



Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets



(11)

EP 2 420 294 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
01.01.2014 Bulletin 2014/01

(51) Int Cl.:  
**A63B 21/072 (2006.01)**      **A63B 71/00 (2006.01)**

(43) Date of publication A2:  
22.02.2012 Bulletin 2012/08

(21) Application number: 10191369.7

(22) Date of filing: 16.11.2010

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**

(30) Priority: 17.08.2010 CN 201020295656 U

(71) Applicant: **Orange International Trading (Tianjin) Inc.**  
Hexi District, Tianjin (CN)

(72) Inventor: **Zeng, Xianyong**  
Hexi District Tianjin (CN)

(74) Representative: **Grünecker, Kinkeldey, Stockmair & Schwanhäusser**  
Leopoldstrasse 4  
80802 München (DE)

### (54) Dumbbell

(57) A dumbbell consisting of a handle and two dumbbell heads mounted at both ends of the handle, an outer end cover being mounted at the outer side of the dumbbell head, wherein the dumbbell head consists of a plastic surface, a metallic iron core and a metallic fixed sleeve connected with the handle. The metallic iron core contains a metallic fixed steel sleeve, both side portions C of the outer cylindrical surface of the handle are provided with step M, and an inner end cover is movably mounted between the dumbbell head and the handle, wherein the inner end cover consists of a plastic body, a metallic reinforcing sheet and a metallic fixed sleeve, and

wherein the plane/surface on one end of the metallic fixed steel sleeve is forced against the end of the handle, the plane/surface on the other end is forced against the end face of the metallic fixed sleeve in the dumbbell head, and wherein there is a first fastening means, i.e., a weld line, between the handle and the dumbbell; a second fastening means, i.e., a cylindrical bulgy portion on the outer end cover to secure the outer end cover to the dumbbell head; and a third fastening means, i.e., a glue layer, between the dumbbell head and the outer end cover for fastening the outer end cover and the dumbbell head. The design is simple in structure, solid in connection and safe for being used by different people.

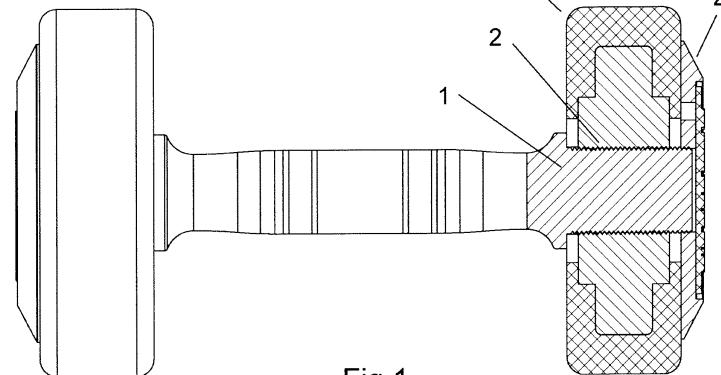


Fig. 1



## EUROPEAN SEARCH REPORT

**Application Number**

EP 10 19 1369

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	GB 2 439 221 A (ESCAPE FITNESS LTD [GB]) 19 December 2007 (2007-12-19) * the whole document * ----- Y CN 2 920 314 Y (CAO GUOFANG [CN]) 11 July 2007 (2007-07-11) * page 4; figure 2 * ----- Y US 2003/232705 A1 (HARMS ROBERT E [US] ET AL) 18 December 2003 (2003-12-18) * sentences 2,3, paragraph 40 * * figures 9,10 * -----	1-7,9, 10,12-17 1-7,9, 10,12-17 1-7,9, 10,12-17	INV. A63B21/072 A63B71/00
			TECHNICAL FIELDS SEARCHED (IPC)
			A63B
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
Munich	31 July 2013	Tejada Biarge, Diego	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			



Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

Application Number

## **CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

## LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-7, 9, 10, 12-17

The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number

EP 10 19 1369

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7, 9, 10, 12-17

An inner end cover for a dumbbell, the inner end cover consisting of a plastic body, a metallic reinforcing sheet and a metallic fixed sleeve.

---

2. claims: 8, 11

A dumbbell head body provided with Braille and annular grooves.

---

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 19 1369

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-07-2013

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2439221	A	19-12-2007	NONE	
CN 2920314	Y	11-07-2007	NONE	
US 2003232705	A1	18-12-2003	AU 2002326971 A1 EP 1531911 A1 US 2003232705 A1 WO 03105965 A1	31-12-2003 25-05-2005 18-12-2003 24-12-2003