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(54) MUSCLE LOOSENING-UP AND RELAXING APPLIANCE

(57) A muscular loosening and relaxation appliance, formed by at least one support shaft (1), at least one handle (2) and a plurality of rollers (3) linked to the support shaft (1), wherein the rollers (3) are linked to the support shaft (1) by means of a hole (5), through which the support shaft (1) runs, in such a way that the rollers (3) move independently from one another, relative to the support shaft (1), in a rotational and/or displacement movement.

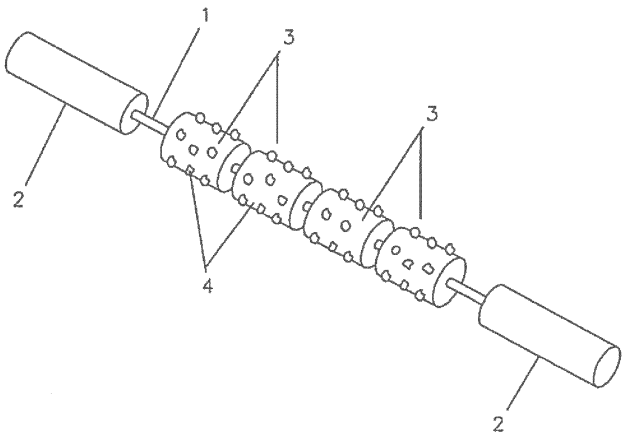

Fig. 1

EP 2 845 575 A1

Description

Field of the invention

[0001] The present invention pertains to the technical field of appliances used in massages and muscular relaxation. In particular, the invention relates to a muscular loosening and relaxation appliance, of the type that has one support shaft, at least one handle and a number of rollers that are linked to this support shaft.

Background of the invention

[0002] There is a large number of manual massage and muscular relaxation devices and appliances on the market, such as the one described in document MU 9500411, the purpose of which is to alleviate muscle fatigue in any area of the human body, by means of repeatedly applying the appliance on the area to be alleviated. One drawback of these manual devices is that they have a rigid construction, which may not be adapted to the different areas of the body to be treated and likewise, are not provided with interchangeable means that enable easy access to said areas.

[0003] There are also massage appliances on the market, such as the one described in document GB1505225, which alleviate contractions in muscle mass using mechanisms that are generally actuated by electrical means, but their use is limited by the need for electrical energy and because they also tend to be bulky to transport.

[0004] Other mechanical appliances, which alleviate pain in specific areas of the body through mobile elements, are not usually manageable and/or suitable for other areas of the body.

[0005] Therefore, an efficient muscular loosening and relaxation appliance is desirable, which avoids the drawbacks found in previous appliances pertaining to the state of the art.

Description of the invention

[0006] The present invention resolves the problems existing in the state of the art by means of a muscular loosening and relaxation appliance, as defined in the claims.

[0007] The object of the present invention is a muscular loosening and relaxation appliance, which is used to relax and loosen muscles in any area of the human body and promote blood flow, by means of repeatedly applying the appliance to the area to be alleviated, thus constituting an easy to manage, manual appliance, the configuration of which may be changed and combined using interchangeable means, in such a way that it enables easy access to the areas to be treated, whilst also being highly versatile and easy to transport, given its simplicity and light weight.

[0008] According to one embodiment of the muscular loosening and relaxation appliance according to the invention, the same is formed by at least one support shaft, at least one handle and a plurality of rollers, the rollers being linked to the support shaft. The rollers move independently from one another, relative to the support shaft, this movement of the rollers relative to the support shaft being a rotational movement. Moreover, the rollers move freely and individually on said support shaft.

[0009] This is advantageous in that an easily manageable, manual appliance is constructed, wherein the movement of the rollers facilitates better massaging of the areas concerned and enables easy access to the areas to be treated, given its simple construction.

[0010] According to another embodiment of the muscular loosening and relaxation appliance of the invention, the rollers are formed by cylinders and are linked to the support shaft by means of a hole, through which the support shaft runs, said hole being moved relative to the axis of the cylinder, in such a way that each roller rotates eccentrically on the support shaft. This eccentricity in the hole of each roller and, therefore, eccentricity in the rotation of each roller, constitutes a very important element in terms of how useful the invention is, given that it means that the pressure exerted on the muscles varies.

[0011] This eccentricity is advantageous in that it constructs an appliance that simulates a massage carried out using fingers, where the pressure is not always the same across the entire area to be treated, thus improving blood flow.

[0012] In accordance with another embodiment of the muscular loosening and relaxation appliance according to the invention, the rollers are provided with elements that establish contact with the area of the body to be relaxed, said elements constituting stones or other protuberances made from any material, which protrude from the rollers, in irregular shapes, and/or discs that surround the rollers, it being possible for these elements to be interchangeable.

