by taking the other end (e.g., the cuff) around a fixed object and then threading it through the loop. Being connected to an adjustable strap makes it possible to adjust the length of the strap and thereby the amount of resistance or stretch. This loop or handle can be fixed to the means for adjustment (e.g., strap), or it can be removable and can be adjustable in size; or

a means to attach to a fixed frame with means such as a pulley and a cam cleat (or other means to secure) which allows the user to adjust the amount of stretch or resistance.

All of the above components can be attached to each other by various connections and can be in different forms. For example:

The means of attachment to the body can be a padded cuff, a strap or loop secured in different ways, a glove, a shoe, or a strap around a shoe or glove. The attachment can be made with a ring or other feature, made of metal, nylon, or other material.

The resistance material can be, among other things, resistance tubing, elastic bands, or a spring, and can be of various lengths and/or thickness to yield varying amounts of resistance.

The adjustable means can be made of a variety of materials and be connected to the resistance material or to the means of attachment to the body in a variety of ways. An important feature of the adjustable means is that it can either be connected to the resistance material, which is then connected to the means of attachment to the body, or it can be connected directly to the means of attachment to the body (i.e., without the resistance material).

While this invention has been described in connection with preferred embodiments, it is obvious that various modifications, changes or substitutions therein may be made by those skilled in the art to which it pertains, without departing from the spirit and scope of the invention. Accordingly, the scope of the present invention is to be limited only by the appended claims and their legal equivalents.

CLAIMS

What is claimed as invention is:

1. A strap apparatus for stretching and strengthening muscles and connective tissue, said strap apparatus comprising:

a segment of strap material, said segment having a first end, a medial portion, and a second end, having a loop formed in said first end, length adjustment means formed in said medial portion, and a connector element attached to said second end; and

an anchor article bearing a receiver, said receiver adapted for releasable attachment to said connector element.

2. The strap apparatus of claim 1 wherein said strap material is non-elastic.

3. The strap apparatus of claim 1 wherein said length adjustment means comprises an adjustable buckle.

4. The strap apparatus of claim 1 wherein said length adjustment means comprises a strap retractor member.

5. The strap apparatus of claim 1 wherein said connector element comprises a swivel.

6. The strap apparatus of claim 1 wherein said connector element comprises a carabiner.

7. The strap apparatus of claim 1 wherein said connector element comprises a clip.

8. The strap apparatus of claim 1 wherein said connector element comprises a hook.

9. The strap apparatus of claim 1 wherein said anchor article comprises a shoe.

10. The strap apparatus of claim 1 wherein said anchor article comprises a glove.

11. The strap apparatus of claim 1 wherein said anchor article comprises an extremity cuff.

12. The strap apparatus of claim 11 wherein said extremity cuff member comprises a padded loop.

13. The strap apparatus of claim 11 wherein said extremity cuff member is adjustable in diameter.

14. The strap apparatus of claim 1 wherein said receiver comprises an eyelet.

15. The strap apparatus of claim 1 wherein said receiver comprises a D-ring.

16. The strap apparatus of claim 1 wherein said receiver comprises an O-ring.

17. The strap apparatus of claim 1 wherein said receiver comprises a fabric loop.

18. The strap apparatus of claim 1 wherein said connector element includes

means for resistance exercise.

19. The strap apparatus of claim 18 wherein said means for imparting resistance comprises a resistance band.

20. The strap apparatus of claim 1 wherein said segment of strap material bears length indicia.

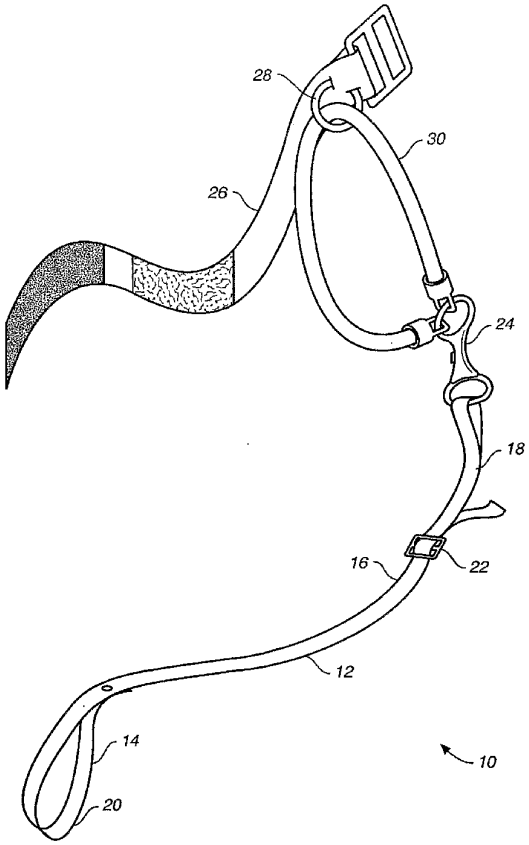

FIG._1

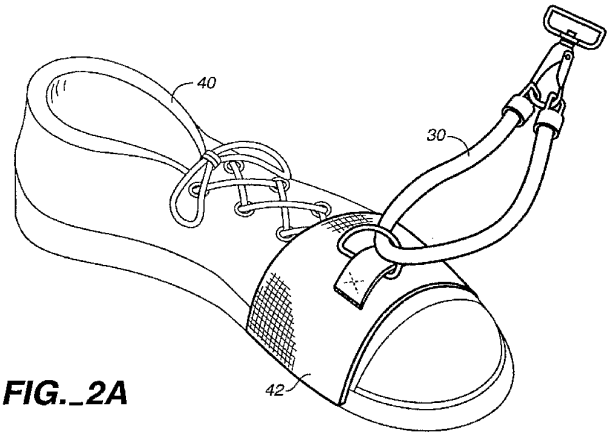

FIG._2A

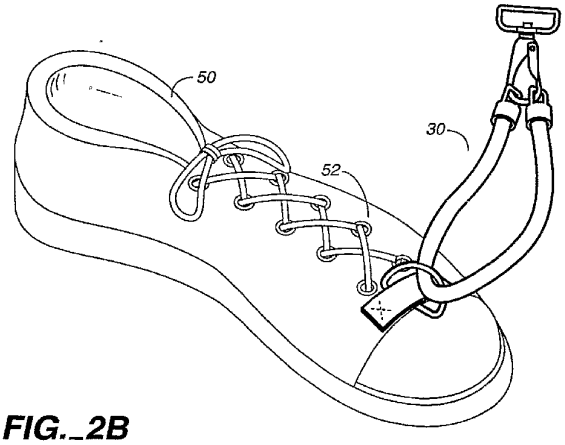

FIG._2B

【国際調査報告】

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/27006

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : A63B 21/00
US CL : 482/121, 124, 907
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
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U.S. : 482/121-129, 907, 904

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	US 6,450,929 B1 (MARKHAM) 17 September 2002, see Fig.1.	1-20
A,P	US 6,361,517 B1 (SLINGER) 26 March 2002, see Figs. 1 and 2.	1-20
A,P	US 6,348,026 B1 (KUO) 19 February 2002, see Fig.1.	1-20
A	US 6,183,403 B1 (DUNN) 06 February 2001, see Fig. 4a.	1-20

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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