PatBase - Search results 30 November 2019
Search query (3): FT=(CENTRIFUGAL~ AND SEPARATOR~ OR MILL~ AND BLADES~ AND LIQUID~ AND SIEVE~) AND IC= (B04B)
Results: 75

Search history

Search 1: FT=(CENTRIFUGAL~ CHIP~ AND SEPARATOR~ OR MILL~ AND BLADES~ AND LIQUID~ AND SIEVE~) (Results 0)

Search 2: FT=(CENTRIFUGAL~ AND SEPARATOR~ OR MILL~ AND BLADES~ AND LIQUID~ AND SIEVE~) (Results 4181)

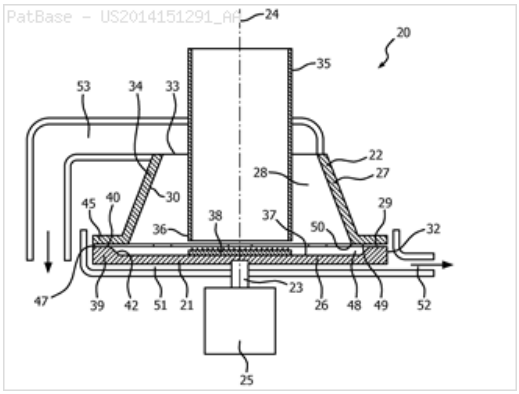
Search 3: FT=(CENTRIFUGAL~ AND SEPARATOR~ OR MILL~ AND BLADES~ AND LIQUID~ AND SIEVE~) AND IC= (B04B) (Results 75)

1) Family number: 52066003 (US2014151291A)

Title: **CENTRIFUGAL** **SEPARATOR** FOR SEPARATING FRUIT OR VEGETABLE JUICE FROM FRUIT OR VEGETABLE PULP

Abstract: The present application relates to a **centrifugal** **separator** for separating fruit or vegetable juice from fruit or vegetable pulp. The **centrifugal** **separator** comprises a body (22) configured to rotate about a central axis (24), a chamber (28) formed by the body (22) for receiving pulp and juice, and an elongate aperture (29) defined by and extending arcuately around the body (22). Therefore juice in the chamber (28) is urged to flow through the aperture (29) when the body (22) is rotated about the central axis. The present application also relates to a juicer for extracting fruit and or vegetable juice from fruit or vegetable pulp comprising a **centrifugal** **separator**.

Classifications:
International (IPC 8-9): A23N1/00 A47J19/00 A47J19/02 A47J19/06 B04B1/02 B04B1/10 C04B28/04 C04B28/14 (Advanced/Invention); A23L2/04 (Advanced/Non-invention)
CPC: A47J19/027 A23N1/00
European: A47J19/02D
US: 210/512.3



Family:

Publication number	Publication date	Application number	Application date
BR112014000633 A2	20170214	BR20141100633	20120712
CN102871525 A	20130116	CN201210244736	20120712
CN102871525 B	20171226	CN201210244736	20120712
CN203000505 U	20130619	CN201220342022U	20120712
DE202012102574 U1	20121004	DE201220102574U	20120712
DE602012010723 D1	20151022	DE201260010723T	20120712
EP2545817 A1	20130116	EP20110174092	20110715
EP2731473 A1	20140521	EP20120751369	20120712
EP2731473 B1	20150916	EP20120751369	20120712
IN00530CN2014 A	20150403	IN2014CN00530	20140122
JP2014524806 T2	20140925	JP20140519683T	20120712
JP6110850 B2	20170405	JP20140519683T	20120712
MX2014000442 A1	20140321	MX20140000442	20120628
RU2014105596 A	20150827	RU20140105596	20120712
RU2601946 C2	20161110	RU20140105596	20120712
US2014151291 AA	20140605	US20120232653	20120712
US9888802 BB	20180213	US20120232653	20120712
WO13011430 A1	20130124	WO2012IB53572	20120712

Priority:

US20110508105P 20110715 EP20110174092 20110715 WO2012IB53272 20120628
CN201220342022U 20120712 DE201220102574U 20120712 EP20120751369 20120712
US20120232653 20120712 WO2012IB53572 20120712

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Inventor(s): KAMP GERTRUDE RI TTE VAN D

Agent(s): MEISSNER BOLTE AND PARTNER GBR; Damen Daniel Martijn; COOPS PETER; COOPS PETER ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN102871525 A	20130116	LSPB	+	published /	

				reissued	
CN102871525 A	20130116	LSPB	+C06	PUBLICATION	
CN102871525 B	20171226	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102871525 B	20320712	PEXP		Calculated Patent Term Expiry	
CN203000505 U	20130619	LSGT	+	granted / extensions (spc, cpc, pte)	
CN203000505 U	20130619	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN203000505 U	20220712	PEXP		Calculated Patent Term Expiry	
DE202012102574 U1	20121004	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202012102574 U1	20121004	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20121004
DE202012102574 U1	20151030	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	
DE202012102574 U1	20180928	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	
DE202012102574 U1	20220712	PEXP		Calculated Patent Term Expiry	
EP2545817 A1	20130116	LSPB	+	published / reissued	
EP2545817 A1	20130925	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS N.V.
EP2545817 A1	20140115	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130717
EP2731473 A1	20140521	LSPB	+	published / reissued	
EP2731473 A1	20140521	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140217
EP2731473 A1	20150408	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20150313
EP2731473 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160729 YEAR OF FEE PAYMENT : 5
EP2731473 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160728 YEAR OF FEE PAYMENT : 5
EP2731473 B1	20150916	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2731473 B1	20150916	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2731473 B1	20150930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2731473 B1	20151007	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2731473 B1	20151015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 749073 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT :

					T DESIGNATED STATE(S) : EFFECTIVE DATE : 20151015
EP2731473 B1	20151022	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012010723 COUNTRY OF REF DOCUMENT : DE
EP2731473 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151216
EP2731473 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2731473 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151217
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EP2731473 B1	20160210	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2731473 B1	20160215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 749073 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150916
EP2731473 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
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EP2731473 B1	20160331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2731473 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
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EP2731473 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
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EP2731473 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160118
EP2731473 B1	20160617	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602012010723 COUNTRY OF REF DOCUMENT : DE
EP2731473 B1	20160728	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 5
EP2731473 B1	20160824	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20160617
EP2731473 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2731473 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2731473 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2731473 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20160708 YEAR OF FEE PAYMENT : 5
EP2731473 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 5
EP2731473 B1	20170228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2731473 B1	20170331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
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EP2731473 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160731

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EP2731473 B1	20170503	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2731473 B1	20170727	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 6
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EP2731473 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160712
EP2731473 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170727 YEAR OF FEE PAYMENT : 6
EP2731473 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170728 YEAR OF FEE PAYMENT : 6
EP2731473 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170710 YEAR OF FEE PAYMENT : 6
EP2731473 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 6
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EP2731473 B1	20180726	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 7
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EP2731473 B1	20320712	PEXP		Calculated Patent Term Expiry	
IN00530CN2014 A	20150403	LSPB	+	published / reissued	
JP2014524806 T2	20140925	LSPB	+	published / reissued	
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JP2014524806 T2	20160411	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160411
JP2014524806 T2	20160613	LSRE	A521	WRITTEN	TEXT : JAPANESE INTERMEDIATE

				AMENDMENT	CODE: A523 EFFECTIVE DATE : 20160613
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JP6110850 B2	20170314	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6110850 B2	20170317	LSGT	+R150	特許証 (Patent certificate)	
JP6110850 B2	20320712	PEXP		Calculated Patent Term Expiry	
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RU2014105596 A	20150827	LSPB	+	published / reissued	
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US2014151291 AA	20170525	LSES	ADV1	Advisory Action Mailed	
US2014151291 AA	20170626	LSES	NFA1	Non Final Action Mailed	
US2014151291 AA	20171002	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014151291 AA	20171025	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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					JUERGEN; STOLK, THEODOOR; KOOIJKER, KLAAS; AND OTHERS; SIGNING DATES FROM 20120803 TO 20160314; REEL/FRAME:044500/0772
US2014151291 AA	20180103	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
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US9888802 BB	20180213	LSGT	+	granted / extensions (spc, cpc, pte)	
US9888802 BB	20180124	LSGT	PAT1	Patented Case	
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WO13011430 A1	20140114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14232653 COUNTRY OF REF DOCUMENT : US
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WO13011430 A1	20140217	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014105596 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13011430 A1	20170214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014000633 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140110

2) Family number: 64698021 (BR102016022032A)

Title: SEPARADOR CENTRIFUGO DE MATERIAIS **CENTRIFUGAL** **SEPARATOR** OF MATERIALS (Machine translation)

Abstract: Source: BR102016022032A [PT] RESUMO SEPARADOR CENTRIFUGO DE MATERIAIS, utilizado para reciclagem de diferentes materiais plasticos que sao moidos e, no interior do separador, o material moido e agitado com agua para separar o plastico lavado de outras partes indesejadas, sendo que, para tanto, e prevista uma base estrutural (1) e um corpo de chapa (5) que alojam um conjunto motriz (6) e dois tanques concentricos, um externo (8) e um interno (9), o segundo tem internamente um agitador (11) e inclui tambem uma parede em forma de peneira (38) e, com a agitacao, o material indesejado e lancado para fora da maquina, enquanto o plastico limpo e conduzido por um conjunto de aspiracao (15) para continuidade do processo de reciclagem. **Machine translation:** **Centrifugal** **separator** for recycling used materials, summary of different plastic materials that are ground, and inside the **separator**, the **milled** material is stirred with water to separate the plastic washed other unwanted parts, and therefore, is provided a structural basis (1) and (5) a plate body housing a drive assembly (6) and (8) two concentric tanks, external, one internal (9), the second internally has an agitator (11) and also includes a wall in the form of **sieve** (38) and, with agitation, undesired material is dumped out of the machine, while the plastic cleaned is conducted by a fan assembly (15) for continuity of the recycling process.

Classifications:
International (IPC 8-9): B04B3/00 B04B5/02 (Advanced/Invention)

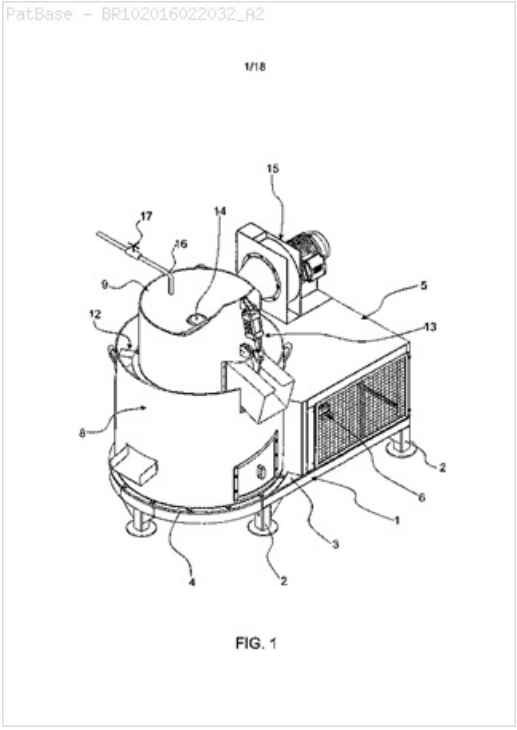

FIG. 1

Family:

Publication number	Publication date	Application number	Application date
BR102016022032 A2	20161220	BR20161022032	20160923

Priority:
BR20161022032 20160923

Probable Assignee: BARBOSA ANTONIO GOMES
Assignee(s): (std): BARBOSA ANTONIO GOMES ; LIMA CLAUDIO ; NICOLUZZI MARIA DO CARMO MAYER
Assignee(s): ANTONIO GOMES BARBOSA ; MARIA DO CARMO MAYER NICOLUZZI ; CLAUDIO LIMA
Inventor(s): (std): NICOLUZZI MARIA DO CARMO MAYER ; LIMA CLAUDIO ; BARBOSA ANTONIO GOMES
Inventor(s): ANTONIO GOMES BARBOSA ; CLAUDIO LIMA ; MARIA DO CARMO MAYER NICOLUZZI

Legal status (INPADOC)

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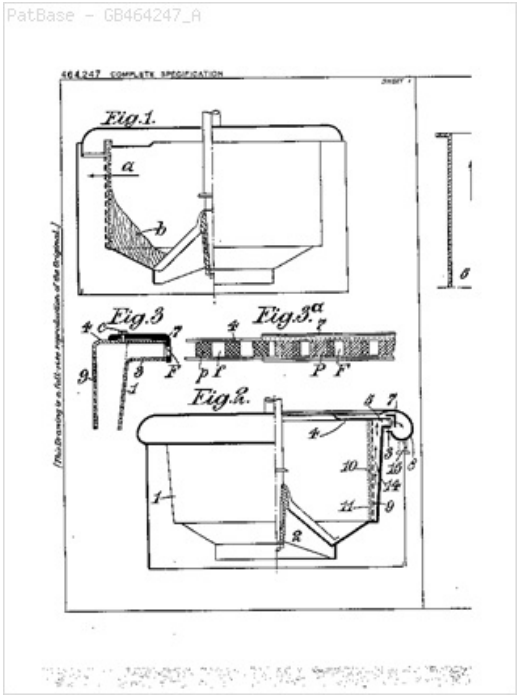
Patent	Date recorded	Event group	Code	Event	Details
BR102016022032 A2	20161220	LSPB	B03B	PUBLICATION OF AN APPLICATION: ANTICIPATED PUBLICATION	

3) Family number: 20947024 (GB464247A)

Title: Improvements in or relating to **centrifugal** **separators**

Abstract: [Class 23] A **centrifugal** machine for separating solids from **liquids**, particularly for use in sugar manufacture, has an imperforate outer drum 1, Fig. 2, and a concentric perforate inner drum 9 rigidly connected at their bases so that they revolve together. The annular space 14 between them terminates in a discharge opening 5 between the flanges 3, 4 at the upper ends of the drums. A corrugated plate 10, or a series of grids, supports a filter wall 11 in the inner drum. The solids are held bv the filter wall while the **liquid** passes through the opening 5 into the collector 8 which may be of spiral form and be resiliently mounted. The outlet may be varied by the axial adjustment of a ring 7. As an alternative, vanes may be arranged in the annular space 14 and spaces may be formed in the discharge outlet 5 which may be more or less closed by solid parts of a gapped ring. The setting of the ring thus controls the rate of discharge. The imperforate drum may consist of two conical frustums abutting on their large bases. In the modification shown in Figs. 6, 7, two alternative paths are arranged for discharging **liquid**. The annular collecting apparatus is divided by a partition 20 into two concentric chambers 21 , 21b. Troughs 22 communicate with the chamber 21b and the spaces 24 between the troughs communicate with the chamber 21 . A distributer ring 18 is supported in the casing 17 and is provided with a number of stops 19. By rotation of the ring the troughs 22 or the spaces 24 can be closed and the **liquid** can be directed into one of the chambers 21 , 21b according to the degree of concentration. Specifications 252,339, [Class 23], and 418,939 are referred to.

Classifications:
International (IPC 8-9): B04B11/02 (Advanced/Invention);
B04B11/00 (Core/Invention)
International (IPC 1-7): B04B11/02
CPC: B04B11/02
European: B04B11/02



Family:

Publication number	Publication date	Application number	Application date
GB464247 A	19370414	GB19360019220	19360710

Probable Assignee: DARIO TEATINI
Assignee(s): (std): DARIO TEATINI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB464247 A	19370414	LSGT	+	granted / extensions (spc, cpc, pte)	
GB464247 A	19560710	PEXP		Calculated Patent Term Expiry	

4) Family number: 30079029 (US2001012814A)

Title: MOTOR DRIVEN **CENTRIFUGAL** FILTER

Abstract: A **centrifugal** filter assembly for filtering particulates from a fluid medium includes a non-rotating filter housing. A filter is disposed within the housing. The filter is rotatable relative to the housing about an axis of rotation. The filter has an inlet and an outlet for the fluid medium. A filter medium is disposed within the filter. A drive mechanism rotates the filter.

Classifications:

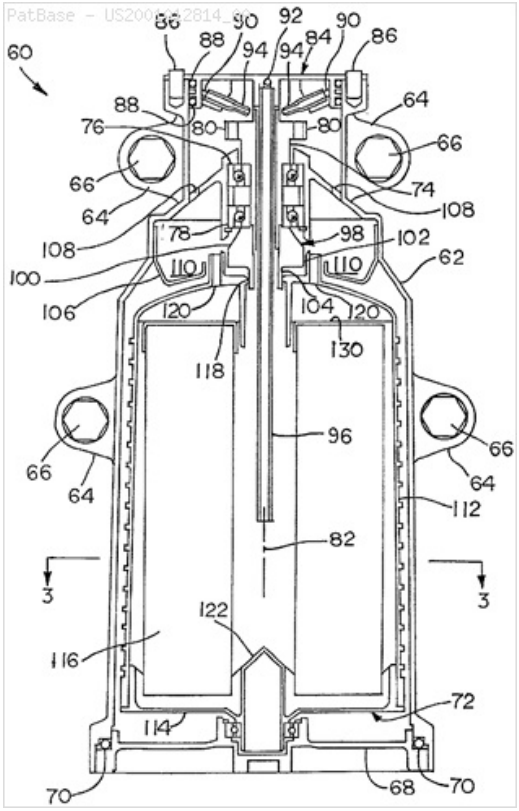
International (IPC 8-9): B01D21/26 B01D35/02 B04B1/04 B04B1/06 B04B11/02 B04B15/08 B04B3/00 B04B5/00 B04B7/02 B04B7/08 B04B7/12 B04B7/16 B04B9/02 B04B9/04 B04B9/06 B04B9/08 B04B9/12 F01M11/03 (Advanced/Invention);
F01M11/03 (Advanced/Non-invention);
B01D35/00 B04B3/00 B04B5/00 B04B9/00
F01M11/03 (Core/Invention)

International (IPC 1-7): B01D21/26 B01D35/02 B04B1/04 B04B1/06 B04B1/08 B04B11/02 B04B15/08 B04B3/00 B04B5/00 B04B7/02 B04B9/02 B04B9/04 B04B9/06 B04B9/08 B04B9/12 F01M11/03

CPC: B04B9/04 B04B11/02 F01M2013/0422 B01D21/34 B01D21/262 B01D2221/08 B04B1/06 B04B1/04 B04B5/005 B04B7/02 B04B9/02 B04B9/06 B04B7/08 B04B9/08 B04B7/12 B04B9/12 B04B7/16 F01M2001/1035 B04B15/08

European: B01D21/26 B04B1/04 B04B1/06 B04B11/02 B04B15/08 B04B5/00B B04B7/02 B04B7/08 B04B7/12 B04B7/16 B04B9/02 B04B9/04 B04B9/06 B04B9/08 B04B9/12 R01M1/10B2 R01M13/04E

US: 123/196A 168/624 184/6.24 184/624 210/167.02 210/168 210/305 210/380.1 494/24 494/24P 494/36 494/36S 494/43 494/46 494/49 494/49S 494/60 494/62 494/68 494/69 494/82 494/84 494/84S



Family:

Publication number	Publication date	Application number	Application date
AU199965195 A1	20000508	AU19990065195	19991020
AU199965195 A5	20000508	AU19990065195	19991020
AU200013179 A1	20000508	AU20000013179	19991020
AU200013179 A5	20000508	AU20000013179	19991020
AU200060852 A1	20010130	AU20000060852	20000711
AU200060852 A5	20010130	AU20000060852	20000711
CA2344977 AA	20020306	CA20012344977	20010425
CA2344988 AA	20020306	CA20012344988	20010425
CA2344992 AA	20020306	CA20012344992	20010425
CA2379289 AA	20020110	CA20002379289	20000711
EP1131163 A1	20010912	EP19990953212	19991020
EP1131164 A1	20010912	EP19990956608	19991020
EP1216102 A1	20020626	EP20000947200	20000711
EP1216102 A4	20070221	EP20000947200	20000711
JP2003519308 T2	20030617	JP20000576962T	19991020
JP2003524514 T2	20030819	JP20000576963T	19991020
US2001012814 AA	20010809	US20010817698	20010326
US6210311 BA	20010403	US19980176689	19981021
US6213929 BA	20010410	US19990352294	19990712
US6261455 BA	20010717	US19990420161	19991018
US6296765 BA	20011002	US19990420162	19991018
US6517475 BA	20030211	US20000656098	20000906
US6520902 BA	20030218	US20000655676	20000906
US6579218 BA	20030617	US20000655583	20000906
WO0023194 A1	20000427	WO1999US24280	19991020
WO0023195 A1	20000427	WO1999US24474	19991020
WO0103846 A1	20010118	WO2000US18838	20000711
WO0220118 A1	20020314	WO2001US42006	20010905
WO0220119 A1	20020314	WO2001US42012	20010905
WO0220120 A1	20020314	WO2001US42016	20010905

Priority:

US19980101804P 19980925
US19980108830P 19981118
US19990352294 19990712
WO1999US24474 19991020
WO2000US18838 20000711
US20000655583 20000906
CA20012344977 20010425
US19980105135P 19981021
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US19990420162 19991018
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US20000655676 20000906
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US19990141465P 19990629
US19990420161 19991018
US20000192656P 20000328
US20000656098 20000906
US20010817698 20010326
CA20012344992 20010425

Probable Assignee: ANALYTICAL ENGINEERING INC

Assignee(s): (std): ANALYTICAL ENGINEERING INC ; BALDWIN FILTERS INC

Assignee(s): BEARD JOHN H ; BROWN GENE W ; CALCATERRA FARRELL F ; KREMPEL LOUIS A ; MAY DAVID F ; MERRITT STEVEN J

Inventor(s): (std): BROWN GENE W ; CALCATERRA FARRELL F ; BEARD JOHN H ; CALCATERRA FARRELL ; BEARD JOHN ; BROWN GENE ; MERRITT STEVEN ; STEVEN J MERRITT ; GENE W BROWN ; FARRELL F CALCATERRA ; MERRITT STEVEN J ; KREMPEL LOUIS A ; MAY DAVID F ; KREMPEL LOUIS ; MAY DAVID

Inventor(s): DAVID F MAY

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; MARKS AND CLERK; MCCARTHY TETRAULT LLP

Designated states: AT AU BE CA CH CY DE DK ES FI FR GB GR IE IT JP LI LU MC MX NL PT SE TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199965195 A1	20000508	LSPB	+	published / reissued	
AU199965195 A1	20040401	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU200013179 A1	20000508	LSPB	+	published / reissued	
AU200013179 A1	20040506	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU200060852 A1	20010130	LSPB	+	published / reissued	
AU200060852 A5	20020418	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CA2344977 AA	20020306	LSPB	+	published / reissued	
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CA2344988 AA	20020306	LSPB	+	published / reissued	
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CA2344992 AA	20020306	LSPB	+	published / reissued	
CA2344992 AA	20060425	LSLE	-FZDE	DEAD	
CA2379289 AA	20020110	LSPB	+	published / reissued	
CA2379289 AA	20050705	LSES	+EEER	EXAMINATION REQUEST	
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EP1131163 A1	20010912	LSPB	+	published / reissued	
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EP1131163 A1	20051123	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20050503
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EP1216102 A1	20020626	LSPB	+	published / reissued	
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EP1216102 A4	20070221	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20070119
EP1216102 A4	20071121	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20071019
EP1216102 A4	20080723	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20080201
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US2001012814 AA	20010809	LSPB	+	published / reissued	
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US2001012814 AA	20061206	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US6210311 BA	20010403	LSGT	+	granted / extensions (spc, cpc, pte)	
US6210311 BA	19981021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MAY, DAVID F.; REEL/FRAME:009539/0830 EFFECTIVE DATE : 19981020
US6210311 BA	20030121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ANALYTICAL ENGINEERING, INC.; REEL/FRAME:013678/0292 EFFECTIVE DATE : 19980901
US6210311 BA	20040301	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : RELEASE/COURT ORDER; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:015017/0027 EFFECTIVE DATE : 20040202
US6210311 BA	20040922	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6210311 BA	20080903	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6210311 BA	20130403	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6210311 BA	20130429	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6210311 BA	20130429	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6210311 BA	20130521	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY	EFFECTIVE DATE : 20130403

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US6210311 BA	20181021	PEXP		Calculated Patent Term Expiry	
US6213929 BA	20010410	LSGT	+	granted / extensions (spc, cpc, pte)	
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US6213929 BA	20040923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6213929 BA	20080722	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US6213929 BA	20130506	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6213929 BA	20130506	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6213929 BA	20130528	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130410
US6213929 BA	20190712	PEXP		Calculated Patent Term Expiry	
US6261455 BA	20010717	LSGT	+	granted / extensions (spc, cpc, pte)	
US6261455 BA	19991112	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, GENE W.; CALCATERRA, FARRELL F.; MERRITT, STEVEN J.; REEL/FRAME:010382/0732 EFFECTIVE DATE : 19991028
US6261455 BA	20030424	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:013986/0445 EFFECTIVE DATE : 20030109
US6261455 BA	20050117	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6261455 BA	20090717	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6261455 BA	20090817	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6261455 BA	20090817	LSLE	-STCH	INFORMATION ON STATUS: PATENT	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE

				DISCONTINUATION	FEES UNDER 37 CFR 1.362
US6261455 BA	20090908	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20090717
US6261455 BA	20191018	PEXP		Calculated Patent Term Expiry	
US6296765 BA	20011002	LSGT	+	granted / extensions (spc, cpc, pte)	
US6296765 BA	19991123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, GENE W.; CALCATERRA, FARRELL F.; MERRITT, STEVEN J.; REEL/FRAME:010419/0531 EFFECTIVE DATE : 19991028
US6296765 BA	20030424	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:013986/0443 EFFECTIVE DATE : 20030109
US6296765 BA	20050330	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6296765 BA	20091002	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6296765 BA	20091102	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6296765 BA	20091102	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6296765 BA	20091124	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20091002
US6296765 BA	20191018	PEXP		Calculated Patent Term Expiry	
US6517475 BA	20030211	LSGT	+	granted / extensions (spc, cpc, pte)	
US6517475 BA	20001120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, GENE W.; CALCATERRA, FARRELL F.; MAY, DAVID F.; AND OTHERS; REEL/FRAME:011302/0640 EFFECTIVE DATE : 20000926
US6517475 BA	20001120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, GENE W.; CALCATERRA, FARRELL F.; MAY, DAVID F.; AND OTHERS; REEL/FRAME:011302/0640 EFFECTIVE DATE : 20000926
US6517475 BA	20030121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ANALYTICAL ENGINEERING, INC.; REEL/FRAME:013678/0292 EFFECTIVE DATE : 19980901
US6517475 BA	20030424	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:013990/0965 EFFECTIVE DATE : 20030109

US6517475 BA	20040301	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : RELEASE/COURT ORDER; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:015017/0027 EFFECTIVE DATE : 20040202
US6517475 BA	20060323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6517475 BA	20110211	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6517475 BA	20110314	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6517475 BA	20110314	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6517475 BA	20110405	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20110211
US6517475 BA	20200906	PEXP		Calculated Patent Term Expiry	
US6520902 BA	20030218	LSGT	+	granted / extensions (spc, cpc, pte)	
US6520902 BA	20001108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, GENE W.; MERRITT, STEVEN J.; REEL/FRAME:011288/0725 EFFECTIVE DATE : 20000913
US6520902 BA	20060323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6520902 BA	20110218	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6520902 BA	20110321	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6520902 BA	20110321	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6520902 BA	20110412	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20110218
US6520902 BA	20210122	PEXP		Calculated Patent Term Expiry (PTA 138 days)	
US6579218 BA	20030617	LSGT	+	granted / extensions (spc, cpc, pte)	
US6579218 BA	20001120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAY, DAVID F.; MERRITT, STEVEN J.; KREMPEL, LOUIS A.; REEL/FRAME:011302/0649 EFFECTIVE DATE : 20000926
US6579218 BA	20001120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAY, DAVID F.; MERRITT, STEVEN J.; KREMPEL, LOUIS A.; REEL/FRAME:011302/0649 EFFECTIVE DATE : 20000926
US6579218 BA	20030121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BALDWIN FILTERS, INC., NEBRASKA

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ANALYTICAL ENGINEERING, INC.; REEL/FRAME:013678/0292 EFFECTIVE DATE : 19980901
US6579218 BA	20030421	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:014558/0100 EFFECTIVE DATE : 20030109
US6579218 BA	20040301	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANALYTICAL ENGINEERING, INC., INDIANA OLDPARTY : RELEASE/COURT ORDER; ASSIGNOR:BALDWIN FILTERS, INC.; REEL/FRAME:015017/0027 EFFECTIVE DATE : 20040202
US6579218 BA	20050705	LSRE	CC	CERTIFICATE OF CORRECTION	
US6579218 BA	20061206	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6579218 BA	20110617	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6579218 BA	20110718	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6579218 BA	20110718	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6579218 BA	20200906	PEXP		Calculated Patent Term Expiry	
WO0023194 A1	20000427	LSPB	+	published / reissued	
WO0023194 A1	20000113	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1999 65195 COUNTRY OF REF DOCUMENT : AU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0023194 A1	20010420	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2001/003963 COUNTRY OF REF DOCUMENT : MX
WO0023194 A1	20010423	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 576962 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0023194 A1	20010507	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999953212 COUNTRY OF REF DOCUMENT : EP
WO0023194 A1	20010518	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 65195/99 COUNTRY OF REF DOCUMENT : AU
WO0023194 A1	20010912	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999953212 COUNTRY OF REF DOCUMENT : EP
WO0023194 A1	20050503	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999953212 COUNTRY OF REF DOCUMENT : EP
WO0023195 A1	20000427	LSPB	+	published / reissued	
WO0023195 A1	20000210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 13179 COUNTRY OF REF DOCUMENT :

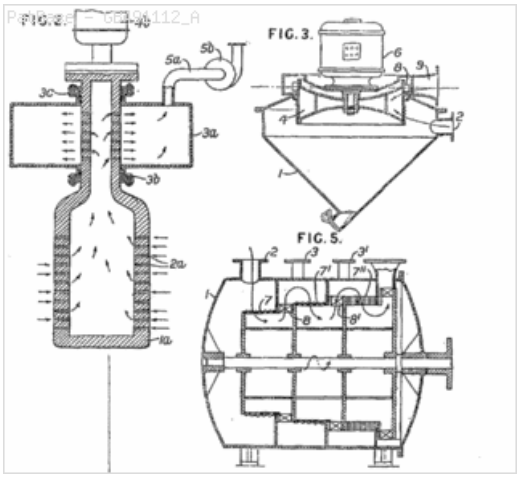
					AU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0023195 A1	20010420	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2001/003962 COUNTRY OF REF DOCUMENT : MX
WO0023195 A1	20010423	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 576963 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0023195 A1	20010507	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999956608 COUNTRY OF REF DOCUMENT : EP
WO0023195 A1	20010518	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13179/00 COUNTRY OF REF DOCUMENT : AU
WO0023195 A1	20010912	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999956608 COUNTRY OF REF DOCUMENT : EP
WO0023195 A1	20050503	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999956608 COUNTRY OF REF DOCUMENT : EP
WO0103846 A1	20010118	LSPB	+	published / reissued	
WO0103846 A1	20020110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2379289 COUNTRY OF REF DOCUMENT : CA
WO0103846 A1	20020114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000947200 COUNTRY OF REF DOCUMENT : EP
WO0103846 A1	20020626	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000947200 COUNTRY OF REF DOCUMENT : EP
WO0103846 A1	20040414	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO0220118 A1	20020314	LSPB	+	published / reissued	
WO0220118 A1	20040331	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO0220119 A1	20020314	LSPB	+	published / reissued	
WO0220119 A1	20031112	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO0220120 A1	20020314	LSPB	+	published / reissued	
WO0220120 A1	20031203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

5) Family number: 29648047 (GB491112A)

Title: Arrangement for separating mixtures by centrifuging

Abstract: [Class 23] Suspended particles are separated from gases by means of a rapidly rotating smooth pipe, closed at the end, immersed in the gaseous mixture; the pipe causes the surrounding gas to rotate with it and the lightest zone immediately adjacent the pipe wall is continuously withdrawn either axially, or through perforations in the pipe wall, while the heavier parts remain in the mixture or accumulate at the wall of its container. In the form shown in Fig. 2 the end of the pipe is expanded to form a hollow cylinder 1a with a large number of peripheral passages 2a. The pipe, which is rotated by an electric motor 4b, passes through a chamber 3a and is supported in stuffing boxes 3b, 3c. A duct 5a connects a suction pump 5b to the chamber 3a. The cylinder 1a is rotated in the mixture and the light component is drawn by the pump 5b into the pipe through one set of peripheral perforations, then into the chamber 3a and duct 5a through another set. The degree of separation of the dust or gas components can be regulated by varying the speed of rotation of the cylinder 1a or the suction of the pump. In the form shown in Fig. 3, the container 1 is partly cylindrical and partly conical, and the rotating pipe consists of **sieve** cylinder 4 rotated by the motor 6. Impeller **blades** 8 at the top of the cylinder draw the separated light component through the **sieve** and discharge it through the pipe 9. In a modification the container drum 1, Fig. 5, has an inlet 2 and encloses a three stage **separator**. The first two stages have drums with **sieve** walls 7, 7 <1> and the third stage has a drum with a thick wall 7 <11> with tubular passages. Impeller **blades** 8, pass the light component from the first separation to the second stage, and **blades** 8 <1> pass it from the second to the third stage. The heavier components may be drawn off by the outlets 3, 3 <1> . In a further modification the material supplied is passed through disintegrating apparatus before it reaches the **separator**, and the light component is drawn off axially from the gap between the rotating cylinder and a plate arranged outside it at right-angles to its axis.

Classifications:
International (IPC 8-9): B04B5/12 (Advanced/Invention); B04B5/00 (Core/Invention)
International (IPC 1-7): B01D53/24 B04B5/12
CPC: B04B5/12
European: B04B5/12



Family:

Publication number	Publication date	Application number	Application date
GB491112 A	19380826	GB19370021182	19370730

Probable Assignee: RUDOLF MAIER
Assignee(s): (std)**:** RUDOLF MAIER

Legal status (INPADOC)

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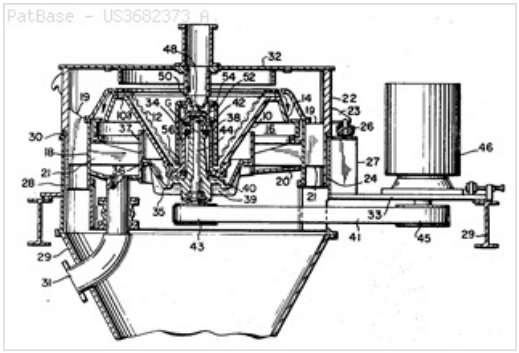
Patent	Date recorded	Event group	Code	Event	Details
GB491112 A	19380826	LSGT	+	granted / extensions (spc, cpc, pte)	
GB491112 A	19570730	PEXP		Calculated Patent Term Expiry	

6) Family number: 99063 (US3682373A)

Title: **CENTRIFUGAL** **SEPARATOR**

Abstract: The housing of a **centrifugal** **separator** is comprised of an upper portion elastically supported on a fixed lower portion. The upper portion carries the **separator** bowl as well as the feed and discharge assemblies of the **separator**, and the entire weight of the upper housing portion and the parts it carries is elastically supported at the level of the center of gravity of this weight.

Classifications:
International (IPC 8-9): B04B11/02 B04B9/12 (Advanced/Invention); B04B11/00 B04B9/00 (Core/Invention)
International (IPC 1-7): B01D21/26 B04B1/08 B04B11/00 B04B11/02 B04B3/00 B04B7/00 B04B9/12
CPC: B04B9/12 B04B11/02
European: B04B11/02 B04B9/12
US: 233/1C 233/2 233/26 494/36 494/38 494/46 494/60



Family:

Publication number	Publication date	Application number	Application date
BE742328 A	19700504		19691127
BR6914858 A0	19730116	BR19690214858	19691208
DE1961734 A1	19711014	DE19691961734	19691209
DE1961734 B2	19731018	DE19691961734	19691209
DE1961734 C3	19790329	DE19691961734	19691209
DE1966575 A1	19730315	DE19691966575	19691209
ES374139 A1	19720316	ES19690374139	19691202
FR1595971 A	19700615	FR19680177148	19681209
GB1257535 A	19711222		19691208
PL80382 P	19750830	PL19690137382	19691208
US3682373 A	19720808	US19690882879	19691208
YU306469 A	19750430	YU19690003064	19691208
YU32960 B	19751231	YU19690003064	19691208

Priority:
FR19680177148 19681209

Probable Assignee: FIVES LILLE CAIL
Assignee(s): (std): FIVES LILLE ; FIVES LILLE CAIL ; ANDRE MERCIER ; FIVES CAIL BABCOCK
Assignee(s): FIVES CAIL BABCOCK S A PARIS ; SOC FIVES LILLE CAIL ; SOCIETE FIVES LILLE CAIL ; SOCIETE FIVES LILLE CAIL PARIS ; SOC FIVES LILLE ; FIVES LILLE CAIL S A ; FIVES LILLE CAIL SOC
Inventor(s): (std): MERCIER A ; MERCIER ANDRE
Inventor(s): MERCIER ANDRE MADELEINE FRANKREICH ; ANDRE MERCIER

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BE742328 A	19700504	LSPB	+	published / reissued	
BE742328 A	19890531	LSLE	-RE	PATENT LAPSED	PARTYTYPE : OWNER OWNER : FIVES LILLE-CAIL S.A. EFFECTIVE DATE : 19881130
BE742328 A	19891127	PEXP		Calculated Patent Term Expiry	
DE1961734 A1	19711014	LSPB	+	published / reissued	
DE1961734 B2	19731018	LSPB	+	published / reissued	
DE1961734 C3	19790329	LSGT	+	granted / extensions (spc, cpc, pte)	
DE1961734 C3	19790329	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE1966575 A1	19730315	LSPB	+	published / reissued	
ES374139 A1	19720316	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1595971 A	19700615	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1595971 A	19881021	LSLE	-ST	NOTIFICATION OF LAPSE	
FR1595971 A	19881209	PEXP		Calculated Patent Term Expiry	
GB1257535 A	19711222	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1257535 A	19891208	PEXP		Calculated Patent Term Expiry	

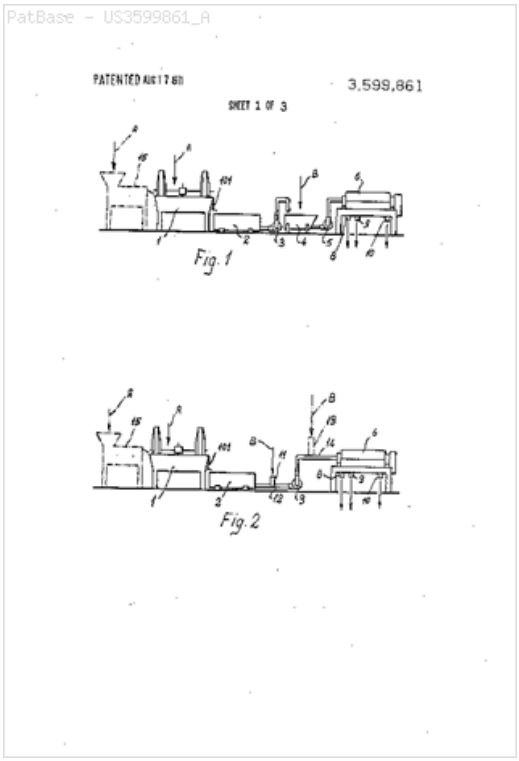
PL80382 P	19750830	LSGT	+	granted / extensions (spc, cpc, pte)
US3682373 A	19720808	LSGT	+	granted / extensions (spc, cpc, pte)
YU306469 A	19750430	LSPB	+	published / reissued
YU32960 B	19751231	LSGT	+	granted / extensions (spc, cpc, pte)

7) Family number: 613070 (US3599861A)

Title: CENTRIFUGE FOR SEPARATION OF MIXTURES OF SOLIDS AND **LIQUIDS** OF DIFFERENT WEIGHT

Abstract: A centrifuge for separating mixtures consisting of solids and at least one **liquid** comprises a rotatable drum formed by two opposed hollow cones in one of which a hollow worm is coaxial and rotatable relative to the drum. The worm forms with the conical portions of the drum a precentrifuging chamber which communicates with a postcentrifuging chamber and mixture fed into the worm passes into the precentrifuging chamber so that solids sludge is fed out through an outlet remote from the postcentrifuging chamber. **Liquids** separated from the sludge pass into the postcentrifuging chamber and are **centrifugally** separated to pass, according to weight, out of the chamber through ducts arranged at different distances from the axis of rotation and through outlets appropriate thereto.