[0013] This is advantageous in that it is possible to combine different rollers with different relaxation elements, depending on the area to be alleviated.

[0014] According to another embodiment of the muscular loosening and relaxation appliance, two handles are provided, which may or may not be formed in an "L" shape and moreover, may be telescopic and/or be provided with a hinge that enables it to be folded, as they are interchangeable.

[0015] This is advantageous in that it makes it possible for the configuration to be combined by means of interchangeable means, in such a way that it facilitates easy access to the areas to be treated, whilst also being highly versatile and easy to transport, given its simplicity and light weight.

Brief description of the drawings

[0016] An embodiment of the invention that refers to a series of figures is described below, in order to aid the understanding of the invention, by way of non-limiting

examples.

Figure 1 shows a muscular loosening and relaxation appliance according to the invention.

Figure 2 is a detailed view of a series of massage cylinders pertaining to a muscular loosening and relaxation appliance according to the invention, wherein the hole of the shaft is not centred.

Figure 3 shows a muscular loosening and relaxation appliance, object of the present invention, which is formed using different handles.

Figure 4 shows a muscular loosening and relaxation appliance, object of the present invention, which is formed using other handles.

[0017] A set of elements are referenced in these figures as follows:

1. - Support shaft
2. - Handle
3. - Rollers
4. - Elements
5. - Hole
6. - Hinge

Detailed description of the invention

[0018] The object of the present invention is a muscular loosening and relaxation appliance.

[0019] As may be seen in figure 1, a muscular loosening and relaxation appliance according to the invention is formed by at least one support shaft 1, at least one handle 2 and a plurality of rollers 3, the rollers 3 being linked to the support shaft 1. The rollers 3 move independently from one another, relative to the support shaft 1, this movement of the rollers 3 relative to the support shaft 1 being a rotational movement. Moreover, the rollers 3 move freely and individually on said support shaft 1.

[0020] As may be seen in figure 2, in the muscular loosening and relaxation appliance according to the invention, the rollers 3 are formed by cylinders and are linked to the support shaft 1 by means of a hole 5, through which the support shaft 1 runs, as may be seen in figure 1, said hole 5 being moved relative to the axis of the cylinder, in such a way that each roller 3 rotates eccentrically on the support shaft 1.

[0021] As may be seen in figure 2, the rollers 3 are provided with elements 4 that establish contact with the area of the body to be relaxed, said elements 4 constituting irregular shaped stones or any other type of protuberances that protrude from the rollers and/or by discs surrounding the rollers 3, it being possible for these elements to be interchangeable.

[0022] As can be seen in figure 3, the muscular loosening and relaxation appliance according to the invention, is provided with two handles, which may or may not be formed in an "L" shape and/or may be telescopic and/or be provided with a hinge 6 that enables it to be folded, as they are interchangeable, as can be seen in figure 4.

[0023] After having clearly described the invention, it must be noted that the specific embodiments described above may be modified in detail, provided that the main principle and essence of the invention are not changed.

Claims

1. A muscular loosening and relaxation appliance, comprising:

- at least one support shaft (1),
- at least one handle (2)
- and a plurality of rollers (3) linked to the support shaft (1),

characterised in that the rollers (3) are linked to the support shaft (1) by means of a hole (5), through which the support shaft (1) runs, in such a way that the rollers (3) move independently from one another, relative to the support shaft (1),, in a rotational and/or displacement movement.

2. The muscular loosening and relaxation appliance, according to claim 1, **characterised in that** hole (5) of the rollers (3) is displaced relative to the axis thereof, which causes said rollers (3) to rotate eccentrically.

3. The muscular loosening and relaxation appliance, according to any of the previous claims, **characterised in that** the rollers (3) are formed by cylinders.

4. The muscular loosening and relaxation appliance, according to any of the previous claims, **characterised in that** the rollers (3) comprise elements (4) that establish contact with the area of body to be relaxed.

5. The muscular loosening and relaxation appliance, according to claim 4, **characterised in that** the elements (4) are selected from stones and any type of protuberance and a combination thereof.

6. The muscular loosening and relaxation appliance, according to claim 4, **characterised in that** the elements (4) are formed by discs surrounding the rollers (3).

7. The muscular loosening and relaxation appliance, according to any of the previous claims, **characterised in that** the rollers (3) are interchangeable.

8. The muscular loosening and relaxation appliance, according to any of the previous claims, **characterised in that** it comprises two handles (2).

9. The muscular loosening and relaxation appliance, according to the previous claim, **characterised in that** the two handles (2) are formed in an "L" shape.

10. The muscular loosening and relaxation appliance, according to any of the claims 8 to 9, **characterised in that** the handles (2) are telescopic.

11. The muscular loosening and relaxation appliance, according to any of the claims 8 to 10, **characterised in that** the handles (2) comprise a hinge (6), which enables it to be folded.

