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[Continued on next page]

(54) Title: ENCAPSULATION MOLD ASSEMBLY AND INTERCHANGEABLE CARTRIDGE

(57) Abstract: A retractable pin injection molding assembly includes a cartridge comprising a mold cavity, a cavity sleeve to accept water and vacuum lines at the back of the mold, an ejector assembly, and a pin connection block with a groove for a locking slide, so that the cartridge may be changed rapidly without disassembling the injection molding assembly. Also provided is a mechanism for continuously adjusting the length of the ejector pins within the mold cavity.
(88) Date of publication of the international search report:
27 April 2006

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### INTERNATIONAL SEARCH REPORT

**International application No**

**PCT/US2005/026965**

**A. CLASSIFICATION OF SUBJECT MATTER**

B29C45/40  B29C45/17  B29C45/26  F16B21/16

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)

B29C F16B

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, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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* 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

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

X See patent family annex.

"T" later document published after the international filing date or priority data 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**

25 November 2005

**Date of mailing of the international search report**

14 02 2006

**Name and mailing address of the ISA**

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Hilvawijk
Tel: (+31-70) 940-2040, Tx: 31 651 epo nl, Fax: (+31-70) 940-2018

Authorized officer

Biblet-Ruche, D
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<td>PATENT ABSTRACTS OF JAPAN vol. 014, no. 371 (E-0963), 10 August 1990 (1990-08-10) &amp; JP 02 134833 A (HITACHI LTD; others: 01), 23 May 1990 (1990-05-23) abstract</td>
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INTERNATIONAL SEARCH REPORT

Box II  Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

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.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

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 an additional fee, this Authority did not invite payment of any additional fee.

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.:

   1 - 5, 23 (claim 23 as far as the features of claim 5 are concerned)

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 23 (claim 23 as far as the features of claim 5 are concerned)
   A system for reversibly attaching a pin connection block
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2. claims: 6-11
   A stop block
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3. claims: 12-23 (claim 23 as far as the features of claim 14 are concerned)
   A cavity sleeve
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<td>US 5026197</td>
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