Title: BRAIDED PROSTHETIC SOCKETS WITH ATTACHMENT PLATES AND METHODS OF MANUFACTURE

Abstract: This invention provides new above knee (AK) and below the knee (BK) prosthetic sockets and implements specific manufacturing processes for the production of prosthetic sockets through the automated, computer controlled bi-axial and tri-axial braiding of sockets, over a mold or mandrel made of carved foam, plaster material or wax that is a replica of the patient’s truncated limb, and is created by a Computer Aided Design (CAD) file controlling a Numerically Controlled (CNC) machine tool. This method of manufacture using aerospace fibers such as graphite or Kevlar, and high performance resins, is used to create a socket which is stronger and lighter weight than conventionally manufactured sockets. Braiding also allows incorporation of woven cloth, tapes and other reinforcements into the braiding process for added strength at selected areas. The method dramatically decreases the production time and cost of the prosthetic relative to conventional methods.
Published:

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— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

A61F 2/60(2006.01)i, A61F 2/80(2006.01)1, A61F 2/78(2006.01)1, A61F 2/70(2006.01)1

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 2/60; A61F 2/78; B29C 70/42; A61F 2/80; A61F 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: prosthetic, limb, socket, resin, braid, strip, wing, biaxial, triaxial, thermostat, layer, film, resin, impregnation, foam, diaphragm

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>X</td>
<td>US 2008-0234836 A1 (TAYLOR, D.) 25 September 2008&lt;br&gt;See abstract; paragraphs [0004], [0054]-[0067], [0075], [0078]; claims 1-14; figures 1,13,14,15,18.</td>
<td>12-16,19-21</td>
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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
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"&" document member of the same patent family

Date of the actual completion of the international search: 30 AUGUST 2012 (30.08.2012)

Date of mailing of the international search report: 03 SEPTEMBER 2012 (03.09.2012)

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