12. The muscular loosening and relaxation appliance, according to any of the claims 8 to 11, **characterised in that** the handles (2) are interchangeable.

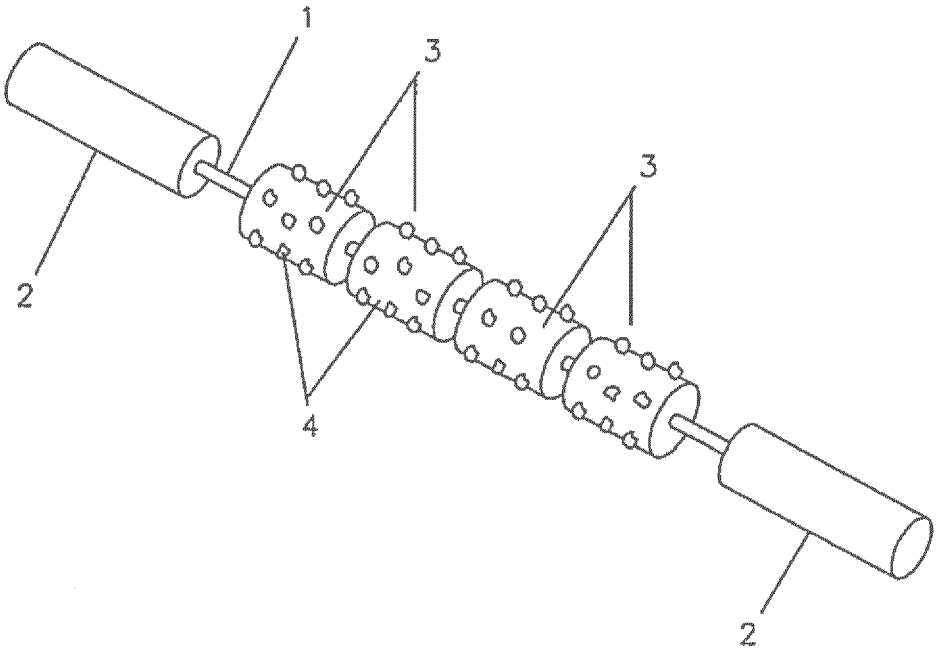

Fig. 1

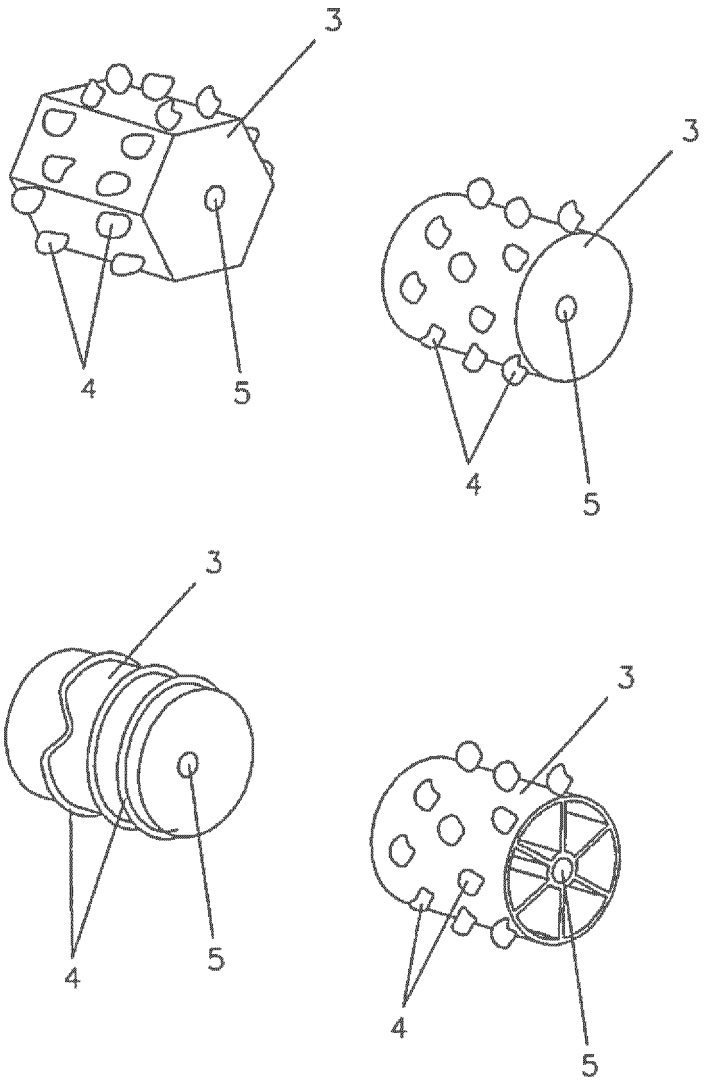

Fig. 2

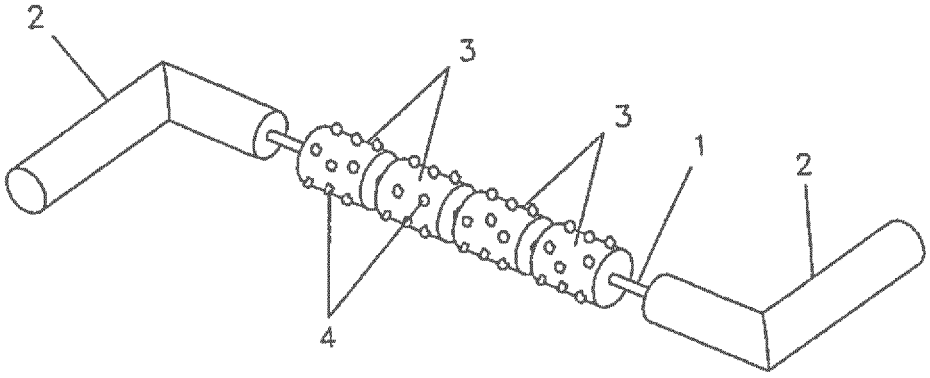

Fig. 3

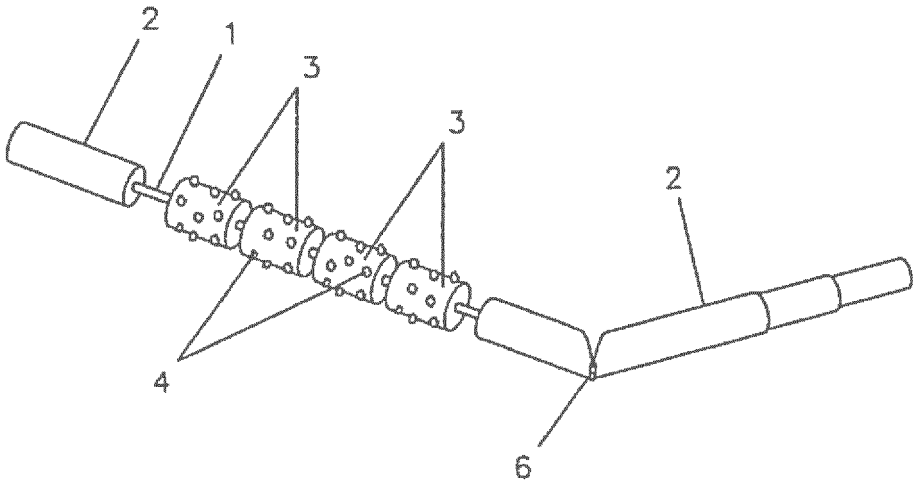

Fig. 4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070265

A. CLASSIFICATION OF SUBJECT MATTER

A61H15/00 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61H

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)

EPODOC, INVENES, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011257569 A1 (ROBINS SUSAN Z) 20/10/2011, page 1, paragraph [0029] - page 3, paragraph[0043]; figures 1 - 12.	1, 2, 4-6, 8-11
X	DE 20119764U U1 (WANG) 21/02/2002, Abstract; Figures.	1, 2, 4-6, 8-11
X	US 3664334 A (ONEIL JOHN J) 23/05/1972, column 1, line 4 - column 2, line 38; figures 1 - 3.	1, 2, 4-6, 8-11
A	US 2008294077 A1 (WALKER STEPHEN TERRY) 27/11/2008, paragraphs[0013 - 0031]; figure 1.	1, 2, 4-6, 8-11
A	US 5868689 A (FAROKY SHERRI ET AL.) 09/02/1999, column 1, line 30 - column 3, line 51; figures 1 - 10.	1, 2, 4-6, 8-11

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance.
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure use, exhibition, or other means.
"P" document published prior to the international filing date but later than the priority date claimed

"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
"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
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents , such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30/07/2013	**(31/07/2013)**
Name and mailing address of the ISA/ OFICINA ESPAÑOLA DE PATENTES Y MARCAS Paseo de la Castellana, 75 - 28071 Madrid (España) Facsimile No.: 91 349 53 04	Authorized officer E. Álvarez Valdés Telephone No. 91 3498419

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070265

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 3, 7 and 12
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claims 3, 7 and 12 do not clearly define the subject matter for which protection is sought (PCT Article 6). The features which define the muscle-loosening apparatus are not clearly indicated and it is therefore impossible to examine these claims with respect to their novelty and inventive step.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (July 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/ES2013/070265

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
US2011257569 A1	20.10.2011	NONE	
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Form PCT/ISA/210 (patent family annex) (July 2009)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- GB MU9500411 A **[0002]**
- GB 1505225 A **[0003]**