METHOD AND APPARATUS FOR VACUUM FORMING A WHEEL FROM A URETHANE MATERIAL

A method and apparatus for vacuum forming a wheel from a urethane material that includes a mold having a wheel shaped cavity therein that can be empty, or can contain a wheel core. The mold receives a cover fitted in seating engagement over the mold top and a cylindrical canister is fitted through the center of which cover and the mold center, which canister is open at a top end to receive a pour of mixed urethane material passed therein and which canister includes a needle valve located in its lower end that exhausts into one end of the mold cavity. The cylindrical canister includes a port for connection to a deep vacuum source and the dome shaped cover includes a port is that for connection to a low level vacuum source, with the deep vacuum to remove air from the urethane material as it is being poured into the canister, and with, after filling, the canister port is open to atmosphere and the needle valve is opened to exhaust the mixture into the mold cavity wherefrom it is pulled by the low level vacuum pulled through the cover port, filling the mold cavity, forming the urethane wheel.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC: B29C 67/00(2005.01)
   USPC: 264/46.9
   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. : 264/46.9

Documented searched other than minimum documentation to the extent that such documents are included in the fields searched
   None

Electronic database consulted during the international search (name of database and, where practicable, search terms used)
   None

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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<td>A</td>
<td>US 6235227 A (Koyama et al) 22 May 2001 (22/05/2001)</td>
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[ ] 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 data
  *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 data claimed

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Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer: Russell D. Stormer
Telephone No. 571-272-6687

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