Classifications:
International (IPC 8-9): B04B1/20 B30B9/02 (Advanced/Invention); B04B1/00 B30B9/02 (Core/Invention); A01F (Subclass/Invention)
International (IPC 1-7): A01F B04B1/00 B04B1/20 B04B11/00 B04B3/00 B65D53/04 C11B1/00
CPC: Y10S494/901 B04B1/20 B04B1/2016 B30B9/02
European: B04B1/20 B04B1/20D B30B9/02
US: 233/2 494/10 494/15 494/44 494/51 494/53 494/60 494/8 494/901



Family:

Publication number	Publication date	Application number	Application date
DE1918130 A1	19691120	DE19691918130	19690410
DE1918130 B2	19790927	DE19691918130	19690410
DE1918130 C3	19800612	DE19691918130	19690410
DE1967084 A1	19770421	DE19691967084	19690410
DK137629 B	19780410	DK19690002387	19690430
DK137629 C	19780918	DK19690002387	19690430
ES366138 A1	19710201	ES19690366138	19690417
FR2007821 A1	19700116	FR19690010356	19690417
SE354580 B	19730319	SE19690006130	19690429
SE369478 B	19740902	SE19720004881	19690429
US3599861 A	19710817	US19690818550	19690423

Priority:
IT19680006970 19680418 IT19680006996 19680503 IT19680007004 19680507 IT19680007025 19680514

Probable Assignee: DE MARTINI MARIO

Assignee(s): (std): MARIO DEMARTINI ; MARTINI ; MARTINI M D ; MARTINI M DE ; MARTINI MARIO DE ; MARTINI MARIO DE DR ING

Assignee(s): MARTINI MARIO DE DR ING GENUA ITALIEN ; DE MARTINI M IT ; DE MARTINI MARIO ; MARIO DE MARTINI

Inventor(s): (std): MARTINI MARIO DE ; MARTINI MARIO DE DR ING ; MARTINI M D ; DEMARTINI MARIO ; DE MARTINI M

Inventor(s): MARTINI MARIO DE DR ING GENUA ITALIEN ; DE MARTINI M IT ; MARIO DE MARTINI ; MARIO DEMARTINI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE1918130 A1	19691120	LSPB	+	published / reissued	
DE1918130 B2	19790927	LSPB	+	published / reissued	
DE1918130 C3	19800612	LSGT	+	granted / extensions (spc, cpc, pte)	
DE1918130 C3	19800612	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	

DE1918130 C3	19830601	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE
DE1967084 A1	19770421	LSPB	+	published / reissued
DK137629 B	19780410	LSPB	+	published / reissued
DK137629 C	19780918	LSGT	+	granted / extensions (spc, cpc, pte)
DK137629 C	19841215	LSLE	-PBP	PATENT LAPSED
DK137629 C	19890430	PEXP		Calculated Patent Term Expiry
ES366138 A1	19710201	LSGT	+	granted / extensions (spc, cpc, pte)
FR2007821 A1	19700116	LSPB	+	published / reissued
FR2007821 A1	19830225	LSLE	-ST	NOTIFICATION OF LAPSE
SE354580 B	19730319	LSPB	+	published / reissued
SE369478 B	19740902	LSPB	+	published / reissued
US3599861 A	19710817	LSGT	+	granted / extensions (spc, cpc, pte)

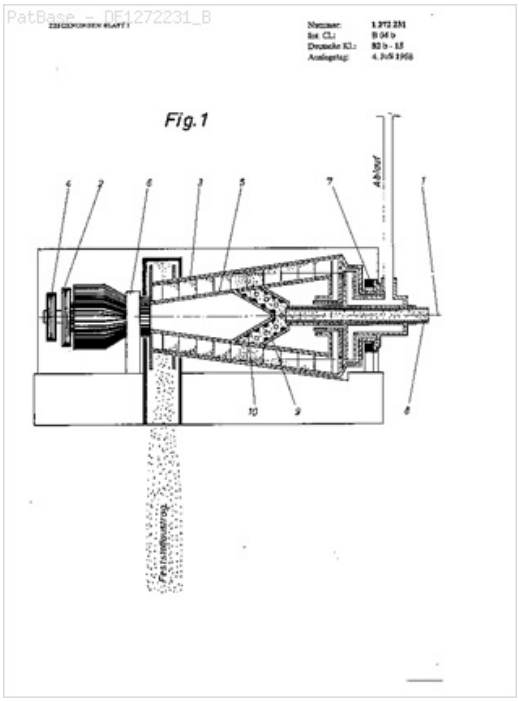
8) Family number: 200079 (DE1272231B)

Title: Vorrichtung zum Zentrifugieren von Kohle-Wasser-Suspensionen und -Schlaemmen Device for centrifugation of coal-water suspensions and suppression Emmen (Machine translation)

Abstract: Source: DE1272231B [DE] (Claim 1) 1. Vorrichtung zum Zentrifugieren von Kohle- Wasser-Suspensionen und -Schlaemmen vor dem Einbringen in einen Feuerraum, wie metallur gische oefen, vorzugsweise Schaftoefen, bestehend aus einer Schneckenzentrifuge mit im Einlauf bereich der Austragsschnecke angeordneten, mit drehenden, zum Schleudergutstrom quer oder schraeg liegenden Flaechen, d a d u r c h g e k e n n - z e i c h n e t, dass die Flaechen als auf die Fest gutteile mahlend einwirkende Flaechen (10, 11) ausgebildet und im Einlaufraum (9) zwischen Einlaufrohr (8) und Schnecke (5) angeordnet sind.

Machine translation: (Claim 1) 1 Device for centrifugation of coal-water suspensions and suppression Emmen before being introduced into a combustion chamber, such as metallurgical strategic furnaces, preferably Schaftoefen, consisting of a screw centrifuge arranged in the inlet area of the discharge, with rotating for Schleudergutstrom transverse or oblique surfaces, dadurchgekenn - records that the areas of good parts to the hard grind as acting surfaces (10, 11) and trained in the inlet chamber (9) between the inlet pipe (8) and screw (5) are arranged.

Classifications:
International (IPC 8-9): B04B1/20 (Advanced/Invention)
CPC: B04B1/20 B04B2001/2033 B04B2005/105
European: B04B1/20 L04B1/20E L04B5/10B



Family:

Publication number	Publication date	Application number	Application date
DE1272231 B	19680704	DE19641272231	19640422

Priority:
DE19641272231 19640422 DE1964F042696 19640422

Probable Assignee: FLOTTWEG MOTOREN WERK DR GEORG
Assignee(s): (std): FLOTTWEG MOTOREN WERK DR GEORG
Assignee(s): FLOTTWEG MOTOREN WERK DR GEORG BRUCKMAYER

Legal status (INPADOC)

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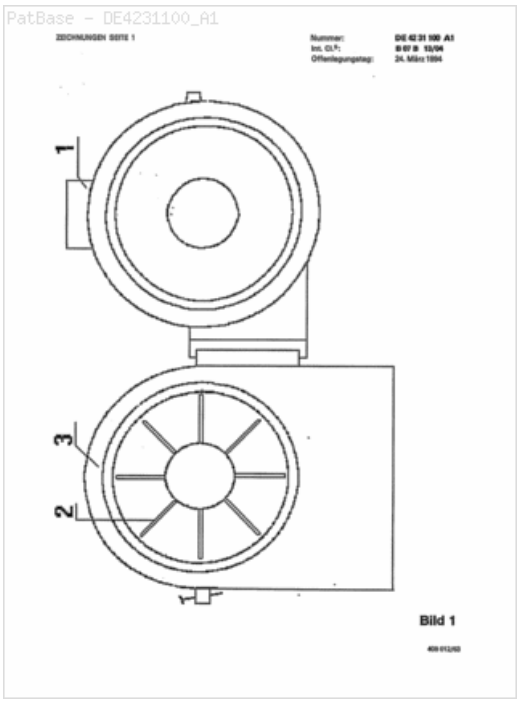
Patent	Date recorded	Event group	Code	Event	Details
DE1272231 B	19680704	LSPB	+	published / reissued	

9) Family number: 10967127 (DE4231100A1)

Title: Sepg. fibrous and spike components from fossil fuel, esp. xylitol from lignite - by comminuting on rotor fan **mill**, sepg. coarse spike or fibrous components on shaking screen, and passing remainder to **centrifugal** **sieve**

Abstract: In sepn. of fibrous and spiky components from fossil fuels, esp. of xylitol from lignite, where the fuel is subjected to intensive shock stress, and is then graded on a shaking screen, (a) the fuel is fed axially to a rotor-fan **mill**, run without a discharge screen or elements in the form of grinding beams, beaters or other fixed comminuting elements, (b) the coarsely fibrous or spiky components are sepd. from the comminuted prod. from the rotor-fan **mill**, a shaking screen, and (c) material passing through the shaking screen is fed to a horizontal **centrifugal** **sieve** provided with a 2-part **sieve** basket, and is subjected to intense turbulence. USE/ADVANTAGE - Fibrous or spiky components can also be sepd. from peat. Good yields and sharpness of sepn. are obtd.

Classifications:
International (IPC 8-9): B02C13/13 B03B1/00 B03B9/00 B07B9/00 (Advanced/Invention);
B02C13/00 B03B1/00 B03B9/00 B07B9/00 (Core/Invention)
International (IPC 1-7): B02C13/00 B02C13/13 B04B3/00 B07B1/00 B07B1/30 B07B13/04
CPC: B02C13/13 B03B1/00 B03B9/005 B07B9/00
European: B02C13/13 B03B1/00 B03B9/00B B07B9/00



Family:

Publication number	Publication date	Application number	Application date
DE4231100 A1	19940324	DE19924231100	19920917

Priority:

DE19924231100 19920917

Probable Assignee: SCHWARZE PUMPE ENERGIEWERKE AG

Assignee(s): (std): SCHWARZE PUMPE ENERGIEWERKE AG

Assignee(s): ENERGIEWERKE SCHWARZE PUMPE AG 03139 SCHWARZE PUMP ; ENERGIEWERKE SCHWARZE PUMPE AG 03139 SCHWARZE PUMPE DE

Inventor(s): (std): NAUNDORF WOLFGANG PROF DR ING ; WOLLENBERG RALF DR ING ; TROMMER DIETMAR DR ING ; SCHOLZ GUENTER DR ING

Inventor(s): TROMMER DIETMAR DR ING O 9200 FREIBERG DE ; WOLLENBERG RALF DR ING O 9230 BRAND ERBISDORF DE ; NAUNDORF WOLFGANG PROF DR ING HABIL O 9200 FREIBER ; SCHOLZ GUENTER DR ING O 7700 HOYERSWERDA DE ; NAUNDORF WOLFGANG PROF DR ING HABIL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE4231100 A1	19940324	LSPB	+	published / reissued	
DE4231100 A1	19940428	LSAS	8127	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	PARTYTYPE : OWNER OWNER : LAUSITZER BRAUNKOHLE AKTIENGESELLSCHAFT (LAUBAG),
DE4231100 A1	19940901	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE4231100 A1	19960605	LSRV	-8131	REJECTION	

10) Family number: 70644131 (WO18137792A2)

Title: EXTRACTION METHOD FOR TREATING A MIXTURE IN A CENTRIFUGE ARRANGEMENT, CENTRIFUGE ARRANGEMENT

Abstract: The invention relates to an extraction method for treating a mixture (G) in a centrifuge arrangement comprising a centrifuge (Z, Z1, Z2) having a centrifuge drum (2) rotatably arranged about a drum axis (T), a drum surface (21), an inlet opening (22) and an outlet opening (23), wherein a rotary screen (3) is provided on an inner circumferential surface (24) of the drum surface (21). The centrifuge drum (2) is supplied with a mixture (G) containing phosphorus and/or a chemical compound containing phosphorus and/or hexavalent chromium (chromium VI). A solid phase in the form of a solid cake is disposed on an inner side of the rotary screen (3). In an extraction step (ES, ES1, ES2), an extraction fluid (E) is introduced into the centrifuge drum (2) and is applied to the solid cake mounted such that the phosphorus and/or the chemical compound containing the phosphorus and/or hexavalent chromium (chromium VI) is extracted from the solid cake by means of an extraction fluid (E). The invention also relates to a centrifuge arrangement for carrying out an extraction method.

Classifications:
International (IPC 8-9): B01D11/02 B01D11/04 B04B1/20 B04B15/12 B04B3/02 B04B3/04 B04B7/04 B04B7/16 B04B7/18 C02F1/26 C02F1/38 C12M1/00 C12M1/33 D21C3/00 D21C3/22 D21C3/26 (Advanced/Invention);
B01D21/26 (Advanced/Non-invention)
CPC: B01D11/0203 B01D11/0276 B04B1/20 B04B3/02 B04B3/04 B04B7/16 B04B7/18 B04B15/12 D21C3/00 D21C3/22 D21C3/26 B01D11/0284 B01D21/262

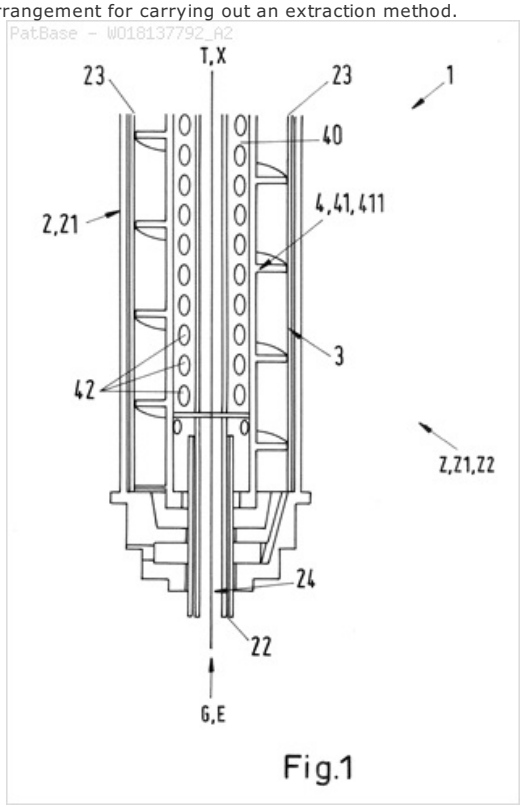

Fig.1

Family:

Publication number	Publication date	Application number	Application date
WO18137792 A2	20180802	WO2017EP71187	20170823
WO18137792 A3	20190718	WO2017EP71187	20170823
WO18137793 A1	20180802	WO2017EP71188	20170823
WO18137794 A1	20180802	WO2017EP71191	20170823
WO18137795 A1	20180802	WO2017EP71192	20170823

Priority:
US20170451371P 20170127

Probable Assignee: FERRUM AG
Assignee(s): (std): FERRUM AG
Inventor(s): (std): SCHALTEGGER ERNST ; FOIDL NIKOLAUS
Agent(s): IRSCH MANFRED; IRSCH MANFRED ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
WO18137792 A2	20180802	LSPB	+	published / reissued	
WO18137792 A3	20190730	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18137793 A1	20180802	LSPB	+	published / reissued	
WO18137793 A1	20190730	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18137794 A1	20180802	LSPB	+	published / reissued	

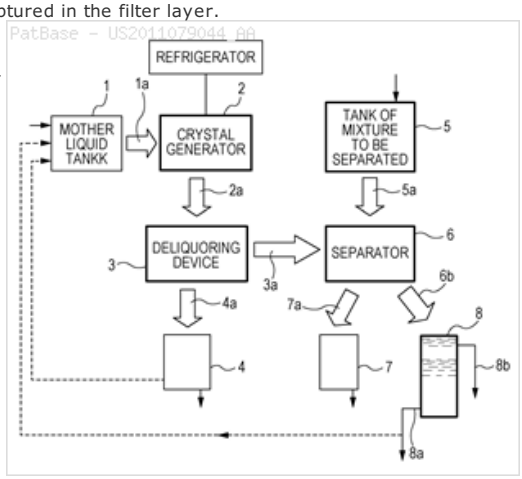
WO18137794 A1	20190730	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18137795 A1	20180802	LSPB	+	published / reissued	
WO18137795 A1	20190730	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

11) Family number: 43812152 (US2011079044A)

Title: METHOD AND APPARATUS USING DELIQUESCENT FILTER FOR SEPARATING MIXTURE

Abstract: The present invention provides a method and apparatus for separating a mixture to be separated (solid-**liquid** or **liquid**-**liquid** mixture) using a deliquescent filter medium. The mixture to be separated is separated into a **liquid** passing through a filter layer of the filter medium and a captured material captured in the filter layer.

Classifications:
International (IPC 8-9): B01D17/00 B01D17/022 B01D17/025 B01D17/038 B01D24/02 B01D33/06 B01D37/02 B01D9/00 B01D9/04 B04B15/10 B04B3/00 B04B7/18 (Advanced/Invention); B04B3/00 (Advanced/Non-invention); B01D17/00 B01D17/02 B01D17/025 B01D24/02 B01D33/06 B01D37/00 B04B3/00 (Core/Invention); B04B3/00 (Core/Non-invention)
CPC: B01D17/00 B01D17/0217 B04B3/00 B01D9/004 B01D17/08 B04B15/10 B01D9/0059 B04B3/025 B01D9/0013 B04B7/18
European: B01D17/08 B01D9/00B4 B01D9/00E B04B15/10 B04B3/00 B04B3/02D B04B7/18
US: 1/1 210/173 210/184 210/769 62/123 62/123S 62/544 62/544P



Family:

Publication number	Publication date	Application number	Application date
JP2009123350 A1	20120322	JP20100506008T	20090331
JP2010087055 A1	20120726	JP20100548369T	20090930
JP2015120146 A2	20150702	JP20140221988	20141014
JP5422794 B1	20140219	JP20100506008T	20090331
JP5422794 B2	20140219	JP20100506008T	20090331
JP5613895 B1	20141029	JP20100548369T	20090930
US2011079044 AA	20110407	US20100896448	20101001
US2014346126 AA	20141127	US20140328441	20140710
US9248455 BB	20160202	US20100896448	20101001
WO09123350 A1	20091008	WO2009JP57042	20090331
WO10087055 A1	20100805	WO2009JP67452	20090930

Priority:

JP20080120011 20080404 JP20090041440 20090202 JP20100506008 20090331
WO2009JP57042 20090331 JP20100548369 20090930 WO2009JP67452 20090930
US20100896448 20101001 JP20130256447 20131125 US20140328441 20140710
JP20140221988 20141014

Probable Assignee: KABUSHIKIKAISHA JO

Assignee(s): (std): HOKKAIDO ; HOKKAIDO GOVERNMENT ; HOKKAIDO RES ORGANIZATION ; JO MASAHARU ; KABUSHIKIKAISHA JO ; TEDUKA MASAHIRO ; LOCAL INDEPENDENT ADMINISTRATIVE AGENCY ; TEZUKA MASAHIRO ; NISHIOKA TAKESHI

Assignee(s): HOKKAIDO RESEARCH ORGANIZATION

Inventor(s): (std): JO MASAHARU ; TEDUKA MASAHIRO ; NISHIOKA TAKESHI ; TEZUKA MASAHIRO

Agent(s): WESTERMAN HATTORI DANIELS AND ADRIAN LLP; JO MASAHARU

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP2009123350 A1	20120322	LSPB	+	published / reissued	
JP2010087055 A1	20120726	LSPB	+	published / reissued	
JP2015120146 A2	20150702	LSPB	+	published / reissued	
JP5422794 B1	20140219	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5422794 B1	20131003	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5422794 B1	20131203	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5422794 B1	20131206	LSGT	+R150	特許証 (Patent certificate)	
JP5422794 B1	20161201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5422794 B1	20170110	LSLE	R280	納付書補充指令書	

				(Payment refilling order form)	
JP5422794 B1	20170201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5422794 B1	20170201	LSLE	R280	納付書補充指令書 (Payment refilling order form)	
JP5422794 B1	20170202	LSFE	R21	特許料納付書 (補充) (Patent fee payment form (replenishment))	
JP5422794 B1	20170214	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP5422794 B1	20290331	PEXP		Calculated Patent Term Expiry	
JP5422794 B2	20140219	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5422794 B2	20111229	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	TEXT : JAPANESE INTERMEDIATE CODE: A712 EFFECTIVE DATE : 20111228
JP5422794 B2	20120418	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20120330
JP5422794 B2	20120705	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120601
JP5422794 B2	20130618	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130618
JP5422794 B2	20130828	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130809
JP5422794 B2	20130918	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5422794 B2	20131001	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20131001
JP5422794 B2	20131205	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20131016
JP5422794 B2	20131206	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP5422794 B2	20160906	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313117
JP5422794 B2	20161110	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313117
JP5422794 B2	20161118	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP5422794 B2	20170214	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5422794 B2	20290331	PEXP		Calculated Patent Term Expiry	
JP5613895 B1	20141029	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5613895 B1	20140807	LSGT	+A01	特許査定書 (Decision of patent grant)	

JP5613895 B1	20140916	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5613895 B1	20140919	LSGT	+R150	特許証 (Patent certificate)	
JP5613895 B1	20170911	LSAS	R313117	本権移転登録申請書 (持分譲渡 放棄) (Application for registration of transfer of right of title (abandonment of equity transfer))	
JP5613895 B1	20170920	LSAS	R350	移転登録済通知書 (Transfer registered notice)	
JP5613895 B1	20170928	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5613895 B1	20171003	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP5613895 B1	20290930	PEXP		Calculated Patent Term Expiry	
US2011079044 AA	20110407	LSPB	+	published / reissued	
US2011079044 AA	20110511	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KABUSHIKIKAISHA JO, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TEDUKA, MASAHIRO; JO, MASAHARU; REEL/FRAME:026260/0343 EFFECTIVE DATE : 20110208
US2011079044 AA	20110511	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HOKKAIDO RESEARCH ORGANIZATION, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TEDUKA, MASAHIRO; JO, MASAHARU; REEL/FRAME:026260/0343 EFFECTIVE DATE : 20110208
US2011079044 AA	20160113	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014346126 AA	20141127	LSPB	+	published / reissued	
US2014346126 AA	20160106	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US9248455 BB	20160202	LSGT	+	granted / extensions (spc, cpc, pte)	
US9248455 BB	20151203	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US9248455 BB	20160113	LSGT	PAT1	Patented Case	
US9248455 BB	20170601	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KABUSHIKIKAISHA JO, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HOKKAIDO RESEARCH ORGANIZATION; REEL/FRAME:042665/0736 EFFECTIVE DATE : 20170530
US9248455 BB	20190208	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9248455 BB	20340521	PEXP		Calculated Patent Term Expiry (PTA 1328 days)	
WO09123350 A1	20091008	LSPB	+	published / reissued	
WO09123350 A1	20101005	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09123350 A1	20110307	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010506008 COUNTRY OF REF DOCUMENT : JP
WO09123350 A1	20110511	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN	REF DOCUMENT NUMBER : 09727767

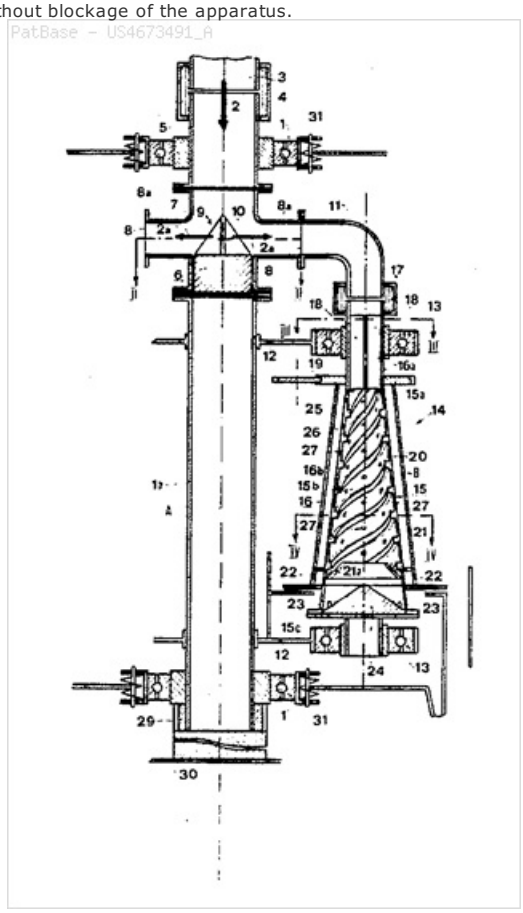
				EUROPEAN PHASE	COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO10087055 A1	20100805	LSPB	+	published / reissued	
WO10087055 A1	20110307	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010548369 COUNTRY OF REF DOCUMENT : JP
WO10087055 A1	20110802	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10087055 A1	20120307	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 09839244 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

12) Family number: 2156163 (US4673491A)

Title: PROCESS AND APPARATUS FOR THE **CENTRIFUGAL** SEPARATION OF FINE-GRAIN MINERAL MIXTURES

Abstract: Separating elements (14) arranged about a central shaft (1a) rotate in common about the main axis (A) and individually about their longitudinal axes (B). A **centrifugal** distributor (6) distributes fine-grain mineral mixture mixed with fluid uniformly to the separating elements (14). In each separating element (14) the partial material flow (2a) is set in rotation about the longitudinal axis (B) by entrainment vanes (18) arranged in a first separating element section (15a) and the heavy fraction is centrifuged on to the **separator** wall (16a). In the second section (15b), formed as conical tubular worm conveyor, which contains no entrainment vanes, the heavy fraction is transported to the collecting chamber (21) and discharged through first discharge openings (22), the fine-grain mineral mixture being fluidized in pulsation on the separating wall (16b) by the combined rotating movements and the heavy fraction being concentrated. From an annular chamber (26) fluid can be injected into the second section (15b) and the heavy fraction can thus be still further purified. A displacement body (24) guides the light fraction and fluid to second discharge openings (23). The **separator** apparatus is axially movably mounted and is set in axially oscillations by means of a wobble plate (31). Due to the collaboration of the movements a continuous separation of fine-grain mineral mixture is guaranteed without blockage of the apparatus.

Classifications:
International (IPC 8-9): B04B11/02 B04B5/02 (Advanced/Invention); B04B11/00 B04B5/00 (Core/Invention)
International (IPC 1-7): B03B5/58 B04B1/08 B04B11/02 B04B3/00 B04B5/02 B04B5/10 B04B7/14 G04B15/14
CPC: B04B5/02
European: B04B5/02
US: 209/423 209/452 209/453 209/466 209/471 209/477 209/479 209/486 209/493 209/498 209/500 209/502 209/504 210/325 210/512.3 210/787 494/33 494/53 494/74



Family:

Publication number	Publication date	Application number	Application date
AT46832 E	19891015	AT19850104851T	19850422
AU198541663 A1	19851107	AU19850041663	19850424
AU582576 B2	19890406	AU19850041663	19850424
CH665964 A	19880630	CH19840002129	19840502
DD232844 A5	19860212	DD19850275797	19850430
DE3573375 D1	19891109	DE19853573375	19850422
EP0163112 A2	19851204	EP19850104851	19850422
EP0163112 A3	19871104	EP19850104851	19850422
EP0163112 B1	19891004	EP19850104851	19850422
PL143345 B1	19880229	PL19850253194	19850502
PL253194 A1	19860211	PL19850253194	19850502
SU1475478 A3	19890423	SU19853892102	19850430
US4673491 A	19870616	US19850726400	19850423
ZA8503095 A	19851224	ZA19850003095	19850425

Priority:
CH19840002129 19840502 EP19850104851 19850422

Probable Assignee: MISET AG
Assignee(s): (std): MISET AG ; MIZET AG FIRMA
Assignee(s): MIZET FIRMA AG ; MISET A G ; MISET AG CH ; MISET CH AG ; MIZET AG FA
Inventor(s): (std): SEDLACHEK VALTER ; SEDLACZEK WALTER
Inventor(s): SEDLACZEK WALTER CH ; VALTER SEDLACHEK AT ; WALTER SEDLACZEK
Agent(s): GRIFFITH HACK
Designated states: AT BE CH DE FR GB IT LI LU NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT46832 E	19891015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT46832 E	19930115	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT46832 E	20050422	PEXP		Calculated Patent Term Expiry	
AU198541663 A1	19851107	LSPB	+	published / reissued	
AU582576 B2	19890406	LSGT	+	granted / extensions (spc, cpc, pte)	
AU582576 B2	20050424	PEXP		Calculated Patent Term Expiry	
CH665964 A	19880630	LSGT	+	granted / extensions (spc, cpc, pte)	
CH665964 A	19910131	LSLE	-PL	PATENT CEASED	
CH665964 A	20040502	PEXP		Calculated Patent Term Expiry	
DD232844 A5	19860212	LSGT	+	granted / extensions (spc, cpc, pte)	
DD232844 A5	19940505	LSLE	-ENJ	CEASED DUE TO NON-PAYMENT OF RENEWAL FEE	
DD232844 A5	20030430	PEXP		Calculated Patent Term Expiry	
DE3573375 D1	19901018	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3573375 D1	19930408	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0163112 A2	19851204	LSPB	+	published / reissued	
EP0163112 A3	19880706	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19880430
EP0163112 A3	19880928	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19880811
EP0163112 B1	19891004	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE LAPSED DATE : 19891004
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB LAPSED DATE : 19891004
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL LAPSED DATE : 19891004
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19891004
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY LAPSED DATE : 19891004
EP0163112 B1	19891004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

					PRESCRIBED TIME-LIMIT LAPSED DATE : 19891004
EP0163112 B1	19900316	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP0163112 B1	19900411	LSWD	-GBV	GB: EP PATENT (UK) TREATED AS ALWAYS HAVING BEEN VOID IN ACCORDANCE WITH GB SECTION 77(7)/1977	REF COUNTRY CODE : EP
EP0163112 B1	19900912	LSGT	+26N	NO OPPOSITION FILED	
EP0163112 B1	19910618	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 19910618 YEAR OF FEE PAYMENT : 7
EP0163112 B1	19910619	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 19910619 YEAR OF FEE PAYMENT : 7
EP0163112 B1	19910620	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 19910620 YEAR OF FEE PAYMENT : 7
EP0163112 B1	19910621	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 19910621 YEAR OF FEE PAYMENT : 7
EP0163112 B1	19920116	LSFE	+EPTA	LU: LAST PAID ANNUAL FEE	REF COUNTRY CODE : EP
EP0163112 B1	19920422	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT LAPSED DATE : 19920422
EP0163112 B1	19920422	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19920422
EP0163112 B1	19920430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH LAPSED DATE : 19920430
EP0163112 B1	19920430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI LAPSED DATE : 19920430
EP0163112 B1	19921231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0163112 B1	19930101	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE LAPSED DATE : 19930101
EP0163112 B1	20050422	PEXP		Calculated Patent Term Expiry	
PL143345 B1	19880229	LSGT	+	granted / extensions (spc, cpc, pte)	
PL253194 A1	19860211	LSPB	+	published / reissued	
SU1475478 A3	19890423	LSGT	+	granted / extensions (spc, cpc, pte)	
US4673491 A	19870616	LSGT	+	granted / extensions (spc, cpc, pte)	
US4673491 A	19870105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MISET AG, HUNENBERG (SWITZERLAND)

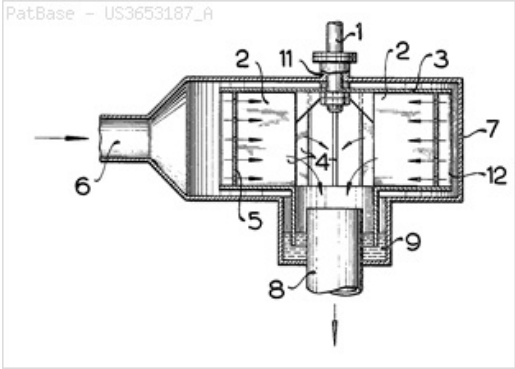
					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:SEDLACZEK, WALTER; REEL/FRAME:004663/0054 EFFECTIVE DATE : 19850419
US4673491 A	19870105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MISET AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SEDLACZEK, WALTER; REEL/FRAME:004663/0054 EFFECTIVE DATE : 19850419
US4673491 A	19910616	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4673491 A	19910616	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4673491 A	19910616	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4673491 A	19910827	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19910616
US4673491 A	20050423	PEXP		Calculated Patent Term Expiry	
ZA8503095 A	19851224	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA8503095 A	20050424	PEXP		Calculated Patent Term Expiry	

13) Family number: 31412212 (US3653187A)

Title: APPARATUS FOR AGGLOMERATING AND PRECIPITATING SUSPENDED MATTER OUT OF GASES AND VAPORS AND/OR FOR ABSORBING GAS COMPONENTS

Abstract: Rotatable treatment chambers arranged on a drive shaft are bounded by disk-like boundary walls and radial partition walls. The treatment chambers are arranged in a spiral housing with tangential gas inlet and axial gas outlet. The gas to be treated enters the spiral housing tangentially on its outer periphery at a high velocity, it is sucked radially through the treatment chambers, and leaves the housing purified passing through a central gas outlet. Due to the rotation of the treatment chambers by which the gas is set in rotation, a gravity field is produced whose direction is opposite to the direction of flow of the gas. Accordingly, gases and vapors to be purified receive such a high **centrifugal** acceleration that the suspended particles they contain, due to their **centrifugal** acceleration, are separated out in the direction against the flow of the gases and vapors. This effect is enhanced by additional injection of fluid. This arrangement can also be used for the absorption of gas components.

Classifications:
International (IPC 8-9): B01D45/14 B01D47/00 B01D47/06 (Advanced/Invention); B01D45/12 B01D47/00 B01D47/06 (Core/Invention)
International (IPC 1-7): B01D45/14 B01D46/00 B01D47/00 B01D47/06 B01D47/16 B01D53/14 B01J B04B5/06
CPC: B01D45/14 B01D47/06
European: B01D45/14 B01D47/06
US: 261/79 261/79.2 261/89 261/90 261/92 55/408 552/300 552/360 552/370 96/281 96/303 96/313



Family:

Publication number	Publication date	Application number	Application date
BE750690 A	19701103		00000000
BE750690 A1	19701103	BE19700750690	19700520
CA954037 A1	19740903	CA19700083273	19700521
CH526983 A	19720831	CH19700007459	19700520
DE1926651 A1	19701203	DE19691926651	19690524
DE1926651 B2	19710603	DE19691926651	19690524
DE2007547 A1	19710902	DE19702007547	19700219
DE2007547 B2	19721221	DE19702007547	19700219
DE2007547 C3	19730726	DE19702007547	19700219
ES379943 A1	19730401	ES19700379943	19700522
FR2048604 A5	19710319	FR19700018443	19700521
GB1320164 A	19730613	GB19700024706	19700521
NL166858 C	19811015	NL19700006874	19700512
NL7006874 A	19701126	NL19700006874	19700512
US3653187 A	19720404	US19700039097	19700520

Priority:
DE19691926651 19690524 DE19702007547 19700219

Probable Assignee: PETERSEN DR ING GERD

Assignee(s): (std): GERD HUGO PETERSEN ; GERD PETERSEN ; HUGO PETERSEN GESELLSCHAFT FUER VERFAHRENSTECHNISC ; PETERSEN DR ING GERD ; PETERSEN G ; PETERSEN GERD DR ING ; PETERSEN GERD ; PETERSEN GERD DR ING 6200 WIESBADEN ; PETERSEN HUGO VERFAHRENSTECH

Assignee(s): PETERSEN GERD AM BIRNBAUM ; PETERSEN GERD AM BIRNBAUM 34 WIESBADEN SONNENBERG ALLEMAGNE ; PETERSEN GERD AM BIRNBAUM 34 WIESBADEN SONNENBERG ; HUGO PETERSEN GESELLSCHAFT FUER VERFAHRENSTECHNISCHEN ANLAGENBAU MBH AND CO KG TE WIESBADEN BONDSREPUBLIEK DUITSLAND

Inventor(s): (std): PETERSEN GERD ; PETERSEN GERD DR ING ; PETERSEN GERD HUGO ; GERD PETERSEN DR ING ; DR PETERSEN GERD ING

Inventor(s): ING PETERSEN GERD DR ; GERD HUGO PETERSEN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BE750690 A	19701103	LSPB	+	published / reissued	
BE750690 A	19871130	LSLE	-RE	PATENT LAPSED	PARTYTYPE : OWNER OWNER : PETERSEN HUGO G.M.B.H. & CO. K.G. EFFECTIVE DATE : 19870531
BE750690 A1	19701103	LSPB	+	published / reissued	
BE750690 A1	19871130	LSLE	-RE	PATENT LAPSED	OWNER NAME : PETERSEN HUGO G.M.B.H. AND CO. K.G. EFFECTIVE DATE : 19870531
CH526983 A	19720831	LSGT	+	granted / extensions (spc, cpc, pte)	

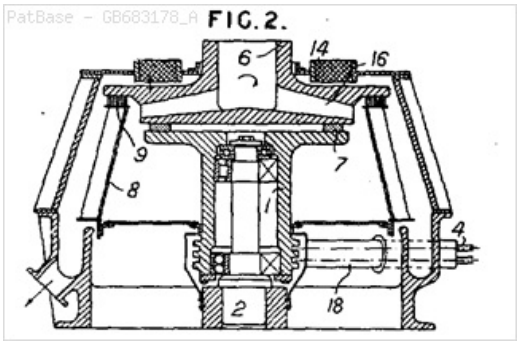
CH526983 A	19870130	LSLE	-PL	PATENT CEASED	
CH526983 A	19900520	PEXP		Calculated Patent Term Expiry	
DE1926651 A1	19701203	LSPB	+	published / reissued	
DE1926651 B2	19710603	LSPB	+	published / reissued	
DE1926651 B2	19781207	LSAS	EGA	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	
DE1926651 B2	19840913	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
DE1926651 B2	19870611	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE2007547 A1	19710902	LSPB	+	published / reissued	
DE2007547 B2	19721221	LSPB	+	published / reissued	
DE2007547 B2	19730726	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE2007547 B2	19790201	LSAS	EGA	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	
DE2007547 B2	19840906	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
DE2007547 B2	19870716	LSLE	-8340	PATENT OF ADDITION CEASED/NON-PAYMENT OF FEE OF MAIN PATENT	
DE2007547 C3	19730726	LSGT	+	granted / extensions (spc, cpc, pte)	
ES379943 A1	19730401	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2048604 A5	19710319	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2048604 A5	19790105	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2048604 A5	19870327	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2048604 A5	19900521	PEXP		Calculated Patent Term Expiry	
GB1320164 A	19730613	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1320164 A	19731024	LSGT	+PS	PATENT SEALED	
GB1320164 A	19840718	LSLI	746	REGISTER NOTED 'LICENCES OF RIGHT' (SECT. 46/1977)	
GB1320164 A	19870114	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1320164 A	19900521	PEXP		Calculated Patent Term Expiry	
NL166858 C	19811015	LSGT	+	granted / extensions (spc, cpc, pte)	
NL166858 C	19840116	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	
NL166858 C	19900512	PEXP		Calculated Patent Term Expiry	
NL7006874 A	19701126	LSPB	+	published / reissued	
NL7006874 A	19791210	LSAS	CNR	TRANSFER OF RIGHTS (PATENT APPLICATION AFTER ITS LAYING OPEN FOR PUBLIC INSPECTION)	TEXT : HUGO PETERSEN GESELLSCHAFT FUER VERFAHRENSTECHNISCHEN ANLAGENBAU MBH & CO.KG.
US3653187 A	19720404	LSGT	+	granted / extensions (spc, cpc, pte)	

14) Family number: 19919220 (GB683178A)

Title: A device for the dewatering of granular material

Abstract: 683,178. **Centrifugal**-**separators**. KLOCKNER HUMBOLDT DEUTZ AKT.-GES. Nov. 27, 1950 [Nov. 26, 1949], No. 28928/50. Class 23 A strainer **separator** comprises a screen 8 rotatable about a vertical axis and resiliently supported by an intermediate member 6 which is resiliently supported from the drive shaft 1, and an impluse generator imparting axial oscillations to the member. The member has vanes 16 and constitutes an impeller for material fed to the **separator**. The member is oscillated by electromagnets 14, and is supported by rubber blocks 7 on the drive shaft. The drive shaft is rotated on radial bearings and a thrust bearing on a stub shaft 2 by belts 4 protected by a tube 18. The oscillations of the member are transferred to the screen by rubber blocks or springs 9.

