

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
2 February 2006 (02.02.2006)

PCT

(10) International Publication Number  
**WO 2006/012352 A3**

(51) International Patent Classification:  
A61M 37/00 (2006.01) C02F 1/44 (2006.01)

(21) International Application Number:  
PCT/US2005/022608

(22) International Filing Date: 27 June 2005 (27.06.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/583,929 28 June 2004 (28.06.2004) US

(71) Applicant (for all designated States except US): **HAEMONETICS CORPORATION** [US/US]; 400 Wood Road, Braintree, MA 02184-9114 (US).

(72) Inventors (for US only): **RAGUSA, Michael**; 4 Willow Circle, Hingham, MA 02043 (US). **STACEY, Gary, R.**; 51 Hampstead Way, Marshfield, MA 02051 (US). **PAGES, Etienne**; 594, chemin des Landes, F-01770 Segny (FR).

(74) Common Representative: **PERULLO, John, F. Haemonetics Corporation**; 400 Wood Road, Braintree, MA 02184-9114 (US).

(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, 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, LT, 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).

**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

(88) Date of publication of the international search report:  
1 November 2007

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.



WO 2006/012352 A3

(54) Title: BLOOD COMPONENT SEPARATION SYSTEM WITH STATIONARY SEPARATION CHAMBER

(57) Abstract: Provided is a blood processing system having a stationary component separation chamber. Individual blood components as well as other particles and contaminants are separated from blood flowing through the separation chamber by optical traps configured to manipulate specific components are projected into the flow field of the chamber. Cells or particles of the selected components that are manipulated by the optical traps then may be directed from the flow field to individual reservoirs to collect quantities of the selected components.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/22608

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: **A61M 37/00**( 2006.01);**C02F 1/44**( 2006.01)

USPC: 604/5.01,6.01,6.08;210/645,646

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. : 604/5.01,6.01,6.08;210/645,646

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)  
EAST BRS (optical, tweezers, separation, blood)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,649,903 A (DENIEGA et al) 22 July 1997 (22.07.1997), entire document.	2
Y	US 5,722,946 A (MUDLOFF et al) 03 March 1998 (03.03.1998), entire document.	1-9
X	US 5,868,936 A (OFSTHUN et al) 09 February 1999 (09.02.1999), entire document.	8
---		-----
Y		1-7,9
Y	US 2003/0007894 A1 (WANG et al) 09 January 2003 (09.01.2003), entire document.	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"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	"&" document member of the same patent family

Date of the actual completion of the international search

17 July 2007 (17.07.2007)

Date of mailing of the international search report

**13 SEP 2007**

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Leslie R. Deak  
Telephone No. 571-272-2975