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(71) Applicants (for all designated States except US): **OSSUR HF** [IS/IS]; Grjothals 5, IS-110 Reykjavik (IS). **OSSUR AMERICAS, INC.** [US/US]; 27412 Aliso Viejo Parkway, Aliso Viejo, CA 92656 (US).

(72) Inventor: **EINARSSON, Palmi**; 27579 Via Montoya, San Juan Capistrano, CA 92675 (US).

(74) Agent: **CASELL, Justin, J.**; Bacon & Thomas, Pllc, 625 Slaters Lane - 4th Floor, Alexandria, VA 22314 (US).

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(54) Title: ADJUSTABLE ORTHOPEDIC OR PROSTHETIC SUPPORT DEVICE

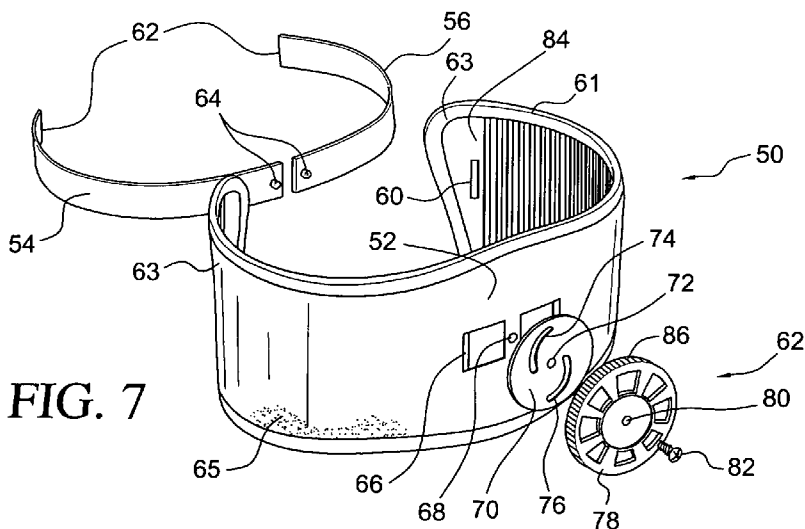


FIG. 7

(57) Abstract: An orthopedic or prosthetic support device is arranged to conform and secure to a limb of a wearer. The device includes a resilient support member (16) adapted to extend about a limb, and a tensioning element (36) associated with the support member (16). An adjustment system (20) is connected to the support member (36) and engages the tensioning element (36). The adjustment system (20) is arranged to incrementally adjust and retain the tensioning element (36) relative to the support member, wherein the support member is adapted to conform to the limb via adjustment of the tensioning element by the adjustment system.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/009929

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61F5/01

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)
A61F

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/107464 A1 (CASTILLO JAMES D [US]) 8 August 2002 (2002-08-08)	1-5, 10-12, 15,17-20
Y	abstract; figures 6,7a-c paragraph [0026]	6,8,9
X	US 2006/135901 A1 (INGIMUNDARSON ARNI T [US] ET AL) 22 June 2006 (2006-06-22)	1,4-6, 8-10,12, 17,18,20
Y	figures 18,19,22,23,29,33-49,60 paragraphs [0127], [0128], [0133], [0143], [0164] - [0208]	6,8,9
X	US 5 370 133 A (DARBY H DARREL [US] ET AL) 6 December 1994 (1994-12-06)	1,4-6
Y	figures 1,3-5 column 5, lines 47-53	6,8,9
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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 such 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

20 November 2008

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Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Dennler, Samuel

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/009929

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 433 204 A (ETHICON INC [US]) 20 June 2007 (2007-06-20) abstract; figures 1-5 page 6, line 23 - page 8, line 32 -----	1,4,5, 10,12, 17,18
X	US 2005/240130 A1 (RUDY RONALD M JR [US] ET AL RUDY JR RONALD M [US] ET AL) 27 October 2005 (2005-10-27) abstract; figures 3-15,19,20 paragraphs [0007] - [0016], [0058] - [0062] -----	1-5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/009929

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.:
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:

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:

see additional sheet

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

2. As all searchable claims could be searched without effort justifying an 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.:

see annex

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6, 8-12, 15, 17-20

an orthopedic or prosthetic support device comprising those features defined in claim 1,
further comprising the following special technical features:
the support member defines a plurality of openings and material portions surrounding the openings, the tensioning element extending through only the material portions of the support member in a channel defined therein, or the support member comprises a frictional feature or frictional padding element,
solving the technical problem of achieving a better grip of the patient's limb by allowing for a larger grip area while maintaining a sufficient ventilation of the limb or by preventing any slippage of the limb due to increased friction.

2. claims: 7,16

an orthopedic or prosthetic support device comprising those features defined in claim 1,
further comprising the following special technical features:
the support member defines a main body having a main thickness, the main body having several localized reduced thickness sections oriented generally perpendicular to a direction of the tensioning element,
solving the technical problem of allowing the support member to bend more easily upon adjustment of the tensioning member.

3. claims: 13,14

an orthopedic or prosthetic support device comprising those features defined in claim 1,
further comprising the following special technical features:
the adjustment system includes a rotatable element having a cam surface engaging a pin located at the second end of the tensioning element, the cam surface arranged to move the tensioning element second end relative to the support member upon rotation of the rotatable element,
solving the technical problem of allowing to adjust the curvature of the support member in a continuous manner by rotation of the rotatable element.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/009929

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002107464 A1	08-08-2002	US 6464657 B1	15-10-2002
US 2006135901 A1	22-06-2006	US 2008228119 A1	18-09-2008
US 5370133 A	06-12-1994	NONE	
GB 2433204 A	20-06-2007	NONE	
US 2005240130 A1	27-10-2005	US 2005240131 A1	27-10-2005