Classifications:
International (IPC 8-9): B04B3/06 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B04B3/06
CPC: B04B3/06
European: B04B3/06



Family:

Publication number	Publication date	Application number	Application date
BE499363 A	00000000		00000000
FR1027606 A	19530513		19501113
GB683178 A	19521126	GB19500028928	19501127

Priority:
19491126

Probable Assignee: KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): (std): KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): KLOECKNER HUMBOLDT DEUTZ AKTIENGESELLSCHAFT ; KLOCKNER HUMBOLDT DEUTZ A G

Legal status (INPADOC)

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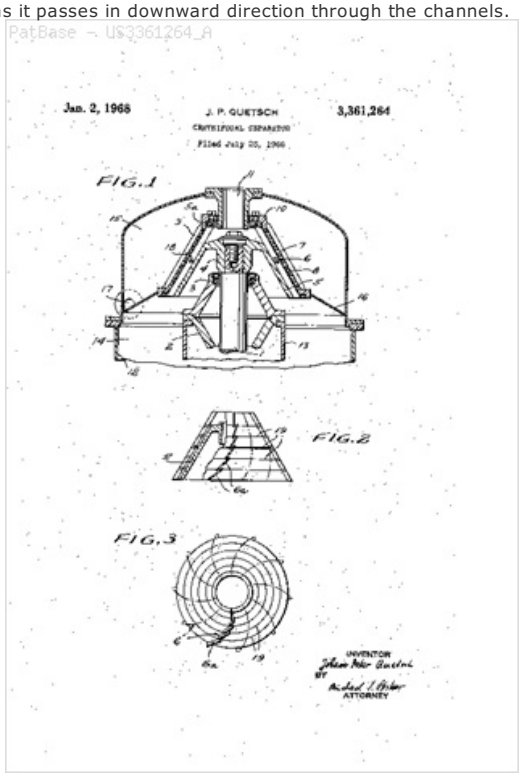
Patent	Date recorded	Event group	Code	Event	Details
BE499363 A	00000000	LSPB	+	published / reissued	
BE499363 A	19200101	PEXP		Calculated Patent Term Expiry	
FR1027606 A	19530513	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1027606 A	19701113	PEXP		Calculated Patent Term Expiry	
GB683178 A	19521126	LSGT	+	granted / extensions (spc, cpc, pte)	
GB683178 A	19701127	PEXP		Calculated Patent Term Expiry	

15) Family number: 30962247 (US3361264A)

Title: **Centrifugal** **separator**

Abstract: ABSTRACT OF THE DISCLOSURE
A **centrifugal** **separator** in which a plurality of elongated guide vanes each composed of a plurality of sections 1!5 extend in longitudinal direction and transversely spaced from each other between the outer substantially conical surface of a carrier and the inner surface of a conical **sieve** means surrounding the carrier and rotatable with the same about a vertical axis so as to divide the space in gc a plurality of channels, and in which the sections of the guide vanes can be adjusted relative to each other to thereby change the path of material to be centrifugea as it passes in downward direction through the channels.

Classifications:
International (IPC 8-9): B04B3/00 B04B3/04 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B04B3/00 B04B3/04
CPC: B04B3/00 B04B3/04
European: B04B3/00 B04B3/04
US: 210/372 210/377 210/380.1



Family:

Publication number	Publication date	Application number	Application date
DE1277760 B	19680912	DE1965H056702	19650727
DE1277760 C	19680912	DE1965H056702	19650727
FR1487300 A	19670630	FR19660070472	19660722
GB1098778 A	19680110	GB19660031579	19660714
NL150351 B	19760816	NL19660010402	19660725
NL6610402 A	19670130	NL19660010402	19660725
US3361264 A	19680102	US19660567775	19660725

Priority:
DE1965H056702 19650727 FR19660070472 19660722

Probable Assignee: ERNST HEINKEL MASCHB GMBH

Assignee(s): (std): ERNST HEINKEL MASCHB G M B H ; ERNST HEINKEL MASCHB GMBH ; ERNST HEINKEL MASCHINENBAU KG KARLSRUHE BONDSREPUB ; ERNST HEINKEL MOTORENBAU GMBH ; HEINKEL MASCHINENBAU ERNST KG ; ERNST HEINKEL MOTORENBAU G M B ; HEINKEL MASCHINENBAU KG ERNST

Assignee(s): ERNST HEINKEL MOTORENBAU G M B H ; ERNST HEINKEL MASCHINENBAU KG KARLSRUHE BONDSREPUBLIEK DUITSLAND ; ERNST HEINKEL MASCHINENBAU G M B H ; ERNST HEINKEL MASCHINENBAU GMBH

Inventor(s): (std): PETER QUETSCH JOHANN ; KREIS KARLSRUHE ; QUETSCH JOHANN PETER

Inventor(s): KARLSRUHE KREIS

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE1277760 B	19680912	LSPB	+	published / reissued	
FR1487300 A	19670630	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1487300 A	19860722	PEXP		Calculated Patent Term Expiry	
GB1098778 A	19680110	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1098778 A	19860714	PEXP		Calculated Patent Term Expiry	
NL150351 B	19760816	LSPB	+	published / reissued	
NL150351 B	19860725	PEXP		Calculated Patent Term Expiry	
NL6610402 A	19670130	LSPB	+	published / reissued	

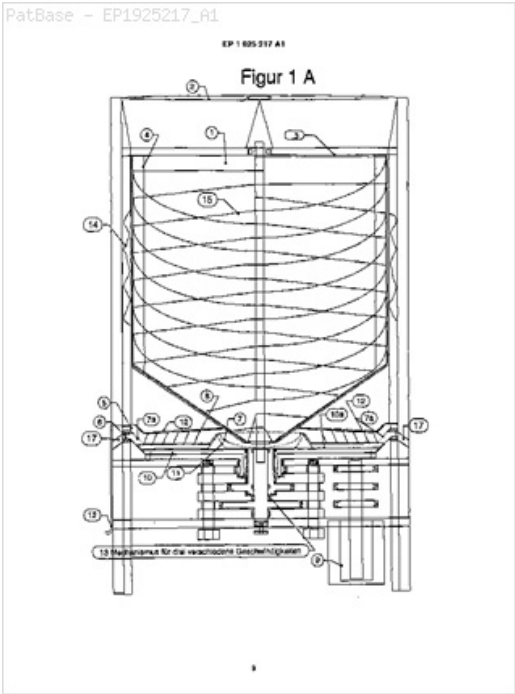
US3361264 A	19680102	LSGT	+	granted / extensions (spc, cpc, pte)

16) Family number: 40884248 (EP1925217B1)

Title: UNIT FOR COLD PRESSING THE FLESH OF OLIVES

Abstract: The plant for cold pressing for olive flesh after previous removal of olive kernel, has a core removing machine that includes electric motor that works with a mechanism for three speeds, a pressurized water, a **sieve** and circularly running shovel. The core removing machine during the separation of the kernel and the olive flesh fills a cylindrical, double walled container with olive flesh and oil must at the same time, over which during the filling a plate loading machine is found that lets down a circular, perfectly fitting plate into the container till the container is completely filled. The plant for cold pressing for olive flesh after previous removal of olive kernel, has a core-removing machine that includes electric motor that works with a mechanism for three speeds, pressurized water and a **sieve**. The machine during the separation of the kernel and the olive flesh fills a cylindrical, double walled container with olive flesh and oil must at the same time, over which during the filling a plate loading machine is found, which according to weight of the mass of a determined filling quantity automatically at intervals lets down a circular, perfectly fitting plate into the container till the container is completely filled. The container is present on a pressing station with a conveyer belt. The container is shuffled on the place of the press centrifuge by the succeeding container and is hydraulically lowered on to the floor of the press centrifuge by a rail mechanism. Before and during the compressing and centrifugation, valves of the container are opened and the fluid (oil must) that is collected between the outer and inner wall of the container is let into a canal system, is caught by a container and then directed to a separating filter. The pressed olive mass is transported to the plate. The machine after taking the olives in the olive basket with an olive flush outlet (6) that is opened and closed according to size and quantity of the olives through a rotation of its spindles with the knives beats the olives, to separate the kernel and the olive flesh. The flesh falls on a **sieve** centrifuge (7), through a suction propeller (11) under the **sieve** to the horizontally turning grinding stones (10) sucks with the **centrifugal** force and pulverizes and then conveys to the olive-flesh outlet. The nozzles are fed through the water feeding line into the machine and moisten the walls and the knives from time to time. The cylindrical loading machine with its guiding rod is formed telescope like. On the floor of the press centrifuge, two parallel female indentations are present, and in the floor of the these indentations two rails are elevated, whose upper part is feminine, so that the male rails fit under the floor of the container and are hydraulically elevated or brought down, so that if the container is positioned itself in the middle of the press centrifuge, the hoisting device automatically hydraulically sinks down, so that the rails of the container sits exactly in the middle of the press centrifuge. The floor of the press centrifuge has a circumferentially running collecting duct for the oil must, in which the confluence of the four discharges of the container gushes out during the opening of the valves. The press centrifuge in its middle has a pressing rod and in its deepest place, a circular press punch, which is constructed in such a manner, that it does not allow any fluid to climb upwards. The floor plate of the press-centrifuge with the outer- and inner wall and the floor of the container during the compressing and the centrifugation are firmly closed. The floor-plate of the container, before leaving of the press floor, is closed again, outer and inner walls are erected and the firmly pressed material on the plates on the container floor are removed, by two forks of a forklift mechanism. The machine works on many divided levels of spindle with knives, with a **blade** wall cleaner (4), which collects the chipped material from the upper level and forwards it down into the middle of the funnel like opening to the next level, and with two exhaust fans, which transport the olive flesh under the **sieve** to two outlets right and left, under the grinding stone. The machine sucks the olive flesh with the movable grinding stone by **centrifugal** force and then grinds it, and fills the ground olive flesh after outlet with a pout in the funnel like widening of the inner upper boundary of the container. The machine in canal for the kernel for the outlet of the kernel has semi-circular uprisings in the **sieve** for removing the rest of the olive flesh. The machine before the kernel outlet has a circularly running shovel, which is connected to the exhaust fan. The machine in the canal has the **sieve** for the kernel for the olive flesh still fallen away from the kernel, from where it is collected by a scrapper and transported down through ventilators to the remaining olive flesh. The machine has two grinding zones. The lower grinding stone is faster than the upper grinding stone. The container is found between an inner circle and an outer circle of the pressing station. The machine is located in the middle of the inner circle and turns on its axes to the nearest container. Each container is equipped on its floor interior with a circular sheet without a hole in the middle, so that the first portion of the filling product is assimilated during the filling. Each container has two male rails and four effluences in its floor for the discharge of fluid from the hollow space. The floor of the base has a hollow canal and outer double circular indentations, which fit into the inner wall and are protected by gaskets against the fluid discharge. On the base of the press **centrifugal** floor, four pillars of the press centrifuge are anchored, on which the cover of the total press-installation sits, which holds the container in the centrifuge and the press-centrifuge stable. The container holder holds the container in its position, so that it turns along, when the centrifuge is in motion.

Classifications:
International (IPC 8-9): A23N1/02 A23N4/08 B04B3/00 B30B9/02 B30B9/04 B65B65/02 C11B1/06 (Advanced/Invention); A23N1/00 A23N4/00 B04B3/00 B30B9/02 B65B65/00 C11B1/00 (Core/Invention)
CPC: B30B9/02 A23N1/02 C11B1/06
European: A23N1/02 C11B1/06



Family:

Publication number	Publication date	Application number	Application date
AT520319 E	20110915	AT20070018235T	20070918
DE102006055594 B3	20071206	DE200610055594	20061124
DE502007007952 D1	20111013	DE200750007952T	20070918
EP1925217 A1	20080528	EP20070018235	20070918
EP1925217 B1	20110817	EP20070018235	20070918

Priority:

DE200610055594 20061124 EP20070018235 20070918

Probable Assignee: OURANOS EMMANUEL

Assignee(s): (std): OURANOS EMMANUEL

Inventor(s): (std): OURANOS EMMANUEL

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT RO RS SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT520319 E	20110915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT520319 E	20270918	PEXP		Calculated Patent Term Expiry	
DE102006055594 B3	20071206	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102006055594 B3	20080529	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE102006055594 B3	20190601	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE102006055594 B3	20261124	PEXP		Calculated Patent Term Expiry	
EP1925217 A1	20080528	LSPB	+	published / reissued	
EP1925217 A1	20080528	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070921
EP1925217 A1	20090204	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IS COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LT COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : LV COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : MT COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : RO COUNTRY OF REF DOCUMENT

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EP1925217 A1	20110817	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1925217 A1	20110831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1925217 A1	20110914	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP1925217 A1	20111013	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 502007007952 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20111013
EP1925217 A1	20111207	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20110817
EP1925217 A1	20120125	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20110817
EP1925217 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
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EP1925217 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
EP1925217 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111217
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EP1925217 A1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
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EP1925217 A1	20120331	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : OURANOS, EMMANUEL EFFECTIVE DATE : 20110930
EP1925217 A1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
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EP1925217 A1	20120725	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20120521
EP1925217 A1	20120725	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20111117
EP1925217 A1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
EP1925217 A1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
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EP1925217 A1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20111117
EP1925217 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
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EP1925217 A1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110918
EP1925217 A1	20130628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111117
EP1925217 A1	20130930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110817
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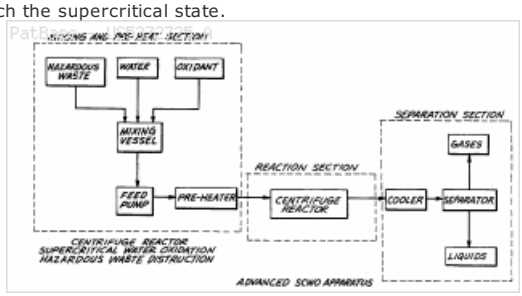
EP1925217 A1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120918
EP1925217 B1	20110817	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1925217 B1	20270918	PEXP		Calculated Patent Term Expiry	

17) Family number: 13314250 (US5372725A)

Title: METHOD FOR SEPARATION AND REMOVAL OF IMPURITIES FROM **LIQUIDS**

Abstract: A mechanism for converting impurities or contaminants in a fluid to a non-hazardous or less hazardous condition by raising the fluid to a supercritical state. This is accomplished by a rotatable mechanism having a reaction chamber adapted to receive the fluid and by rotating the rotatable mechanism at a high speed and by heating the fluid to cause the temperature and pressure of the fluid in the reaction chamber to reach the supercritical state.

Classifications:
International (IPC 8-9): B01F15/06 B01J19/18 B01J19/28 B01J3/00 B01J8/00 B04B15/02 C02F1/38 C02F11/08 (Advanced/Invention)
International (IPC 1-7): C02F1/02 C02F1/74 C02F11/08
CPC: Y02W10/30 B01F15/06 B01J3/008 B01J8/00 B01J19/1806 B01J19/28 B01J2219/00081 B01J2219/00094 B01J2219/00105 B01J2219/00155 B01J2219/00159 B01J2219/00162 B01J2219/00164 B04B15/02 C02F1/38 C02F11/086 Y02P20/544
European: B01F15/06 B01J19/18B B01J19/28 B01J3/00S B01J8/00 B04B15/02 C02F1/38 C02F11/08D L01J219/00B2D2C L01J219/00B2D4D L01J219/00B2D6 L01J219/00B2P4 L01J219/00B2Z L01J219/00B4 L01J219/00B6
US: 210/177 210/178 210/180 210/188 210/202 210/205 210/210 210/512.1 210/761 210/774 210/787



Family:

Publication number	Publication date	Application number	Application date
US5372725 A	19941213	US19920996581	19921224
US5425883 A	19950620	US19930056801	19930210
US5688399 A	19971118	US19960600675	19960213
US6080309 A	20000627	US19950439036	19950511

Priority:

US19910787362 19911104 US19920996581 19921224 US19930056801 19930210
US19930126691 19930914 US19940205165 19940303 US19950439036 19950511
US19960600675 19960213

Probable Assignee: AN UNDIVIDED 50 PERCENT TO ALBERT H HALFF TRUSTEE UNDER REVOCABLE TRUST AGREEMENT DATED DECEMBER 13 2005 C O ALBERT H HALFF 1 VILLA JARDIN SAN ANTONIO

Assignee(s): (std): REID ALLEN F

Assignee(s): HALFF ALBERT H ; AN UNDIVIDED 50 PERCENT TO ALBERT LEE HALFF AND HENRY M HALFF CO TRUSTEES OF RESIDUARY TRUST ESTABLISHED UNDER ARTICLE VIII OF LAST WILL AND TESTAMENT ; AN U ; AN UNDIVIDED 50 PERCENT TO ALBERT H HALFF TRUSTEE ; AN UNDIVIDED 50 PERCENT TO ALBERT H HALFF TRUSTEE UNDER REVOCABLE TRUST AGREEMENT DATED DECEMBER 13 2005 C O ALBERT H HALFF 1 VILLA JARDIN SAN ANTONIO ; AN UNDIVIDED 50 PERCENT TO ALBERT LEE HALFF AND HE

Inventor(s): (std): REID ALLEN F ; HALFF ALBERT H

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5372725 A	19941213	LSGT	+	granted / extensions (spc, cpc, pte)	
US5372725 A	19941201	LSGT	PAT1	Patented Case	
US5372725 A	19941201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5372725 A	19980521	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5372725 A	20020605	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5372725 A	20051214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5372725 A	20091026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AN UNDIVIDED 50% TO ALBERT LEE HALFF AND HENRY M. OLDPARTY : CHANGE OF NAME; ASSIGNOR:HALFF, ALBERT H.; REEL/FRAME:023438/0040 EFFECTIVE DATE : 20060524
US5372725 A	20091026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AN UNDIVIDED 50%TO ALBERT H. HALFF, TRUSTEE UNDER OLDPARTY : CHANGE OF NAME; ASSIGNOR:HALFF, ALBERT H.; REEL/FRAME:023438/0040 EFFECTIVE DATE : 20060524
US5372725 A	20121224	PEXP		Calculated Patent Term Expiry	
US5425883 A	19950620	LSGT	+	granted / extensions (spc, cpc, pte)	

US5425883 A	19950609	LSGT	PAT1	Patented Case	
US5425883 A	19981211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5425883 A	20020820	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5425883 A	20060721	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
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US5425883 A	20130210	PEXP		Calculated Patent Term Expiry	
US5688399 A	19971118	LSGT	+	granted / extensions (spc, cpc, pte)	
US5688399 A	19971014	LSGT	PAT1	Patented Case	
US5688399 A	19971014	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5688399 A	19980526	LSRE	CC	CERTIFICATE OF CORRECTION	
US5688399 A	20010509	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5688399 A	20041118	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5688399 A	20081203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5688399 A	20091026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AN UNDIVIDED 50% TO ALBERT LEE HALFF AND HENRY M. OLDPARTY : CHANGE OF NAME; ASSIGNOR:HALFF, ALBERT H.; REEL/FRAME:023438/0040 EFFECTIVE DATE : 20060524
US5688399 A	20091026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AN UNDIVIDED 50%TO ALBERT H. HALFF, TRUSTEE UNDER OLDPARTY : CHANGE OF NAME; ASSIGNOR:HALFF, ALBERT H.; REEL/FRAME:023438/0040 EFFECTIVE DATE : 20060524
US5688399 A	20160213	PEXP		Calculated Patent Term Expiry	
US6080309 A	20000627	LSGT	+	granted / extensions (spc, cpc, pte)	
US6080309 A	20000608	LSGT	PAT1	Patented Case	
US6080309 A	20000608	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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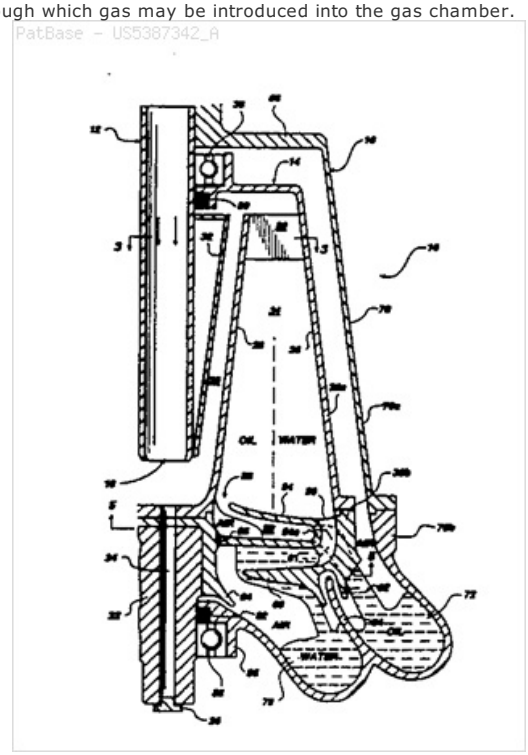
US6080309 A	20120619	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6080309 A	20170627	PEXP		Calculated Patent Term Expiry	

18) Family number: 30432262 (US5387342A)

Title: **CENTRIFUGAL** **SEPARATOR** AND METHOD

Abstract: A **separator** for separating a first fluid from a second fluid through rotation about an axis of rotation, the first fluid having a density less than the density of the second fluid. In one embodiment, the **separator** includes a separation chamber mounted for rotation about the axis of rotation. A first weir is positioned in fluid communication with the separation chamber. A second weir is positioned over which the second fluid may pass to exit the separation chamber through a collection chamber. A fluid pressure chamber is positioned radially outwardly from the crest of the second weir to receive the second fluid as it passes over the second weir. The fluid pressure chamber is partially defined by an exit weir over which the second fluid may pass. A gas chamber is positioned in the passageway between the second weir and the exit weir and includes a gas escape passageway through which excess gas may escape from the gas chamber such that a gas barrier is formed to maintain the fluid level between the gas chamber and the fluid pressure chamber at the radial level of the gas escape passageway. A gas introduction passageway is provided through which gas may be introduced into the gas chamber.

Classifications:
International (IPC 8-9): B01D17/02 B01D17/038 B01D21/26 B04B1/02 B04B1/04 B04B1/10 B04B11/00 B04B5/04 B04B7/08 (Advanced/Invention);
B04B7/04 (Advanced/Non-invention);
B01D17/02 B04B1/00 B04B7/00 (Core/Invention)
International (IPC 1-7): B01D17/02 B01D17/035 B01D17/038 B01D21/20 B01D21/26 B04B1/00 B04B1/02 B04B1/08 B04B1/10 B04B5/04 B04B7/04 B04B7/08
CPC: B01D21/262 B04B1/04 B04B1/02 B01D17/0217 B04B1/10
European: B01D17/02H B01D21/26 B04B1/02 B04B1/04 B04B1/10
US: 210/221.2 210/360.1 210/380.1 210/512.1 210/512.3 210/787 494/43 494/50 494/60 55/459.1 55/459.4



Family:

Publication number	Publication date	Application number	Application date
AT187658 E	20000115	AT19930916468T	19930609
AU199346309 A1	19940104	AU19930046309	19930609
AU199480912 A1	19950529	AU19940080912	19941026
AU199526934 A1	19960104	AU19950026934	19950531
AU698539 B2	19981029	AU19940080912	19941026
BG100550 A	19970530	BG19960100550	19960429
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BRPI9306675 A	19981208	BR1993PI06675	19930609
BRPI9408164 A	19970805	BR1994PI08164	19941026
CA2137790 AA	19941209	CA19932137790	19930609
CA2174626 AA	19950518	CA19942174626	19941026
CA2174626 C	19990330	CA19942174626	19941026
CN1134676 A	19961030	CN19941094105	19941026
CZ131496 A3	19960911	CZ19960001314	19941026
CZ311494 A3	19951018	CZ19940003114	19930609
CZ9403114 A3	19951018	CZ19940003114	19930609
CZ9601314 A3	19960911	CZ19960001314	19941026
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DE69327317 T2	20000727	DE19936027317T	19930609
EP0644793 A1	19950329	EP19930916468	19930609
EP0644793 A4	19951025	EP19930916468	19930609
EP0644793 B1	19991215	EP19930916468	19930609
EP0728043 A1	19960828	EP19940932043	19941026
EP0728043 A4	19970205	EP19940932043	19941026
ES2144010 T3	20000601	ES19930916468T	19930609
FI945792 A	19950209	FI19940005792	19941209
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HU71018 A2	19951128	HU19940003546	19930609
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JP7507716 T2	19950831	JP19940501689T	19930609
JP9504985 T2	19970520	JP19950513855T	19941026
KR19957001834 A	19950517	KR19947004497	19930609
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NL9420036 A	19961101	NL19940020036	19941026
NL9420036 A1	19961101	NL19940020036	19941026
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WO9533543 A1	19951214	WO1995US06847	19950531
ZA9408382 A	19950627	ZA19940008382	19941025
ZA9504562 A	19960125	ZA19950004562	19950602

Priority:

US19920896185 19920610 WO1993US05505 19930609 US19930149994 19931110
US19940253960 19940603 WO1994US12258 19941026 US19950383891 19950206
WO1995US06847 19950531

Probable Assignee: INT SEPARATION TECHNOLOGY INC

Assignee(s): (std): COLLIER KEVIN E ; INT SEPARATION TECHN INC ; INT SEPARATION TECHNOLOGY INC ; TAGGART CHARLES W ; TAGGART ; ROGERS ERNEST E ; V US ; CHARL Z

Assignee(s): CHARLES W ; CHARLES W TAGGART ; V ; TAGGART, CHARL'Z, V. ; ROGERS ERNEST ; INTERNATIONAL SEPARATION TECHNOLOGY INC ; INTERNATIONAL SEPARATION TECHNOLOGY ; INT SEPARATION TECHNOLOGY ; MADSON AND METCALF SUITE ; MADSON AND METCALF

Inventor(s): (std): ERNEST ROGERS ; ROGERS ERNST E ; KEVIN E COLLIER ; ERNEST EMANUEL ROGERS ; ERNEST E ROGERS ; RODZHERS EHRNEST ; ROGERS ERNEST ; COLLIER KEVIN E ; ROGERS ERNEST E

Inventor(s): RODZHERS EHRNEST[US] ; KELVIN E COLLIER

Agent(s): GRIFFITH HACK; CASSAN MACLEAN

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IT JP KE KG KP KR KZ LI LK LR LT LU LV MC MD MG ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG TJ TT UA UG US UZ VN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT187658 E	20000115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT187658 E	20000615	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT187658 E	20130609	PEXP		Calculated Patent Term Expiry	
AU199346309 A1	19940104	LSPB	+	published / reissued	
AU199480912 A1	19950529	LSPB	+	published / reissued	
AU199526934 A1	19960104	LSPB	+	published / reissued	
AU698539 B2	19981029	LSGT	+	granted / extensions (spc, cpc, pte)	
AU698539 B2	20020530	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU698539 B2	20141026	PEXP		Calculated Patent Term Expiry	
BG100550 A	19970530	LSPB	+	published / reissued	
BG99327 A	19951031	LSPB	+	published / reissued	
BRPI9306675 A	19981208	LSPB	+	published / reissued	
BRPI9306675 A	19990112	LSAS	PC	TRANSFER	TEXT : INTERNATIONAL SEPARATION TECHNOGY, INC. (US)
BRPI9306675 A	20000704	LSES	-EG	TECHNICAL EXAMINATION (OPINION):	

				PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI9306675 A	20020611	LSRV	-FC	DECISION: REFUSAL	
BRPI9408164 A	19970805	LSPB	+	published / reissued	
BRPI9408164 A	19990525	LSGT	+FF	DECISION: INTENTION TO GRANT	
BRPI9408164 A	20011211	LSFE	-FD5	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
CA2137790 AA	19941209	LSPB	+	published / reissued	
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CN1134676 A	19961030	LSPB	+	published / reissued	
CN1134676 A	19961030	LSPB	+C06	PUBLICATION	
CN1134676 A	20030402	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CZ131496 A3	19960911	LSPB	+	published / reissued	
CZ311494 A3	19951018	LSPB	+	published / reissued	
CZ9403114 A3	19951018	LSPB	+	published / reissued	
CZ9601314 A3	19960911	LSPB	+	published / reissued	
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EP0644793 A1	19950329	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19950109
EP0644793 A4	19951025	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 19950906
EP0644793 A4	19960207	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19951220
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EP0644793 B1	19991215	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY LAPSED DATE : 19991215
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EP0644793 B1	20000607	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20000607 YEAR OF FEE PAYMENT : 8
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				TRANSFERRED	OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC.
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FI945792 A	19980109	LSLE	-FD	APPLICATION LAPSED	
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JP9504985 T2	19970520	LSPB	+	published / reissued	
KR19957001834 A	19950517	LSPB	+	published / reissued	
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NL9320036 A	19960801	LSES	BB	A SEARCH REPORT HAS BEEN DRAWN UP	
NL9320036 A	19970203	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED	
NL9420036 A	19961101	LSPB	+	published / reissued	
NL9420036 A	19970701	LSLE	-BV	THE PATENT APPLICATION HAS	

				LAPSED	
NL9420036 A1	19961101	LSPB	+	published / reissued	
NO944765 A	19950127	LSPB	+	published / reissued	
NO961851 A	19960708	LSPB	+	published / reissued	
RU94046246 A	19970210	LSPB	+	published / reissued	
TR28236 A	19960328	LSGT	+	granted / extensions (spc, cpc, pte)	
TR28236 A	20141109	PEXP		Calculated Patent Term Expiry	
US5387342 A	19950207	LSGT	+	granted / extensions (spc, cpc, pte)	
US5387342 A	19931110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TAGGART, CHARLES W., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROGERS, ERNEST E.; COLLIER, KEVIN E.; REEL/FRAME:006769/0552 EFFECTIVE DATE : 19931110
US5387342 A	19950125	LSGT	PAT1	Patented Case	
US5387342 A	19950125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5387342 A	19960102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TAGGART, CHARLES W.; REEL/FRAME:007757/0397 EFFECTIVE DATE : 19951227
US5387342 A	19960212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MADSON & METCALF, UTAH OLDPARTY : SECURITY INTEREST; ASSIGNOR:INTERNATIONAL SEPARATION TECHNOLOGY, INC. (INTR-SEPT); REEL/FRAME:007803/0384 EFFECTIVE DATE : 19960130
US5387342 A	19960216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TAGGART, CHARLES W.; REEL/FRAME:007991/0763 EFFECTIVE DATE : 19951227
US5387342 A	19980806	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5387342 A	20010910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MADSON & METCALF, UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTERNATIONAL SEPARATION TECHNOLOGY, INC.; REEL/FRAME:012134/0880 EFFECTIVE DATE : 19960130
US5387342 A	20020806	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5387342 A	20060807	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5387342 A	20131110	PEXP		Calculated Patent Term Expiry	
US5464536 A	19951107	LSGT	+	granted / extensions (spc, cpc, pte)	
US5464536 A	19920610	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TAGGART, CHARLES W., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:ROGERS, ERNEST; REEL/FRAME:006170/0978 EFFECTIVE DATE : 19920508

US5464536 A	19951026	LSGT	PAT1	Patented Case	
US5464536 A	19951026	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5464536 A	19960102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TAGGART, CHARLES W.; REEL/FRAME:007758/0647 EFFECTIVE DATE : 19951227
US5464536 A	19960212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MADSON & METCALF, UTAH OLDPARTY : SECURITY INTEREST; ASSIGNOR:INTERNATIONAL SEPARATION TECHNOLOGY, INC. (INTR-SEPT); REEL/FRAME:007803/0384 EFFECTIVE DATE : 19960130
US5464536 A	19990507	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5464536 A	20010910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MADSON & METCALF, UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTERNATIONAL SEPARATION TECHNOLOGY, INC.; REEL/FRAME:012134/0880 EFFECTIVE DATE : 19960130
US5464536 A	20030507	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5464536 A	20071023	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5464536 A	20121107	PEXP		Calculated Patent Term Expiry	
US5466385 A	19951114	LSGT	+	granted / extensions (spc, cpc, pte)	
US5466385 A	19951103	LSGT	PAT1	Patented Case	
US5466385 A	19951103	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5466385 A	19960102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TAGGART, CHARLES W.; REEL/FRAME:007756/0005 EFFECTIVE DATE : 19951227
US5466385 A	19990507	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5466385 A	20030507	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5466385 A	20071030	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5466385 A	20150206	PEXP		Calculated Patent Term Expiry	
US5582724 A	19961210	LSGT	+	granted / extensions (spc, cpc, pte)	
US5582724 A	19940603	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TAGGART, CHARLES W., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROGERS, ERNEST E.; COLLIER, KEVIN E.; REEL/FRAME:007044/0098 EFFECTIVE DATE : 19940603
US5582724 A	19960102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL SEPARATION TECHNOLOGY, INC., UTAH OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNOR:TAGGART, CHARLES W.; REEL/FRAME:007758/0639 EFFECTIVE DATE : 19951227
US5582724 A	20000601	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5582724 A	20040610	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5582724 A	20081210	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5582724 A	20090105	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5582724 A	20090105	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5582724 A	20090127	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20081210
US5582724 A	20140603	PEXP		Calculated Patent Term Expiry	
WO9325294 A1	19931223	LSPB	+	published / reissued	
WO9325294 A1	19941209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 945792 COUNTRY OF REF DOCUMENT : FI
WO9325294 A1	19941209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV1994-3114 COUNTRY OF REF DOCUMENT : CZ
WO9325294 A1	19941209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2137790 COUNTRY OF REF DOCUMENT : CA
WO9325294 A1	19941209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 94-01972 COUNTRY OF REF DOCUMENT : RO
WO9325294 A1	19950109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1993916468 COUNTRY OF REF DOCUMENT : EP
WO9325294 A1	19950329	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1993916468 COUNTRY OF REF DOCUMENT : EP
WO9325294 A1	19950330	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9325294 A1	19951018	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV1994-3114 COUNTRY OF REF DOCUMENT : CZ
WO9325294 A1	19980210	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV1994-3114 COUNTRY OF REF DOCUMENT : CZ
WO9325294 A1	19991215	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1993916468 COUNTRY OF REF DOCUMENT : EP
WO9513142 A1	19950518	LSPB	+	published / reissued	
WO9513142 A1	19941026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 94194105.1 COUNTRY OF REF DOCUMENT : CN
WO9513142 A1	19960419	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2174626 COUNTRY OF REF DOCUMENT : CA

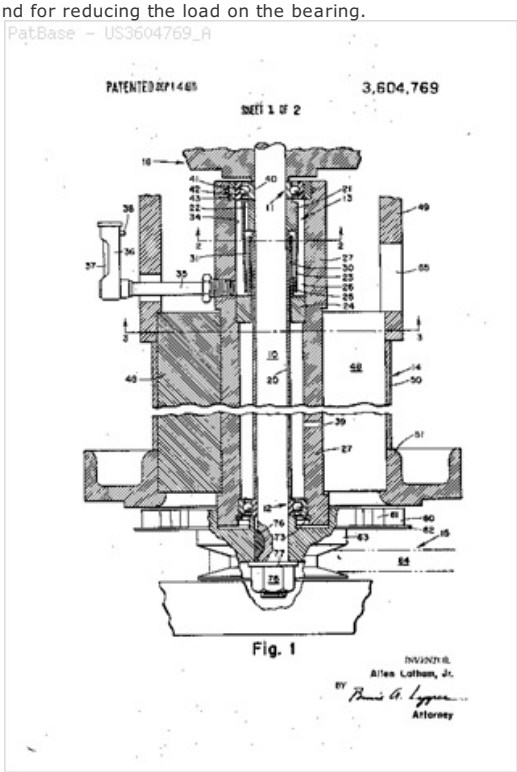
WO9513142 A1	19960506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV1996-1314 COUNTRY OF REF DOCUMENT : CZ
WO9513142 A1	19960509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 961972 COUNTRY OF REF DOCUMENT : FI
WO9513142 A1	19960509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 96-00955 COUNTRY OF REF DOCUMENT : RO
WO9513142 A1	19960521	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1994932043 COUNTRY OF REF DOCUMENT : EP
WO9513142 A1	19960828	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994932043 COUNTRY OF REF DOCUMENT : EP
WO9513142 A1	19960911	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV1996-1314 COUNTRY OF REF DOCUMENT : CZ
WO9513142 A1	19960919	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9513142 A1	19980501	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994932043 COUNTRY OF REF DOCUMENT : EP
WO9513142 A1	20010410	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV1996-1314 COUNTRY OF REF DOCUMENT : CZ
WO9533543 A1	19951214	LSPB	+	published / reissued	
WO9533543 A1	19970327	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9533543 A1	19971022	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO9533543 A1	19980203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA
ZA9408382 A	19950627	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9408382 A	20141024	PEXP		Calculated Patent Term Expiry	
ZA9504562 A	19960125	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9504562 A	20150601	PEXP		Calculated Patent Term Expiry	

19) Family number: 330263 (US3604769A)

Title: TEMPERATURE-CONTROLLED SPINDLE FOR CENTRIFUGES AND SIMILAR APPARATUS

Abstract: 1,273,639. **Centrifugal separators**. CRYOGENIC TECHNOLOGY Inc. 2 Sept., 1969 [23 Sept., 1968], No. 43475/69. Heading B2P. [Also in Divisions Fl and F2] The rotating spindle 10 of a centrifuge mounted in upper and lower bearings 11, 12 is maintained at a constant predetermined temperature by circulating oil by means of a pump 13 in contact with the upper bearing 11 and then in contact with a cooling surface formed by a portion of the inner surface 34 of a heavy-walled tubing 27 which defines an oil chamber 26 around the pump, the tubing 27 being in heat exchange relationship with an extended heat transfer surface 48 which is maintained at the predetermined temperature by circulation of a heat transfer fluid in contact therewith. The pump 13 is constituted by a downwardly tapering extended skirt 23 of a rotor 21 mounted on the spindle and spaced from a stationary sleeve 25 extending upwardly from a ring 24 and defining with the skirt 23 an annular space 31 through which the oil is **centrifugally** pumped and discharged against the bearing 11 via passages 22 in the rotor 21. Oil is introduced in the chamber 26 via a line 35 in fluid communication with an oil level gauge 36. The heat transfer surface 48 is constituted by spaced radial fins attached to or integral with the tubing 27 and mounted at their periphery in housings 49, 51 and a shroud 50. Air acts as the heat transfer fluid and is sucked through ports 65 and through the spaces between the fins 48 by a fan 60 mounted on a pulley 63 fast with the spindle and driven through a belt 64 by a motor. The tubing 27 and the fins 48 are made of aluminium. A ring 43 of elastomeric material provides a flexible mount for the bearing 11 to accommodate any unbalance of the rotating parts and for reducing the load on the bearing.

