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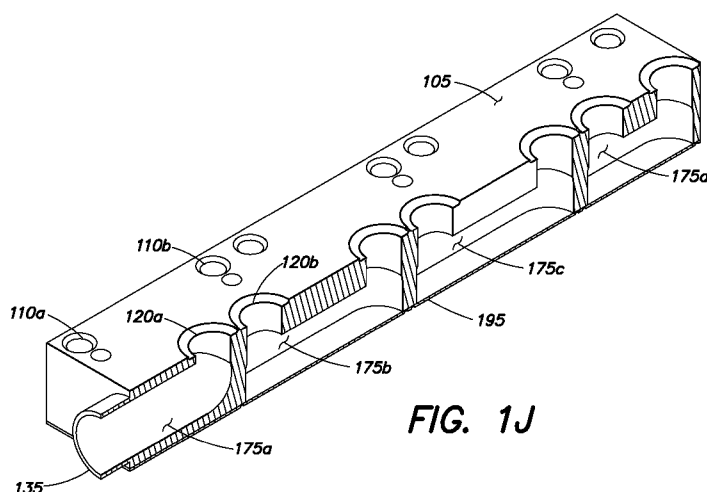
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: EXTREME FLOW RATE AND/OR HIGH TEMPERATURE FLUID DELIVERY SUBSTRATES



**FIG. 1J**

(57) Abstract: A flow substrate including a body having a first surface and a second opposing surface, a plurality of pairs of ports defined in the first surface of the body, a plurality of fluid pathways extending between each respective pair of ports and in fluid communication with each port of the respective pair of ports, and at least one cap. Each fluid pathway is formed in the second surface of the body. The at least one cap has a first surface constructed to seal at least one fluid pathway, and a second opposing surface. At least one of the body and the at least one cap includes a weld formation formed in at least one of the second surface of the body and the second surface of the at least one cap constructed to surround the at least one fluid pathway and facilitate welding of the at least one cap to the body along the weld formation.



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**A. CLASSIFICATION OF SUBJECT MATTER*****H01L 21/02(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)

H01L 21/02; H01L 21/306; B05B 1/24; G01N 21/00; C23C 16/00

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

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords:flow, substrate, body, plurality, component, conduit, port, fluid, pathway, cap, and similar terms.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003-0079686 A1 (LING CHEN et al.) 01 May 2003 See abstract, Figures 1-9 and claims 1-105	1-30
A	US 2005-0266582 A1 (DOUGLAS MODLIN et al.) 01 December 2005 See abstract, Figures 1-90 and claims 1-21	1-30
A	US 7018940 B2 (SCOTT WILLIAM DUNHAM) 28 March 2006 See abstract, Figures 1-5 and claims 1-10	1-30
A	US 2008-0166884 A1 (NELSON SHELBY F. et al.) 10 July 2008 See abstract, Figures 1-21 and claims 1-65	1-30

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

\* Special categories of cited documents:

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"&amp;" document member of the same patent family

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