A ball striking device includes a ball striking plate having a front surface configured to strike a ball and a rear surface opposite the front surface. The ball striking plate has a desired-contact region and a perimeter. One or more spoke-like reinforcement ribs may be located on the rear surface and may radiate away from the desired-contact region toward the perimeter. At least one of the spoke-like reinforcement ribs may be located in an upper-toe quadrant or in an upper-heel quadrant of the rear surface. One or more encircling reinforcement ribs may be located on the rear surface. The one or more encircling reinforcement ribs may be at least partially encircling the desired-contact region. A thickened portion of the ball striking plate may be positioned behind the desired-contact region of the ball striking plate. The ball striking device may be a golf club head.

**FIG. 8**
A. CLASSIFICATION OF SUBJECT MATTER

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

B. FIELDS SEARCHED

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)

EPO-Internal, WPI Data

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>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 6 203 449 B1 (KENMI YOSHINARI [JP])&lt;br&gt;20 March 2001 (2001-03-20)&lt;br&gt;figure 1&lt;br&gt;-----</td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>JP 2010 253247 A (GLOBERIDE INC)&lt;br&gt;11 November 2010 (2010-11-11)&lt;br&gt;figures&lt;br&gt;-----</td>
<td>1-25,30</td>
</tr>
</tbody>
</table>

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 application or patent 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

Date of the actual completion of the international search: 30 October 2013

Date of mailing of the international search report: 04/02/2014

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: Lundblad, Hampus
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).

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 all searchable 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. X 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.:

1-25, 30

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

1. claims: 1-25, 30

   The claims are directed to a golf club head having spoke-like reinforcement ribs, wherein at least one rib has a maximum cross-sectional area ranging from 0.1 mm² to 0.7 mm².

2. claims: 26-29, 31-35

   The claims are directed to a golf club head having encircling reinforcement ribs.

3. claims: 36-46

   The claims are directed to a golf club head having a thickened portion and a plurality of reinforcement ribs, at least one rib being spoke-like.

4. claims: 47, 48

   The claims are directed to a golf club having one or more spoke-like reinforcement ribs located in a certain quadrant on the rear surface of the golf club.
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
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