Classifications:
International (IPC 8-9): B04B15/02 B04B9/00 B04B9/12 (Advanced/Invention); B04B15/00 B04B9/00 (Core/Invention)
International (IPC 1-7): B04B15/02 B04B9/00 F16C33/66 F16C37/00
CPC: B04B9/00 B04B9/12 B04B15/02
European: B04B15/02 B04B9/00 B04B9/12
US: 384/476



Family:

Publication number	Publication date	Application number	Application date
CA919634 A1	19730123	CA19690058711	19690805
DE1943204 A1	19700416	DE19691943204	19690825
FR2018629 A1	19700626	FR19690031004	19690911
GB1273639 A	19720510	GB19690043475	19690902
US3604769 A	19710914	US19680761663	19680923

Priority:
US19680761663 19680923

Probable Assignee: HAEMONETICS A MASSACHUSETTS CORP CORP
Assignee(s): (std): CRYOGENIC TECHNOLOGY INC ; HAEMONETICS CORP
Assignee(s): LATHAM LABS INC ; ALLEN LATHAM JR ; AMERICAN HOSPITAL SPPLY A CORP OF IL CORP ; AMERICAN HOSPITAL SPPLY CORP ; FLEET CREDIT CORP ; FLEET NATIONAL BANK A NATIONAL BANKING ASSOCIATION ; HAEMONETICS A MASSACHUSETTS CORP CORP
Inventor(s): (std): LATHAM ALLEN JR ; JUN ALLEN LATHAM ; LATHAM A JR
Inventor(s): ALLEN LATHAM JR ; JUN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE1943204 A1	19700416	LSPB	+	published / reissued	
DE1943204 A1	19780330	LSRV	-OHW	REJECTION	
FR2018629 A1	19700626	LSPB	+	published / reissued	
FR2018629 A1	19720414	LSAS	TP	TRANSMISSION OF PROPERTY	

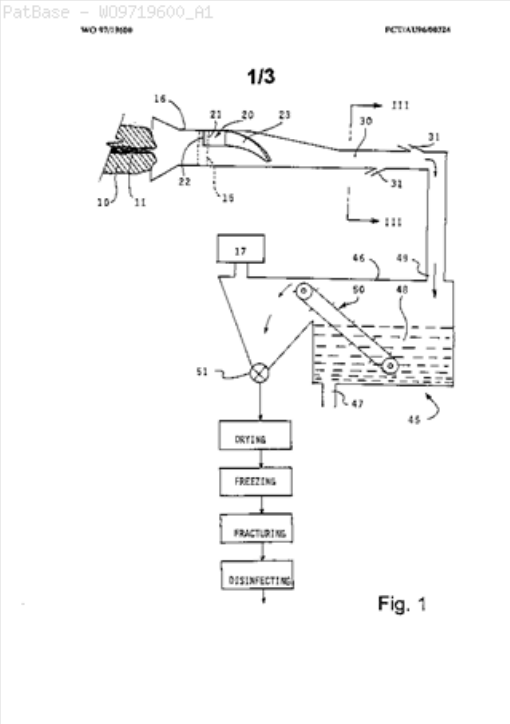
FR2018629 A1	19791123	LSLE	-ST	NOTIFICATION OF LAPSE	
GB1273639 A	19720510	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1273639 A	19720920	LSGT	+PS	PATENT SEALED	
GB1273639 A	19790404	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1273639 A	19890902	PEXP		Calculated Patent Term Expiry	
US3604769 A	19710914	LSGT	+	granted / extensions (spc, cpc, pte)	
US3604769 A	19850621	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:HAEMONETICS CORPORATION, A CORP. OF DE.; REEL/FRAME:004483/0821 EFFECTIVE DATE : 19850514
US3604769 A	19860311	LSAS	AS	ASSIGNMENT	OWNER NAME : FLEET CREDIT CORPORATION DESCRIPTION : SECURITY INTEREST; ASSIGNOR:LATHAM LABS, INC., A CORP. OF MA.; REEL/FRAME:004520/0794
US3604769 A	19860311	LSAS	AS	ASSIGNMENT	OWNER NAME : FLEET NATIONAL BANK, A NATIONAL BANKING ASSOCIATIO DESCRIPTION : SECURITY INTEREST; ASSIGNOR:LATHAM LABS, INC., A CORP. OF MA.; REEL/FRAME:004520/0794
US3604769 A	19860508	LSAS	AS	ASSIGNMENT	OWNER NAME : LATHAM LABS, INC., 400 WOOD ROAD, BRAINTREE, MASSA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN HOSPITAL SUPPLY CORPORATION, A CORP OF IL.; REEL/FRAME:004550/0850 EFFECTIVE DATE : 19851120
US3604769 A	19860508	LSAS	AS	ASSIGNMENT	OWNER NAME : HAEMONETICS CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:LATHAM LABS, INC. (CHANGED TO); REEL/FRAME:004550/0115 EFFECTIVE DATE : 19860423
US3604769 A	19860508	LSAS	AS	ASSIGNMENT	OWNER NAME : HAEMONETICS CORPORATION, MASSACHUSETTS DESCRIPTION : CHANGE OF NAME; ASSIGNOR:LATHAM LABS, INC. (CHANGED TO); REEL/FRAME:004550/0115 EFFECTIVE DATE : 19860423
US3604769 A	19860508	LSAS	AS	ASSIGNMENT	OWNER NAME : LATHAM LABS, INC., MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AMERICAN HOSPITAL SUPPLY CORPORATION, A CORP OF IL.; REEL/FRAME:004550/0850 EFFECTIVE DATE : 19851120
US3604769 A	19860828	LSAS	AS	ASSIGNMENT	OWNER NAME : HAEMONETICS CORPORATION, A MASSACHUSETTS CORP. DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:FLEET NATIONAL BANK; REEL/FRAME:004598/0821 EFFECTIVE DATE : 19860601
US3604769 A	19860828	LSAS	AS	ASSIGNMENT	OWNER NAME : HAEMONETICS CORPORATION, A MASSACHUSETTS CORP.,STA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FLEET NATIONAL BANK; REEL/FRAME:004598/0821 EFFECTIVE DATE : 19860601

20) Family number: 28037281 (WO9719600A1)

Title: PROTEIN SUBSTANCE PRODUCTION FROM EARTHWORMS

Abstract: The method of processing worms for providing or recovering valuable products from the worm bodies (10), includes the steps of exposing the insides of the digestive tracts (11) of the worms along substantially the entire lengths thereof and cleansing the worm bodies to remove ingested matter and/or the exposed digestive tracts. Exposure of the insides of the digestive tracts (11) either comprises eversion of the worm bodies on a pin (61) or splitting each worm body lengthwise so as to open the digestive tract. A slitting **blade** (21) is used to split each worm body longitudinally as it is drawn by a vacuum (17) along a tube (16).

Classifications:
International (IPC 8-9): A01K67/033 A22B5/18 A22B5/20 A22C17/14 A22C17/16 A23J1/00 A23J3/04 B04B5/12 C11B1/00 C11C1/00 (Advanced/Invention);
A01K67/00 A22B5/00 A22C17/00 A23J1/00 A23J3/00 B04B5/00 C11B1/00 C11C1/00 (Core/Invention)
International (IPC 1-7): A01K67/033 A22B5/18 A22B5/20 A22C17/14 A22C17/16 A23J1/00 A23J3/04 B04B5/12 C11B1/00 C11C1/00
CPC: A01K67/0332 A23J1/00
European: A01K67/033B A23J1/00



Family:

Publication number	Publication date	Application number	Application date
AU199539096 A1	19960530	AU19950039096	19951127
AU199657553 A1	19970619	AU19960057553	19960529
AU689340 B2	19980326	AU19950039096	19951127
AU967794 A0	19941222	AU1994PM09677	19941125
NZ522714 A	20030131	NZ20020522714	20021121
WO9719600 A1	19970605	WO1996AU00324	19960529

Priority:

AU1994PM09677 19941125 AU19950039096 19951127 WO1996AU00324 19960529
AU19960057553 19960529 NZ20020522714 20021121

Probable Assignee: EDWARD CHARLES LEWELLIN

Assignee(s): (std): EDWARD CHARLES LEWELLIN ; LEWELLIN EDWARD CHARLES ; LEWELLIN R L ; LEWELLIN RICHARD LAURANCE ; RICHARD LAURANCE LEWELLIN

Assignee(s): LEWELLIN RL

Inventor(s): (std): RICHARD L LEWELLIN ; RICHARD LAURANCE LEWELLIN ; LEWELLIN RICHARD LAURANCE ; LEWELLIN RICHARD L

Agent(s): PATENT ATTORNEY SERVICES

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199539096 A1	19960530	LSPB	+	published / reissued	
AU199657553 A1	19970619	LSPB	+	published / reissued	
AU689340 B2	19980326	LSGT	+	granted / extensions (spc, cpc, pte)	
AU689340 B2	20151127	PEXP		Calculated Patent Term Expiry	

NZ522714 A	20030131	LSPB	+	published / reissued	
NZ522714 A	20030530	LSGT	+PSEA	PATENT SEALED	
WO9719600 A1	19970605	LSPB	+	published / reissued	
WO9719600 A1	19970619	LSRE	CR1	CORRECTION OF ENTRY IN SECTION I	TEXT : PAT.BUL.24/97 UNDER INID (51) "IPC", REPLACE THE EXISTING SYMBOLS BY "A22B 5/18, 5/20, A22C 17/14, 17/16, A23J 1/00, 3/04"
WO9719600 A1	19980904	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 97519993 COUNTRY OF REF DOCUMENT : JP
WO9719600 A1	19980924	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9719600 A1	19990527	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA
WO9719600 A1	20010131	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

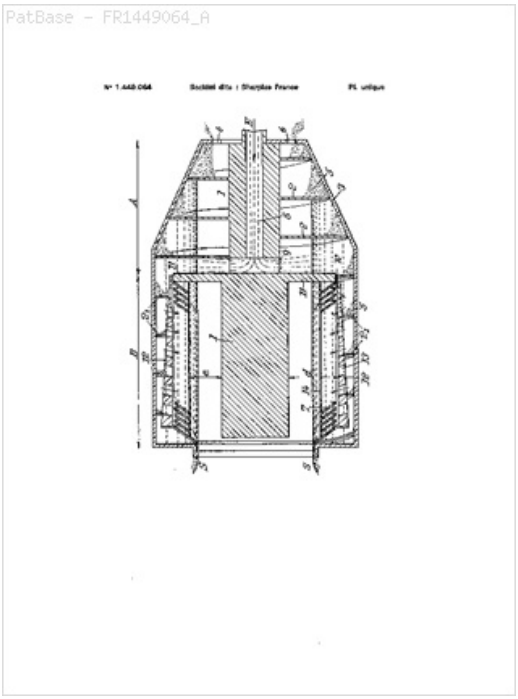
21) Family number: 21619313 (FR1449064A)

Title: PERFECTIONNEMENTS APPORTES AUX APPAREILS CENTRIFUGES, PLUS SPECIALEMENT A VIS D'EXTRACTION IMPROVEMENTS TO DEVICES **Centrifugal**, MORE PARTICULARLY SCREW EXTRACTION (Machine translation)

Abstract: Source: FR1449064A [FR] (Claim 1) 1. On prevoit, du cote de la sortie des appareils du genre en question, la combinaison d'un systeme d'assiettes avec un dispositif filtrant dispose a l'interieur des assiettes, ce dispositif tendant a maintenir les dernieres impuretes pour les envoyer a nouveau vers l'exterieur par effet centrifuge;

Machine translation: (Claim 1) 1. It is expected, the rating of the output devices of the type in question, the combination of a system of plates with a filter device disposed inside the plates, this device oriented to maintain the latest impurities has to be sent back to the outside by **centrifugal**;

Classifications:
International (IPC 8-9): B04B1/20 B04B15/00 (Advanced/Invention); B04B1/00 B04B15/00 (Core/Invention)
International (IPC 1-7): B04B1/20 B04B15/00
CPC: B04B1/20 B04B15/00 B04B2001/2066
European: B04B1/20 B04B15/00 L04B1/20K



Family:

Publication number	Publication date	Application number	Application date
FR1449064 A	19660812	FR19650023312	19650702

Priority:
FR19650023312 19650702

Probable Assignee: SHARPLES FRANCE
Assignee(s): (std)**:** SHARPLES FRANCE

Legal status (INPADOC)

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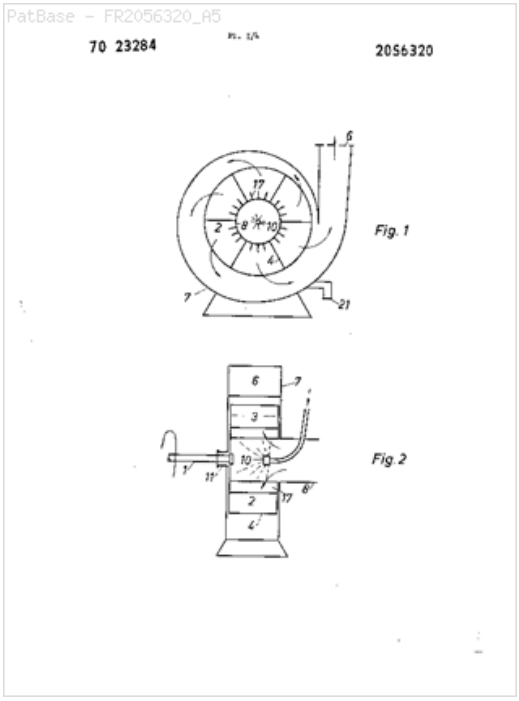
Patent	Date recorded	Event group	Code	Event	Details
FR1449064 A	19660812	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1449064 A	19850702	PEXP		Calculated Patent Term Expiry	

22) Family number: 480323 (GB1315539A)

Title: APPARATUS FOR THE AGGLOMERATION AND PRECIPITATION OF SUBSTANCES IN SUSPENSION IN GASES AND VAPOURS AND OR FOR THE ABSORPTION OF GAS CONSTITUENTS

Abstract: 1315539 **Centrifugal** **separators** G PETERSEN 3 July 1970 [5 July 1969 2 April 1970] 32394/70 Headings B1R and B2P Apparatus for treating suspensions of solid or **liquid** phase material in a gaseous phase to agglomerate and/or separate the solid or **liquid** phase material and/or to absorb the gaseous phase in a **liquid** absorbent comprises a housing, an inlet for feeding to the housing the suspension to be treated, an impeller rotatably mounted in the housing for accelerating the suspension by **centrifugal** force towards the periphery of the housing, an outlet for withdrawal of gaseous phase material from the periphery of the housing and an outlet from the housing for solid or **liquid** phase material deposited against the inside wall of the housing by the **centrifugal** force. The impeller comprises a pair of disc-shaped plates spaced apart from, and parallel with, one another and defining therebetween an impeller space in open communication around its periphery with the interior of the housing. Accelerator vanes are positioned between the plates and extend radially of the impeller space a distance equal to from 10-40 percent of the radius of the said plates. The inlet -feeds incoming suspension centrally of the impeller space along the axis of rotation of the impeller and has a nozzle therein for introducing a **liquid** into the incoming suspension before feeding to the impeller space. In Figs. 1 and 2, a centrifuge rotor comprising a number of chambers 2 delimited by disc-like boundary walls 3 and radial partition walls 4 is mounted on a drive shaft 1 for rotation in a helical housing 7 which is provided with a central inlet 8 for gas containing impurities and an outlet 6 for cleaned gas. **Liquid** is injected into the entering gas through one or more nozzles 10. Accelerator vanes 17, which may be straight and radial, as shown, or inclined forwardly or rearwardly relative to the direction of rotation of the rotor, or which may be curved rearwardly or forwardly, Fig. 3 (not shown), are provided at the inner portion of the chambers 2 and serve to bring the gas and the injected **liquid** to the same peripheral velocity as that of the chambers 2. In the chambers the **liquid** droplets and the impurities are subjected to **centrifugal** acceleration which leads to their agglomeration and precipitation whereby they are deposited in the housing 7 and discharged through a drain 21. In Fig. 4, the rotor has a single chamber with curved partition walls 4, accelerator vanes 17, 12, the vanes 12 having the effect of causing the gas to flow more evenly and without excessive eddying through the chamber 2 and thence into the surrounding helical housing. Other forms of single-chamber rotors are described, Figs. 5 and 6 (not shown). In Fig. 7, the chambers 2, which may be delimited by curved partition walls and which may have curved vanes at their inner and outer peripheries, Fig. 8 (not shown), are provided with wires or filaments 19 to facilitate cleaning of the gases. Instead of the wires or filaments, cylindrical, perforated or **sieve**-like elements are fitted concentrically in the chambers 2, Fig. 9 (not shown). In a further modification, Fig. 10, the chambers 2 are filled with wires or filaments 19 and the gases enter a central inlet 6 tangentially. Accelerator vanes are provided at 17. To further promote rotation of the gases drive **blades** may be provided at the inner gas inlet into the rotor or, as shown at 16, at the outlet therefrom.

Classifications:
International (IPC 8-9): B01D45/14 B01D51/02 (Advanced/Invention); B01D45/12 B01D51/00 (Core/Invention)
International (IPC 1-7): B01D47/00 B01D47/10 B01D47/16 B01D47/18 B01D53/14 B04B5/08
CPC: B01D45/14 B01D51/02
European: B01D45/14 B01D51/02



Family:

Publication number	Publication date	Application number	Application date
CH536130 A	19730430	CH19700008736	19700610
DE1934229 A1	19710128	DE19691934229	19690705
DE1934229 B2	19711028	DE19691934229	19690705
DE2015737 A1	19711021	DE19702015737	19700402
DE2015737 B2	19800925	DE19702015737	19700402
DE2015737 C3	19811015	DE19702015737	19700402
FR2056320 A5	19710514	FR19700023284	19700624
GB1315539 A	19730502	GB19700032394	19700703

Priority:
DE19691934229 19690705 DE19702015737 19700402

Probable Assignee: PETERSEN DR ING GERD

Assignee(s): (std): PETERSEN DR ING GERD ; PETERSEN G ; PETERSEN GERD ; PETERSEN GERD DR ING ; PETERSEN HUGO VERFAHRENSTECH

Assignee(s): HUGO PETERSEN GESELLSCHAFT FUER VERFAHRENSTECHNISCHEN ANLAGENBAU MBH AND CO KG 6200 WIESBADEN ; HUGO PETERSEN GESELLSCHAFT FUER VERFAHRENSTECHNISCHEN ANLAGENBAU MBH AND CO KG 6200 WIESBADEN DE

Inventor(s): (std): GERD PETERSEN DR ING ; DR PETERSEN GERD ING ; PETERSEN GERD DR ING

Inventor(s): ING PETERSEN GERD DR ; PETERSEN GERD DR ING 6200 WIESBADEN DE ; PETERSEN GERD DR ING 6200 WIESBADEN

Legal status (INPADOC)

View legal status timeline

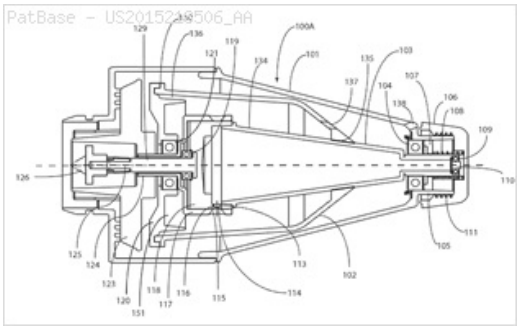
Patent	Date recorded	Event group	Code	Event	Details
CH536130 A	19730430	LSGT	+	granted / extensions (spc, cpc, pte)	
CH536130 A	19870227	LSLE	-PL	PATENT CEASED	
CH536130 A	19900610	PEXP		Calculated Patent Term Expiry	
DE1934229 A1	19710128	LSPB	+	published / reissued	
DE1934229 B2	19711028	LSPB	+	published / reissued	
DE1934229 B2	19781116	LSAS	EGA	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	
DE1934229 B2	19830929	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE2015737 A1	19711021	LSPB	+	published / reissued	
DE2015737 A1	19790201	LSAS	OGA	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	
DE2015737 B2	19800925	LSPB	+	published / reissued	
DE2015737 C3	19811015	LSGT	+	granted / extensions (spc, cpc, pte)	
DE2015737 C3	19811015	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE2015737 C3	19860410	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
FR2056320 A5	19710514	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2056320 A5	19790105	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2056320 A5	19870424	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2056320 A5	19900624	PEXP		Calculated Patent Term Expiry	
GB1315539 A	19730502	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1315539 A	19730912	LSGT	+PS	PATENT SEALED	
GB1315539 A	19870225	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1315539 A	19900703	PEXP		Calculated Patent Term Expiry	

23) Family number: 60004333 (US2015218506A)

Title: ADIPOSE TISSUE CENTRIFUGE AND METHOD OF USE

Abstract: A centrifuge device is provided for the sizing and separation of constituents of a biologic mixture, e.g., adipose tissue. The device provides for the mechanical breaking down of the fibrous structure in the tissue by centrifugation causing the tissue to pass through a mesh element, or a sizing helix, or an extrusion element, whereupon the material is reduced to a slurry. This processed material may then be separated by centrifugation into its constituents, in order to harvest the fraction containing the multipotent cells. These multipotent cells may be utilized for various medical procedures to stimulate healing and tissue regeneration.

Classifications:
International (IPC 8-9): B01D17/038 B01D21/26 B03B5/00 B04B B04B1/02 B04B1/08 B04B11/04 B04B15/00 B04B15/10 B04B3/00 B04B7/12 B04B7/16 C12M1/00 C12M1/26 C12M3/00 C12M3/08 C12N5/077 C12N5/0775 (Advanced/Invention);
B04B3/00 B04B7/12 C12N5/0775 (Advanced/Non-invention);
B04B (Subclass/Invention)
CPC: C12M33/10 C12M47/02 C12M47/04 C12N5/0667 B04B3/00 B04B7/12
US: 1/1 422/533 435/379



Family:

Publication number	Publication date	Application number	Application date
CA2938268 AA	20160728	CA20152938268	20150130
CN106413904 A	20170215	CN201580006701	20150130
CN110064527 A	20190730	CN201910180088	20150130
EP3099416 A1	20161207	EP20150742721	20150130
EP3099416 A4	20180314	EP20150742721	20150130
EP3099416 B1	20190814	EP20150742721	20150130
IL246638 A0	20160831	IL20150246638	20150130
JP2017511748 T2	20170427	JP20160545832T	20150130
JP2019081176 A2	20190530	JP20190042816	20190308
KR20160107345 A	20160913	KR20167023549	20150130
US2015218506 AA	20150806	US20150610613	20150130
US2018230418 AA	20180816	US20180949714	20180410
US10125345 BB	20181113	US20150610613	20150130
WO15117007 A1	20150806	WO2015US13920	20150130

Priority:

US20140934069P 20140131 CN201580006701 20150130 JP20160545832T 20150130
US20150610613 20150130 WO2015US13920 20150130 US20180949714 20180410
JP20190042816 20190308

Probable Assignee: ROYAL DSM NV

Assignee(s): (std): BRADICA GINO ; DSM IP ASSETS BV ; FISHER WILLIAM T ; NASH JOHN E ; ROYAL DSM NV

Inventor(s): (std): FISHER WILLIAM T ; NASH JOHN E ; BRADICA GINO ; JOHN E NASH ; WILLIAM T FISHER ; GINO BRADICA

Agent(s): SMART AND BIGGAR; BOOTSMA JAN PC; DSM INTELLECTUAL PROPERTY; BULL KEVIN M; LINK STEVEN J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2938268 AA	20160728	LSPB	+	published / reissued	
CN106413904 A	20170215	LSPB	+	published / reissued	
CN106413904 A	20170215	LSPB	+C06	PUBLICATION	
CN106413904 A	20170215	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN106413904 A	20191022	LSDW	-AD01	专利权的视为放弃 (Deemed abandonment of patent right)	TEXT : 专利权的视为放弃 (SHALL BE DEEMED TO HAVE WAIVED) EFFECTIVE DATE : 20191022
CN106413904 A	20191022	LSDW	-AD01	PATENT RIGHT DEEMED ABANDONED	
CN110064527 A	20190730	LSPB	+	published / reissued	

CN110064527 A	20190730	LSPB	PB01	PUBLICATION	
EP3099416 A1	20161207	LSPB	+	published / reissued	
EP3099416 A1	20161207	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160812
EP3099416 A4	20180314	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180213
EP3099416 A4	20181024	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180919
EP3099416 A4	20190403	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190307
EP3099416 B1	20190814	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3099416 B1	20190814	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP3099416 B1	20190815	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP3099416 B1	20190815	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1166386 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190815
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EP3099416 B1	20190912	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602015035839 COUNTRY OF REF DOCUMENT : DE
EP3099416 B1	20350130	PEXP		Calculated Patent Term Expiry	
JP2017511748 T2	20170427	LSPB	+	published / reissued	
JP2017511748 T2	20171019	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20171019
JP2017511748 T2	20181211	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20181211
JP2017511748 T2	20190702	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20190702
JP2019081176 A2	20190530	LSPB	+	published / reissued	
JP2019081176 A2	20190308	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190308
JP2019081176 A2	20190320	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20190320
KR20160107345 A	20160913	LSPB	+	published / reissued	
US10125345 BB	20181113	LSGT	+	granted / extensions (spc, cpc, pte)	
US10125345 BB	20150202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DSM IP ASSETS, B.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NASH, JOHN E; FISHER, WILLIAM T; BRADICA, GINO; SIGNING DATES FROM 20141118 TO 20141201; REEL/FRAME:034866/0154

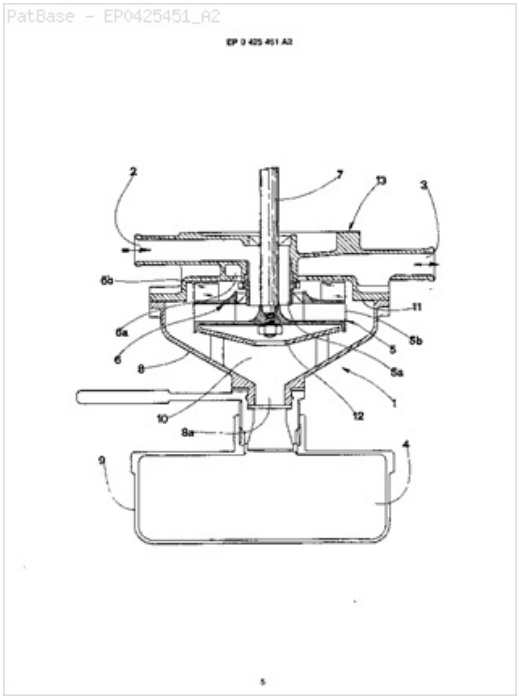
US10125345 BB	20181024	LSGT	PAT1	Patented Case	
US10125345 BB	20350130	PEXP		Calculated Patent Term Expiry	
US2015218506 AA	20150806	LSPB	+	published / reissued	
US2015218506 AA	20151217	LSES	NFA1	Non Final Action Mailed	
US2015218506 AA	20170224	LSES	NFA1	Non Final Action Mailed	
US2015218506 AA	20171115	LSES	NFA1	Non Final Action Mailed	
US2015218506 AA	20180329	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2015218506 AA	20180329	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015218506 AA	20180405	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015218506 AA	20180413	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015218506 AA	20180720	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2015218506 AA	20180723	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015218506 AA	20181024	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018230418 AA	20180816	LSPB	+	published / reissued	
US2018230418 AA	20191002	LSES	NFA1	Non Final Action Mailed	
WO15117007 A1	20150806	LSPB	+	published / reissued	
WO15117007 A1	20160706	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 246638 COUNTRY OF REF DOCUMENT : IL
WO15117007 A1	20160708	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016545832 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO15117007 A1	20160728	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2938268 COUNTRY OF REF DOCUMENT : CA
WO15117007 A1	20160801	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15117007 A1	20160812	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015742721 COUNTRY OF REF DOCUMENT : EP
WO15117007 A1	20160826	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20167023549 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

24) Family number: 2766356 (EP0425451A3)

Title: A **CENTRIFUGAL** **SEPARATOR**, IN PARTICULAR FOR USE IN CONJUNCTION WITH DENTAL EQUIPMENT

Abstract: The invention relates to a **centrifugal** **separator**, in particular for use in conjunction with dental equipment. The **separator** comprises a container (1) equipped with an inlet (2) and an outlet (3), as well as a collecting zone (4) for the separated impurities: said **separator** further comprises the impellers of a first pump (5) and a second pump (6); the **liquid** containing the impurities to be separated is introduced to the container (1) by means of the first pump (5) and exits from the container (1) crossing in centripetal direction the second pump (6) whose intake inlet (6a) is connected to the outlet (3) of the container (1); the **liquid** exits form the container (1) since the discharge head of the first pump (5) is superior to that of the second pump (6), while the impurities are centrifuged towards the internal walls of the container (1) and are collected on the bottom of the container (1) in the collecting zone (4).

Classifications:
International (IPC 8-9): A61C17/14 B04B5/10
B04B5/12 (Advanced/Invention);
A61C17/00 B04B5/00 (Core/Invention)
International (IPC 1-7): A61C17/04 A61C17/14 A61K B04B
B04B5/12
CPC: A61C17/065 B04B5/12
European: A61C17/04C B04B5/12



Family:

Publication number	Publication date	Application number	Application date
EP0425451 A2	19910502	EP19900830454	19901012
EP0425451 A3	19910828	EP19900830454	19901012
IT1236271 A	19930202	IT19890040162	19891027
IT8940162 A0	19891027	IT19890040162	19891027

Priority:
IT19890040162 19891027

Probable Assignee: CATTANI OFF AUGUSTO AND CO
Assignee(s): (std): CATTANI OFF AUGUSTO AND CO ; CATTANI S P A ; CATTANI SPA
Assignee(s): OFFICINE AUGUSTO CATTANI AND C SPA ; AUGUSTO CATTANI AND C OFF SPA
Inventor(s): (std): BOCCHI GIUSEPPE
Designated states: AT BE CH DE ES FR GB GR LI NL

Legal status (INPADOC)

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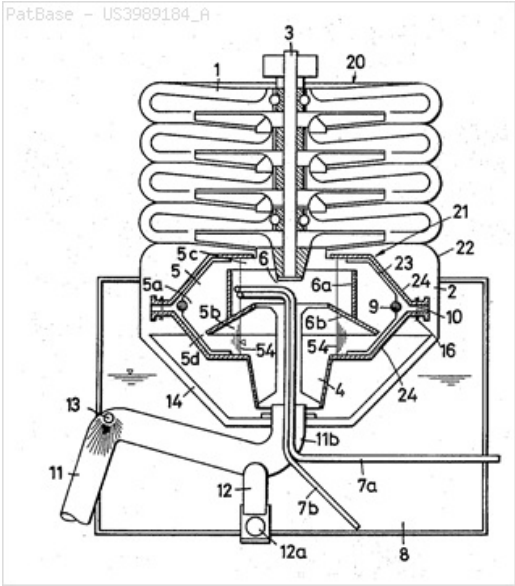
Patent	Date recorded	Event group	Code	Event	Details
EP0425451 A2	19910502	LSPB	+	published / reissued	
EP0425451 A3	19921119	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19920229
IT1236271 A	19930202	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1236271 A	19930202	LSGT	0001	GRANTED	
IT1236271 A	19991027	LSFE	TA	FEE PAYMENT DATE (SITUATION AS OF EVENT DATE), DATA COLLECTED SINCE 19931001	EFFECTIVE DATE : 19961031
IT1236271 A	20091027	PEXP		Calculated Patent Term Expiry	

25) Family number: 18993365 (US3989184A)

Title: Apparatus for collecting and classifying a mixture of solid, gaseous and **liquid** constituents

Abstract: A vacuum cleaner wherein a mobile housing contains a tank for a supply of **liquid** and is connected with a first tube which supplies **liquid** to a brush serving to scrub and wet a surface to be treated. The brush is further connected with or adjacent to the inlet of a hose which sucks **liquid**, together with air and solid constituents, into the housing. Coarse solid constituents are segregated by a perforated belt which allows air, **liquid** and smaller solid particles to enter an upright separating and conveying unit having an air separating device at its lower end, a **liquids**-solids separating centrifuge in the median portion and a multi-stage compressor at its upper end. Air which is separated from **liquid** and solid constituents is drawn into the compressor which discharges such air into the atmosphere. The centrifuge has a stator surrounding a hollow rotor which contains a cylinder and a bottom wall defining a compartment which receives clean **liquid** from above. Solid particles remain in the space below and around the compartment and are evacuated at intervals, preferably in automatic response to reduction of RPM of the motor which drives the compressor. The first tube serves to convey **liquid** from the compartment to the brush and a second tube connects the compartment with the tank to allow **liquid** to flow from the tank into the compartment or vice versa. **Liquid** which flows through the first tube is treated by ultraviolet rays and is heated before it reaches the brush.

Classifications:
International (IPC 8-9): A47L11/30 B01D33/04 B01D37/00 B04B1/04 B04B1/10 (Advanced/Invention);
A47L11/29 B01D33/04 B01D37/00 B04B1/00 (Core/Invention)
International (IPC 1-7): A47L11/30 A47L15/14 A47L15/42 A47L7/00 B01D19/00 B01D43/00 B01D45/12 B01D50/00 B01D57/00 B04B1/00 B04B1/16 B04B15/02 B04B15/08 B04B7/04 B08B3/10 E01H1/10
CPC: A47L11/30 A47L11/4022 B01D33/04 B01D37/00 B04B1/04 B04B1/10
European: A47L11/30 A47L11/40D2D B01D33/04 B01D37/00 B04B1/04 B04B1/10
US: 15/320 15/340.1 15/352 210/400 233/3 422/24 422/28 494/36 494/4 494/43 494/85



Family:

Publication number	Publication date	Application number	Application date
AT323115 B	19750625	AT19730005600	19730626
BE816856 A	19741016	BE19747000537	19740625
CH588883 A	19770615	CH19740008691	19740625
DE2430162 A1	19750116	DE19742430162	19740624
DE2430162 B2	19760108	DE19742430162	19740624
DE2430162 C3	19760805	DE19742430162	19740624
DE7421425 U	19770428	DE19740021425U	19740624
FR2234935 A1	19750124	FR19740022104	19740625
FR2234935 B1	19780428	FR19740022104	19740625
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NL172299 B	19830316	NL19740008612	19740626
NL172299 C	19830816	NL19740008612	19740626
NL7408612 A	19741230	NL19740008612	19740626
SE413988 B	19800707	SE19740008373	19740625
SE413988 C	19801023	SE19740008373	19740625
SE7408373 A	19741227	SE19740008373	19740625
SE7408373 L	19741227	SE19740008373	19740625
US3989184 A	19761102	US19750589066	19750623

Priority:
AT19730005600 19730626 US19750589066 19750623

Probable Assignee: ALBISHAUSEN HARTMUT DT

Assignee(s): (std): ALBISHAUSEN H ; ALBISHAUSEN HARTMUT ; MEIER DORNBERG KARL ERNST ; HARTMUT ALBISHAUSEN TE FRIEDRICHSDORF BONDSREPUBLI

Assignee(s): HARTMUT ALBISHAUSEN TE FRIEDRICHSDORF BONDSREPUBLIEK DUITSLAND ; ALBISHAUSEN HARTMUT 6382 FRIEDRICHSDORF ; ALBISHAUSEN HARTMUT DT ; HARTMUT ALBISHAUSEN

Inventor(s): (std): ALBISHAUSEN H ; MEIER DOERNBERG KARL ERNST DR ; MEIER DORNBERG K E ; MEIER DORNBERG KARL ERNST DR ; MEIER DORNBERG KARL ERNST ; MEIER DOERNBERG KARL ERNST DR ING ; K E MEIER DORNBERG ; H ALBISHAUSEN ; ALBISHAUSEN HARTMUT

Inventor(s): ALBISHAUSEN HARTMUT 6382 FRIEDRICHSDORF

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT323115 B	19750625	LSGT	+	granted / extensions (spc, cpc, pte)	

AT323115 B	19890615	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT323115 B	19930626	PEXP		Calculated Patent Term Expiry	
BE816856 A	19741016	LSPB	+	published / reissued	
BE816856 A	19881231	LSLE	-RE	PATENT LAPSED	PARTYTYPE : OWNER OWNER : ALBISHAUSEN H. EFFECTIVE DATE : 19880630
CH588883 A	19770615	LSGT	+	granted / extensions (spc, cpc, pte)	
CH588883 A	19890228	LSLE	-PL	PATENT CEASED	
CH588883 A	19940625	PEXP		Calculated Patent Term Expiry	
DE2430162 A1	19750116	LSPB	+	published / reissued	
DE2430162 B2	19760108	LSPB	+	published / reissued	
DE2430162 B2	19760805	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE2430162 B2	19900607	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE2430162 C3	19760805	LSGT	+	granted / extensions (spc, cpc, pte)	
DE7421425 U	19770428	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2234935 A1	19750124	LSPB	+	published / reissued	
FR2234935 B1	19780428	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2234935 B1	19890421	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2234935 B1	19940625	PEXP		Calculated Patent Term Expiry	
GB1471227 A	19770421	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1471227 A	19770901	LSGT	+PS	PATENT SEALED	
GB1471227 A	19860226	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1471227 A	19940626	PEXP		Calculated Patent Term Expiry	
NL172299 B	19830316	LSPB	+	published / reissued	
NL172299 B	19940626	PEXP		Calculated Patent Term Expiry	
NL172299 C	19830816	LSGT	+	granted / extensions (spc, cpc, pte)	
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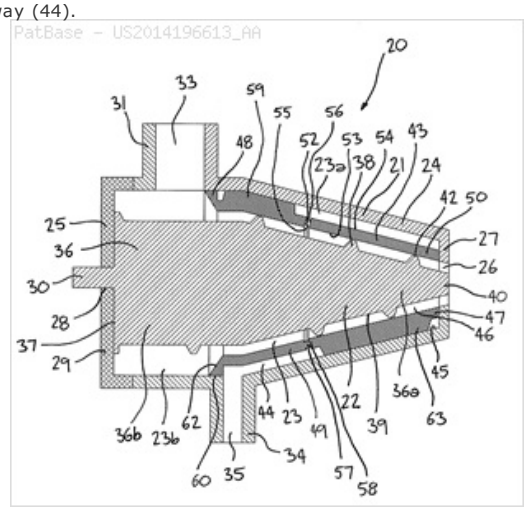
NL172299 C	19940626	PEXP		Calculated Patent Term Expiry	
NL7408612 A	19741230	LSPB	+	published / reissued	
NL7408612 A	19810601	LSES	+BC	A REQUEST FOR EXAMINATION HAS BEEN FILED	
SE413988 B	19800707	LSPB	+	published / reissued	
SE413988 B	19950131	LSLE	-NUG	PATENT HAS LAPSED	TEXT : 7408373-4 EFFECTIVE DATE : 19890721
SE413988 C	19801023	LSGT	+	granted / extensions (spc, cpc, pte)	
SE413988 C	19940625	PEXP		Calculated Patent Term Expiry	
SE7408373 A	19741227	LSPB	+	published / reissued	
US3989184 A	19761102	LSGT	+	granted / extensions (spc, cpc, pte)	

26) Family number: 52789367 (US2014196613A)

Title: MASTICATING **SEPARATOR** FOR SEPARATING FRUIT OR VEGETABLE JUICE FROM FRUIT OR VEGETABLE PULP

Abstract: The present invention relates to a masticating **separator** for separating fruit or vegetable juice from fruit or vegetable pulp. The masticating **separator** comprises a housing (21), an inner wall (43) in the housing (21), an auger (22,71) rotatably mounted in the housing (21), a cavity (46) defined between an outer surface (39,86) of the auger (22,71) and the inner wall (43) to receive pulp and juice, and a juice passageway (44) separated from the cavity (46). An elongate aperture (52) is formed in the inner wall (43) extending between the cavity (46) and the juice passageway (44). Therefore, when the auger (22,71) is rotated about its longitudinal axis to urge pulp and juice along the cavity (46), juice in the cavity (46) is urged to flow through the aperture (52) to the juice passageway (44).

