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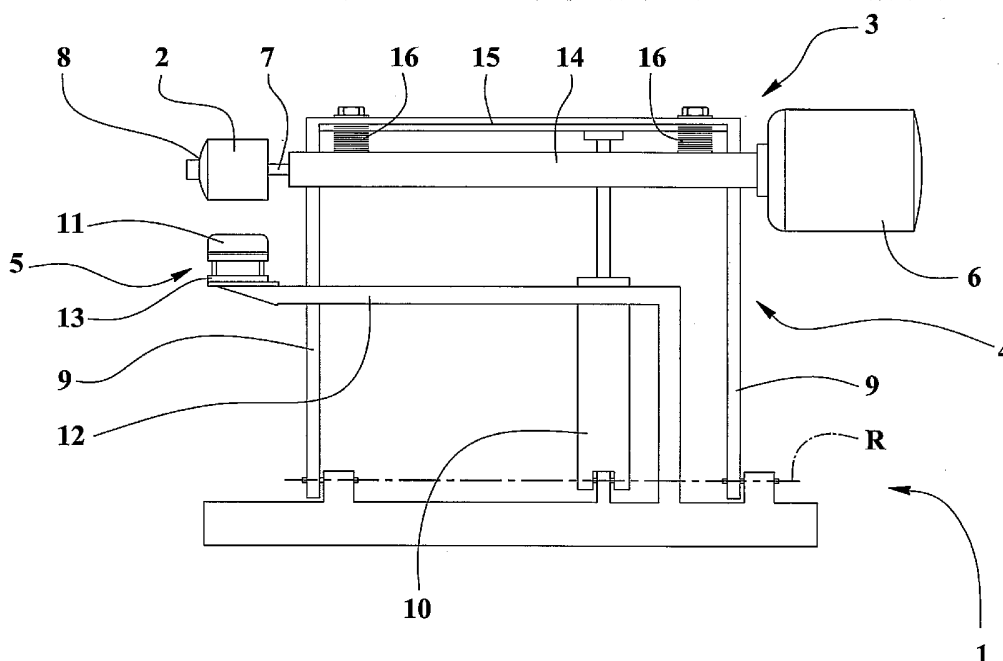
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[Continued on next page]

(54) Title: DEVICE FOR WEARING PORTIONS OF CLOTHING OR FABRIC



(57) Abstract: A device for wearing portions of clothing or of fabric by abrasive means (2) comprises: driving means (3) of the abrasive means (2); moving means (4) of the abrasive means (2); support means (5) of the fabric portion fit to mate the abrasive means (2). In an operating condition of device (1) the moving means (4) make the fabric portion, arranged on the support means (5), to mate the abrasive means (2) operated by the driving means (3), in order to abrade a thickness of the fabric portion.

WO 2004/101875 A1



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Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA,*

SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

DEVICE FOR WEARING PORTIONS OF CLOTHING OR FABRICTECHNICAL FIELD

- 5 The present invention relates to the manufacture of textiles, fabrics and clothing and particularly it refers to a device for wearing portions of clothing, fabric and cloth.

BACKGROUND ART

- 10 The known devices for wearing portions of clothes and fabrics are usually constituted by manually operated abrasive electric tools capable to wear and to consume for instance the knee portions of trousers.

- A drawback of said known device consists in the difficulty to adjust operation thereof with the
15 risk to excessively or insufficiently wear and/or to wear the wrong portions.

Other drawback of said known device consists in that they have long operation time due to their difficult use and they produces many discarded articles, so resulting very expensive.

- 20 Further drawback consists in that the manual devices can be dangerous for the operators.

DISCLOSURE OF THE INVENTION

- An object of the present invention is to propose a device for carrying out wears with predefined
25 size and deep in portions of clothing or fabric.

Further object is to propose a device for carrying out wears in controlled, repeatable and very quick mode, without danger for the operators

- 30 Other object is to propose a device for carrying out wears having predefined shapes.

The above-mentioned objects are achieved in accordance with the claim content.

BRIEF DESCRIPTION OF THE DRAWINGS

- 35 The characteristics of the invention are underlined in the following, with particular reference to

the attached drawings, in which:

- figure 1 shows a schematic and front view of the device of the present invention;
- figure 2 shows a side view of the device of figure 1.

