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(54) Title: LOW TEMPERATURE ACTIVATION OF METAL HYDRIDES

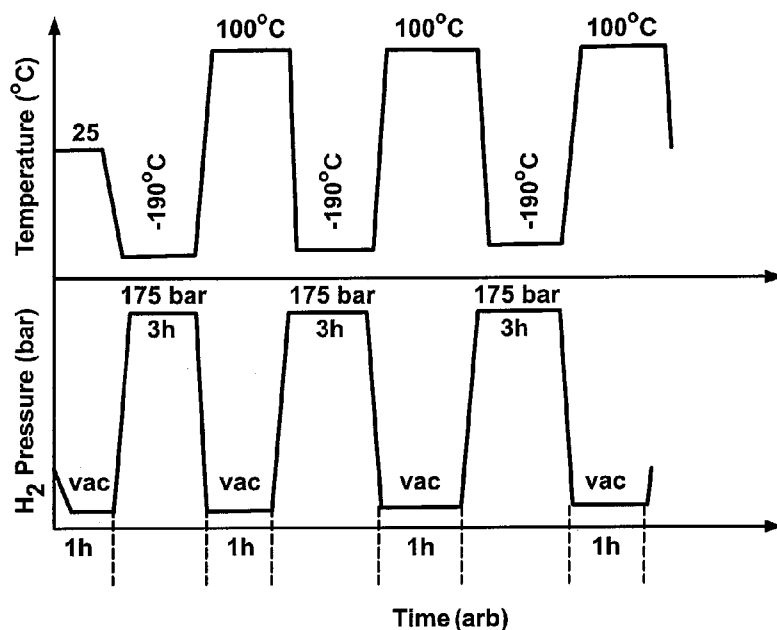


FIG. 1

(57) Abstract: Hydrogen storage alloys, especially as newly formed, have often required high temperature (e.g., >700°C) activation before the solids will absorb an amount of hydrogen normally storable by the composition. Now, such alloys may be activated by a low temperature (typically below zero degrees Celsius) soak in pressurized hydrogen followed by desorption of the hydrogen at a temperature above about 1000C. Such low temperature hydrogen absorption and higher temperature hydrogen desorption may be repeated a few times until the hydrogen storage alloy material readily absorbs and holds hydrogen for release on demand, and subsequent hydrogen re-filling.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/033706**A. CLASSIFICATION OF SUBJECT MATTER***C01B 3/00(2006.01)i, C22C 14/00(2006.01)i, B01J 20/02(2006.01)i, F17C 11/00(2006.01)i*

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)

IPC C01B 3/00, C22C 14/00, C22/00, B65B 1/04, H01M 8/00

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 since 1975.
Japanese Utility models and applications for Utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS (KIPO internal) & keyword : metal alloy, hydrogen storage alloy, low temperature hydrogen absorption and desorption

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 07108757 B2 (BAOQUAN HUANG and STANFORD R. OVSHINSKY) 19 September 2006 See the abstract and column 4 line 25 - column 9 line 51	1 - 10
A	US 05888317 A (JAI-YOUNG LEE et al.) 30 March 1999 See the abstract and column 2 line 20 - column 4 line 57	1 - 10
A	US 07124790 B2 (WIT CEZARY BUSHKO) 24 October 2006 See the abstract and column 2 line 63 - column 6 line 46	1 - 10
A	US 07169489 B2 (SCOTT D. REDMOND) 30 January 2007 See the abstract and column 4 line 39 - column 13 line 53	1 - 10



Further documents are listed in the continuation of Box C.



See patent family annex.

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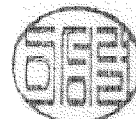
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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