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- (71) Applicant (for all designated States except US): **THE UNIVERSITY OF CHICAGO** [US/US]; 5555 South Woodlawn Avenue, Chicago, Illinois 60637 (US).

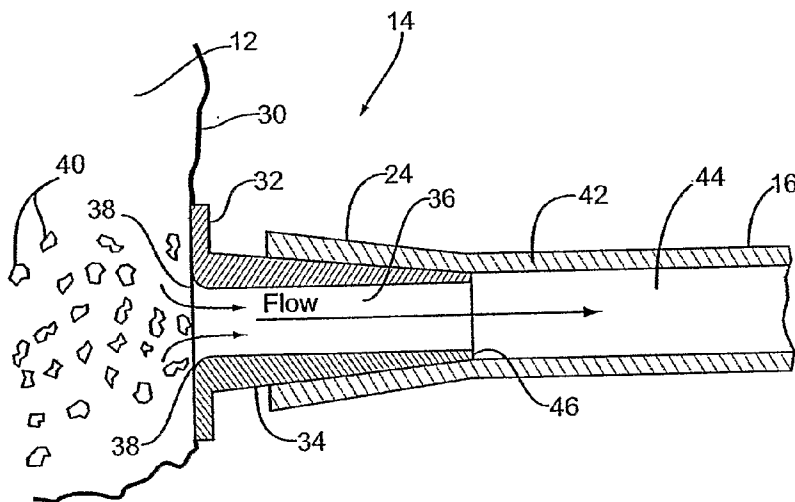
- Dorchester, Chicago, Illinois 60637 (US). **VANDEN HOEK, Terry** [US/US]; 5353 North Magnolia, Chicago, Illinois 60640 (US).
- (74) Agent: **CANFIELD, Jeffrey, H.**; BRINKS HOFER GILSON & LIONE, P.O. Box 10087, Chicago, Illinois 60610 (US).
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- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KASZA, Kenneth, E.** [US/US]; 11723 Holmes Avenue, Palos Park, Illinois 60464 (US). **ORAS, John** [US/US]; 455 Dover Drive, Des Plaines, Illinois 60018-5518 (US). **SON, Hyunjin** [US/US]; 508 Connecticut Avenue, Naperville, Illinois 60565 (US). **BECKER, Lance, B** [US/US]; 5756 S.

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[Continued on next page]

(54) Title: PHASE-CHANGE PARTICULATE ICE SLURRY COOLANT MEDICAL DELIVERY TUBING AND INSERTION DEVICES



(57) Abstract: Various systems for delivering phase-change particulate ice slurries to targeted areas or organs of a patient are provided. Systems for delivering phase-change particulate ice slurries include a slurry reservoir and a conduit for delivering slurry from the reservoir to the patient. The conduit may include multiple components, including a section of medical tubing, an insertion tip for directing the out flow of slurry to the targeted area, and one or more transition fittings to adapt the tubing to the insertion tip. Interfaces between the various components that form the slurry flow path are configured so that there are no sudden reductions in the cross sectional area of the flow path. Any narrowing of the flow path occurs in a gradual tapered manner. The entire flow path remains substantially free of all obstacles that may tend to trap particles and lead to plugging of the flow path.

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**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 NONE

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category *    | Citation of document, with indication, where appropriate, of the relevant passages                | Relevant to claim No.               |
|---------------|---|-------------------------------------|
| X<br>---<br>Y | US 4,588,402 (IGARI et al) 13 May 1986, col. 5, line 60-col. 6, line 47 and col. 10, lines 13-50) | 1, 2 and 4<br>-----<br>3, 11 and 12 |
| A             | US 5,312,377 (DALTON) 17 May 1995, see entire document  | 1-33                                |
| A             | US 6,460,900 B1 (BAKKE) 08 October 2002, see entire document                                      | 1-33                                |

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

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|---|--|
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Authorized officer: Roy D. Gibson, Telephone No. 571-272-4767