5 BEST MODE OF CARRYING OUT THE INVENTION

With reference to figures 1 and 2, numeral reference 1 point out the device for wearing portions of clothes and fabrics by abrasive means 2 and including driving means 3 of abrasive means 2, moving means 4 of abrasive means 2 and supporting means 5 for the fabric portion fit to mate
10 the abrasive means 2.

In an operating condition of device 1, the moving means 4 make the fabric portion positioned at the supporting means 5 to mate the abrasive means 2, moved by driving means 3 in order to
15 abrade a predefined thickness of fabric portion.

The driving means 3 include an electrical or pneumatic motor 6 which rotates a respective shaft 7 accommodated in a long case 14 and provided with a fixing head 8 for the abrasive means 2.

The moving means 4 include a couple of bent shaped and parallel arms 9, each having an end
20 hinged for rotating on a rotation axis R and having the remaining end fixed to beam 15 consisting of "L" section supporting the case 14 through a set of adjustment means 16.

Each adjustment means 16 includes screws and bolts for connecting the beam 15 to the case 14 and interposed elastic means, for instance Belleville springs, in order to precisely adjust the
25 position of abrasive means 2 with respect to the support means 5.

The moving means 4 include an actuator 10, of pneumatic or electric linear type, which is coupled to arms 9 by means of beam 15 for bringing near or away the abrasive means 2 to and
30 from the support means 5.

The case 14 is almost horizontal and parallel to extended bracket means 12 one end thereof bear the support means 5.

The bracket means 12 is fit to allow entering clothing portions such as sleeves of jackets or
35 shirts and legs of pants, for easy positioning each clothing portion on an abutment element 11 of

support means 5.

The abutment element 11 is interchangeable, is removably fixed to bracket means 12 by means of a connection 13 and it could be shaped for carrying out abrasions shaped as things, objects or animals.

The operation of device 1 provides to adjust the position of abrasive means 2 so that it pass above the abutment element 11 at a distance corresponding to the fabric thickness that has not to be worn.

After the placement of the fabric or clothing portion on the abutment element 11 and the operation of motor 6 and actuator 10, the abrasive means which rotates and moves, mates the fabric portion, for instance blue denim cloth for jeans, so removing an external layer of blue color from it.

The main advantage of the present invention is to provide a device for carrying out wears in portions of clothing or fabric.

Further advantage is to propose a device for carrying out wears with predefined size and deep in controlled, repeatable and very quick mode, without danger for the operators.

Other advantage is to propose a device for carrying out wears having predefined shapes.

CLAIMS

- 1) Device for wearing portions of clothing or of fabric by abrasive means (2) characterized in that comprises:
- 5 - driving means (3) of the abrasive means (2);
 - moving means (4) of the abrasive means (2);
 - support means (5) of the fabric portion fit to mate the abrasive means (2);
 in an operating condition of device (1) the moving means (4) make the fabric portion, arranged on the support means (5), to mate the abrasive means (2) operated by the driving means (3), in order to abrade a thickness of the fabric portion.
- 10
- 2) Device according to claim 1 characterized in that the driving means (3) include a motor (6) for rotating a respective shaft (7) provided with a fixing head (8) for the abrasive means (2) having a cylindrical shape.
- 15
- 3) Device according to claim 2 characterized in that the motor (6) is of pneumatic or electric type.
- 4) Device according to claim 1 characterized in that the moving means (4) include at least an arm (9) rotatably supporting at least the abrasive means (2).
- 20
- 5) Device according to claim 1 characterized in that the moving means (4) include at least an actuator (10), coupled to the arm (9) for rotatably moving at least the abrasive means (2).
- 25
- 6) Device according to claim 1 characterized in that the support means (5) include at least an abutment element (11) fixed to the end of an extended bracket means (12) fit for allowing inserting clothing portions, such as sleeves or trousers legs, for easy positioning each clothing portion on an abutment element (11).
- 30
- 7) Device according to claim 6 characterized in that the abutment element (11) is removably fixed to the bracket means (12) by a connection (13).
- 35
- 8) Device according to claims 2 and 4 characterized in that the driving means (3) comprise a case (14) for rotation shaft (7) of the abrasive means (2) and fixed, through a beam (15) to the free ends of at least two arms (9) of moving means (4).

