Abstract:

A method of reclaiming a cured elastomer material, comprising mixing the cured elastomer in form of crumb or chips with a devulcanization-aiding chemical composition, applying a shear-stress deformation to the mixture; the devulcanization-aiding chemical composition comprises following ingredients: first agent promoting scission of sulfide bonds of free radicals formed under said shear-stress deformation, which is selected from the following classes: of amines and sulfides and their derivatives; second agent providing the pre-set acidity in the course of the process and thus inhibiting recombination of sulfide bonds, which is selected from the following classes: of organic acids and their anhydrides; third agent contributing to fast stabilization of the free radicals, which is selected from the class of oxidants fourth agent promoting redox reaction, which is selected from salts of metals with variable valence; and fifth agent prevention agglomeration of said elastomer material after applying the shear-stress deformation and reduction of friction, which is selected from the class of polar sorbents or fine bio-pigments.
Date of publication of the international search report:
22 October 2009
**INTERNATIONAL SEARCH REPORT**

**International application No**

PCT/US2008/076568

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. H01S5/42 H04W9/31
ADD. H01S5/18 H01S5/10

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)
HOIS H04N

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, INSPEC, IBM-TDB

**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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<tbody>
<tr>
<td>Y</td>
<td>EP 1 587 186 A (CANON KK [JP]) 19 October 2005 (2005-10-19) paragraphs [0001], [0012], [0037], [0040], [0070] figures 1, 7A, 7B, 8</td>
<td>1-47</td>
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<td>Y</td>
<td>JP 2003 273456 A (JAPAN SCIENCE &amp; TECH CORP; MINOLTA CO LTD) 26 September 2003 (2003-09-26) abstract; figure 1</td>
<td>1-47</td>
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</tbody>
</table>

[ ] Further documents are listed in the continuation of Box C. [X] 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.

A: document member of the same patent family

Date of the actual completion of the international search

19 August 2009

Date of mailing of the international search report

26/08/2009

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<th>Patent document cited in search report</th>
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<td>US 2005238310 A1</td>
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<td>US 2009060410 A1</td>
<td>05-03-2009</td>
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| JP 2003273456 A                         | 26-09-2003      | NONE                    |                 |