Classifications:
International (IPC 8-9): A23B5/00 A23L1/212 A23L19/00 A23N1/00 A23N1/02 A47J19/00 A47J19/02 A47J19/06 A47J43/14 B02C15/00 B04B5/10 (Advanced/Invention)
CPC: A47J19/027 A23N1/02 A47J19/025 A47J19/06 A47J19/022 A47J19/02
US: 1/1 99/510 99/512



Family:

Publication number	Publication date	Application number	Application date
BR112014000629 A2	20170214	BR20141100629	20120712
BR112015000333 A2	20170627	BR20151100333	20130712
CN103732108 A	20140416	CN201280035032	20120712
CN103732108 B	20160817	CN201280035032	20120712
CN104486977 A	20150401	CN201380036957	20130712
CN104486977 B	20161130	CN201380036957	20130712
DE602012032789 D1	20170713	DE201260032789T	20120712
EP2545818 A1	20130116	EP20110174101	20110715
EP2698083 A1	20140219	EP20120180352	20120814
EP2731472 A1	20140521	EP20120751368	20120712
EP2731472 B1	20170524	EP20120751368	20120712
EP2872014 A2	20150520	EP20130767078	20130712
ID201702357 A	20170317	ID2015P0000145	20130712
IN00524CN2014 A	20141212	IN2014CN00524	20140122
IN00670CN2015 A	20160701	IN2015CN00670	20150203
JP2014518148 T2	20140728	JP20140519682T	20120712
JP2015527115 T2	20150917	JP20150521134T	20130712
JP6030647 B2	20161124	JP20140519682T	20120712
MX2014000610 A1	20140822	MX20140000610	20120712
MX2015000098 A1	20150410	MX20150000098	20130712
RU2014105602 A	20150827	RU20140105602	20120712
RU2015104671 A	20160827	RU20150104671	20130712
RU2594966 C2	20160820	RU20140105602	20120712
RU2630767 C2	20170912	RU20150104671	20130712
TR201711519 T4	20170821	TR20170011519T	20120712
US2014196613 AA	20140717	US20120232786	20120712
US2015201667 AA	20150723	US20130413916	20130712
US9357869 BB	20160607	US20120232786	20120712
WO13011429 A1	20130124	WO2012IB53570	20120712
WO14009924 A2	20140116	WO2013IB55751	20130712
WO14009924 A3	20140515	WO2013IB55751	20130712

Priority:

EP20110174101 20110715 US20110508121P 20110715 EP20120751368 20120712
US20120232786 20120712 WO2012IB53570 20120712 EP20120180352 20120814
EP20130767078 20130712 WO2013IB55751 20130712

Probable Assignee: PHILIPS KONINKLL NV

Assignee(s): (std): CORNELISSEN MARJAN WILLEKE ESTHER ; KONINKL PHILIPS ELECTRONICS NV ; KONINKL PHILIPS NV ; KONINKLEJKE FILIPS N V ; KONINKLEJKE FILIPS NV ; STOLK THEODOOR ; SAUER STEFAN ; PHILIPS KONINKLL NV ; KONINKLJKE PHILIPS N V ; PHILIPS N V KONINKLL

Assignee(s): PHILIPS NV KONINKLL ; KONINKLJKE PHILIPS NV ; KONINKLIJKE PHILIPS ELECTRONICS N.V. ; KONINKLIJKE PHILIPS ELECTRONICS N V ; PHILIPS ELECTRONICS KONINKLL NV

Inventor(s): (std): CORNELISSEN MARJAN WILLEKE ESTHER ; STOLK THEODOOR ; SAUER STEFAN ; THEODOOR STOLK ; MARJAN WILLEKE ESTHER CORNELISSEN ; STEFAN SAUER ; STOLK TEODOR ; ZAUER SHTEFAN ; KORNELISSEN MARYAN VILLEKE ESTER

Agent(s): Damen Daniel Martijn; DAMEN DANIEL MARTIJN; COOPS PETER; IR YT WIDJOJO CS; TUGBA GUENDEMIR; COOPS PETER ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR

CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR112014000629 A2	20180508	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
BR112014000629 A2	20180828	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2470 DE 08-05-2018 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112015000333 A2	20190507	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112015000333 A2	20190827	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2522 DE 07-05-2019 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
CN103732108 A	20140416	LSPB	+	published / reissued	
CN103732108 A	20140416	LSPB	+C06	PUBLICATION	
CN103732108 B	20160817	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103732108 B	20160817	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103732108 B	20320712	PEXP		Calculated Patent Term Expiry	
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CN104486977 A	20150401	LSPB	+C06	PUBLICATION	
CN104486977 A	20150401	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN104486977 A	20161130	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104486977 A	20190705	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
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CN104486977 B	20161130	LSGT	+GR01	授权 (The grant of patent right)	TEXT : 授权 (AUTHORIZATION)
CN104486977 B	20190705	LSLE	-CF01	未缴年费专利权终止 (Termination of patent right due to unpaid annual fee)	TEXT : 专利权的终止 (TERMINATION OF PATENT RIGHT) EFFECTIVE DATE : 20180712

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EP2545818 A1	20130116	LSPB	+	published / reissued	
EP2545818 A1	20130925	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS N.V.
EP2545818 A1	20140115	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130717
EP2698083 A1	20140219	LSPB	+	published / reissued	
EP2698083 A1	20150422	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20140820
EP2731472 A1	20140521	LSPB	+	published / reissued	
EP2731472 A1	20140521	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140217
EP2731472 A1	20160928	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20160830
EP2731472 A1	20170118	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20161222
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EP2731472 B1	20170531	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP2731472 B1	20180418	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
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EP2731472 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170731
EP2731472 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170712
EP2731472 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180726 YEAR OF FEE PAYMENT : 7
EP2731472 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180731 YEAR OF FEE PAYMENT : 7
EP2731472 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180928 YEAR OF FEE PAYMENT : 7
EP2731472 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20120712
EP2731472 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170524
EP2731472 B1	20191031	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : CY

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170524
EP2731472 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20190708 YEAR OF FEE PAYMENT : 8
EP2731472 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190726 YEAR OF FEE PAYMENT : 8
EP2731472 B1	20320712	PEXP		Calculated Patent Term Expiry	
EP2872014 A2	20150520	LSPB	+	published / reissued	
EP2872014 A2	20150520	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150212
EP2872014 A2	20180321	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180219
EP2872014 A2	20180725	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20180615
ID201702357 A	20170317	LSPB	+	published / reissued	
IN00524CN2014 A	20141212	LSPB	+	published / reissued	
IN00670CN2015 A	20160701	LSPB	+	published / reissued	
JP2014518148 T2	20140728	LSPB	+	published / reissued	
JP2014518148 T2	20150708	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150708
JP2014518148 T2	20160425	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160425
JP2014518148 T2	20160627	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160627
JP2014518148 T2	20160915	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014518148 T2	20160921	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160921
JP2014518148 T2	20161027	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20161020
JP2014518148 T2	20161028	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6030647 COUNTRY OF REF DOCUMENT : JP
JP2015527115 T2	20150917	LSPB	+	published / reissued	
JP2015527115 T2	20160708	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523

					EFFECTIVE DATE : 20160708
JP2015527115 T2	20160708	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20160708
JP2015527115 T2	20170508	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170508
JP2015527115 T2	20170807	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170807
JP2015527115 T2	20180206	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180206
JP2015527115 T2	20180821	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20180821
JP2015527115 T2	20181218	LSWD	-A045	WRITTEN MEASURE OF DISMISSAL OF APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A045 EFFECTIVE DATE : 20181218
JP6030647 B2	20161124	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6030647 B2	20160929	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6030647 B2	20161025	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6030647 B2	20161028	LSGT	+R150	特許証 (Patent certificate)	
JP6030647 B2	20320712	PEXP		Calculated Patent Term Expiry	
MX2014000610 A1	20140822	LSPB	+	published / reissued	
MX2015000098 A1	20150410	LSPB	+	published / reissued	
RU2014105602 A	20150827	LSPB	+	published / reissued	
RU2015104671 A	20160827	LSPB	+	published / reissued	
RU2594966 C2	20160820	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2594966 C2	20190522	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	EFFECTIVE DATE : 20180713
RU2594966 C2	20320712	PEXP		Calculated Patent Term Expiry	
RU2630767 C2	20170912	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2630767 C2	20190521	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	EFFECTIVE DATE : 20180713
RU2630767 C2	20330712	PEXP		Calculated Patent Term Expiry	
TR201711519 T4	20170821	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201711519 T4	20320712	PEXP		Calculated Patent Term Expiry	
US2014196613 AA	20140717	LSPB	+	published / reissued	
US2014196613 AA	20160518	LSGT	STCF	INFORMATION	TEXT : PATENTED CASE

				ON STATUS: PATENT GRANT	
US2015201667 AA	20150723	LSPB	+	published / reissued	
US2015201667 AA	20150109	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS N.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SAUER, STEFAN; REEL/FRAME:034674/0653 EFFECTIVE DATE : 20131001
US2015201667 AA	20170619	LSES	ADV1	Advisory Action Mailed	
US2015201667 AA	20171107	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2015201667 AA	20171109	LSES	NFA1	Non Final Action Mailed	
US2015201667 AA	20181213	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US9357869 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9357869 BB	20140114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS N.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SAUER, STEFAN; STOLK, THEODOOR; CORNELISSEN, MARJAN WILLEKE ESTHER; SIGNING DATES FROM 20131121 TO 20131203; REEL/FRAME:031965/0335
US9357869 BB	20151005	LSES	NFA1	Non Final Action Mailed	
US9357869 BB	20160518	LSGT	PAT1	Patented Case	
US9357869 BB	20321030	PEXP		Calculated Patent Term Expiry (PTA 110 days)	
WO13011429 A1	20130124	LSPB	+	published / reissued	
WO13011429 A1	20131230	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012751368 COUNTRY OF REF DOCUMENT : EP
WO13011429 A1	20140110	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014519682 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13011429 A1	20140114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14232786 COUNTRY OF REF DOCUMENT : US
WO13011429 A1	20140115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13011429 A1	20140115	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2014/000610 COUNTRY OF REF DOCUMENT : MX
WO13011429 A1	20140217	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014105602 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13011429 A1	20170214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014000629 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140110

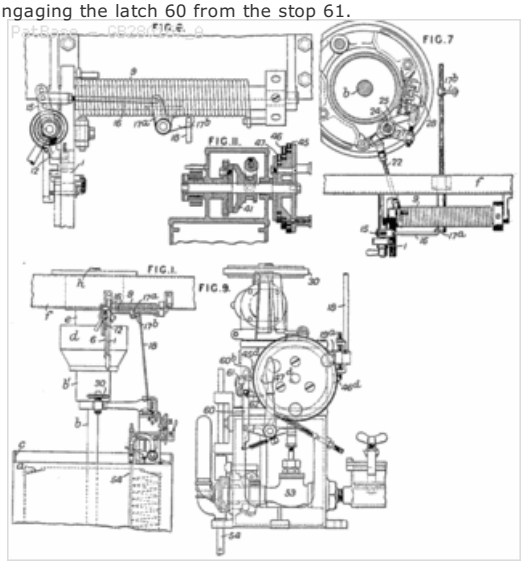
WO14009924 A2	20140116	LSPB	+	published / reissued	
WO14009924 A3	20150107	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015521134 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO14009924 A3	20150107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2015/000098 COUNTRY OF REF DOCUMENT : MX
WO14009924 A3	20150109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14413916 COUNTRY OF REF DOCUMENT : US
WO14009924 A3	20150109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : IDP00201500145 COUNTRY OF REF DOCUMENT : ID
WO14009924 A3	20150114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013767078 COUNTRY OF REF DOCUMENT : EP
WO14009924 A3	20150212	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015104671 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO14009924 A3	20170627	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112015000333 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20150107

27) Family number: 26149378 (GB280167A)

Title: Improvements in **centrifugal** apparatus

Abstract: 280,167. Western States Machine Co., (Assignees of Roberts, E.). Nov. 5, 1926, [Convention date]. Driving treating substances with **liquids**. - In a **centrifugal** machine for the washing and drying of sugar, a starting-device, a spray and an automatic brake are associated with a timemechanism so that the duration of each of the different operations can be varied an d set according to the particular requirements of the case. The machine which is suspended by a hanger e, Fig. 1, secured to beams f, has a shaft b supporting a basket a inside a syrup collecting casing c, and is driven by the overhead shaft h of an electric motor. A brake drum d is secured to an enlarged portion b<1> of the shaft and is engaged by interior brake shoes which are moved outwards into frictional engagement. At starting, the attendant throws the starting lever 1 to low speed position and admits the load of wet sugar into the basket the lever is then moved to the high speed position and the subsequent operations of separation, washing, and drying are controlled by the timing mechanism. Spring-controlled toggle levers control a bolt 6 to hold the lever in its neutral and low speed positions, but it is locked in its high speed position by a latch 12 which is released at the end of the operations when the lever 1 is returned to its neutral position by a spring 9. The timing mechanism, Figs. 9 and 11, is driven from the basket shaft through a friction wheel 30, and has three independently adjustable members one 45 starts the sprayer after a predetermined period of separation, the second 47d stops the sprayer and the third 46d releases the timer clutch after a predetermined period of drying, and also releases the main starting lever 1. To release the arm 1 the timing member 46 engages the arm 19, Fig. 9, which by means of the rod 18, lever 17, 17b, rod 16 and arm 15, Fig. 6, retracts the latch 12. A link 22 connects the arm 1 to a coupling on the brake spindle 24, Fig. 7, which carries a disc 25 supporting the toggle levers which operate the brake. An arm 27 on this spindle is linked to the switch 28 and movement of the arm 1 therefore operates the switch to high speed, low speed, or off position. A manual release for the arm 1 is also provided. The valve 53, Fig. 9, through which washing water is supplied to a reciprocating spray pipe 54 is opened by the engagement of the timing member 45 with a dog 60, and the latch to then engages the stop 61. After the spray has operated for a certain time the valve is closed under spring action by the engagement of the timing member 47 with the finger 62 thereby disengaging the latch 60 from the stop 61.

Classifications:
International (IPC 8-9): B04B15/12 (Advanced/Invention); B04B15/00 (Core/Invention)
International (IPC 1-7): B04B15/12
CPC: B04B15/12
European: B04B15/12



Family:

Publication number	Publication date	Application number	Application date
GB280167 A	19280119	GB19270019170	19270719

Priority:
19261105

Probable Assignee: WESTERN STATES MACHINE CO
Assignee(s): (std): WESTERN STATES MACHINE CO
Assignee(s): THE WESTERN STATES MACHINE COMPANY

Legal status (INPADOC)

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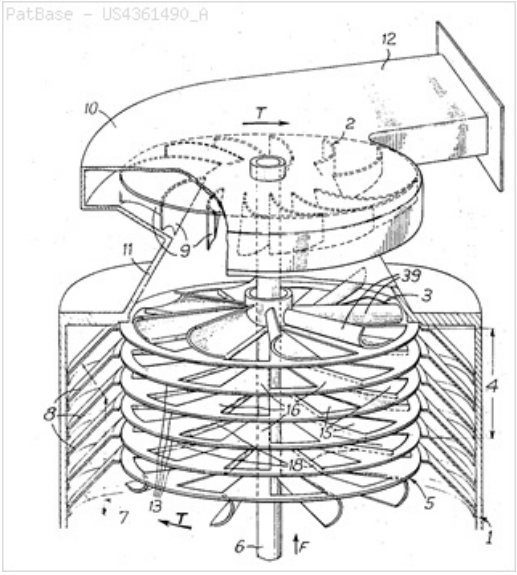
Patent	Date recorded	Event group	Code	Event	Details
GB280167 A	19280119	LSGT	+	granted / extensions (spc, cpc, pte)	
GB280167 A	19470719	PEXP		Calculated Patent Term Expiry	

28) Family number: 1493389 (US4361490A)

Title: Process for **centrifugal** separation and apparatus for carrying it out, applicable to a mixture of phases of any states

Abstract: The invention relates to a process for **centrifugal** separation and to an apparatus for carrying it out, applicable to a mixture of phases of any states, said apparatus comprising, disposed coaxially and moved in rotation in a fixed enclosure, a fan adapted to create a depression upstream, a rotary distributor converting the pressure drop resulting from the action of the fan on the upstream pressure into a speed of rotation of the mixture added in the same direction to the positive speed of rotation of said distributor, and a rotor comprising elements for guiding running streams, trap elements which imprison still layers and pick up heavy particles, elements for conducting these latter.

Classifications:
International (IPC 8-9): B01D21/26 B01D45/12 B04B5/12 (Advanced/Invention); B01D45/12 B04B5/00 (Core/Invention)
International (IPC 1-7): B01D21/26 B01D45/00 B01D45/12 B01D45/14 B04B11/06 B04B15/08 B04B3/00 B04B5/08 B04B5/12 B04B7/00
CPC: B04B5/12 B04B2005/125
European: B04B5/12 L04B5/12B
US: 209/210 209/714 210/378 210/381 210/512.3 210/787 55/401 55/406 55/446 95/270



Family:

Publication number	Publication date	Application number	Application date
BE885933 A	19810430	BE19802058829	19801030
CA1164422 A1	19840327	CA19800363412	19801028
DD153762 A5	19820203	DD19800224877	19801031
DE3039375 A1	19810514	DE19803039375	19801018
DE3039375 C2	19900104	DE19803039375	19801018
ES496475 A0	19820501	ES19800496475	19801031
ES8204619 A1	19820501	ES19800496475	19801031
FR2468410 A1	19810508	FR19790027079	19791031
FR2468410 B1	19850621	FR19790027079	19791031
GB2061136 A1	19810513	GB19800033521	19801017
GB2061136 B2	19830407	GB19800033521	19801017
IT1129354 A	19860604	IT19800068661	19801030
IT8068661 A0	19801030	IT19800068661	19801030
JP56073565 A2	19810618	JP19800152383	19801031
LU82875 A	19810604	LU19800082875	19801021
NL8005910 A	19810601	NL19800005910	19801028
PT71957 A	19801101	PT19800071957	19801023
PT71957 B	19811013	PT19800071957	19801023
SU1228777 D	19860430	SU19802999107	19801030
US4361490 A	19821130	US19800199863	19801023
US4478718 A	19841023	US19820405745	19820804

Priority:
FR19790027079 19791031 US19800199863 19801023 CA19800363412 19801028

Probable Assignee: PIERRE SAGET TE PARIJS
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Assignee(s): SAGET PIERRE HENRI LAURENT PARIS FR ; SAGET PIERRE FR ; PER SAZHE FR ; PIERRE SAGET ; PIERRE SAGET TE PARIJS
Inventor(s): (std): SAGET P ; PIEERU SAJIE ; SAGET PIERRE HENRI LAURENT ; SAZHE PER ; SAGET PIERRE
Inventor(s): SAGET PIERRE FR ; PER SAZHE FR ; PIERRE SAGET ; SAGET PIERRE HENRI LAURENT PARIS FR ; LAURENT SAGET PIERRE HENRI
Agent(s): GOWLING LAFLEUR HENDERSON LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BE885933 A	19810430	LSPB	+	published / reissued	
BE885933 A	19950430	LSLE	-RE	PATENT LAPSED	PARTYTYPE : OWNER OWNER : SAGET PIERRE EFFECTIVE DATE : 19941031

DD153762 A5	19820203	LSGT	+	granted / extensions (spc, cpc, pte)	
DD153762 A5	19970717	LSLE	-ENJ	CEASED DUE TO NON-PAYMENT OF RENEWAL FEE	
DD153762 A5	19981031	PEXP		Calculated Patent Term Expiry	
DE3039375 A1	19810514	LSPB	+	published / reissued	
DE3039375 A1	19871217	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE3039375 C2	19900104	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3039375 C2	19900104	LSGT	+D2	GRANT AFTER EXAMINATION	
DE3039375 C2	19900628	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3039375 C2	19951005	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
ES8204619 A1	19820501	LSGT	+	granted / extensions (spc, cpc, pte)	
ES8204619 A1	20020501	PEXP		Calculated Patent Term Expiry	
FR2468410 A1	19810508	LSPB	+	published / reissued	
FR2468410 A1	19850419	LSLI	CL	CONCESSION TO GRANT LICENCES	
FR2468410 B1	19850621	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2468410 B1	19930716	LSLI	CL	CONCESSION TO GRANT LICENCES	
FR2468410 B1	19930716	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2468410 B1	19950825	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2468410 B1	19991031	PEXP		Calculated Patent Term Expiry	
GB2061136 A1	19810513	LSPB	+	published / reissued	
GB2061136 B2	19830407	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2061136 B2	19950614	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 19941017
GB2061136 B2	20001017	PEXP		Calculated Patent Term Expiry	
IT1129354 A	19860604	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1129354 A	20001030	PEXP		Calculated Patent Term Expiry	
JP56073565 A2	19810618	LSPB	+	published / reissued	
LU82875 A	19810604	LSGT	+	granted / extensions (spc, cpc, pte)	
LU82875 A	20001022	PEXP		Calculated Patent Term Expiry	
NL8005910 A	19810601	LSPB	+	published / reissued	
NL8005910 A	19871201	LSES	+BA	A REQUEST FOR SEARCH OR AN INTERNATIONAL-TYPE SEARCH HAS BEEN FILED	
NL8005910 A	19880104	LSES	BB	A SEARCH REPORT HAS BEEN DRAWN UP	
NL8005910 A	19880502	LSES	+BC	A REQUEST FOR EXAMINATION HAS BEEN FILED	
NL8005910 A	19950601	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED	
PT71957 A	19801101	LSPB	+	published / reissued	
PT71957 B	19811013	LSGT	+	granted / extensions (spc, cpc, pte)	
PT71957 B	20001023	PEXP		Calculated Patent Term Expiry	
US4361490 A	19821130	LSGT	+	granted / extensions (spc, cpc, pte)	
US4361490 A	19821130	LSGT	PAT1	Patented Case	

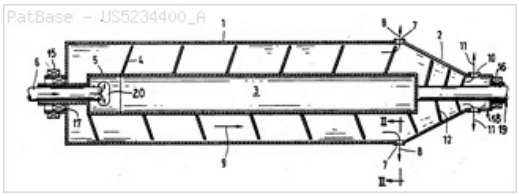
US4361490 A	19821130	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4478718 A	19841023	LSGT	+	granted / extensions (spc, cpc, pte)	
US4478718 A	19840823	LSGT	PAT1	Patented Case	
US4478718 A	19880321	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4478718 A	19920417	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4478718 A	19961020	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4478718 A	19961231	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19961023
US4478718 A	20180122	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4478718 A	20180122	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

29) Family number: 14922395 (US5234400A)

Title: METHOD AND APPARATUS FOR THE SEPARATION, PARTICULARLY CLASSIFICATION OF A SOLIDS/**LIQUID** MIXTURE

Abstract: A method and an apparatus for **centrifugally** separating and classifying a **liquid** slurry into a solids heavy phase and a light phase fraction with a rotary mounted **centrifugal** drum having a cylindrical section extending from a first end and completed by a conical section extending toward a second end, a rotary auger within the drum moving slurry from the first to the second end, a slurry inlet at the first end; outlet nozzles extending at an oblique angle opposite the rotational direction of the drum in the cylindrical section for discharge of the heavy phase material, and light phase openings at the second end in the conical section close to the drum axis.

Classifications:
International (IPC 8-9): B04B1/20 (Advanced/Invention); B04B1/00 (Core/Invention)
International (IPC 1-7): B04B1/00 B04B1/12 B04B1/20 B04B11/02 B04B5/00
CPC: B04B1/20
European: B04B1/20
US: 494/53 494/54



Family:

Publication number	Publication date	Application number	Application date
BRPI9201747 A	19930105	BR1992PI01747	19920508
DE4115347 A1	19921112	DE19914115347	19910510
DE4115347 C2	19990722	DE19914115347	19910510
GB2255519 A1	19921111	GB19920009162	19920428
GB2255519 B2	19950517	GB19920009162	19920428
GB9209162 A0	19920610	GB19920009162	19920428
US5234400 A	19930810	US19920881432	19920511

Priority:

DE19914115347 19910510

Probable Assignee: KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): (std): BAKER HUGHES DE GMBH ; KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): KLOECKNER HUMBOLDT DEUTZ AKTIENGESELLSCHAFT ; KLOECKNER HUMBOLDT DEUTZ AG 5000 KOELN DE ; BAKER HUGHES DEUTSCHLAND GMBH 29221 CELLE DE ; BAKER HUGHES GMBH

Inventor(s): (std): KLUGE REINHARD

Inventor(s): REINHARD KLUGE ; KLUGE REINHARD 5060 BERGISCH GLADBACH DE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BRPI9201747 A	19930105	LSPB	+	published / reissued	
BRPI9201747 A	19950207	LSES	+EE	REQUEST FOR EXAMINATION	
BRPI9201747 A	19970304	LSGT	+FF	DECISION: INTENTION TO GRANT	
BRPI9201747 A	19971021	LSAS	TC	CHANGE OF PROPRIETOR'S NAME	
BRPI9201747 A	19971021	LSAS	TE	CHANGE OF ADDRESS	
BRPI9201747 A	19980526	LSGT	+FG9A	PATENT OR CERTIFICATE OF ADDITION GRANTED	
BRPI9201747 A	20110309	LSFE	B24C	PATENT ANNUAL FEE: REQUEST FOR FOR RESTORATION	TEXT : REFERENTE A 13A,14A,15A,16A,17A,18A E 19A ANUIDADES
BRPI9201747 A	20140826	LSLE	-B24H	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI)	
DE4115347 A1	19921112	LSPB	+	published / reissued	
DE4115347 A1	19950928	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE4115347 A1	19971002	LSAS	8127	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	PARTYTYPE : OWNER OWNER : DEUTZ AG, 51063 KOELN, DE
DE4115347 A1	19990204	LSAS	8127	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	PARTYTYPE : OWNER OWNER : BAKER HUGHES (DEUTSCHLAND) GMBH, 29221 CELLE, DE
DE4115347 C2	19990722	LSGT	+	granted / extensions (spc, cpc, pte)	

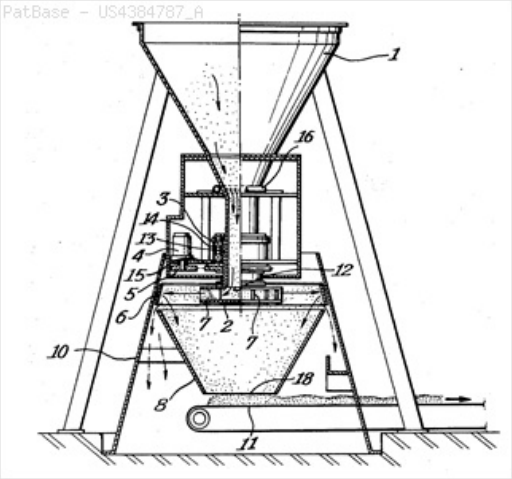
DE4115347 C2	19990722	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4115347 C2	20000120	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4115347 C2	20110510	LSLE	-R071	EXPIRY OF RIGHT	
DE4115347 C2	20110510	PEXP		Calculated Patent Term Expiry	
GB2255519 A1	19921111	LSPB	+	published / reissued	
GB2255519 B2	19950517	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2255519 B2	20041215	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20040428
GB2255519 B2	20120428	PEXP		Calculated Patent Term Expiry	
US5234400 A	19930810	LSGT	+	granted / extensions (spc, cpc, pte)	
US5234400 A	19920625	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KLOECKNER-HUMBOLDT-DEUTZ AG, A GERMAN CORP. OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:KLUGE, REINHARD; REEL/FRAME:006152/0475 EFFECTIVE DATE : 19920527
US5234400 A	19970116	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5234400 A	19990611	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BAKER HUGHES (DEUTSCHLAND) GMBH, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DEUTZ AG; REEL/FRAME:010007/0741 EFFECTIVE DATE : 19990119
US5234400 A	20010205	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5234400 A	20050810	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5234400 A	20050907	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5234400 A	20050907	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5234400 A	20051004	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20050810
US5234400 A	20120511	PEXP		Calculated Patent Term Expiry	

30) Family number: 2399400 (US4384787A)

Title: Method and apparatus for adjusting the quantity of **liquid** deposited on fine granular materials and method of preparing mortar or concrete

Abstract: The quantity of water on the surface of sand particles is reduced by applying an impact force, e.g. **centrifugal** force created by a rotating disc. The sand particles thus treated are especially suitable for preparing a green concrete compound or a cement mortar by mixing them with water, gravel and cement.

Classifications:
International (IPC 8-9): B01D43/00 B01F15/00 B01F7/08 B01J8/16 B03B5/28 B03B5/32 B07B13/10 B28C5/00 B28C5/08 B28C5/14 B28C5/34 B28C7/00 B28C7/04 B28C7/12 B28C9/02 C04B14/06 C04B20/10 C04B28/00 C04B40/00 C04B7/38 E04G21/02 F26B17/24 F26B5/00 F26B5/08 (Advanced/Invention);
B01D43/00 B01F15/00 B01F7/02 B01J8/16 B03B5/28 B28C5/00 B28C7/00 B28C9/00 C04B20/00 C04B40/00 C04B7/00 F26B17/00 F26B5/00 (Core/Invention)
International (IPC 1-7): B01D43/00 B01F7/08 B01J8/16 B03B1/00 B04B1/00 B28C1/08 B28C5/00 B28C5/14 B28C5/24 B28C7/00 B28C7/12 B28C9/02 C04B13/00 C04B14/06 C04B31/02 C04B31/40 C04B7/38 E04G21/02 F26B17/24 F26B5/00 F26B5/08
CPC: B01D43/00 B01J8/16 B28C5/08 B28C5/34 B28C7/12 B28C9/02 C04B20/1055 C04B40/006 F26B5/00 F26B17/24 B28C5/14 B28C7/0007 C04B20/02
European: B01D43/00 B01J8/16 B28C5/08 B28C5/14 B28C5/34 B28C7/00A B28C7/12 B28C9/02 C04B20/02 C04B20/10F C04B40/00D7 F26B17/24 F26B5/00
US: 210/405 210/787 210/801 366/1 366/153.3 366/155 366/155.1 366/157.1 366/172.1 366/181.3 366/40 366/6 366/65



Family:

Publication number	Publication date	Application number	Application date
CA1168523 A1	19840605	CA19800349232	19800403
CA1185541 A1	19850416	CA19800449087	19800403
CA1185541 A2	19850416	CA19840449087	19840307
CH649225 A	19850515	CH19800001994	19800313
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FR2457165 A1	19801219	FR19800005558	19800312
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IT1129748 A	19860611	IT19800020570	19800313
IT8020570 A0	19800313	IT19800020570	19800313
JP1180221 C3	19831209	JP19790115410	19790908
JP1389070 C3	19870714	JP19790028266	19790313
JP1389079 C3	19870714	JP19790147628	19791116
JP1515312 C3	19890824	JP19790080807	19790628
JP1647885 C3	19920313	JP19790126587	19791001
JP2062366 B4	19901225	JP19790126587	19791001
JP55121374 A2	19800918	JP19790028266	19790313
JP56007970 A2	19810127	JP19790080807	19790628
JP56040425 A2	19810416	JP19790115410	19790908
JP56051317 A2	19810508	JP19790126587	19791001
JP56062534 A2	19810528	JP19790138645	19791029
JP56073518 A2	19810618	JP19790147628	19791116
JP58008330 B4	19830215	JP19790115410	19790908
JP61057050 B4	19861205	JP19790028266	19790313
JP61057051 B4	19861205	JP19790147628	19791116
JP62012643 A2	19870121	JP19860175769	19860728
JP62053466 B4	19871110	JP19860175769	19860728
JP62091253 A2	19870425	JP19860173829	19860725
JP63040564 B4	19880811	JP19860173829	19860725
JP63045850 B4	19880912	JP19790080807	19790628
NL8001500 A	19800916	NL19800001500	19800313
US4384787 A	19830524	US19800134210	19800326
US4566799 A	19860128	US19850717593	19850401

Priority:

JP19790028266 19790313 JP19790080807 19790628 JP19790115410 19790908
JP19790126587 19791001 JP19790138645 19791029 JP19790147628 19791116
GB19800008468 19800313 US19800134210 19800326 CA19800349232 19800403
CA19800449087 19800403 US19830468294 19830222 JP19860173829 19860725
JP19860175769 19860728

Probable Assignee: TAISEI CORP

Assignee(s): (std): ITO Y ; ITO YASURO ; TAISEI CORP ; YASURO ITO EN TAISEI CORP ; ITO YASURO TAISEI CORP

Assignee(s): YASURO ITO ; YASURO ITO EN TAISEI TE TOKIO CORP ; YAMAMOTO YASUHIRO ; HIGUCHI YOSHIRO

Inventor(s): (std): ITO YASURO ; HIGUCHI YOSHIRO ; YAMAMOTO YASUHIRO ; ITOU YASUROU ; HIGUCHI YOSHIROU

Inventor(s): YASURO ITO YOSHIRO HIGUCHI ET YASUHIRO YAMAMOTO ; YASURO ITO ; YASUHIRO YAMAMOTO ;

	YOSHIRO HIGUCHI
Agent(s):	BORDEN LADNER GERVAIS LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA1185541 A2	19850416	LSGT	+	granted / extensions (spc, cpc, pte)	
CH649225 A	19850515	LSGT	+	granted / extensions (spc, cpc, pte)	
CH649225 A	19881130	LSLE	-PL	PATENT CEASED	
CH649225 A	20000313	PEXP		Calculated Patent Term Expiry	
DE3009332 A1	19801002	LSPB	+	published / reissued	
DE3009332 A1	19830915	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE3009332 A1	19890316	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
FR2457165 A1	19801219	LSPB	+	published / reissued	
FR2457165 B1	19841109	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2457165 B1	19890127	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2457165 B1	20000312	PEXP		Calculated Patent Term Expiry	
FR2457166 A1	19801219	LSPB	+	published / reissued	
FR2457166 B1	19870626	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2457166 B1	19890127	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2457166 B1	20000813	PEXP		Calculated Patent Term Expiry	
GB2048446 A1	19801210	LSPB	+	published / reissued	
GB2048446 B2	19830615	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2048446 B2	19881116	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB2048446 B2	20000313	PEXP		Calculated Patent Term Expiry	
GB2111659 A1	19830706	LSPB	+	published / reissued	
GB2111659 A1	19840201	LSGT	+PG	PATENT GRANTED	
GB2111659 B2	19840201	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2111659 B2	20021026	PEXP		Calculated Patent Term Expiry	
IT1129748 A	19860611	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1129748 A	20000313	PEXP		Calculated Patent Term Expiry	
JP1180221 C3	19831209	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1389070 C3	19870714	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1389079 C3	19870714	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1515312 C3	19890824	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1647885 C3	19920313	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1647885 C3	19991001	PEXP		Calculated Patent Term Expiry	
JP2062366 B4	19901225	LSPB	+	published / reissued	
JP55121374 A2	19800918	LSPB	+	published / reissued	
JP56007970 A2	19810127	LSPB	+	published / reissued	
JP56040425 A2	19810416	LSPB	+	published / reissued	
JP56051317 A2	19810508	LSPB	+	published / reissued	

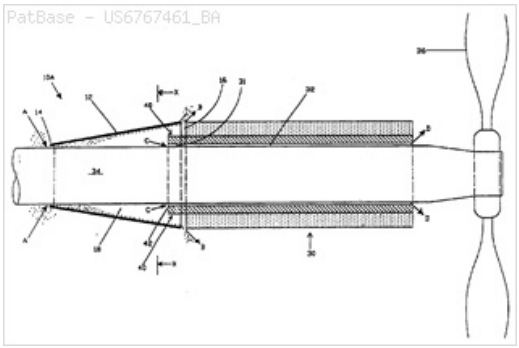
JP56062534 A2	19810528	LSPB	+	published / reissued	
JP56073518 A2	19810618	LSPB	+	published / reissued	
JP58008330 B4	19830215	LSPB	+	published / reissued	
JP61057050 B4	19861205	LSPB	+	published / reissued	
JP61057051 B4	19861205	LSPB	+	published / reissued	
JP62012643 A2	19870121	LSPB	+	published / reissued	
JP62053466 B4	19871110	LSPB	+	published / reissued	
JP62091253 A2	19870425	LSPB	+	published / reissued	
JP63040564 B4	19880811	LSPB	+	published / reissued	
JP63045850 B4	19880912	LSPB	+	published / reissued	
NL8001500 A	19800916	LSPB	+	published / reissued	
US4384787 A	19830524	LSGT	+	granted / extensions (spc, cpc, pte)	
US4384787 A	19830324	LSGT	PAT1	Patented Case	
US4384787 A	19830324	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4566799 A	19860128	LSGT	+	granted / extensions (spc, cpc, pte)	
US4566799 A	19900128	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4566799 A	19900128	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4566799 A	19900128	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4566799 A	19900417	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19900128

31) Family number: 30909415 (US6767461B)

Title: **SEPARATOR**

Abstract: A **separator** for separating particles entrained in a fluid is disclosed. The **separator** includes a sleeve adapted to be mounted over a rotatable shaft for forming a cavity therebetween, an inlet to the cavity, an outlet to the cavity and means for imparting a **centrifugal** force on fluid within the cavity. The means for imparting the **centrifugal** force is operatively connected to the shaft so that, in use, spinning of the shaft creates the **centrifugal** force. In use, a slurry of fluid and particles enters the cavity through the inlet, the particles are caused to separate from the fluid by action of the **centrifugal** force, and the separated particles and fluid leave the cavity via the outlet with the particles tending to be closer to the sleeve than the shaft.

Classifications:
International (IPC 8-9): B01D21/26 B04B1/12 B63H23/32 B63H23/34 (Advanced/Invention);
B01D21/26 B04B1/00 B63H23/00 (Core/Invention)
International (IPC 1-7): B01D21/26 B04B1/12 B63H23/32 B63H23/34 B63H5/10
CPC: B01D21/267 B63H23/326
European: B01D21/26 B63H23/32B8
US: 210/295 210/304 210/512.3 384/398 440/82 494/53 494/54 494/56 494/58



Family:

Publication number	Publication date	Application number	Application date
AU200032654 A1	20001009	AU20000032654	20000324
AU200032654 A5	20001009	AU20000032654D	20000324
AU430699 A0	19991223	AU1999PQ04306	19991126
AU776396 B2	20040909	AU20000032654	20000324
AU941999 A0	19990415	AU1999PP09419	19990324
BRPI0009271 A	20011226	BR2000PI09271	20000324
CA2367305 AA	20000928	CA20002367305	20000324
EP1173268 A1	20020123	EP20000910436	20000324
EP1173268 A4	20030102	EP20000910436	20000324
JP2002539916 T2	20021126	JP20000606317T	20000324
US6767461 BA	20040727	US20010937307	20010924
WO0056420 A1	20000928	WO2000AU00248	20000324

Priority:

AU1999PP09419 19990324 AU1999PQ04306 19991126 AU20000032654 20000324 WO2000AU00248 20000324

Probable Assignee: ENVIRONMENTAL SEPARATION TECHNOLOGIES PTY LTD

Assignee(s): (std): ENVIRONMENTAL SEPARATION TECHN ; ENVIRONMENTAL SEPARATION TECHNOLOGIES PTY LTD ; QUICKWATER PTY LTD ; CAULFIELD R

Assignee(s): CAULFIELD RICHARD ; E NV

Inventor(s): (std): CAULFIELD RICHARD ; R CAULFIELD ; CAULFIELD R

Inventor(s): RICHARD CAULFIELD

Agent(s): ROHAN WALLACE PATENT AND TRADE; RIDOUT AND MAYBEE LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU200032654 A1	20001009	LSPB	+	published / reissued	
AU430699 A0	20001207	LSAP	NAA1	APPLICATION DESIGNATING AUSTRALIA AND CLAIMING PRIORITY FROM AUSTRALIAN DOCUMENT	REF DOCUMENT NUMBER : 3265400 COUNTRY OF REF DOCUMENT : AU
AU776396 B2	20040909	LSGT	+	granted / extensions (spc, cpc, pte)	
AU776396 B2	20200324	PEXP		Calculated Patent Term Expiry	
AU941999 A0	20001207	LSAP	NAA1	APPLICATION DESIGNATING AUSTRALIA AND CLAIMING PRIORITY FROM AUSTRALIAN DOCUMENT	REF DOCUMENT NUMBER : 3265400 COUNTRY OF REF DOCUMENT : AU
BRPI0009271 A	20011226	LSPB	+	published / reissued	
BRPI0009271 A	20081014	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL	TEXT : REFERENTE A 6A,7A E 8A ANUIDADES.