- 9) Device according to claim 8 characterized in that the case (14) is fixed to the beam (15) by a set of adjustment means (16).
- 10) Device according to claims 6 and 8 characterized in that the case (14) is almost parallel to the bracket means (12).
- 11) Device according to claims 5 and 8 characterized in that an end of the actuator (10) is connected to the beam (15).
- 10 12) Device according to claim 6 characterized in that the abutment element (11) is shaped for carrying out abrasions shaped as things, objects or animals.

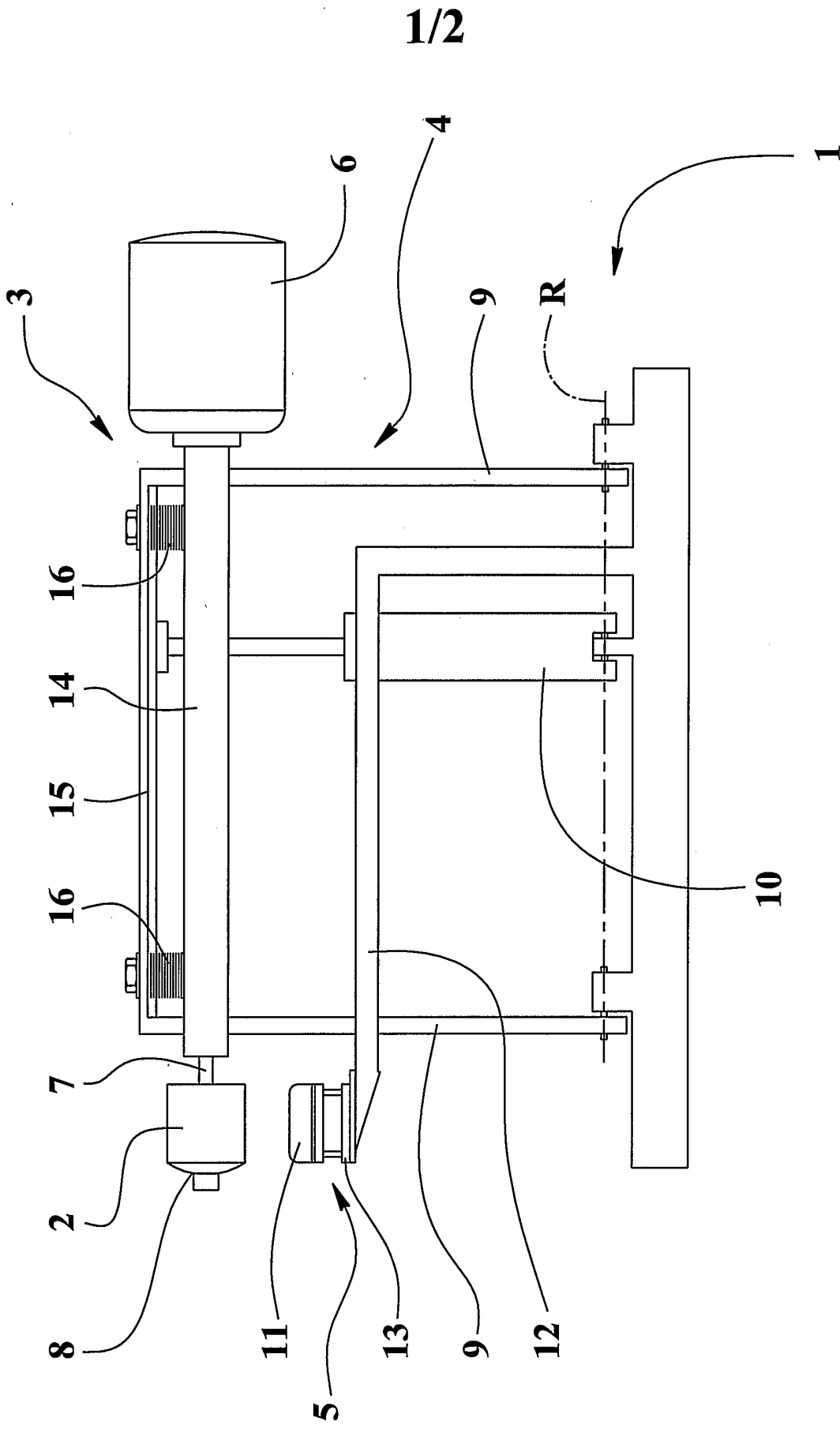


FIG.1

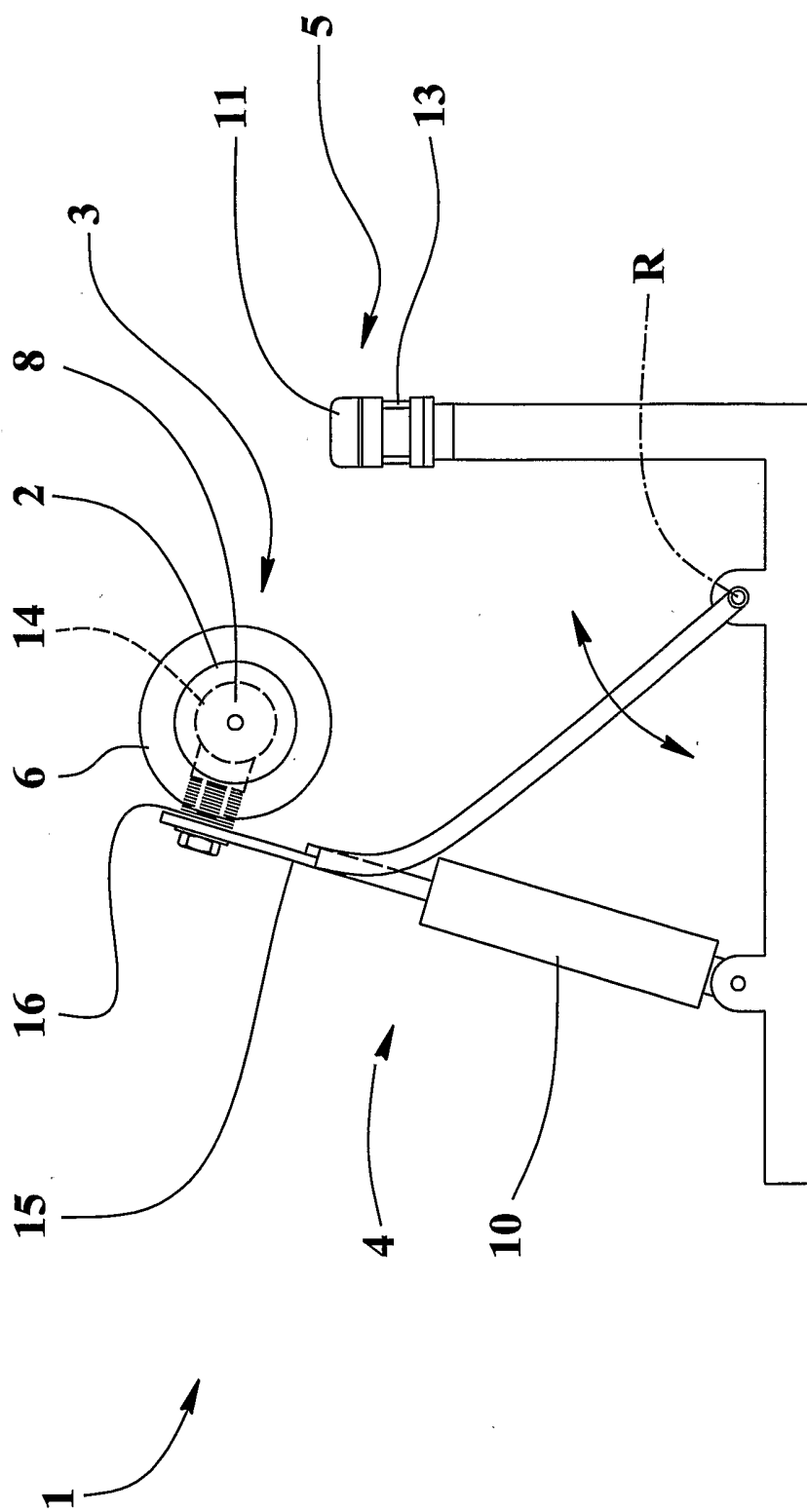


FIG.2

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 D06C23/02 D06B11/00

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)
IPC 7 D06B D06C

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 395 281 A (O. TONELLO) 7 March 1995 (1995-03-07) column 4, line 6 - column 5, line 2 -----	1, 4, 5
X	US 6 090 158 A (R.S. MCLAUGHLIN) 18 July 2000 (2000-07-18) column 8, line 32 - line 60 -----	1, 4
X	FR 2 622 217 A (SARL ACER INDUSTRIE) 28 April 1989 (1989-04-28) page 1, line 1 - line 26 -----	1

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "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
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- "&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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