

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number  
**WO 2005/042137 A3**

(51) International Patent Classification:  
**B65G 51/00** (2006.01)

(21) International Application Number:  
PCT/US2004/036548

(22) International Filing Date:  
1 November 2004 (01.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/516,033 30 October 2003 (30.10.2003) US

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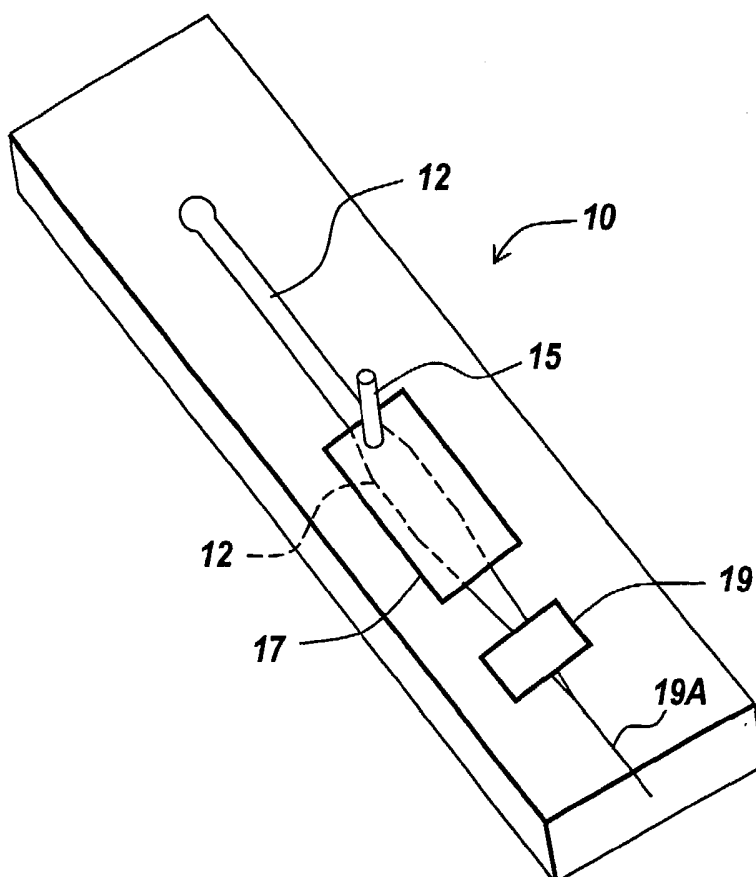
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(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,  
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MULTILAYER HYDRODYNAMIC SHEATH FLOW STRUCTURE



(57) Abstract: A microfabricated sheath flow structure for producing a sheath flow includes a primary sheath flow channel for conveying a sheath fluid, a sample inlet for injecting a sample into the sheath fluid in the primary sheath flow channel, a primary focusing region for focusing the sample within the sheath fluid and a secondary focusing region for providing additional focusing of the sample within the sheath fluid. The secondary focusing region may be formed by a flow channel intersecting the primary sheath flow channel to inject additional sheath fluid into the primary sheath flow channel from a to selected direction. A sheath flow system may comprise a plurality of sheath flow structures operating in parallel on a microfluidic chip.



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(88) Date of publication of the international search report:**

18 May 2006

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/36548

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) (3) : B65G 51/00

US CL : 406/198, 86, 92, 93, 94, 95, 147, 148, 149, 150, 195

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. : 406/198, 86, 92, 93, 94, 95, 147, 148, 149, 150, 195

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

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.
A, P	US 6,663,352 B1 (KAI et al.) 16 December 2003 (16/12/03), see entire document	1-42
A, P	US 6,749,374 B1 (LANE et al.) 15 June 2004 (15/06/04), see entire document	1-42
A	US 6,053,667 A (SAKAI et al.) 25 April 2000 (25/04/00), see entire document	1-42
A	US 4,836,039 A (DE SILVA et al.) 06 June 1989 (06/06/89), see entire document	1-42



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"&"

document member of the same patent family

Date of the actual completion of the international search

19 September 2005 (19.09.2005)

Date of mailing of the international search report

17 MAR 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

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