				PROPERTY LAW	
BRPI0009271 A	20090811	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO PUBLICADO NA RPI 1971 DE 14/10/2008.
CA2367305 AA	20000928	LSPB	+	published / reissued	
CA2367305 AA	20060324	LSLE	-FZDE	DEAD	
EP1173268 A1	20020123	LSPB	+	published / reissued	
EP1173268 A1	20020123	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20011024
EP1173268 A4	20030102	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20021112
EP1173268 A4	20040128	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20031216
EP1173268 A4	20090506	LSRV	-18R	APPLICATION REFUSED	EFFECTIVE DATE : 20081126
JP2002539916 T2	20021126	LSPB	+	published / reissued	
US6767461 BA	20040727	LSGT	+	granted / extensions (spc, cpc, pte)	
US6767461 BA	20010924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENVIRONMENTAL SEPARATION TECHNOLOGIES PTY LTD, AUS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CAULFIELD, RICHARD; REEL/FRAME:012292/0045 EFFECTIVE DATE : 20010920
US6767461 BA	20080104	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6767461 BA	20120727	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6767461 BA	20120827	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6767461 BA	20120827	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6767461 BA	20120918	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120727
US6767461 BA	20210924	PEXP		Calculated Patent Term Expiry	
WO0056420 A1	20000928	LSPB	+	published / reissued	
WO0056420 A1	20010921	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 606317 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0056420 A1	20010924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2367305 COUNTRY OF REF DOCUMENT : CA
WO0056420 A1	20010924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2367305 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0056420 A1	20010924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09937307 COUNTRY OF REF DOCUMENT : US
WO0056420 A1	20011023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 32654/00 COUNTRY OF REF DOCUMENT : AU
WO0056420 A1	20011024	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL	REF DOCUMENT NUMBER : 2000910436

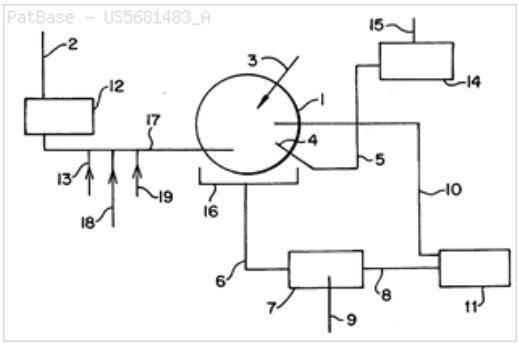
				PHASE	COUNTRY OF REF DOCUMENT : EP
WO0056420 A1	20020123	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000910436 COUNTRY OF REF DOCUMENT : EP
WO0056420 A1	20020124	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0056420 A1	20041223	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 32654/00 COUNTRY OF REF DOCUMENT : AU

32) Family number: 10621418 (US5681483A)

Title: Process for the treatment of oily suspensions

Abstract: A process is provided for the treatment of suspensions comprised of oil, water and solids in which the suspension is subjected to centrifugation employing a **centrifugal** filter, coated with an organic powder having an index of compressibility comprised between 0 and 1.2, and wherein under the effect of the centrifugation, the suspension is subjected to an acceleration comprised between 10 and 2500 times the gravity force, that is, 100 to 25000 m/s2. The solids are retained by the coating and the centrifugate is collected. The invention is useful for the treatment of crude oil, of lubricants and oils which produce suspensions or emulsions rich in fats.

Classifications:
International (IPC 8-9): B01D17/03 B01D17/035 B01D37/02 B01D39/04 B04B3/00 B04B5/10 (Advanced/Invention); B01D33/11 (Advanced/Non-invention); B01D17/02 B01D37/00 B01D39/02 B04B3/00 B04B5/00 (Core/Invention); B01D33/06 (Core/Non-invention)
International (IPC 1-7): B01D17/035 B01D21/26 B01D37/02 B01D39/04 B01D43/00 B04B1/20 B04B3/00 B04B5/10 B04B7/16 C09K3/32 C10G31/10 C10L1/00 C10L5/00 C10M175/00 C10M175/04 C11B3/16
CPC: B01D33/11 B01D37/02 B01D39/04
European: B01D37/02 B01D39/04 L01D33/11
US: 210/380.1 210/396 210/402 210/407 210/777 210/787



Family:

Publication number	Publication date	Application number	Application date
EP0679423 A1	19951102	EP19950400948	19950426
FR2719240 A1	19951103	FR19940005263	19940429
FR2719240 B1	19960607	FR19940005263	19940429
JP8038942 A2	19960213	JP19950106022	19950428
MA23532 A1	19951231	MA19950023864	19950425
OA10147 A	19961218	OA19950060649	19950428
US5681483 A	19971028	US19950429945	19950427

Priority:
FR19940005263 19940429

Probable Assignee: ELF ANTAR FRANCE

Assignee(s): (std): ELF ANTAR FRANCE ; INST FRANCAIS DU PETROL ; INST FRANCAIS DU PETROLE

Assignee(s): ELF ANTAALE FR ; INSTITUT FRANCAIS PETROLE ; INSTITUT FRANCAIS DU PETROLE ; FRANCAIS PETROLE INST ; ELF ANTAR FRANCE TOUR ELF 2 PLACE DE LA COUPOLE LA ; FRANCAIS DU PETROLE INST

Inventor(s): (std): FRANCOIS PIERRE NAVARRE ; ALAIN FRAUX ; BERNARD BOSSAND ; BERUNARUDO BOSAAN ; FURANSOWAAPIEERU NABARE ; AREN FUROO ; BERNARD BOSSHND ; BOSSAND BERNARD MICHEL ; NAVAREE FRANCOIS PIERRE ; FRAUX ALAIN ; BOSSAND BERNARD ; NAVARRE FRANCOIS PIERRE

Agent(s): KAWAGUCHI YOSHIO

Designated states: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP0679423 A1	19951102	LSPB	+	published / reissued	
EP0679423 A1	19951102	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19950502
EP0679423 A1	19970723	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19970610
EP0679423 A1	19980617	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19971223
FR2719240 A1	19951103	LSPB	+	published / reissued	
FR2719240 B1	19960607	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2719240 B1	19970124	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2719240 B1	19970613	LSRE	+D3	DECISION TO REVOKE THE DECISION OF LAPSE	
FR2719240 B1	19990205	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2719240 B1	20140429	PEXP		Calculated Patent	

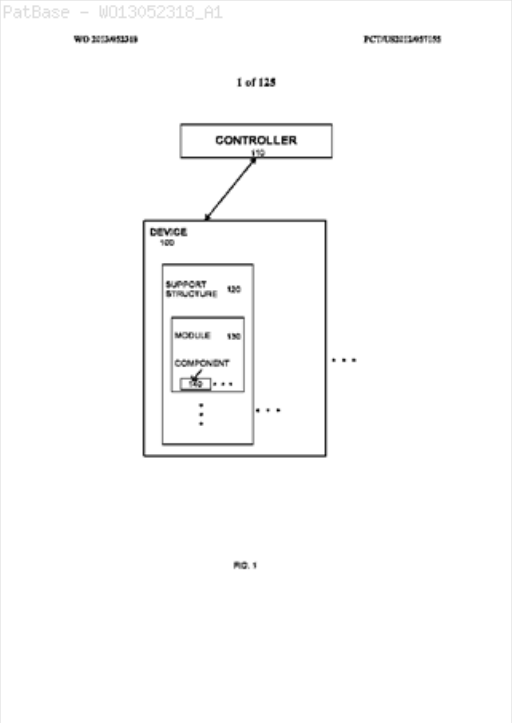
				Term Expiry	
JP8038942 A2	19960213	LSPB	+	published / reissued	
MA23532 A1	19951231	LSPB	+	published / reissued	
MA23532 A1	20150425	PEXP		Calculated Patent Term Expiry	
OA10147 A	19961218	LSGT	+	granted / extensions (spc, cpc, pte)	
OA10147 A	20150428	PEXP		Calculated Patent Term Expiry	
US5681483 A	19971028	LSGT	+	granted / extensions (spc, cpc, pte)	
US5681483 A	19950619	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ELF ANTAR FRANCE, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NAVAREE, FRANCOIS-PIERRE; FRAUX, ALAIN; BOSSAND, BERNARD; REEL/FRAME:007546/0328; SIGNING DATES FROM 19950428 TO 19950510
US5681483 A	19950619	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INSTITUT FRANCAIS DU PETROLE, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NAVAREE, FRANCOIS-PIERRE; FRAUX, ALAIN; BOSSAND, BERNARD; REEL/FRAME:007546/0328; SIGNING DATES FROM 19950428 TO 19950510
US5681483 A	20011029	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5681483 A	20011204	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5681483 A	20011204	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5681483 A	20020101	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20011028
US5681483 A	20150427	PEXP		Calculated Patent Term Expiry	

33) Family number: 66393424 (WO13052318A1)

Title: SYSTEMS AND METHODS FOR MULTI-ANALYSIS

Abstract: Systems and methods are provided for sample processing. A device may be provided, capable of receiving the sample, and performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing multiple assays. The device may comprise one or more modules that may be capable of performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing the steps using a small volume of sample.

Classifications:
International (IPC 8-9): A61B A61B5/00 A61B6/00 B04B7/00 C12M C12M1/00 C12M1/34 C12Q1/00 G01N G01N1/28 G01N33/50 G01N35/00 G01N35/10 G02B26/00 G02F1/00 (Advanced/Invention);
B01L3/00 (Advanced/Non-invention);
G01N35/00 (Core/Invention);
A61B C12M G01N (Subclass/Invention)
CPC: G01N35/1065 G01N35/00 G01N2035/00326 G01N2035/1051



Family:

Publication number	Publication date	Application number	Application date
AU2012318963 AA	20130523	AU20120318963	20120925
AU2012318963 BB	20160211	AU20120318963	20120925
AU2018201076 AA	20180308	AU20180201076	20180214
BR112014007073 A2	20170411	BR20141107073	20120925
CA2849104 AA	20140318	CA20122849104	20120925
CN103946364 A	20140723	CN201280057640	20120925
CN103946364 B	20180424	CN201280057640	20120925
EP2758510 A1	20140730	EP20120838242	20120925
EP2758510 A4	20150506	EP20120838242	20120925
HK1200186 A1	20150731	HK20150100659	20150121
HK1200186 B	20190712	HK20150100659	20150121
IL231639 A0	20140528	IL20140231639	20140320
JP2014530358 T2	20141117	JP20140532098T	20120925
KR20140082756 A	20140702	KR20147011324	20120925
MX2014002991 A1	20140730	MX20140002991	20120925
MX344792 B	20170106	MX20140002991	20120925
NZ622186 A	20160226	NZ20120622186	20120925
RU2014109864 A	20151027	RU20140109864	20120925
RU2627927 C2	20170814	RU20140109864	20120925
SG11201400832S A1	20140428	SG20141100832	20120925
WO13052318 A1	20130411	WO2012US57155	20120925

Priority:

WO2011US53188 20110925 WO2011US53189 20110925 US20110244836 20110926
US20110244947 20110926 US20110244946 20110926 WO2012US57155 20120925
AU20130205139 20130413 AU20160202045 20160401 AU20180201076 20180214

Probable Assignee: THERANOS INC

Assignee(s): (std): BALWANI SUNNY ; FRANKOVICH JOHN KENT ; FRENZEL GARY ; HOLMES ELIZABETH ; THERANOS INC ; ROY JOY ; TERANOS INK

Assignee(s): THERANOS IP CO LLC

Inventor(s): (std): BALVONI SANNI ; FRENZEL GERI ; ROJ DZHOJ ; FRANKOVICH DZHON KENT ; KHOLMS ELIZABET ; FRENZEL GARY G ; HOLMES ELIZABETH E ; FRANKOVICH JOHN KENT JK ; BALWANI SUNNY S ; ROY JOY J ; GARY FRENZEL ; JOY ROY ; ELIZABETH HOLMES ; SUNNY BALWANI ; JHON KENT FRANKOVICH ; HOLMES ELIZABETH ; FRENZEL GARY ; BALWANI SUNNY ; FRANKOVICH JOHN KENT ; ROY JOY

Agent(s): SPRUSON AND FERGUSON; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; COLE WILLIAM GWYN; SHANGHAI INTELLECTUAL PROPERTY OFFICE; KIM ELAINE A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2012318963 AA	20130523	LSPB	+	published / reissued	
AU2012318963 BB	20160211	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012318963 BB	20160609	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012318963 BB	20180830	LSAS	PC	ASSIGNMENT REGISTERED	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC OLDPARTY : FORMER OWNER(S): THERANOS, INC.
AU2012318963 BB	20320925	PEXP		Calculated Patent Term Expiry	
AU2018201076 AA	20180308	LSPB	+	published / reissued	
AU2018201076 AA	20180531	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC OLDPARTY : FORMER APPLICANT(S): THERANOS, INC.
AU2018201076 AA	20190418	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
BR112014007073 A2	20180529	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC (US)
BR112014007073 A2	20190424	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
CA2849104 AA	20140318	LSPB	+	published / reissued	
CA2849104 AA	20170928	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20170921
CN103946364 A	20140723	LSPB	+	published / reissued	
CN103946364 A	20140723	LSPB	+C06	PUBLICATION	
CN103946364 A	20180209	LSAS	TA01	TRANSFER OF PATENT APPLICATION RIGHT	
CN103946364 B	20180424	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103946364 B	20180424	LSGT	+GR01	PATENT GRANT	
CN103946364 B	20320925	PEXP		Calculated Patent Term Expiry	
EP2758510 A1	20140730	LSPB	+	published / reissued	
EP2758510 A1	20140730	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140320
EP2758510 A1	20150211	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS, INC.
EP2758510 A4	20150506	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20150409
EP2758510 A4	20180124	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS, INC.
EP2758510 A4	20181017	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC
EP2758510 A4	20190529	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190430
HK1200186 A1	20150731	LSPB	+	published / reissued	

HK1200186 A1	20350121	PEXP		Calculated Patent Term Expiry	
HK1200186 B	20190712	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1200186 B	20350121	PEXP		Calculated Patent Term Expiry	
JP2014530358 T2	20141117	LSPB	+	published / reissued	
JP2014530358 T2	20150908	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150908
JP2014530358 T2	20150908	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150908
JP2014530358 T2	20160719	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160719
JP2014530358 T2	20170119	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170119
JP2014530358 T2	20170622	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170622
JP2014530358 T2	20171222	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20171222
JP2014530358 T2	20180111	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20180111
JP2014530358 T2	20180119	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	TEXT : JAPANESE INTERMEDIATE CODE: A711 EFFECTIVE DATE : 20180119
JP2014530358 T2	20180206	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20180119
KR20140082756 A	20140702	LSPB	+	published / reissued	
KR20140082756 A	20170922	LSES	A201	REQUEST FOR EXAMINATION	
KR20140082756 A	20190227	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
MX2014002991 A1	20140730	LSPB	+	published / reissued	
MX2014002991 A1	20170106	LSGT	+FG	GRANT OR REGISTRATION	
MX344792 B	20170106	LSGT	+	granted / extensions (spc, cpc, pte)	
MX344792 B	20320925	PEXP		Calculated Patent Term Expiry	
NZ622186 A	20160226	LSPB	+	published / reissued	
NZ622186 A	20160527	LSGT	+PSEA	PATENT SEALED	
NZ622186 A	20160729	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 25 SEP 2017 BY SPRUSON + FERGUSON EFFECTIVE DATE : 20160627
NZ622186 A	20170825	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 25 SEP 2018 BY DENNEMEYER + CO EFFECTIVE DATE :

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NZ622186 A	20180831	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 25 SEP 2019 BY DENNEMEYER + CO EFFECTIVE DATE : 20180822
NZ622186 A	20190927	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 25 SEP 2020 BY CPA GLOBAL EFFECTIVE DATE : 20190905
RU2014109864 A	20151027	LSPB	+	published / reissued	
RU2627927 C2	20170814	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2627927 C2	20190118	LSAS	PD4A	CORRECTION OF NAME OF PATENT OWNER	
RU2627927 C2	20190219	LSLI	PC41	OFFICIAL REGISTRATION OF THE TRANSFER OF EXCLUSIVE RIGHT	EFFECTIVE DATE : 20190219
RU2627927 C2	20320925	PEXP		Calculated Patent Term Expiry	
SG11201400832S A1	20140428	LSPB	+	published / reissued	
WO13052318 A1	20130411	LSPB	+	published / reissued	
WO13052318 A1	20130523	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012318963 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20120925 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13052318 A1	20140313	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2014/002991 COUNTRY OF REF DOCUMENT : MX
WO13052318 A1	20140318	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2849104 COUNTRY OF REF DOCUMENT : CA
WO13052318 A1	20140320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 231639 COUNTRY OF REF DOCUMENT : IL
WO13052318 A1	20140320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012838242 COUNTRY OF REF DOCUMENT : EP
WO13052318 A1	20140324	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014532098 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13052318 A1	20140325	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13052318 A1	20140425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014109864 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13052318 A1	20140425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20147011324 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

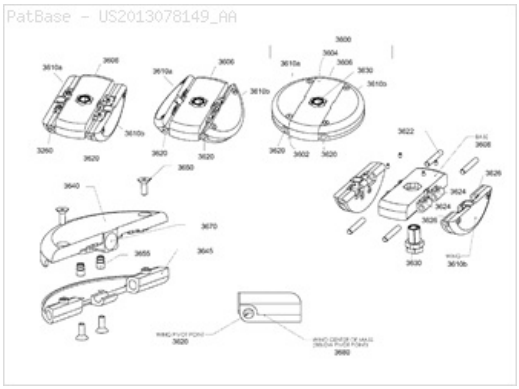
WO13052318 A1	20170411	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014007073 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140325

34) Family number: 66393440 (US2013078149A)

Title: CENTRIFUGE CONFIGURATIONS

Abstract: Systems and methods are provided for sample processing. A device may be provided, capable of receiving the sample, and performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing multiple assays. The device may comprise one or more modules that may be capable of performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing the steps using a small volume of sample.

Classifications:
International (IPC 8-9): B04B13/00 B04B5/04 B04B7/08 B04B9/00 B04B9/04 G01N21/75 G01N9/30 (Advanced/Invention)
CPC: B04B5/0414 B04B9/04 B04B5/0421 B04B7/08
US: 422/415 422/72 494/16 494/20 494/33 494/34 494/43 494/60 494/63 494/80 494/84 494/9



Family:

Publication number	Publication date	Application number	Application date
US2013078149 AA	20130328	US20110244954	20110926
US8840838 BB	20140923	US20110244954	20110926

Priority:
WO2011US53188 20110925 US20110244954 20110926

Probable Assignee: THERANOS INC
Assignee(s): (std): FRANKOVICH JOHN KENT ; HOLMES ELIZABETH ; THERANOS INC ; THERANOS INC A DELAWARE CORP
Assignee(s): THERANOS IP CO LLC ; FORTRESS CREDIT CORP
Inventor(s): (std): FRANKOVICH JOHN KENT ; HOLMES ELIZABETH

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2013078149 AA	20130328	LSPB	+	published / reissued	
US2013078149 AA	20140903	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8840838 BB	20140923	LSGT	+	granted / extensions (spc, cpc, pte)	
US8840838 BB	20120607	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HOLMES, ELIZABETH A.; FRANKOVICH, JOHN KENT; SIGNING DATES FROM 20120504 TO 20120507; REEL/FRAME:028337/0875
US8840838 BB	20140903	LSGT	PAT1	Patented Case	
US8840838 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US8840838 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US8840838 BB	20171212	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT

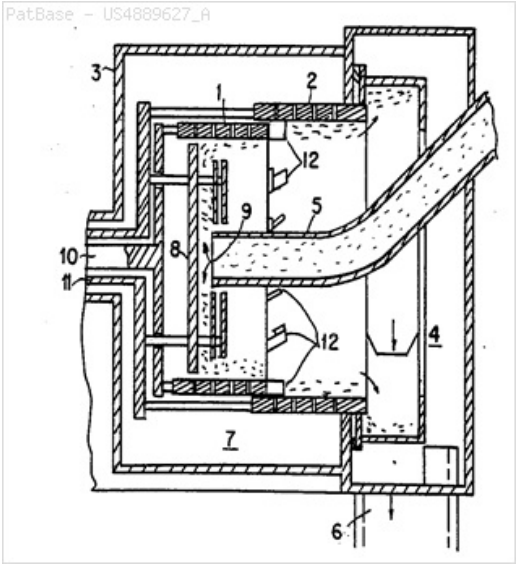
					CODE: BIG.)
US8840838 BB	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045101/0315 EFFECTIVE DATE : 20171211
US8840838 BB	20180313	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8840838 BB	20310927	PEXP		Calculated Patent Term Expiry (PTA 1 days)	

35) Family number: 4257440 (US4889627A)

Title: Pusher centrifuge

Abstract: In a pusher centrifuge comprising substantially cylindrical **sieve** or straining drums which simultaneously rotate but also oscillate relative to one another, and a pusher bottom or base, the pusher edge of at least one **sieve** or straining drum is provided with inclined surfaces which impart in the transverse or circumferential direction a motive component to the centrifuging or solid material transported in the axial direction. By virtue of the thus generated shearing effect, the compacted solid material cake is torn open or disintegrated during the forward feed and the dewatering performance is improved.

Classifications:
International (IPC 8-9): B04B3/02 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B01D33/10 B04B1/00 B04B3/02 B04B5/02 F26B5/08
CPC: B04B3/02
European: B04B3/02
US: 210/360.2 210/367 210/374 210/376



Family:

Publication number	Publication date	Application number	Application date
BRPI8900818 A	19891017	BR1989PI00818	19890223
CH675374 A	19900928	CH19880000834	19880307
CN1017407 B	19920715	CN19891001210	19890307
CN1036714 A	19891101	CN19891001210	19890307
DE3810565 C1	19890713	DE19883810565	19880329
DE58903062 D1	19930204	DE19895003062	19890210
EP0331924 A2	19890913	EP19890102291	19890210
EP0331924 A3	19900321	EP19890102291	19890210
EP0331924 B1	19921223	EP19890102291	19890210
ES2037888 T3	19930701	ES19890102291T	19890210
IN173102 A	19940212	IN1989MA00139	19890221
JP1274856 A2	19891102	JP19890053075	19890307
JP1898586 C3	19950123	JP19890053075	19890307
JP6024648 B4	19940406	JP19890053075	19890307
US4889627 A	19891226	US19890314195	19890223

Priority:
CH19880000834 19880307 IN1989MA00139 19890221

Probable Assignee: ESCHER WYSS AG

Assignee(s): (std): ESCHER WYSS AG ; ESCHER WYSS GMBH ; SULZEDR ESCHER WYSS AG

Assignee(s): SULZER ESCHER WYSS AG ; SULZER ESCHER WYSS GMBH 7980 RAVENSBURG DE ; SULZER ESCHER WYSS AG ZUERICH CH

Inventor(s): (std): HOPPE BERND ; BERND HOPPE ; BERND ; HOPPE ; BERUNTO HOTSUPE

Inventor(s): HOPPE BERND WEININGEN CH ; HOPPE BERND CH 8104 WEININGEN CH

Designated states: BE DE ES FR GB IT NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BRPI8900818 A	19891017	LSPB	+	published / reissued	
BRPI8900818 A	20091215	LSLE	-B21A	EXPIRY ACC. ART. 78, ITEM I OF IPL- EXPIRY OF THE TERM OF PROTECTION	TEXT : PATENTE EXTINTA EM 23/02/2004
CH675374 A	19900928	LSGT	+	granted / extensions (spc, cpc, pte)	
CH675374 A	19961115	LSLE	-PL	PATENT CEASED	
CH675374 A	20080307	PEXP		Calculated Patent Term Expiry	
CN1017407 B	19920715	LSPB	+	published / reissued	

CN1017407 B	19930421	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1017407 B	19970423	LSLE	-C19	LAPSE OF PATENT RIGHT DUE TO NON-PAYMENT OF THE ANNUAL FEE	
CN1036714 A	19891101	LSPB	+	published / reissued	
CN1036714 A	19891101	LSPB	+C06	PUBLICATION	
DE3810565 C1	19890713	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3810565 C1	19890713	LSPB	+8100	PUBLICATION OF THE EXAMINED APPLICATION WITHOUT PUBLICATION OF UNEXAMINED APPLICATION	
DE3810565 C1	19890713	LSGT	+D1	GRANT (NO UNEXAMINED APPLICATION PUBLISHED) PATENT LAW 81	
DE3810565 C1	19900111	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3810565 C1	19960307	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE58903062 D1	19940127	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE58903062 D1	19970213	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0331924 A2	19890913	LSPB	+	published / reissued	
EP0331924 A2	19890913	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19890210
EP0331924 A3	19910403	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19910214
EP0331924 B1	19921223	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0331924 B1	19930701	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2037888 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0331924 B1	19931215	LSGT	+26N	NO OPPOSITION FILED	
EP0331924 B1	19950116	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 19950116 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950116	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 19950116 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950119	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 19950119 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950120	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 19950120 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950123	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 19950123 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	REF COUNTRY CODE : EP TEXT : 89102291.5
EP0331924 B1	19950217	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 19950217 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19950228	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	DOCUMENT : NL PAYMENT DATE : 19950228 YEAR OF FEE PAYMENT : 7
EP0331924 B1	19960210	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB LAPSED DATE : 19960210
EP0331924 B1	19960211	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19960211
EP0331924 B1	19960212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19960212
EP0331924 B1	19960228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE LAPSED DATE : 19960228
EP0331924 B1	19960831	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : SULZER - ESCHER WYSS A.G. EFFECTIVE DATE : 19960228
EP0331924 B1	19960901	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL LAPSED DATE : 19960901
EP0331924 B1	19961002	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19960210
EP0331924 B1	19961031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR LAPSED DATE : 19961031
EP0331924 B1	19961101	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19960901
EP0331924 B1	19961101	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE LAPSED DATE : 19961101
EP0331924 B1	19961227	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0331924 B1	19990516	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 19990405
EP0331924 B1	20050210	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050210
EP0331924 B1	20090210	PEXP		Calculated Patent Term Expiry	
ES2037888 T3	19930701	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2037888 T3	19930701	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 331924 COUNTRY OF REF DOCUMENT : ES
ES2037888 T3	20090210	PEXP		Calculated Patent Term Expiry	
IN173102 A	19940212	LSPB	+	published / reissued	
JP1274856 A2	19891102	LSPB	+	published / reissued	
JP1898586 C3	19950123	LSGT	+	granted / extensions (spc,	

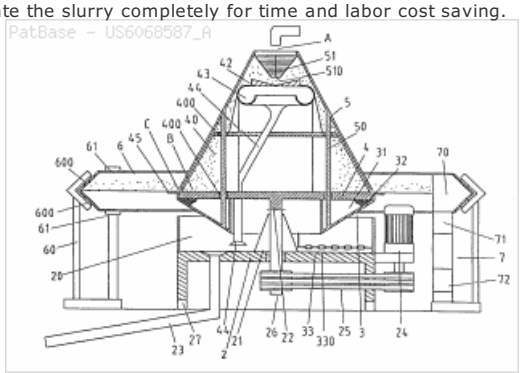
				cpc, pte)	
JP1898586 C3	20090307	PEXP		Calculated Patent Term Expiry	
JP6024648 B4	19940406	LSPB	+	published / reissued	
US4889627 A	19891226	LSGT	+	granted / extensions (spc, cpc, pte)	
US4889627 A	19890223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SULZER-ESCHER WYSS AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:HOPPE, BERND; REEL/FRAME:005049/0081 EFFECTIVE DATE : 19890220
US4889627 A	19891024	LSGT	PAT1	Patented Case	
US4889627 A	19930308	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4889627 A	19971228	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4889627 A	19980310	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19971231
US4889627 A	20180129	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4889627 A	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

36) Family number: 12276448 (US6068587A)

Title: **Centrifugal** **separator** for separating solids and **liquids** in a slurry

Abstract: A **centrifugal** **separator** for separating solid from **liquid** comprises a stand, a lower cover, a leaf-**blade** base, an upper cover, a fender wall, and a scrape assembly. The **centrifugal** force produced by high-speed rotation of the upper and the lower cover enables a plurality of steel beads to create a squeezing force that is used to balance the pressure exerted on the upper cover by the thrown residue B. By foregoing organization, control of the squeezed pressure as well as thrown quantity of the residue which escapes from the gap C between the upper and the lower cover is possible. Moreover, the separated water will be drained via a drainpipe in order to separate the slurry completely for time and labor cost saving.

Classifications:
International (IPC 8-9): B04B1/04 B04B1/14 B04B11/06 B04B7/02 (Advanced/Invention);
B04B1/00 B04B11/00 B04B7/00 (Core/Invention)
International (IPC 1-7): B04B1/04 B04B11/04 B04B7/04
CPC: B04B1/04 B04B1/14 B04B7/02 B04B11/06
European: B04B1/04 B04B1/14 B04B11/06 B04B7/02
US: 494/48 494/60 494/67 494/79



Family:

Publication number	Publication date	Application number	Application date
US6068587 A	20000530	US19990386473	19990831

Priority:
US19990386473 19990831

Probable Assignee: HUANG MIN YEN
Assignee(s): (std): HUANG MIN YEN
Inventor(s): (std): HUANG MIN YEN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US6068587 A	20000530	LSGT	+	granted / extensions (spc, cpc, pte)	
US6068587 A	20000517	LSGT	PAT1	Patented Case	
US6068587 A	20040601	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6068587 A	20040727	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20040530
US6068587 A	20180123	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6068587 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6068587 A	20190831	PEXP		Calculated Patent Term Expiry	

37) Family number: 66393461 (US2015125945A)

Title: CENTRIFUGE CONFIGURATIONS

Abstract: Systems and methods are provided for sample processing. A device may be provided, capable of receiving the sample, and performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing multiple assays. The device may comprise one or more modules that may be capable of performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing the steps using a small volume of sample.

Classifications:
International (IPC 8-9)**:** B04B13/00 B04B5/04 B04B7/08 B04B9/04 G01N1/40 G01N21/75 G01N9/30 (Advanced/Invention)
CPC: G01N1/40 B04B13/00 B04B5/0414 B04B5/0421 B04B7/08 B04B9/04
US: 1/1 422/72 435/288.7 494/10

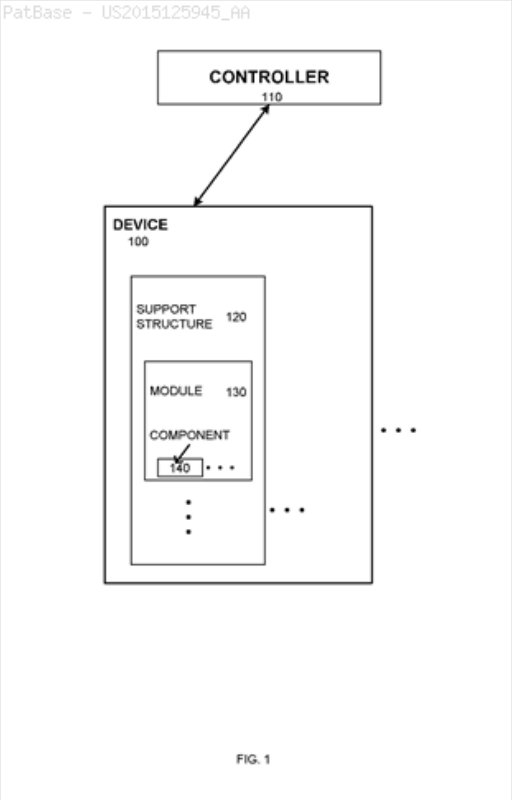

FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US2015125945 AA	20150507	US20140480960	20140909
US9128015 BB	20150908	US20140480960	20140909

Priority:
WO2011US53188 20110925 US20110244954 20110926 US20140480960 20140909

Probable Assignee: THERANOS INC
Assignee(s): (std)**:** THERANOS INC
Assignee(s): THERANOS IP CO LLC ; FORTRESS CREDIT CORP
Inventor(s): (std)**:** HOLMES ELIZABETH A ; FRANKOVICH JOHN KENT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2015125945 AA	20150507	LSPB	+	published / reissued	
US2015125945 AA	20150715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HOLMES, ELIZABETH A; FRANKOVICH, JOHN KENT; SIGNING DATES FROM 20150707 TO 20150714; REEL/FRAME:036107/0752
US2015125945 AA	20150819	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9128015 BB	20150908	LSGT	+	granted / extensions (spc, cpc, pte)	
US9128015 BB	20150819	LSGT	PAT1	Patented Case	

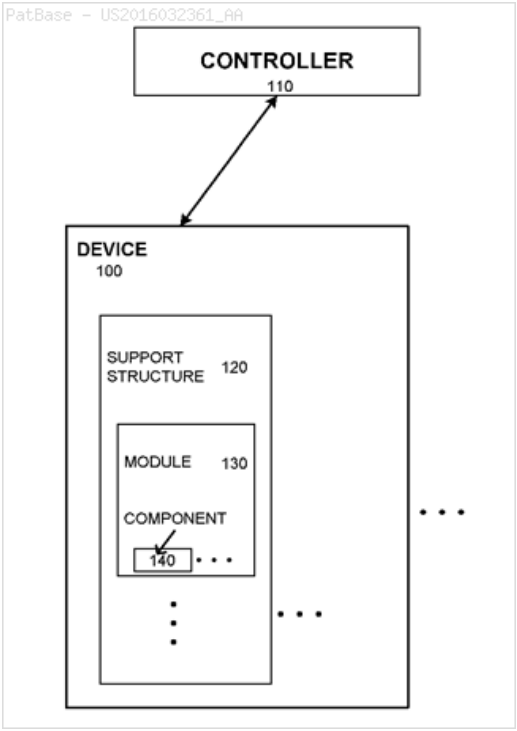
US9128015 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US9128015 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US9128015 BB	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045101/0315 EFFECTIVE DATE : 20171211
US9128015 BB	20180507	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9128015 BB	20190222	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9128015 BB	20340909	PEXP		Calculated Patent Term Expiry	

38) Family number: 66393469 (US2016032361A)

Title: CENTRIFUGE CONFIGURATIONS

Abstract: Systems and methods are provided for sample processing. A device may be provided, capable of receiving the sample, and performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing multiple assays. The device may comprise one or more modules that may be capable of performing one or more of a sample preparation, sample assay, and detection step. The device may be capable of performing the steps using a small volume of sample.

Classifications:
International (IPC 8-9)**:** B04B7/08 C12Q1/68 G01N1/40 (Advanced/Invention)
CPC: C12Q1/6806 G01N1/4077 B04B7/08 G01N2001/4083 B04B5/0414 B04B5/0421 B04B9/04 B04B13/00 G01N1/40
US: 422/533 435/287.2



Family:

Publication number	Publication date	Application number	Application date
US2016032361 AA	20160204	US20150793625	20150707

Priority:

WO2011US53188 20110925 US20110244954 20110926 US20140480960 20140909 US20150793625 20150707

Probable Assignee: THERANOS INC
Assignee(s) (std)**:** THERANOS INC
Assignee(s): THERANOS IP CO LLC ; FORTRESS CREDIT CORP
Inventor(s) (std)**:** FRANKOVICH JOHN KENT ; HOLMES ELIZABETH A

Legal status (INPADOC)

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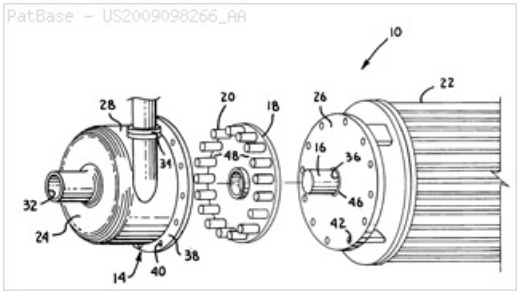
Patent	Date recorded	Event group	Code	Event	Details
US2016032361 AA	20160204	LSPB	+	published / reissued	
US2016032361 AA	20151021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HOLMES, ELIZABETH A; FRANKOVICH, JOHN KENT; SIGNING DATES FROM 20150707 TO 20150714; REEL/FRAME:036912/0395
US2016032361 AA	20170921	LSES	NFA1	Non Final Action Mailed	
US2016032361 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US2016032361 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP.,

					NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US2016032361 AA	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045101/0315 EFFECTIVE DATE : 20171211
US2016032361 AA	20181031	LSAL	NAF1	Notice of Appeal Filed	
US2016032361 AA	20181031	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2016032361 AA	20190604	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2016032361 AA	20190604	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : APPEAL BRIEF (OR SUPPLEMENTAL BRIEF) ENTERED AND FORWARDED TO EXAMINER
US2016032361 AA	20190716	LSES	NFA1	Non Final Action Mailed	

39) Family number: 43145471 (US2009098266A)

Title: METHOD AND APPARATUS FOR SEPARATING, PURIFYING, PROMOTING INTERACTION AND IMPROVING COMBUSTION

Abstract: An apparatus and method for separating joined components, purifying **liquid**, promoting interaction between two or more components and improving combustion. The apparatus has a housing, a rotor inside of the housing, a plurality of protrusions extending from the rotor, a shaft coupled with the rotor and a prime mover for rotating the shaft. Fluid within the housing cavitates as the rotor rotates and the protrusions move through the fluid. Cavitation causes joined components within the fluid to separate, kills undesirable organisms within the fluid, promotes interaction of components within the fluid and improves combustion of a **liquid** fuel. The fluid and components may also be subjected to abrasion and **centrifugal** and impact forces for separating the components, purifying the fluid, promoting interaction of the components and improving combustion.



