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- (71) **Applicant:** AVANCE MEDICAL SÀRL [CH/CH];
Chemin de Champ Cuagny 7, CH-1512 Chavannes-sur-Moudon (CH).
- (72) **Inventors:** JOOS, Michael; Chemin de Champ Cuagny 7,
CH-1512 Chavannes-sur-Moudon (CH). EVERTS, Peter;
Heerendonk 2, NL-5674 PG Nuenen (NL).
- (74) **Agent:** VUILLE, Roman; Ch. de Champ-Colomb 7 B,
CH-1024 Ecublens (CH).
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- (54) Title:** EXTEMPORANEOUS PREPARATION OF AUTOLOGOUS FIBRIN

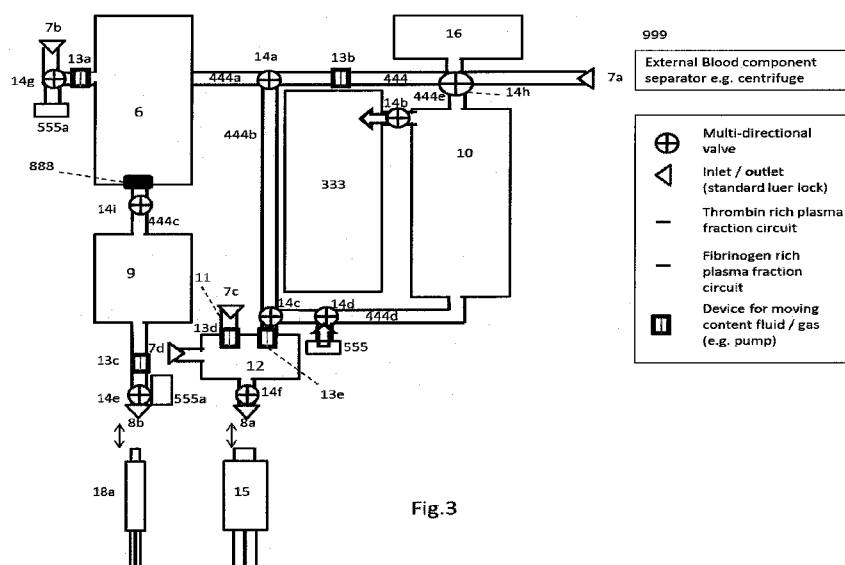


Fig.3

- (57) Abstract:** Extemporaneous Preparation of Autologous Fibrin Autologous fibrin is prepared extemporaneously from either a full blood sample or a prepared sample of poor platelet plasma where in the latter is subject to a dedicated treatment and combined isolation process performed by means of a removable single-use device (2) wherein blood or plasma components are separated and subsequently treated individually to be eventually combined by the user outside the system. The said system comprises a platform (1) and a removable single-use device both being designed to cooperate mechanically.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2014/061327

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61M1/02 A61K35/14
ADD.

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)

A61M A61K

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 010 627 A (HOOD III ANDREW G [US]) 4 January 2000 (2000-01-04) column 1 - column 2; figure 2a column 6, line 34 - column 7, line 11 -----	1-9
X	WO 2010/019317 A2 (CARIDIANBCT INC [US]; FELT THOMAS J [US]; CORBIN FRANK [US]; URDAHL ST) 18 February 2010 (2010-02-18) page 17, paragraph 5 - page 18, paragraph 1; figure 2 -----	1-4,9
X	WO 2009/031990 A1 (MILLENNIUM MEDICAL TECHNOLOGIE [US]; COULL THOMAS [US]; KYLE MATTHEW []) 12 March 2009 (2009-03-12) page 6, line 18 - page 7, line 19; figure 5 ----- -/-	1-8



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

"E" earlier application or patent but published on or after the international filing date

"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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Westsson, David

INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 733 378 A2 (JOHNSON & JOHNSON MEDICAL [US]) 25 September 1996 (1996-09-25) paragraphs [0001] - [0004]; figure 1 -----	1-9
X	US 5 601 727 A (BORMANN THOMAS J [US] ET AL) 11 February 1997 (1997-02-11) pages 1-2; figures 1-2 -----	1-9
X	EP 1 625 861 A1 (JMS CO LTD [JP]) 15 February 2006 (2006-02-15) paragraphs [0091], [0166]; figures 3,6 -----	10-19

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2014/061327

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 9

A device for enriching the fibrinogen content of a plasma fraction comprising three interconnected chambers each of them fitted with an inlet and/or an outlet, connecting means for transferring fluid flows from one chamber to another one provided with either means for controlling said fluid flows and/or means for moving said fluid flows from one chamber to another one or to the outside, which comprises:- a treatment chamber (10) provided with internal filtering means,- a first expandable storing chamber (333) connected to chamber (10), and- a second expandable chamber (16) connected to chamber (10) in such a way to establish a closed circuit between said chambers (10), (333) and (16).

