Title: ACTIVATED, COAL-BASED CARBON FOAM

Abstract: An abrasion resistant, monolithic, activated, carbon foam produced by the activation of a coal-based carbon foam through the action of carbon dioxide, ozone or some similar oxidative agent that pits and/or partially oxidizes the carbon foam skeleton, thereby significantly increasing its overall surface area and concurrently increasing its filtering ability. Such activated carbon foams are suitable for application in virtually all areas where particulate or gel form activated carbon materials have been used. Such an activated carbon foam can be fabricated, i.e. sawed, machined and otherwise shaped to fit virtually any required filtering location by simple insertion and without the need for handling the "dirty" and friable particulate activated carbon foam materials of the prior art.
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) :C08L 9/08; B32B 3/16
US CL: 44/591, 607, 620; 201/8; 264/29
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.: 44/591, 607, 620, 201/8; 264/29

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practicable, search terms used)
EAST AND WEST: carbon foam, bituminous coal, mesophase pitch and coal, coke, carbonized, coal, graphite, swell index.

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>Y</td>
<td>US 3,309,437A (HARNETT) 14 MARCH 1967, note in entirety, Tables 1, Examples 4 and 5; column 5, lines 20-44; Tables 1, Examples 1-12, column 1, lines 51-column 2, lines 1-35, column 3, lines 1-22 and 49 to column 4, lines 1-65 and column 6.</td>
<td>1-12</td>
</tr>
<tr>
<td>Y</td>
<td>US 4,127,391A (KOPPELMAN) 26 NOVEMBER 1978, bridging paragraph of pages 6 and 7.</td>
<td>1-12</td>
</tr>
<tr>
<td>Y</td>
<td>GB 1,489,690 A (MADLEY et al) 26 OCTOBER 1977, page 1, lines 69-75, and examples on page 2, lines 32-40.</td>
<td>1-12</td>
</tr>
</tbody>
</table>

* Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* "A" document defining the general state of the art which is not considered to be of particular relevance
* "E" earlier document 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

"X" 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
"Y" 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
"A" 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
"T" document member of the same patent family

Date of the actual completion of the international search: 10 MARCH 2003
Date of mailing of the international search report: 26 MAR 2003

Authorized officer: MARGARET B. MEDLEY
Telephone No.: (703) 508-2518

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231
Facsimile No.: (703) 505-8230

Form PCT/ISA/210 (second sheet) (July 1998)