Classifications:
International (IPC 8-9): A23F5/00 A23F5/02 A23L1/025 A23L1/10 A23L1/214 A23L19/00 A23L19/10 A23L2/04 A23L3/01 A23L3/015 A23L5/30 A23L7/10 B01D19/00 B01D21/26 B01D45/12 B01F7/00 B01J10/00 B01J19/00 B01J19/18 B02C13/20 B02C13/22 B02C19/00 B02C19/18 B02C9/00 B02C9/02 B04B5/02 B04C9/00 C02F1/00 C02F1/34 C02F1/38 C02F1/52 C02F1/72 C02F1/78 C08B30/04 C10L1/18 C12P7/06 C13B10/00 C13D1/00 C13K1/06 F02M17/22 F02M37/22 (Advanced/Invention);
B02C19/00 B02C9/02 C12P7/06 C13K1/06 (Advanced/Non-invention)
International (IPC 1-7): A23L1/214 B01D21/26
CPC: B02C19/00 A23F5/02 A23L2/04 A23L3/015 A23L5/30 A23L7/197 A23L19/09 A23L19/11 B01F7/00766 B02C9/00 B02C13/205 B02C13/22 B02C19/18 C02F1/001 C02F1/34 C02F1/38 C02F1/78 C02F2001/007 C08B30/04 C08B30/044 C12P7/06 C13K1/06 F02M37/22 Y02E50/17 Y02W10/37
European: A23F5/02 A23L1/025 A23L1/10H A23L1/212E A23L1/214D A23L2/04 A23L3/015 B01F7/00G1A B02C13/20C B02C13/22 B02C19/18 B02C9/00 C02F1/34 C08B30/04 C08B30/04B2 C12P7/06 C13K1/06 M02F1/00D M02F1/00S M02F1/38 M02F1/78 R02M37/22 Y02E50/17
US: 127/36 127/36S 127/39 127/39S 127/43 127/43S 127/66 127/66S 127/67 127/67S 209/199 209/200 210/512.1 210/512.100S 210/738 210/738S 210/758 210/758S 210/760 210/760S 241/24.16 241/24.26 241/46.17 241/46.170P 241/9 366/304 426/18 426/238 426/481 426/481P 426/483 426/485 426/518 426/618 426/629 426/634 426/637 44/436 44/436S 44/605 44/605S 494/17 494/17S 494/37 494/37S 95/35 95/35S

Family:

Publication number	Publication date	Application number	Application date
AR068780 AA	20091202	AR2008P104438	20081010
BRPI0817849 A2	20150407	BR2008PI17849	20081010
CL2008002994 A1	20090821	CL20080002994	20081009
CL51516 B	20151210	CL20080002994	20081009
CN101896279 A	20101124	CN200880120052	20081010
CN101896279 B	20130320	CN200880120052	20081010
CN103170285 A	20130626	CN201310050009	20081010
EP2228134 A2	20100915	EP20080838218	20081010
EP2228134 A4	20170322	EP20080838218	20081010
JP2011504133 T2	20110203	JP20100528818T	20081010
JP5840839 B2	20160106	JP20100528818T	20081010
KR101610414 B1	20160407	KR20107010273	20081010
KR20100101082 A	20100916	KR20107010273	20081010
US2009098266 AA	20090416	US20070973692	20071010
US2011095111 AA	20110428	US20110983980	20110104
US7887862 BB	20110215	US20070973692	20071010
WO09048313 A2	20090416	WO2008MX00137	20081010
WO09048313 A3	20100107	WO2008MX00137	20081010

Priority:

US20070973692 20071010 WO2008MX00137 20081010 US20110983980 20110104

Probable Assignee: INDUSTRIAS CENTLI DE CV SA

Assignee(s): (std): ALCAZAR FERNANDO ROBERTO PAZ ; BRIZ FERNANDO ROBERTO PAZ ; IND CENTLI S A DE C V ; PAZ BRIZ FERNANDO ROBERTO ; PAZ ALCAZAR FERNANDO ROBERTO

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AR068780 AA	20091202	LSPB	+	published / reissued	
AR068780 AA	20151217	LSGT	+FG	GRANT,	

				REGISTRATION	
BRPI0817849 A2	20190709	LSRV	B11E	DISMISSAL ACC. ART. 34 OF IPL - REQUIREMENTS FOR EXAMINATION INCOMPLETE	
CL2008002994 A1	20090821	LSPB	+	published / reissued	
CL51516 B	20151210	LSGT	+	granted / extensions (spc, cpc, pte)	
CL51516 B	20281009	PEXP		Calculated Patent Term Expiry	
CN101896279 A	20101124	LSPB	+	published / reissued	
CN101896279 A	20101124	LSPB	+C06	PUBLICATION	
CN101896279 A	20101124	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN101896279 B	20130320	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101896279 B	20130320	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101896279 B	20130320	LSGT	+GR01	授权 (The grant of patent right)	TEXT : 授权 (AUTHORIZATION)
CN101896279 B	20191008	LSLE	-CF01	未缴年费专利权终止 (Termination of patent right due to unpaid annual fee)	TEXT : 专利权的终止 (TERMINATION OF PATENT RIGHT) EFFECTIVE DATE : 20181010
CN101896279 B	20191008	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN101896279 B	20281010	PEXP		Calculated Patent Term Expiry	
CN103170285 A	20130626	LSPB	+	published / reissued	
CN103170285 A	20130626	LSPB	+C06	PUBLICATION	
CN103170285 A	20150909	LSDW	-C05	DEEMED WITHDRAWAL (PATENT LAW BEFORE 1993)	
EP2228134 A2	20100915	LSPB	+	published / reissued	
EP2228134 A2	20100915	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100507
EP2228134 A4	20170322	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20170221
EP2228134 A4	20181128	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20181024
EP2228134 A4	20190116	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20181207
JP2011504133 T2	20110203	LSPB	+	published / reissued	
JP2011504133 T2	20111008	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111007
JP2011504133 T2	20111008	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20111007
JP2011504133 T2	20130109	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130108
JP2011504133 T2	20130709	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130708
JP2011504133 T2	20140520	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20140520

JP2011504133 T2	20140920	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140919
JP2011504133 T2	20141010	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20140924
JP2011504133 T2	20141027	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20141024
JP2011504133 T2	20141215	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20141212
JP2011504133 T2	20150910	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150910
JP2011504133 T2	20151119	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151112
JP2011504133 T2	20151120	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5840839 COUNTRY OF REF DOCUMENT : JP
JP5840839 B2	20160106	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5840839 B2	20151015	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5840839 B2	20151117	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5840839 B2	20151120	LSGT	+R150	特許証 (Patent certificate)	
JP5840839 B2	20181120	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP5840839 B2	20281010	PEXP		Calculated Patent Term Expiry	
KR101610414 B1	20160407	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101610414 B1	20281010	PEXP		Calculated Patent Term Expiry	
KR20100101082 A	20100916	LSPB	+	published / reissued	
KR20100101082 A	20130731	LSES	A201	REQUEST FOR EXAMINATION	
KR20100101082 A	20141209	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100101082 A	20150706	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20100101082 A	20160125	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20100101082 A	20160401	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2009098266 AA	20090416	LSPB	+	published / reissued	
US2009098266 AA	20110126	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011095111 AA	20110428	LSPB	+	published / reissued	
US2011095111 AA	20110104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAS CENTLI S.A. DE C.V., MEXICO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRIZ, FERNANDO ROBERTO PAZ; ALCAZAR,

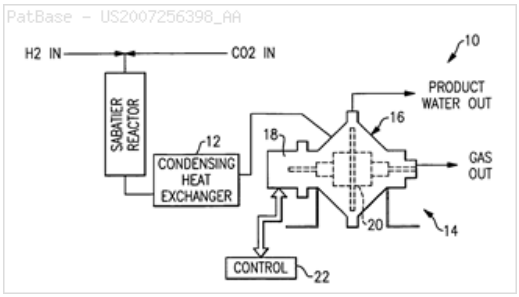
					FERNANDO ROBERTO PAZ; REEL/FRAME:025578/0133 EFFECTIVE DATE : 20070927
US2011095111 AA	20130703	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US7887862 BB	20110215	LSGT	+	granted / extensions (spc, cpc, pte)	
US7887862 BB	20071010	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAS CENTLI S.A. DE C.V., MEXICO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRIZ, FERNANDO ROBERTO PAZ; ALCAZAR, FERNANDO ROBERTO PAZ; REEL/FRAME:020013/0135 EFFECTIVE DATE : 20070927
US7887862 BB	20110126	LSGT	PAT1	Patented Case	
US7887862 BB	20110510	LSRE	CC	CERTIFICATE OF CORRECTION	
US7887862 BB	20140325	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7887862 BB	20180802	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7887862 BB	20290819	PEXP		Calculated Patent Term Expiry (PTA 679 days)	
WO09048313 A2	20090416	LSPB	+	published / reissued	
WO09048313 A2	20081010	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880120052.5 COUNTRY OF REF DOCUMENT : CN
WO09048313 A3	20100408	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010528818 COUNTRY OF REF DOCUMENT : JP
WO09048313 A3	20100413	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09048313 A3	20100507	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008838218 COUNTRY OF REF DOCUMENT : EP
WO09048313 A3	20100510	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20107010273 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09048313 A3	20150407	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0817849 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20100409

40) Family number: 40797475 (US2007256398A)

Title: ROTARY DRUM **SEPARATOR** SYSTEM

Abstract: A rotary phase **separator** system generally includes a step-shaped rotary drum **separator** (RDS) and a motor assembly. The aspect ratio of the stepped drum minimizes power for both the accumulating and pumping functions. The accumulator section of the RDS has a relatively small diameter to minimize power losses within an axial length to define significant volume for accumulation. The pumping section of the RDS has a larger diameter to increase pumping head but has a shorter axial length to minimize power losses. The motor assembly drives the RDS at a low speed for separating and accumulating and a higher speed for pumping.

Classifications:
International (IPC 8-9): B01D45/00 B01D45/14 B01D46/18 B04B5/00 (Advanced/Invention);
B01D45/00 B01D45/12 B01D46/18 B04B5/00 (Core/Invention)
CPC: B01D45/14 B01D19/0052
European: B01D19/00P4 B01D45/14
US: 55/405 55/406 55/408 55/409 95/270 95/31 95/34 95/35



Family:

Publication number	Publication date	Application number	Application date
DE602007007394 D1	20100812	DE200760007394T	20070308
EP1854528 A1	20071114	EP20070250968	20070308
EP1854528 B1	20100630	EP20070250968	20070308
JP2007301549 A2	20071122	JP20070046347	20070227
JP4700635 B2	20110615	JP20070046347	20070227
US2007256398 AA	20071108	US20060429859	20060508
US7628836 BB	20091208	US20060429859	20060508

Priority:
US20060429859 20060508

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Assignee(s): HAMILTON SUNDSTRAND CORPORTION
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Inventor(s): BARONE MICHAEL ; FORT JAMES ; SCULL TIMOTHY
Agent(s): TOMLINSON KERRY JOHN; HASHIMOTO TAKESHI; TOMIOKA KIYOSHI; CARLSON GASKEY AND OLDS PC
Designated states: AL BA DE FR GB HR MK YU

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP1854528 A1	20071114	LSPB	+	published / reissued	
EP1854528 A1	20071114	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070807
EP1854528 A1	20080123	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20071221
EP1854528 A1	20080723	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB
EP1854528 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160219 YEAR OF FEE PAYMENT : 10
EP1854528 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160223 YEAR OF FEE PAYMENT : 10
EP1854528 B1	20100630	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
EP1854528 B1	20100630	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1854528 B1	20110608	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20110331
EP1854528 B1	20110721	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007007394 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110330
EP1854528 B1	20130430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20130306 YEAR OF FEE PAYMENT : 7
EP1854528 B1	20141001	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602007007394 COUNTRY OF REF DOCUMENT : DE
EP1854528 B1	20141231	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602007007394 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20141001
EP1854528 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141001
EP1854528 B1	20160219	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP1854528 B1	20170221	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP1854528 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170221 YEAR OF FEE PAYMENT : 11
EP1854528 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170224 YEAR OF FEE PAYMENT : 11
EP1854528 B1	20180220	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP1854528 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180226 YEAR OF FEE PAYMENT : 12
EP1854528 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180220 YEAR OF FEE PAYMENT : 12

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EP1854528 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190222 YEAR OF FEE PAYMENT : 13
EP1854528 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190220 YEAR OF FEE PAYMENT : 13
EP1854528 B1	20270308	PEXP		Calculated Patent Term Expiry	
JP2007301549 A2	20071122	LSPB	+	published / reissued	
JP2007301549 A2	20100224	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100223
JP2007301549 A2	20100623	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100622
JP2007301549 A2	20110209	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110208
JP2007301549 A2	20110310	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20110304
JP4700635 B2	20110615	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4700635 B2	20140311	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4700635 B2	20270227	PEXP		Calculated Patent Term Expiry	
US2007256398 AA	20071108	LSPB	+	published / reissued	
US2007256398 AA	20091028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HAMILTON SUNDSTRAND CORPORTION, CONNECTICUT OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S NAME ON THE ORIGINAL COVER SHEET PREVIOUSLY RECORDED ON REEL 017879 FRAME 0338; ASSIGNORS:BARONE, MICHAEL R.; MURDOCH, KAREN; SCULL, TIMOTHY D.; AND OTHERS; REEL/FRAME:023433/0382; SIGNING DATES FROM 20051213 TO 20051223
US2007256398 AA	20091118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7628836 BB	20091208	LSGT	+	granted / extensions (spc, cpc, pte)	
US7628836 BB	20060508	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HAMILTON SUNDSTRAND, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BARONE, MICHAEL R.; MURDOCH, KAREN; SCULL, TIMOTHY D.; AND OTHERS; REEL/FRAME:017879/0338; SIGNING DATES FROM 20051213 TO 20051223

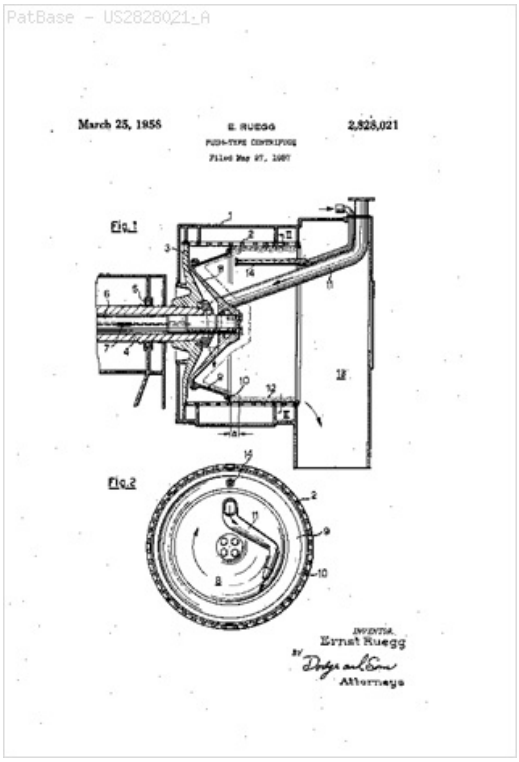
US7628836 BB	20091118	LSGT	PAT1	Patented Case	
US7628836 BB	20101221	LSRE	CC	CERTIFICATE OF CORRECTION	
US7628836 BB	20130515	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7628836 BB	20170523	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7628836 BB	20280619	PEXP		Calculated Patent Term Expiry (PTA 773 days)	

41) Family number: 19974475 (US2828021A)

Title: PUSH-TYPE CENTRIFUGE

Abstract: 800,319. **Centrifugal** strainer **separators**. ESCHER WYSS AKT.-GES. May 27, 1957, [June 7, 1956], No. 16826/57. Class 46. Material is fed tangentially at 11, Fig. 2, to the inner surface of a feed drum 9 detachably secured to a conical disc 8, Fig. 1, rotated by a centre shaft 6 keyed to a hollow shaft 4 carrying a **sieve** drum 2. The shaft 6 is reciprocated so that solid matter reaching the **sieve** drum is periodically urged outwards to a collecting chamber 13 by the feed drum and a pusher ring 10 on its end. Washing liquor is supplied at 14. The layer of material moving in the drums 2 and 9 is limited solely by the inner face of each of these drums.

Classifications:
International (IPC 8-9): B04B11/02 B04B3/02 (Advanced/Invention); B04B11/00 B04B3/00 (Core/Invention)
International (IPC 1-7): B04B11/02 B04B3/02
CPC: B04B3/02 B04B11/02
European: B04B11/02 B04B3/02
US: 210/376 210/377 210/380.3



Family:

Publication number	Publication date	Application number	Application date
BE557785 A	00000000		00000000
CH340770 A	19590831		19560607
DE1087978 B	19600825	DE1957E014156	19570522
FR1176436 A	19590410		19570603
GB800319 A	19580827	GB19570016826	19570527
US2828021 A	19580325	US19570661857	19570527

Priority:
19560607 DE1957E014156 19570522 US19570661857 19570527

Probable Assignee: ESCHER WYSS AG
Assignee(s): (std): ESCHER WYSS AG ; ESCHER WYSS GMBH
Assignee(s): ESCHER WYSS ; ESCHER WYSS AKTIENGESELLSCHAFT ; ESCHER WYSS G M B H
Inventor(s): (std): ERNST RUEGG ; RUEEGG ERNST ; ERNST RUEEGG
Inventor(s): RUEGG ERNST

Legal status (INPADOC)

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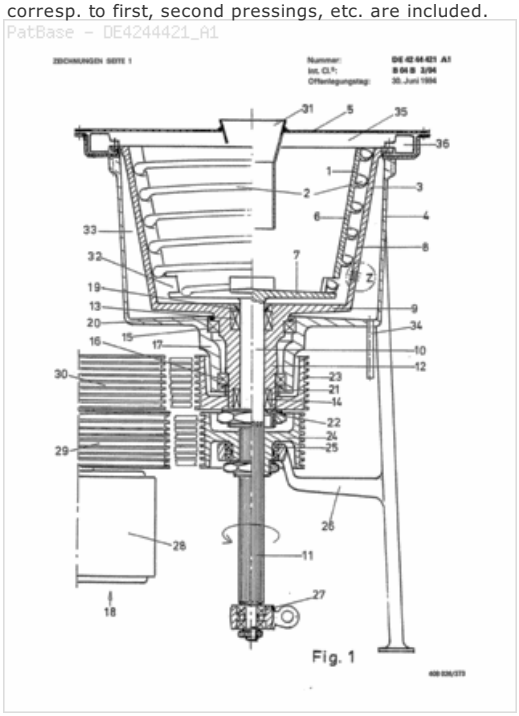
Patent	Date recorded	Event group	Code	Event	Details
BE557785 A	00000000	LSPB	+	published / reissued	
BE557785 A	19200101	PEXP		Calculated Patent Term Expiry	
CH340770 A	19590831	LSGT	+	granted / extensions (spc, cpc, pte)	
CH340770 A	19760607	PEXP		Calculated Patent Term Expiry	
DE1087978 B	19600825	LSPB	+	published / reissued	
FR1176436 A	19590410	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1176436 A	19770603	PEXP		Calculated Patent Term Expiry	
GB800319 A	19580827	LSGT	+	granted / extensions (spc, cpc, pte)	
GB800319 A	19770527	PEXP		Calculated Patent Term Expiry	
US2828021 A	19580325	LSGT	+	granted / extensions (spc, cpc, pte)	

42) Family number: 11112532 (DE4244421A1)

Title: SCROLL CENTRIFUGE PARTIC FOR SEPN OF FRUIT JUICES FROM BERRIES, PULPS, ETC

Abstract: Scroll centrifuge for sepn. of mixts., comprises a perforate drum, a spiral conveying scroll running inside the drum, a wet solids feed into the scroll, a drive, such that the drum and scroll have slightly differing speeds, and the gap between the drum and the scroll is adjustable, and a housing. The novel features are that (I) the scroll (2) is formed on the outside of a pan section (1); (II) the drum and (3) and pan (1) have the same outwardly expanding conical taper; (III) and the relative sepn. between the drum (3) and pan (1) is variable during operation.Drum wall (3) and pan wall (1) are inclined at 5-15 deg. to the axis of symmetry; and drum perforations (75) have a dia. of approx. 0.1mm. Also, more than one, sepd., liquor collection zone (44,49) with own run-offs (46,47) e.g. for juices corresp. to first, second pressings, etc. are included.

Classifications:
International (IPC 8-9): B04B3/04 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B04B3/04 B04B7/16
CPC: B04B7/18 B04B3/04
European: B04B3/04



Family:

Publication number	Publication date	Application number	Application date
DE4244421 A1	19940630	DE19924244421	19921229

Priority:
DE19924244421 19921229

Probable Assignee:	MAUCHER EUGEN DIPL ING
Assignee(s): (std):	MAUCHER EUGEN DIPL ING
Assignee(s):	MAUCHER EUGEN DIPL ING 8000 MUENCHEN
Inventor(s): (std):	MAUCHER EUGEN DIPL ING
Inventor(s):	MAUCHER EUGEN DIPL ING 8000 MUENCHEN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE4244421 A1	19940630	LSPB	+	published / reissued	
DE4244421 A1	19951207	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

43) Family number: 29366537 (US5474687A)

Title: METHODS FOR ENRICHING CD34+ HUMAN HEMATOPOIETIC PROGENITOR CELLS

Abstract: The present invention relates to methods of enriching hematopoietic progenitor cells from body fluids. In particular, it relates to the use of a cell-trap centrifugation tube containing a gradient solution adjusted to a specific density to enrich for CD34+ cells from apheresed blood. The tube allows the desired cell population to be collected by decantation after centrifugation to minimize cell loss and maximize efficiency. In addition, the method can be further simplified by density-adjusted cell sorting which uses cell type-specific binding agents such as antibodies and lectins linked to carrier particles to impart a different density to undesired cell populations allowing the progenitor cells to be separated during centrifugation in a more convenient manner. The rapid progenitor cell enrichment method described herein has a wide range of applications, including but not limited to, donor cell preparation for bone marrow transplantation without the use of invasive procedures such as bone marrow aspiration.

Classifications:

International (IPC 8-9): A61K35/14 A61L2/02 A61L2/08 B01D15/00 B01D21/26 B01J B01J20/32 B01L B01L3/14 C12M1/00 C12M3/00 C12N15/02 C12N5/00 C12N5/06 C12N5/0789 C12N5/08 C12P21/08 C12Q1/24 G01N G01N33/48 G01N33/49 G01N33/554 (Advanced/Invention);
A61K35/14 B01D15/00 C12M3/00 C12N15/02 C12N15/09 C12N5/06 C12P21/08 C12Q1/02 C12Q1/68 G01N33/48 (Advanced/Non-invention);
A61K35/14 B01J20/30 B01L3/14 C12M3/00 C12N5/00 C12N5/06 C12N5/0789 G01N33/48 G01N33/49 (Core/Invention);
B01J B01L G01N (Subclass/Invention)

International (IPC 1-7): A61K35/14 A61L2/02 A61L2/08 B01D15/00 B01D21/26 B01D33/15 B01J20/32 B01L11/00 B01L3/14 B04B5/04 C12M1/00 C12M3/00 C12M3/02 C12N15/02 C12N5/00 C12N5/06 C12N5/08 C12P21/08 C12Q1/24 G01N21/07 G01N33/48 G01N33/487 G01N33/49 G01N33/554 G01N33/555 G01N33/567 G01N33/574

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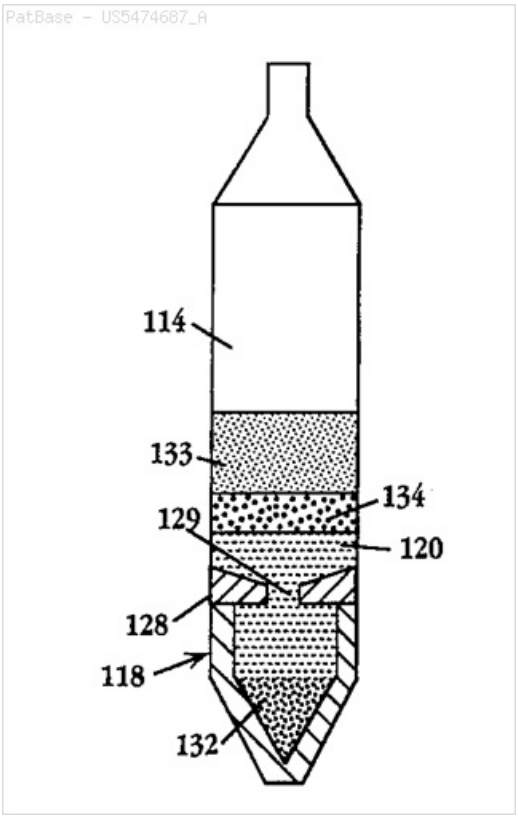
European: B01J20/10B B01J20/26B B01J20/32 B01J20/32B4 B01J20/32F8B B01J20/32F8F4 B01L3/14 B01L3/14D B01L3/5021 B01L3/5082 C12N5/00Z3 C12N5/06B11P C12N5/06P C12N5/06P2 C12N5/06P9C G01N33/49 G01N33/49C K61M202/04E8 L01L3/5021 L01L300/12 L01L400/06C

US: 210/781 210/782 215/309 220/501 220/503 220/563 220/564 252/302 252/315.01 252/315.2 252/315.6 252/60 422/101 422/102 422/504 422/533 422/534 422/72 424/529 424/534 427/503 428/405 435/2 435/261 435/7.21 435/7.23 435/7.24 435/7.25 435/803 436/514 436/518 436/527 436/824 494/16 516/87 604/187 604/191 604/49 604/540



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Publication number	Publication date	Application number	Application date
AT186398 E	19991115	AT19950931685T	19950831
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AU199535025 A1	19960322	AU19950035025	19950831
AU199714150 A1	19970703	AU19970014150	19961211
AU700743 B2	19990114	AU19950035025	19950831
AU707878 B2	19990722	AU19970014150	19961211
CA2198607 AA	19970226	CA19952198607	19950831
CA2198607 C	20000418	CA19952198607	19950831
CA2239729 AA	19980605	CA19962239729	19961211
CA2239729 C	20061031	CA19962239729	19961211
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DK0958046 T3	20111121	DK19960944310T	19961211
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EP0778944 B1	19991103	EP19950931685	19950831
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JP10508190 T2	19980818	JP19960508985T	19950831
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JP2006223313 A2	20060831	JP20060117292	20060420
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NZ292756 A	19981028	NZ19950292756	19950831
PT958046 T	20120106	PT19960944310T	19961211
US5474687 A	19951212	US19940299469	19940831

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US5663051 A	19970902	US19950570397	19951211
US5789148 A	19980804	US19950570120	19951211
US5840502 A	19981124	US19940299467	19940831
WO9607097 A1	19960307	WO1995US11169	19950831
WO9721488 A1	19970619	WO1996US19713	19961211

Priority:

US19940299467 19940831 US19940299465 19940831 US19940299468 19940831
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US19950570397 19951211 EP19960944310 19961211 JP19970522180 19961211
JP19970522180T 19961211 WO1996US19713 19961211

Probable Assignee: DENDREON A DELAWARE CORP

Assignee(s): (std): DENDREON CORP ; VLASSELAER PETER VAN ; ACTIVATED CELL THERAPY INC

Assignee(s): ACTIVATED CELL THERAPY INC 291 NORTH BERNARDO AVEN ; ACTIVATED CELL THERAPY INC 291 NORTH BERNARDO AVENUE ; ACTIVATED CELL THERAPY INC A DELAWARE CORP ; BARCLAYS BANK PLC COLLATERAL AGENT AS ; DENDREON A DELAWARE CORP ; GENERAL ELECTRIC CAPITAL CORP ; TRANSAMERICA BUSINESS CREDIT CORP ; VAN VLASSELAER PETER ; GENERAL ELECTRIC CAPITAL F K A TRANSAMERICA BUSINE ; DENDREON CORP SEATTLE ; GENERAL ELECTRIC CAPITAL F K A TRANSAMERICA BUSINESS CREDIT CORP CORP ; PALATHUMPAT VARGHESE ; DENDREON PHARMACEUTICALS INC ; DRONE ACQUISITION SUB INC ; DENDREON PHARMACEUTICALS LLC

Inventor(s): (std): VAN VLASSELAER PETER ; PALATHUMPAT VARGHESE ; VLASSELAER PETER VAN

Inventor(s): VARGHESE PALATHUMPAT ; PALATHUMPAT VARGHESE FREMONT ; VAN VLASSELAER PETER SUNNYVALE ; PETER VAN VLASSELAER

Agent(s): FB RICE; FB RICE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; VOSSIUS AND PARTNER PATENTANWAELTE RECHTSANWAELTE MBB; VOSSIUS AND PARTNER; MAYER BROWN JSM

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG TJ TM TR TT UA UG US UZ VN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT186398 E	19991115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT186398 E	20000515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT186398 E	20150831	PEXP		Calculated Patent Term Expiry	
AT530253 E	20111115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT530253 E	20120615	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 0958046 COUNTRY OF REF DOCUMENT : EP
AT530253 E	20161211	PEXP		Calculated Patent Term Expiry	
AU199535025 A1	19960322	LSPB	+	published / reissued	
AU199714150 A1	19970703	LSPB	+	published / reissued	
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AU707878 B2	20161211	PEXP		Calculated Patent Term Expiry	
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CA2239729 C	20161211	PEXP		Calculated Patent Term Expiry	
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DE69513188 D1	20150831	LSLE	-R071	EXPIRY OF RIGHT	
DE69513188 T2	20000706	LSGT	+	granted / extensions (spc, cpc, pte)	
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DK0958046 T3	20161211	PEXP		Calculated Patent Term Expiry	
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EP0778944 A1	19981021	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19980907
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EP0778944 A1	19990526	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION
EP0778944 B1	19991103	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0958046 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20151124 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20151125 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20151126 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151124 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20151127 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 20

				EPO]	
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20151207 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20151209 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20151124 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151207 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20160104 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151210 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 20
EP0958046 A1	20160715	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : CH OWNER : DENDREON CORPORATION, US REF LEGAL EVENT CODE : PFA OLDPARTY : FORMER OWNER: DENDREON CORPORATION, US
EP0958046 A1	20161211	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69638439 COUNTRY OF REF DOCUMENT : DE
EP0958046 A1	20161212	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EUP EFFECTIVE DATE : 20161211
EP0958046 A1	20161215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0958046 A1	20161223	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : DENDREON PHARMACEUTICALS, INC., US REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20161122
EP0958046 A1	20161223	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : DENDREON PHARMACEUTICALS, INC., US REF LEGAL EVENT CODE : TP EFFECTIVE DATE : 20161122
EP0958046 A1	20170104	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20161210
EP0958046 A1	20170115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK07 REF DOCUMENT NUMBER : 530253 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161211
EP0958046 A1	20170125	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MK9A
EP0958046 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : GB

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20161210
EP0958046 A1	20170131	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP0958046 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20161219
EP0958046 A1	20170302	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : MA REF DOCUMENT NUMBER : 20110403060 COUNTRY OF REF DOCUMENT : GR EFFECTIVE DATE : 20161212
EP0958046 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20161212
EP0958046 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20161211
EP0958046 B1	20111026	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0958046 B1	20161210	PEXP		Calculated Patent Term Expiry	
EP0958046 B1	20161211	PEXP		Calculated Patent Term Expiry	
ES2140705 T3	20000301	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2140705 T3	20000301	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 778944 COUNTRY OF REF DOCUMENT : ES
ES2140705 T3	20150831	PEXP		Calculated Patent Term Expiry	
ES2375465 T3	20120301	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2375465 T3	20161211	PEXP		Calculated Patent Term Expiry	
HK1013862 A1	20001005	LSPB	+	published / reissued	
HK1013862 A1	20041215	LSFE	+PF	PATENT IN FORCE	
HK1013862 A1	20150918	LSLE	-PE	PATENT EXPIRED	EFFECTIVE DATE : 20150830
HK1013862 A1	20181223	PEXP		Calculated Patent Term Expiry	
HK1023083 A1	20120323	LSPB	+	published / reissued	
HK1023083 A1	20161230	LSLE	-PE	PATENT EXPIRED	EFFECTIVE DATE : 20161210
HK1023083 A1	20200419	PEXP		Calculated Patent Term Expiry	
HK1023083 B	20120323	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1023083 B	20200419	PEXP		Calculated Patent Term Expiry	
JP10508190 T2	19980818	LSPB	+	published / reissued	
JP2000502892 T2	20000314	LSPB	+	published / reissued	
JP2000502892 T2	20040706	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20040706
JP2000502892 T2	20051108	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20051108

JP2000502892 T2	20060518	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060420
JP2000502892 T2	20070625	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2000502892 T2	20070703	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20070703
JP2000502892 T2	20070802	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20070730
JP2000502892 T2	20070803	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2000502892 T2	20070806	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2006223313 A2	20060831	LSPB	+	published / reissued	
JP2006223313 A2	20070628	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070627
JP2006223313 A2	20071003	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20071002
JP3397795 B2	20030421	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3397795 B2	20030130	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP3397795 B2	20030204	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20030214	LSGT	+R150	特許証 (Patent certificate)	
JP3397795 B2	20060202	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20060207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3397795 B2	20070201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20070206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3397795 B2	20080131	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3397795 B2	20080205	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3397795 B2	20090129	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20090203	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
JP3397795 B2	20100128	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
JP3397795 B2	20100202	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3397795 B2	20110127	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20110201	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP3397795 B2	20120202	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9

JP3397795 B2	20120207	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP3397795 B2	20130131	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP3397795 B2	20130205	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP3397795 B2	20140130	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20140204	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3397795 B2	20150820	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3397795 B2	20150825	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3397795 B2	20150831	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP3397795 B2	20150831	PEXP		Calculated Patent Term Expiry	
JP3993892 B2	20071017	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3993892 B2	20100803	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3993892 B2	20161211	PEXP		Calculated Patent Term Expiry	
NZ292756 A	19981028	LSPB	+	published / reissued	
NZ292756 A	20020830	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ292756 A	20050930	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ292756 A	20080926	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ292756 A	20150925	LSLE	-EXPY	PATENT EXPIRED	
PT958046 T	20120106	LSGT	+	granted / extensions (spc, cpc, pte)	
PT958046 T	20161211	PEXP		Calculated Patent Term Expiry	
US5474687 A	19951212	LSGT	+	granted / extensions (spc, cpc, pte)	
US5474687 A	19940929	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ACTIVATED CELL THERAPY, INC. OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN VLASSELAER, PETER; REEL/FRAME:007153/0129 EFFECTIVE DATE : 19940921
US5474687 A	19951201	LSGT	PAT1	Patented Case	
US5474687 A	19951201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5474687 A	19980512	LSRE	CC	CERTIFICATE OF CORRECTION	
US5474687 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5474687 A	19990614	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5474687 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY

					INTEREST; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5474687 A	20030612	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5474687 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5474687 A	20070518	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5474687 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5474687 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5474687 A	20140831	PEXP		Calculated Patent Term Expiry	
US5646004 A	19970708	LSGT	+	granted / extensions (spc, cpc, pte)	
US5646004 A	19940929	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ACTIVATED CELL THERAPY, INC. 291 NORTH BERNARDO A OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN VLASSELAER, PETER; REEL/FRAME:007152/0501 EFFECTIVE DATE : 19940921
US5646004 A	19970626	LSGT	PAT1	Patented Case	
US5646004 A	19970626	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5646004 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5646004 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY INTEREST; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5646004 A	20010105	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5646004 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM

					OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5646004 A	20041221	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5646004 A	20081211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5646004 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5646004 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5646004 A	20150727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:DENDREON PHARMACEUTICALS, INC.; REEL/FRAME:036190/0503 EFFECTIVE DATE : 20150724
US5646004 A	20170705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS LLC, WASHINGTON OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:BARCLAYS BANK PLC; REEL/FRAME:043089/0288 EFFECTIVE DATE : 20170628
US5646004 A	20140831	PEXP		Calculated Patent Term Expiry	
US5648223 A	19970715	LSGT	+	granted / extensions (spc, cpc, pte)	
US5648223 A	19940929	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ACTIVATED CELL THERAPY, INC. 291 NORTH BERNARDO A OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN VLASSELAER, PETER; REEL/FRAME:007152/0499 EFFECTIVE DATE : 19940921
US5648223 A	19970703	LSGT	PAT1	Patented Case	
US5648223 A	19970703	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5648223 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5648223 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY INTEREST; ASSIGNOR:DENDREON CORPORATION;

					REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5648223 A	20010112	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5648223 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5648223 A	20041221	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5648223 A	20081218	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5648223 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5648223 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5648223 A	20150727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:DENDREON PHARMACEUTICALS, INC.; REEL/FRAME:036190/0503 EFFECTIVE DATE : 20150724
US5648223 A	20170705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS LLC, WASHINGTON OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:BARCLAYS BANK PLC; REEL/FRAME:043089/0288 EFFECTIVE DATE : 20170628
US5648223 A	20140831	PEXP		Calculated Patent Term Expiry	
US5663051 A	19970902	LSGT	+	granted / extensions (spc, cpc, pte)	
US5663051 A	19970820	LSGT	PAT1	Patented Case	
US5663051 A	19970820	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5663051 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5663051 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY INTEREST; ASSIGNOR:DENDREON CORPORATION;

					REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5663051 A	20010301	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5663051 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5663051 A	20050201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5663051 A	20090128	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5663051 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5663051 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5663051 A	20150727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:DENDREON PHARMACEUTICALS, INC.; REEL/FRAME:036190/0503 EFFECTIVE DATE : 20150724
US5663051 A	20170705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS LLC, WASHINGTON OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:BARCLAYS BANK PLC; REEL/FRAME:043089/0288 EFFECTIVE DATE : 20170628
US5663051 A	20151211	PEXP		Calculated Patent Term Expiry	
US5789148 A	19980804	LSGT	+	granted / extensions (spc, cpc, pte)	
US5789148 A	19960528	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ACTIVATED CELL THERAPY, INC., A DELAWARE CORPORATI OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT ASSIGNOR'S NAME. AN ASSIGNMENT WAS PREVIOUSLY RECORDED AT REEL 7812, FRAME 0072; ASSIGNORS:VLASSELAER, PETER VAN; PALATHUMPAT, VARGHESE; REEL/FRAME:007893/0894 EFFECTIVE DATE : 19951211
US5789148 A	19980629	LSGT	PAT1	Patented Case	
US5789148 A	19980629	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5789148 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI

					OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5789148 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY INTEREST; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5789148 A	20020201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5789148 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5789148 A	20060113	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5789148 A	20100106	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5789148 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5789148 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5789148 A	20150727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:DENDREON PHARMACEUTICALS, INC.; REEL/FRAME:036190/0503 EFFECTIVE DATE : 20150724
US5789148 A	20170705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS LLC, WASHINGTON OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:BARCLAYS BANK PLC; REEL/FRAME:043089/0288 EFFECTIVE DATE : 20170628
US5789148 A	20151211	PEXP		Calculated Patent Term Expiry	
US5840502 A	19981124	LSGT	+	granted / extensions (spc, cpc, pte)	
US5840502 A	19940929	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ACTIVATED CELL THERAPY, INC. OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN VLASSELAER, PETER; REEL/FRAME:007153/0127 EFFECTIVE DATE : 19940921

US5840502 A	19980630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON CORPORATION, A DELAWARE CORPORATION, CALI OLDPARTY : CHANGE OF NAME; ASSIGNOR:ACTIVATED CELL THERAPY, INC.; REEL/FRAME:009297/0566 EFFECTIVE DATE : 19970904
US5840502 A	19981119	LSGT	PAT1	Patented Case	
US5840502 A	19981119	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5840502 A	19991124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSAMERICA BUSINESS CREDIT CORP., CONNECTICUT OLDPARTY : SECURITY INTEREST; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:010415/0658 EFFECTIVE DATE : 19990803
US5840502 A	20020523	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5840502 A	20040526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION F/K/A TRANSAM OLDPARTY : TERMINATION OF SECURITY INTEREST, PREVIOUSLY RECORDED AT REEL 010415 FRAME 0658.; ASSIGNOR:DENDREON CORPORATION; REEL/FRAME:015361/0801 EFFECTIVE DATE : 19991124
US5840502 A	20060428	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5840502 A	20100503	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5840502 A	20150716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DRONE ACQUISITION SUB INC., NEW JERSEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DENDREON CORPORATION, AND ITS WHOLLY OWNED SUBSIDIARIES, DENDREON HOLDINGS, LLC, DENDREON DISTRIBUTION, LLC, AND DENDREON MANUFACTORING, LLC; REEL/FRAME:036126/0259 EFFECTIVE DATE : 20150223
US5840502 A	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS, INC., NEW JERSEY OLDPARTY : CHANGE OF NAME; ASSIGNOR:DRONE ACQUISITION SUB INC.; REEL/FRAME:036136/0181 EFFECTIVE DATE : 20150423
US5840502 A	20150727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:DENDREON PHARMACEUTICALS, INC.; REEL/FRAME:036190/0503 EFFECTIVE DATE : 20150724
US5840502 A	20170705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DENDREON PHARMACEUTICALS LLC, WASHINGTON OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:BARCLAYS BANK PLC; REEL/FRAME:043089/0288 EFFECTIVE DATE : 20170628
US5840502 A	20151124	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO9607097 A1	19960307	LSPB	+	published / reissued	

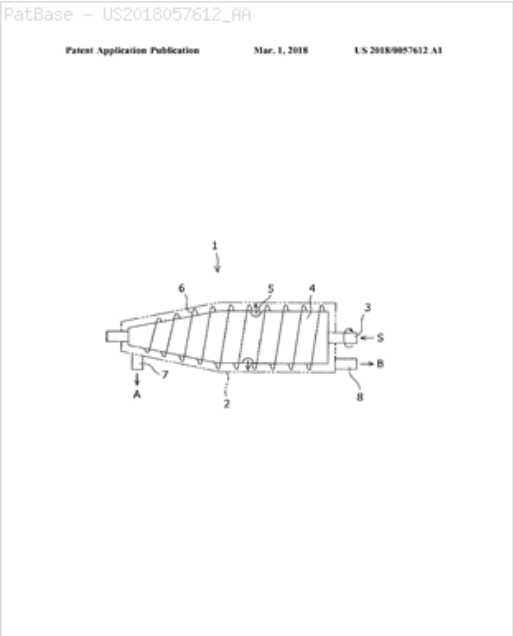
WO9607097 A1	19970225	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 292756 COUNTRY OF REF DOCUMENT : NZ
WO9607097 A1	19970226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2198607 COUNTRY OF REF DOCUMENT : CA
WO9607097 A1	19970226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2198607 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9607097 A1	19970226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1995931685 COUNTRY OF REF DOCUMENT : EP
WO9607097 A1	19970618	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1995931685 COUNTRY OF REF DOCUMENT : EP
WO9607097 A1	19970626	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9607097 A1	19991103	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1995931685 COUNTRY OF REF DOCUMENT : EP
WO9721488 A1	19970619	LSPB	+	published / reissued	
WO9721488 A1	19980605	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2239729 COUNTRY OF REF DOCUMENT : CA
WO9721488 A1	19980605	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2239729 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9721488 A1	19980611	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1997522180 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9721488 A1	19980710	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1996944310 COUNTRY OF REF DOCUMENT : EP
WO9721488 A1	19981008	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9721488 A1	19991124	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1996944310 COUNTRY OF REF DOCUMENT : EP

44) Family number: 68719555 (US2018057612A)

Title: HYPROMELLOSE ACETATE SUCCINATE AND METHOD FOR PRODUCING HYPROMELLOSE ACETATE SUCCINATE

Abstract: Provided is a method for producing HPMCAS capable of reducing the average particle size of HPMCAS particles to an intended range without a pulverization step. Specifically provided is a method for producing hypromellose acetate succinate, comprising an esterification step of reacting hypromellose with an esterification agent in the presence of a catalyst to obtain a reaction solution containing crude hypromellose acetate succinate, a precipitation step of mixing the reaction solution with water to precipitate the crude hypromellose acetate succinate, thereby obtaining a hypromellose acetate succinate suspension, a **liquid** removal step of removing a **liquid** from the hypromellose acetate succinate suspension with a **centrifugal** decanter to obtain **liquid**-removed hypromellose acetate succinate, and a drying step of drying the **liquid**-removed hypromellose acetate succinate.