2. claims: 6-8

A method for enriching the fibrinogen content of a poor platelet plasma PPP fraction by means of the device of claim 1 which comprises:- introducing progressively a poor platelet plasma (PPP) fraction from chamber (16) into treatment chamber (10) while moving progressively remnant air of said chamber (10) into storing chamber (333),- moving progressively the said plasma fraction through the filtering device of said chamber (10) while leaving simultaneously expandable chamber (16) decreasing progressively its size or volume,- leaving the water filtered off by filtering means of said chamber (10) moving progressively into expandable chamber (333), and- transferring, eventually, the resulting concentrated PPP fraction to the outside of chamber (10).

3. claims: 10-19

A system for the treatment and/or the isolation of plasma or blood components, in particular fibrinogen, including a support platform (1) comprising means of mechanical actuating (3a, 3b, 3c ...), means of mechanical or electro-magnetic or visual contact (4a, 4b, 4c ...), means of thermal transfer (21), shaking means (22) and means of control and command (5a), such platform (1) being arranged to cooperate with a removable single-use device (2) according to claim 9.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2014/061327

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6010627 A	04-01-2000	US 6010627 A	04-01-2000
		US 6342157 B1	29-01-2002
WO 2010019317 A2	18-02-2010	EP 2313771 A2	27-04-2011
		JP 5538390 B2	02-07-2014
		JP 2011530384 A	22-12-2011
		JP 2014168701 A	18-09-2014
		US 2010042037 A1	18-02-2010
		US 2012145619 A1	14-06-2012
		WO 2010019317 A2	18-02-2010
WO 2009031990 A1	12-03-2009	EP 2323774 A1	25-05-2011
		WO 2009031990 A1	12-03-2009
EP 0733378 A2	25-09-1996	AT 240132 T	15-05-2003
		CA 2172350 A1	25-09-1996
		DE 69628072 D1	18-06-2003
		DE 69628072 T2	01-04-2004
		DK 0733378 T3	28-07-2003
		EP 0733378 A2	25-09-1996
		ES 2197935 T3	16-01-2004
		JP 4173205 B2	29-10-2008
		JP H08301775 A	19-11-1996
		NO 961174 A	25-09-1996
		PT 733378 E	30-09-2003
		US 5674394 A	07-10-1997
		US 5935437 A	10-08-1999
		US 6001259 A	14-12-1999
		US 6197194 B1	06-03-2001
US 5601727 A	11-02-1997	AU 3066692 A	07-06-1993
		CA 2074671 A1	05-05-1993
		CN 1073614 A	30-06-1993
		US 5601727 A	11-02-1997
		WO 9308904 A1	13-05-1993
		ZA 9208515 A	14-06-1993
EP 1625861 A1	15-02-2006	CN 1791438 A	21-06-2006
		CN 101496917 A	05-08-2009
		EP 1625861 A1	15-02-2006
		EP 2769745 A1	27-08-2014
		HK 1089706 A1	12-02-2010
		HK 1134046 A1	17-04-2014
		JP 3788479 B2	21-06-2006
		JP 4752504 B2	17-08-2011
		JP 5088394 B2	05-12-2012
		JP 5195809 B2	15-05-2013
		JP 5229277 B2	03-07-2013
		JP 5229342 B2	03-07-2013
		JP 2010189415 A	02-09-2010
		JP 2010222376 A	07-10-2010
		JP 2010227582 A	14-10-2010
		JP 2011162547 A	25-08-2011
		US 2006251622 A1	09-11-2006
		US 2014301914 A1	09-10-2014
		US 2014305876 A1	16-10-2014
		WO 2004103439 A1	02-12-2004
		WO 2004103440 A1	02-12-2004

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2014/061327

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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