



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 25/08	A3	(11) International Publication Number: WO 99/44488 (43) International Publication Date: 10 September 1999 (10.09.99)		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> (21) International Application Number: PCT/US99/04845 (22) International Filing Date: 4 March 1999 (04.03.99) (30) Priority Data: 60/076,727 4 March 1998 (04.03.98) US (71) Applicant: THE BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM [US/US]; 210 West 7th Street, Austin, TX 78701 (US). (72) Inventors: KAS, Josef, A.; 3222 Bonnie Road, Austin, TX 78703 (US). GUCK, Jochen, R.; 707 E. 49th Street, Austin, TX 78751 (US). (74) Agent: O'KEEFE, Robert, M.; Jones, O'Keefe, Egan & Peterman, Building C, Suite 200, 1101 Capital of Texas Highway South, Austin, TX 78746 (US). </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, 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, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 29 December 1999 (29.12.99) </td> </tr> </table>			(21) International Application Number: PCT/US99/04845 (22) International Filing Date: 4 March 1999 (04.03.99) (30) Priority Data: 60/076,727 4 March 1998 (04.03.98) US (71) Applicant: THE BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM [US/US]; 210 West 7th Street, Austin, TX 78701 (US). (72) Inventors: KAS, Josef, A.; 3222 Bonnie Road, Austin, TX 78703 (US). GUCK, Jochen, R.; 707 E. 49th Street, Austin, TX 78751 (US). (74) Agent: O'KEEFE, Robert, M.; Jones, O'Keefe, Egan & Peterman, Building C, Suite 200, 1101 Capital of Texas Highway South, Austin, TX 78746 (US).	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, 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, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 29 December 1999 (29.12.99)
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(54) Title: OPTICAL STRETCHER				
(57) Abstract A novel optical micromanipulation tool uses a laser (10) to trap and deform biological cells, such as cancer cells, in a flow chamber (26) between two counter propagating beams (22, 24) generated by the laser (10).				

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/04845

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G01N 25/08
US CL : 436/149, 150, 164, 183; 422/82.02, 82.05, 99
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. : 436/149, 150, 164, 183; 422/82.02, 82.05, 99

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 practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ASHKIN, A. Applications of laser radiation pressure. Science (Washington, D.C.) 5 December 1980, Vol. 210, No. 4474, pages 1081-8.	1-20
A	ASHKIN ET AL. Radiation pressure on a free liquid surface. Phys. Rev. Lett. 22 January 1973, Vol. 30, No. 4, pages 139-142.	1-20
A	CONSTABLE ET AL. Demonstration of a fiber-optical light-force trap. Optics Letters. 01 November 1993, Vol. 18, No. 21, pages 1867-69.	1-20



Further documents are listed in the continuation of Box C.



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Date of the actual completion of the international search

25 OCTOBER 1999

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/04845

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

CAS Online

search terms:(optical? or radiation or laser) (3A) (pressure or stretch? or bend? or deform? or elastic?); cell or cancer;
dielectric; conductiv?