Title: INFLATABLE BUMPER FOR ROAD VEHICLES

Abstract: A reusable system for cushioning impacts to a vehicle includes a bumper mounted via shock absorbers (18) to the chassis (12) of the vehicle; a remote sensor means for detecting location and relative velocity of objects in proximity of the vehicle; a processor; a primary airbag (20) mounted within the bumper, expandable outwards from some bumper upon inflation; an inflation means for the primary airbag; a valve for releasing gas from the primary air bag and a retracting means for compressing primary airbag, wherein a signal from processor indicating imminent impact triggers inflation of primary airbag beyond bumper protecting bumper and retracting means collapses airbag for reuse.
Date of publication of the international search report:

12 April 2007

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

A. CLASSIFICATION OF SUBJECT MATTER
IPC: B60R 19/20 (2007.01)

USPC: 293/107,118
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)
U.S.: 293/107, 118, 134, 137; 701/45; 342/72

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)
Please See Continuation Sheet

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 4,518,185 (LEB) 21 May 1985 (21.05.1985), see figure 2.</td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td>paragraph 0001.</td>
<td></td>
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</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 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

"I" 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: 09 December 2006 (09.12.2006)

Name and mailing address of the ISA/US
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P.O. Box 1450
Alexandria, Virginia 22313-1450
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Date of mailing of the international search report: 19 JAN 2007

Authorized officer

Jason S. Morrow
Telephone No. (703) 308-1113

Form PCT/ISA/210 (second sheet) (April 2005)
INTERNATIONAL SEARCH REPORT

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.: 4-11 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:

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 additional fees, this Authority did not invite payment of any 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.:

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.

Form PCT/ISA/210 (continuation of first sheet(2)) (April 2005)
Continuation of B. FIELDS SEARCHED Item 3:
EAST (USPAT, USPGPUB, EPO, IPO, DERWENT, IBM-TDB, FPRS)--
bumper and (air with bag) and (vehicle or car or automobile or automotive) and reusable