Classifications:
International (IPC 8-9): A61K47/38 B04B1/20 C08B11/08 C08B13/00 C08B3/06 C08B3/26 (Advanced/Invention)
CPC: C08B3/06 B04B1/20 A61K47/38 C08B13/00 C08B11/08 C08B3/26
US: 1/1 428/402



Family:

Publication number	Publication date	Application number	Application date
CN107793486 A	20180313	CN201710758129	20170829
EP3290444 A1	20180307	EP20170187808	20170824
JP2018035215 A2	20180308	JP20160166956	20160829
KR20180025207 A	20180308	KR20170106979	20170824
TW201821439 A	20180616	TW20170129107	20170828
US2018057612 AA	20180301	US20170683222	20170822

Priority:
JP20160166956 20160829 KR20170106979 20170824

Probable Assignee: SHIN ETSU CHEM CO LTD
Assignee(s): (std): SHIN ETSU CHEMICAL CO LTD ; SHINETSU CHEMICAL CO
Assignee(s): SHIN ETSU CHEM CO LTD ; SHIN ETSU CHEMICAL CO
Inventor(s): (std): JUNICHI MATSUBARA ; KAZUKI KIKUCHI ; MITSUHIRO YOSHIDA ; KIKUCHI KAZUKI ; MATSUBARA JUNICHI ; YOSHIDA MITSUHIRO
Agent(s): DE VRIES AND METMAN; MATSUI MITSUO
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN107793486 A	20180313	LSPB	+	published / reissued	
CN107793486 A	20180313	LSPB	PB01	PUBLICATION	
EP3290444 A1	20180307	LSPB	+	published / reissued	
EP3290444 A1	20181010	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180903
JP2018035215 A2	20180308	LSPB	+	published / reissued	
JP2018035215 A2	20180725	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180725
JP2018035215 A2	20190819	LSES	-A131	NOTIFICATION	TEXT : JAPANESE INTERMEDIATE

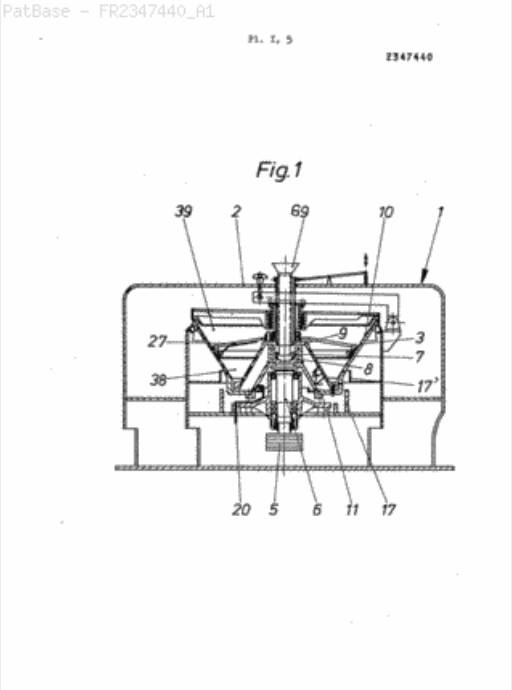
				OF REASONS FOR REFUSAL	CODE: A131 EFFECTIVE DATE : 20190819
JP2018035215 A2	20191010	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20191010
KR20180025207 A	20180308	LSPB	+	published / reissued	
TW201821439 A	20180616	LSPB	+	published / reissued	
US2018057612 AA	20180301	LSPB	+	published / reissued	
US2018057612 AA	20170822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SHIN-ETSU CHEMICAL CO., LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YOSHIDA, MITSUHIRO; MATSUBARA, JUNICHI; KIKUCHI, KAZUKI; REEL/FRAME:043357/0251 EFFECTIVE DATE : 20170727
US2018057612 AA	20181203	LSES	NFA1	Non Final Action Mailed	

45) Family number: 3708573 (FR2347440A)

Title: CONTINUOUSLY OPERATING CENTRIFUGE FOR SUGAR PRODN. - HAS ACCELERATOR DISH AND BELL RAPIDLY DRAINING AND WASHING PRODUCT

Abstract: The surface has an upright basket rotating on a vertical shaft. The basket opens conically upwards and is fitted with a **sieve**. On a hub projecting into the basket there is an accelerator dish, with a number of distributor pegs arranged parallel to the axis of rotation, and close to the inner wall of the dish. From beneath the accelerator dish, an accelerator bell extends downwards opening conically towards the bottom of the basket. This bell acts as a preliminary **separator** and has drains to waste the 'green liquor', the bottom of the basket serving as a washing zone. Some distance from the upper rim of the basket, a damming ring is arranged to form with the rim an outlet slot for the sugar. This slot faces the flange of a delivery ring rotating synchronously with the basket on an inclined axis. The delivery ring can be lifted and lowered and positions the outlet for the sugar at a definite point where a collector causing no damage, connects to the basket. A continuously working centrifuge ensuring an economical output per unit of time, of white sugar of good and consistent quality, without syrup residues and without damage to the crystalline structure. The quality of the sugar can be supervised constantly during prodn.

Classifications:
International (IPC 8-9): B04B11/02 B04B3/00 C13B30/10 (Advanced/Invention)
International (IPC 1-7): C13F1/10
CPC: B04B3/00 B04B11/02 C13B30/10
European: B04B11/02 B04B3/00 C13B30/10



Family:

Publication number	Publication date	Application number	Application date
FR2347440 A1	19771104	FR19760009936	19760406

Priority:
FR19760009936 19760406

Probable Assignee: BRAUNSCHWEIGISCHE MASCH BAU
Assignee(s): (std): BRAUNSCHWEIGISCHE MASCH BAU
Assignee(s): BRAUNSCHWEIGISCHE MASCHINENBAU

Legal status (INPADOC)

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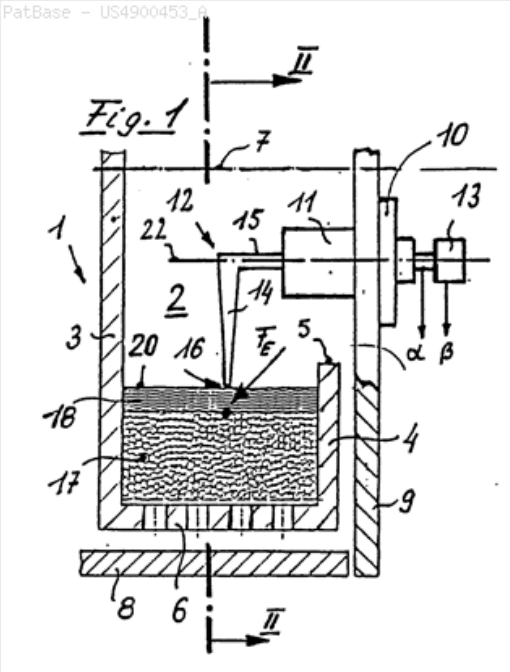
Patent	Date recorded	Event group	Code	Event	Details
FR2347440 A1	19771104	LSPB	+	published / reissued	
FR2347440 A1	19790622	LSLE	-ST	NOTIFICATION OF LAPSE	

46) Family number: 23435576 (US4900453A)

Title: Filter centrifuge control

Abstract: A filter centrifuge has a feeler arm which contacts the free surface of the centrifuge contents to signify by the angular displacement of the arm, the thickness of the layer of contents in the filter drum. On the contact surface of the filter arm, at least one sensor is provided which is responsive to a characteristic of the material constructed by the arm for signalling the nature of the material.

Classifications:
International (IPC 8-9): B04B11/04 B04B13/00 (Advanced/Invention)
International (IPC 1-7): B01D45/12 B04B11/4 B04B13/00 B04B3/00
CPC: B04B11/043 B04B13/00
European: B04B11/04B B04B13/00
US: 210/104 210/149 210/742 210/744 210/746 210/781 210/86 494/37 494/6 73/291 73/292



Family:

Publication number	Publication date	Application number	Application date
DE3726227 A1	19890216	DE19873726227	19870807
DE3726227 C2	19910314	DE19873726227	19870807
EP0302464 A2	19890208	EP19880112593	19880803
EP0302464 A3	19900117	EP19880112593	19880803
EP0302464 B1	19911106	EP19880112593	19880803
ES2026607 T3	19920501	ES19880112593T	19880803
JP1067270 A2	19890313	JP19880196224	19880808
JP2540358 B2	19961002	JP19880196224	19880808
JP64067270 A2	19890313	JP19880196224	19880808
US4900453 A	19900213	US19880230276	19880805

Priority:
DE19873726227 19870807

Probable Assignee: KRAUSS MAFFEI PROCESS TECHNOLOGY AG

Assignee(s): (std): KRAUSE MAFFEI AG ; KRAUSS MAFFEI AG

Assignee(s): KRAUSS MAFFEI PROCESS TECHNOLOGY AG ; MANNESMANN DEMAG KRAUSS MAFFEI AG ; KRAUSS MAFFEI AKTIENGESELLSCHAFT ; KRAUSS MAFFEI AG 8000 MUENCHEN DE ; K R A U S S M A F F E I AG ; K R A U S S M A F F E I KRAUSS MAFFEI STRASSE 2 80

Inventor(s): (std): SEDLMAYER PETER ; PEETAA ZEDORUMAIYAA

Inventor(s): SEDLMAYER PETER 8000 MUENCHEN DE

Designated states: CH ES FR GB IT LI NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3726227 A1	19890216	LSPB	+	published / reissued	
DE3726227 A1	19890216	LSES	+OM8	SEARCH REPORT AVAILABLE AS TO PARAGRAPH 43 LIT. 1 SENTENCE 1 PATENT LAW	
DE3726227 A1	19890216	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE3726227 C2	19910314	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3726227 C2	19910314	LSGT	+D2	GRANT AFTER EXAMINATION	

DE3726227 C2	19910912	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3726227 C2	20000210	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : MANNESMANN DEMAG KRAUSS-MAFFEI AG, 80997 MUENCHEN,
DE3726227 C2	20020919	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : KRAUSS-MAFFEI PROCESS TECHNOLOGY AG, 80997 MUENCHE
DE3726227 C2	20070628	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0302464 A2	19890208	LSPB	+	published / reissued	
EP0302464 A2	19891227	LSRE	RHK1	MAIN CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B04B 11/04
EP0302464 A2	19900411	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19900209
EP0302464 A2	19910529	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19910411
EP0302464 A2	19920501	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2026607 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0302464 A2	19921028	LSGT	+26N	NO OPPOSITION FILED	
EP0302464 A2	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	REF COUNTRY CODE : EP TEXT : 88112593.4
EP0302464 A2	19950810	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 19950810 YEAR OF FEE PAYMENT : 8
EP0302464 A2	19950811	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 19950811 YEAR OF FEE PAYMENT : 8
EP0302464 A2	19960804	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19960804
EP0302464 A2	19970301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL LAPSED DATE : 19970301
EP0302464 A2	19970501	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19970301
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EP0302464 A2	19991115	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : CH OWNER : KRAUSS-MAFFEI AKTIENGESELLSCHAFT TRANSFER- MANNESM REF LEGAL EVENT CODE : PUE
EP0302464 A2	19991217	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : TP
EP0302464 A2	20000301	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : PC2A
EP0302464 A2	20020430	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : CH OWNER : MANNESMANN DEMAG KRAUSS-MAFFEI AG TRANSFER- KRAUSS REF LEGAL EVENT CODE : PUE

EP0302464 A2	20020716	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : PC2A
EP0302464 A2	20050720	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20050720 YEAR OF FEE PAYMENT : 18
EP0302464 A2	20050819	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20050819 YEAR OF FEE PAYMENT : 18
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EP0302464 A2	20050829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20050829 YEAR OF FEE PAYMENT : 18
EP0302464 A2	20060831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060831
EP0302464 A2	20060831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060831
EP0302464 A2	20060831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20060831 YEAR OF FEE PAYMENT : 19
EP0302464 A2	20070413	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0302464 A2	20070425	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20060803
EP0302464 A2	20070601	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20070430
EP0302464 A2	20071116	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20060804
EP0302464 A2	20071124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060803
EP0302464 A2	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060804
EP0302464 A2	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060831
EP0302464 A2	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070803
EP0302464 B1	19911106	LSGT	+	granted / extensions (spc, cpc, pte)	

EP0302464 B1	20080803	PEXP		Calculated Patent Term Expiry	
ES2026607 T3	19920501	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2026607 T3	19920501	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 302464 COUNTRY OF REF DOCUMENT : ES
ES2026607 T3	20080803	PEXP		Calculated Patent Term Expiry	
JP1067270 A2	19890313	LSPB	+	published / reissued	
JP2540358 B2	19961002	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2540358 B2	20040615	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2540358 B2	20050614	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2540358 B2	20060704	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2540358 B2	20070710	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 12
JP2540358 B2	20080708	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2540358 B2	20080808	PEXP		Calculated Patent Term Expiry	
JP64067270 A2	19890313	LSPB	+	published / reissued	
US4900453 A	19900213	LSGT	+	granted / extensions (spc, cpc, pte)	
US4900453 A	19880919	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : K R A U S S - M A F F E I, AKTIENGESELLSCHAFT, KRA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:SEDLMAYER, PETER; REEL/FRAME:004937/0946 EFFECTIVE DATE : 19880823
US4900453 A	19891211	LSGT	PAT1	Patented Case	
US4900453 A	19891211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4900453 A	19930802	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4900453 A	19970731	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4900453 A	19990903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MANNESMANN DEMAG KRAUSS-MAFFEI AG, GERMANY OLDPARTY : MERGER; ASSIGNOR:KRAUSS-MAFFEI AG; REEL/FRAME:010216/0128 EFFECTIVE DATE : 19990816
US4900453 A	20010629	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US4900453 A	20020416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KRAUSS-MAFFEI PROCESS TECHNOLOGY AG, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MANNESMANN DEMAGKRAUSS-MAFFEI AG; REEL/FRAME:012802/0761 EFFECTIVE DATE : 20020314
US4900453 A	20080805	PEXP		Calculated Patent Term Expiry	

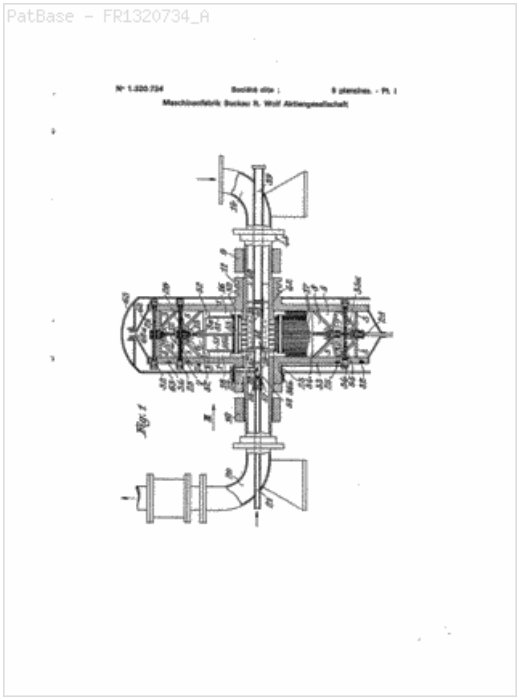
47) Family number: 23091585 (FR1320734A)

Title: CENTRIFUGEUR A TAMBOUR SANS TAMIS, COMPORTANT DES ORIFICES A OUVERTURE PERIODIQUE POUR L'EVACUATION DES SOLIDES, ET PROCEDE POUR SON UTILISATION CENTRIFUGE DRUM NOT SCREEN, WITH HOLES OPENING CHART FOR SOLID WASTE AND METHOD FOR USE THEREOF (Machine translation)

Abstract: Source: FR1320734A [FR] (Claim 1) 1. Centrifugeur a tambour sans tamis presentant des orifices d'evacuation a ouverture periodique pour l'evacuation des elements lourds, ainsi que des dispositifs pour la lixiviation de ces elements lourds, caracterise en ce que la chambre collectrice d'elements lourds est entouree par une chambre de lixiviation alimentee en eau de lavage et communiquant avec cette chambre collectrice par des orifices s'ouvrant periodiquement.

Machine translation: (Claim 1) 1. Centrifuge drum without a screen having openings of a drain opening for periodic evacuation of heavy elements, as well as devices for heavy leaching of these elements, characterized in that the collecting chamber of heavy elements is surrounded by a chamber leaching supplied with wash water and collecting chamber communicating with said orifices opening by periodically.

Classifications:
International (IPC 8-9): B04B1/00 B04B1/14 (Advanced/Invention); B04B1/00 (Core/Invention)
International (IPC 1-7): B04B1/00 B04B1/14
CPC: B04B1/00 B04B1/14
European: B04B1/00 B04B1/14



Family:

Publication number	Publication date	Application number	Application date
FR1320734 A	19630315	FR19610868073	19610717

Priority:
FR19610868073 19610717

Probable Assignee: BUCKAU WOLF MASCHF R
Assignee(s): (std): BUCKAU WOLF MASCHF R
Assignee(s): MASCHF BUCKAU R WOLF AG ; MASCHINENFABRIK BUCKAU R WOLF AKTIENGESELLSCHAFT

Legal status (INPADOC)

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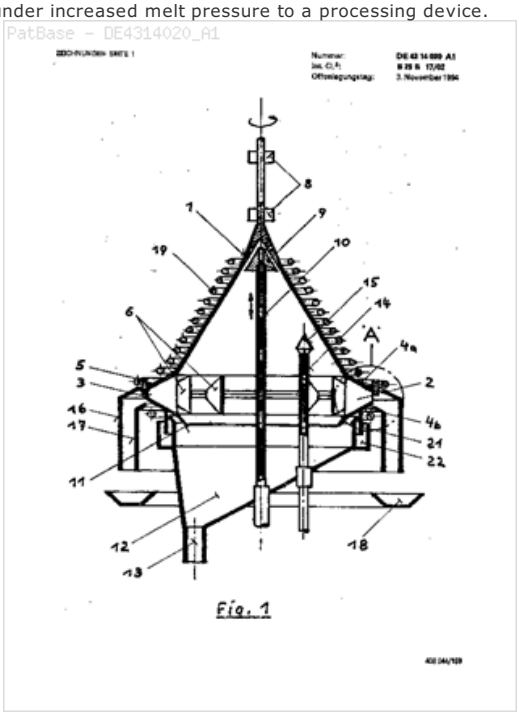
Patent	Date recorded	Event group	Code	Event	Details
FR1320734 A	19630315	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1320734 A	19810717	PEXP		Calculated Patent Term Expiry	

48) Family number: 11280599 (DE4314020A1)

Title: PROCESS AND APPARATUS FOR CONTINUOUSLY CLEANING AND DEGASSING VISCOUS POLYMER MELTS

Abstract: Process and apparatus for continuously cleaning and degassing viscous polymer melts, in that the contaminated thermoplastic material is plasticated (plasticised) in an extruder (25), subsequently the polymer melt is centrifuged in the conical shell (1), the impurities being deposited during the continuous throughput and the polymer melt being degassed by means of a vacuum pump (29), then to be fed by a gear pump (26) under increased melt pressure to a processing device.

Classifications:
International (IPC 8-9): B01D19/00 B01D21/26 B04B1/10 B04B1/14 B04B1/20 B04B11/02 B04B11/06 B04B15/02 B04B15/08 B29B13/02 B29B17/02 B29C47/76 B29C48/76 (Advanced/Invention);
B01D19/00 B01D21/26 B04B1/00 B04B11/00 B04B15/00 B29B13/00 B29B17/02 B29C47/76 (Core/Invention)
International (IPC 1-7): B01D19/00 B04B1/00 B04B1/02 B04B1/10 B04B1/12 B04B1/14 B04B11/00 B04B15/02 B04B15/04 B04B5/10 B04B7/00 B04B7/12 B09B3/00 B29B17/02 B29C47/76 B29K105/26 C08J11/06
CPC: B01D21/262 B29B13/022 B29K2023/06 B29K2025/00 B29K2027/06 B04B11/06 B01D19/0052 B04B1/10 B04B1/14 B04B1/20 B04B11/02 B04B15/02 B04B15/08 B29B17/02 B29B2017/0203 B29B2017/0231 B29B2017/0237 B29B2017/0255 B29K2313/00 B29K2705/00 B29K2705/02 B29K2711/12 Y02W30/524 Y02W30/622 B29C48/09 B29C48/76
European: B01D19/00P4 B01D21/26 B04B1/10 B04B1/14 B04B1/20 B04B11/02 B04B11/06 B04B15/02 B04B15/08 B29B13/02C B29B17/02 B29C47/76 L29B17/02B L29B17/02Z1D L29B17/02Z1F L29B17/02Z2 L29K23/06 L29K25/00 L29K27/06 L29K313/00 L29K705/00 L29K705/02 L29K711/12



Family:

Publication number	Publication date	Application number	Application date
DE4314020 A1	19941103	DE19934314020	19930429
DE4414750 A1	19950105	DE19944414750	19940427
DE4414750 C2	19970424	DE19944414750	19940427

Priority:
DE19934314020 19930429 DE19934323317 19930712 DE19944414750 19940427

Probable Assignee: SCHNAUSE ROLF DIPL ING 24105 KIEL DE
Assignee(s): (std): SCHNAUSE ROLF ; SCHNAUSE ROLF DIPL ING
Assignee(s): SCHNAUSE ROLF DIPL ING 24105 KIEL DE ; SCHNAUSE ROLF 24105 KIEL DE
Inventor(s): (std): SCHNAUSE ROLF ; SCHNAUSE ROLF DIPL ING
Inventor(s): SCHNAUSE ROLF 24105 KIEL DE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE4314020 A1	19941103	LSPB	+	published / reissued	
DE4314020 A1	19941103	LSES	+OM8	SEARCH REPORT AVAILABLE AS TO PARAGRAPH 43 LIT. 1 SENTENCE 1 PATENT LAW	
DE4314020 A1	19941222	LSWD	-8143	WITHDRAWN DUE TO CLAIMING INTERNAL PRIORITY	
DE4414750 A1	19950105	LSPB	+	published / reissued	
DE4414750 A1	19950105	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4414750 C2	19970424	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4414750 C2	19970424	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4414750 C2	19971016	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4414750 C2	20070215	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4414750 C2	20140427	PEXP		Calculated Patent Term Expiry	

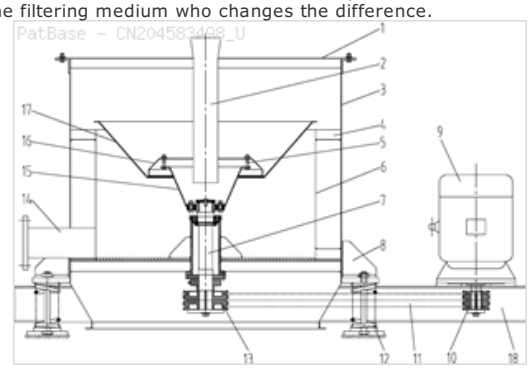
49) Family number: 60214601 (CN204583498U)

Title: PULP WATER SEPARATION **CENTRIFUGAL** **SEPARATOR**

Abstract: The utility model provides a pulp water separation **centrifugal** **separator**, including outer barrel, interior barrel, inlet pipe, separable set, drive assembly and bumper shock absorber, wherein outer barrel passes through the bumper shock absorber and the mounting spur as the stabilizer **blade**, and the inside of outer barrel is equipped with a coaxial interior barrel, is connected with the outlet pipe outside the interior barrel lower part, separable set is including dividing separation disc, a **sieve** section of thick bamboo and manger plate cover, divide separation disc upper portion opening border be higher than and be greater than in barrel upper portion opening, **sieve** section of thick bamboo fixed connection is in the below of minute separation disc, and in a **sieve** section of thick bamboo upper portion opening stretched into the branch separation disc, the manger plate cover of a back-off was propped on **sieve** section of thick bamboo upper portion, the inlet pipe barrel upper portion center outside of setting up, the inlet pipe passes the manger plate cover and stretches into in the **sieve** section of thick bamboo, whole separable set is rotatory in the drive assembly drive. This **centrifugal** **separator** simple structure, efficient, the maintenance is convenient, to material and operating condition's strong adaptability, can adjust and control containing the **liquid** rate and going out containing of **liquid** of solid rate of filter residue effectively to can be according to configuration of user's technological requirement and the filtering medium who changes the difference.

Classifications:

International (IPC 8-9): B04B1/00 B04B7/02 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN204583498 U	20150826	CN201520254261U	20150424

Priority:

CN201520254261U 20150424

Probable Assignee: GUILIN HUIZHONG CHEMICAL EQUIPMENT CO LTD

Assignee(s): (std): GUILIN HUIZHONG CHEMICAL EQUIPMENT CO LTD

Assignee(s): GUILIN HUIZHONG CHEMICAL EQUIPMENT CO

Inventor(s): (std): TAN WENBIN

Legal status (INPADOC)

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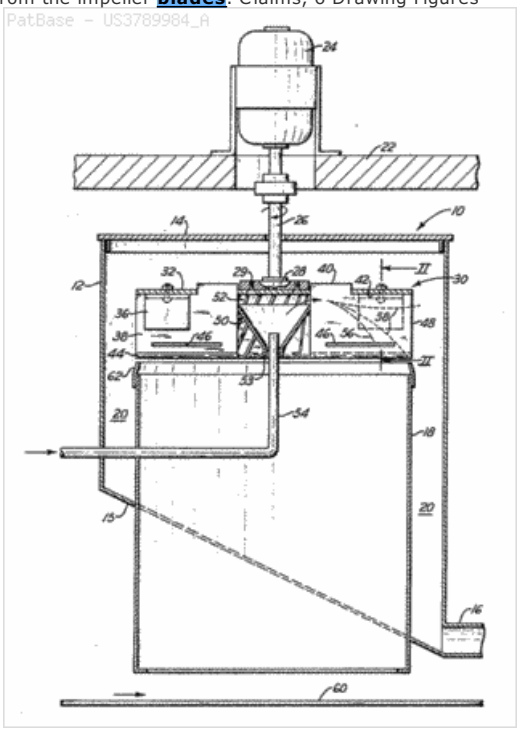
Patent	Date recorded	Event group	Code	Event	Details
CN204583498 U	20150826	LSGT	+	granted / extensions (spc, cpc, pte)	
CN204583498 U	20150826	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN204583498 U	20250424	PEXP		Calculated Patent Term Expiry	

50) Family number: 7628608 (US3789984A)

Title: **CENTRIFUGAL** CLEANER

Abstract: Apparatus for separating solid particles from **liquid** in a slurry in which radial **blades** are attached to a rotating base plate. The **blades** slope in a direction opposite the direction of rotation whereby the trailing edge of the **blade** is spaced from the base plate. Means are provided for delivering the slurry onto the inner end of the impellers near the surface of the base plate and for rotating the disc. The solid particles move rapidly in a radial direction along the impeller **blades**. That rapid movement creates a Coreolis force that causes the particles to be discharged from the trailing edge of the **blades**. Because the **liquid** wets the **blades** and the viscosity of the **liquid** slows movement of the **liquid** on the **blades**, Coreolis forces on the **liquid** are relatively small and the **liquid** is discharged from the outer end of the **blades**. The solid particles and **liquid** are collected separately as they are discharged from the impeller **blades**. Claims, 6 Drawing Figures

Classifications:
International (IPC 8-9): B01D21/26 B04B5/12 (Advanced/Invention); B01D21/26 B04B5/00 (Core/Invention)
International (IPC 1-7): B01D21/26
CPC: B01D21/262 B01D2221/04 B04B5/12
European: B01D21/26 B04B5/12
US: 209/18 209/199 209/50.5 209/505



Family:

Publication number	Publication date	Application number	Application date
US3789984 A	19740205	US19710170839	19710811

Priority:

US19710170839 19710811

Probable Assignee: CHEVRON RESEARCH CO SAN FRANCISCO CA A CORP OF DE

Assignee(s): (std): GULF RESEARCH DEVELOPMENT CO

Assignee(s): CHEVRON RESEARCH CO ; CHEVRON RESEARCH CO SAN FRANCISCO CA A CORP OF DE ; GULF RES AND DEV CO US

Inventor(s): (std): GAYLORD E

Inventor(s): GAYLORD E US

Legal status (INPADOC)

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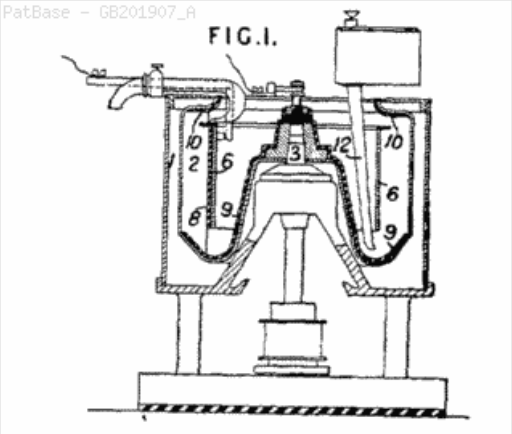
Patent	Date recorded	Event group	Code	Event	Details
US3789984 A	19740205	LSGT	+	granted / extensions (spc, cpc, pte)	
US3789984 A	19860505	LSAS	AS	ASSIGNMENT	OWNER NAME : CHEVRON RESEARCH COMPANY, SAN FRANCISCO, CA. A COR DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GULF RESEARCH AND DEVELOPMENT COMPANY, A CORP. OF DE.; REEL/FRAME:004610/0801 EFFECTIVE DATE : 19860423
US3789984 A	19860505	LSAS	AS	ASSIGNMENT	OWNER NAME : CHEVRON RESEARCH COMPANY, SAN FRANCISCO, CA. A COR DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:GULF RESEARCH AND DEVELOPMENT COMPANY, A CORP. OF DE.; REEL/FRAME:004610/0801 EFFECTIVE DATE : 19860423

51) Family number: 18474624 (GB201907A)

Title: An electro-**centrifugal** **separator**

Abstract: 201,907. Marx, A. Aug. 3, 1922, [Convention date]. Oils, purifying.-Oils are purified by combined electric cataphoresis and **centrifugal** force. A rotary drum 1 mounted on a shaft 3 has internal radial vanes 2, the drum and vanes being provided with insulating packing 8 - - 10. The drum 1 is connected to one pole of an electric source, while a rotary or fixed cylinder 6 suspended therein is connected to the other pole. The fluid to be treated enters continuously by a pipe 12 and fills the annular space between the drum 1 and the cylinder 6. The impurities are deposited on the drum or the cylinder. The purified fluid is discharged from the top of the drum.

Classifications:
International (IPC 8-9): B04B5/00 (Advanced/Invention); B04B5/00 (Core/Invention)
International (IPC 1-7): B04B5/00
CPC: B04B5/00
European: B04B5/00



Family:

Publication number	Publication date	Application number	Application date
GB201907 A	19231220	GB19230018990	19230724

Priority:
19220803

Probable Assignee: ALFRED MARX
Assignee(s): (std)**:** ALFRED MARX

Legal status (INPADOC)

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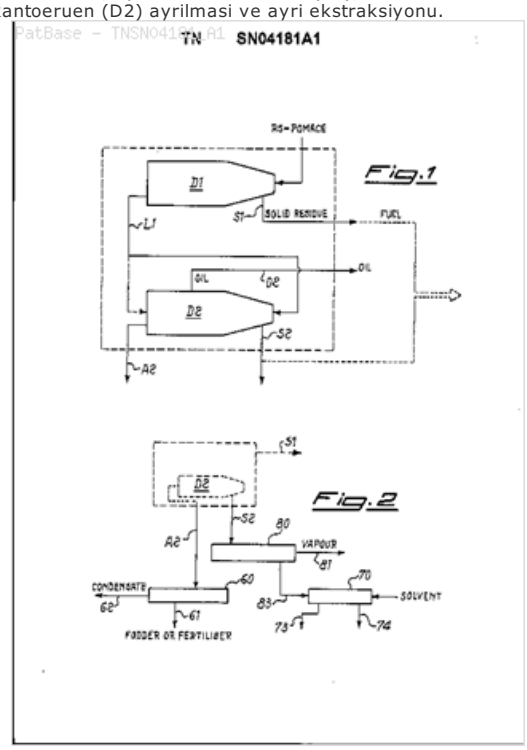
Patent	Date recorded	Event group	Code	Event	Details
GB201907 A	19231220	LSGT	+	granted / extensions (spc, cpc, pte)	
GB201907 A	19430724	PEXP		Calculated Patent Term Expiry	

52) Family number: 31961632 (TR200402407A)

Title: YAG ICEREN MAHSULDEN YAG CIKARMAK ICIN BIR ISLEMDEN ELDE EDILEN BIR ARTIK MADDEYI ISLEMDEN GECIRMEK ICIN METOD VE TECHIZAT.

Abstract: Source: TR200402407A [TR] Kati artiklarin hafif bir sivi bilesen ve agir bir bilesenin yag iceren mahsul ya da benzerlerinden yag ekstrakt etmek icin olan bir islemden elde edilen bir pirinadan ayrilmasi icin metod, ayirt edici oezelligi asagidaki asamalari icermesidir: a) soezue edilen pirinanin (RS) bir birinci yatay eksenli santifruej ekstraktoer ya da dekantoere (D1) beslenmesi; b) en azindan bir birinci hafif sivi bilesenden (O1) ve bir birinci agir sivi bilesenden (A1) olusan bir birinci kati artik maddenin (S1) ve en azindan bir sivi bilesenin (L1;A1) ayrilmasi ve ekstraksiyonu c) soezue edilen sivi bilesenin (L1;A1) ikinci bir yatay eksen santifruej ekstraktoere (D2) beslenmesi; d) bir ikinci kati artik (S2), bir hafif sivi bilesen (O2) ve bir agir sivi artik (A2) iceren soezue edilen ikinci dekantoeruen (D2) ayrilmasi ve ayri ekstraksiyonu.

Classifications:
International (IPC 8-9): A23N1/00 B01D17/02 B01D21/00 B04B1/00 B04B1/20 B04B5/10 B09B3/00 C11B1/00 C11B1/10 C11B13/00 (Advanced/Invention);
A23N1/00 B01D17/02 B04B1/00 B04B5/00 B09B3/00 C11B1/00 C11B13/00 (Core/Invention)
International (IPC 1-7): B04B1/00 B04B1/20 C11B13/00
CPC: B01D21/262 B01D2221/06 B09B3/00 C11B13/00 B04B1/20 B01D17/0217 B04B5/10 B04B2001/2083 C11B1/06 C11B1/10
European: B01D17/02H B01D21/26 B04B1/20 B04B5/10 B09B3/00 C11B1/06 C11B1/10 C11B13/00 L04B1/20M



Family:

Publication number	Publication date	Application number	Application date
ES2259884 AA	20061016	ES20040002238	20040920
ES2259884 BA	20071001	ES20040002238	20040920
GR1008132 B	20140307	GR20040100380	20040922
GR20040100380 A	20050518	GR20040100380	20040922
ITMI20031803 A1	20050323	IT2003MI01803	20030922
ITMI20041484 A1	20041022	IT2004MI01484	20040722
PT103197 A	20050331	PT20040103197	20040921
TNSN04181 A1	20070312	TN2004SN00181	20040915
TR200402407 A1	20071022	TR20040002407	20040922

Priority:
IT2003MI01803 20030922 IT2004MI01484 20040722 GR20040100380 20040922

Probable Assignee: NUOVA MAIP MACCHINE AGRIC

Assignee(s): (std): NUOVA M A I P MAC AGRICOLE IND ; NUOVA M A I P MACCHINE AGRICOLE IND PIERALISI S P A ; NUOVA MAIP MACCHINE AGRIC

Assignee(s): NUOVA M A I P MACCHINE AGRICOLE INDUSTRIALI PIERALISI S P A ; NUOVA MAIP MACCHINE AGRICOLE INDUSTRIALI PIERALISI SPA ; NUOVA M A I P ; NUOVA M A I P MACCHINE AGRICOLE INDUSTRIALI PIERAL ; NUOVA MAIP MACCHINE AGRICOLE INDUSTRIALI PIERALISI ; NUOVA M A I P MAC AGRICOLE IND PIERALISI SP ; NUOVA M A I P MACCHINE AGRICOLE IN DUSTRIALI PIER

Inventor(s): (std): PIERALISI GENNARO ; GENNARO PIERALISI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
ES2259884 AA	20061016	LSPB	+	published / reissued	
ES2259884 AA	20061016	LSES	+EC2A	SEARCH REPORT PUBLISHED	DATE OF REF DOCUMENT : 20061016 KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
ES2259884 BA	20071001	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2259884 BA	20071001	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER :

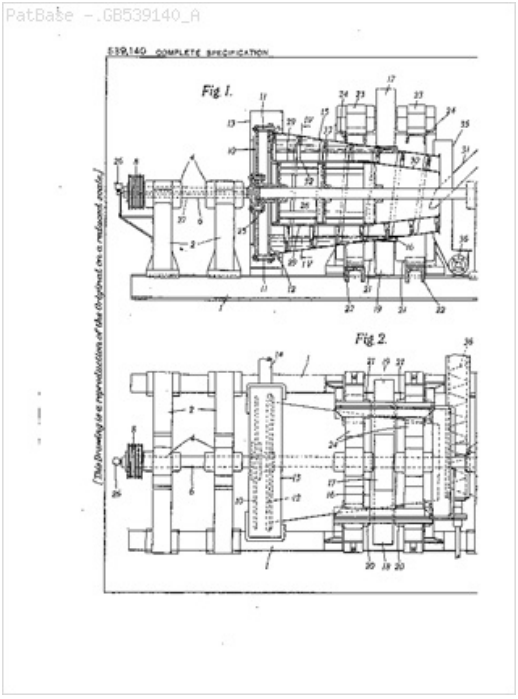
					2259884B1 COUNTRY OF REF DOCUMENT : ES
ES2259884 BA	20240920	PEXP		Calculated Patent Term Expiry	
GR1008132 B	20140307	LSGT	+	granted / extensions (spc, cpc, pte)	
GR1008132 B	20140522	LSGT	+PG	PATENT GRANTED	EFFECTIVE DATE : 20140416
GR1008132 B	20240922	PEXP		Calculated Patent Term Expiry	
GR20040100380 A	20050518	LSPB	+	published / reissued	
ITMI20031803 A1	20050323	LSPB	+	published / reissued	
ITMI20041484 A1	20041022	LSPB	+	published / reissued	
PT103197 A	20050331	LSPB	+	published / reissued	
PT103197 A	20050331	LSPB	+BB1A	LAYING OPEN OF PATENT APPLICATION	
PT103197 A	20050831	LSGT	+FG3A	PATENT GRANTED, DATE OF GRANTING	EFFECTIVE DATE : 20040921
TNSN04181 A1	20070312	LSPB	+	published / reissued	
TR200402407 A1	20071022	LSPB	+	published / reissued	

53) Family number: 20542647 (GB539140A)

Title: Improvements in or relating to **centrifugal** **separators**

Abstract: 14627. [Class 23] A **centrifugal** **separator** for separating fine particles of substances, such as starch, chalk, china clay, or coal, from water, consists of an outer tapered drum 15 with an inner cage 28 carying a helical member 33 and rotated slightly faster than the drum. The cage on the shaft 7 is driven by the pulley 9, while the drum 15 is attached to the annular plate 12 and end plate 10 and is driven by the pulley 8. The outside of the drum 15 carries a cylindrical surface 16 which is supported between three rollers 17, 18, 19. The end of the cage 28 is secured to a conical feed tube 30 to which material to be treated is supplied by the tube 31. The material flows through the machine and is thrown out to the periphery of the drum; it reaches a depth determined by the plate 12 which acts as a weir. The water flows over this plate into the collector 13 from which it is drawn off. The suspended particles lie against the wall of the drum 15 and are carried to the small end by the member 33 which consists of rubber strip held in brackets 32. The particles reach the casing 35 from which they are removed by the conveyer 36. Holes are made in the brackets 32 and the rubber oozes into them to hold the strip in position.

Classifications:
International (IPC 8-9): B04B1/20 (Advanced/Invention); B04B1/00 (Core/Invention)
International (IPC 1-7): B04B1/20
CPC: B04B1/20
European: B04B1/20



Family:

Publication number	Publication date	Application number	Application date
GB539140 A	19410828	GB19400014627	19400927

Priority:
GB19400014627 19400927

Probable Assignee: ALFRED REINHOLD JAHN
Assignee(s): (std): ALFRED REINHOLD JAHN ; REGINALD CHARLES JAHN

Legal status (INPADOC)

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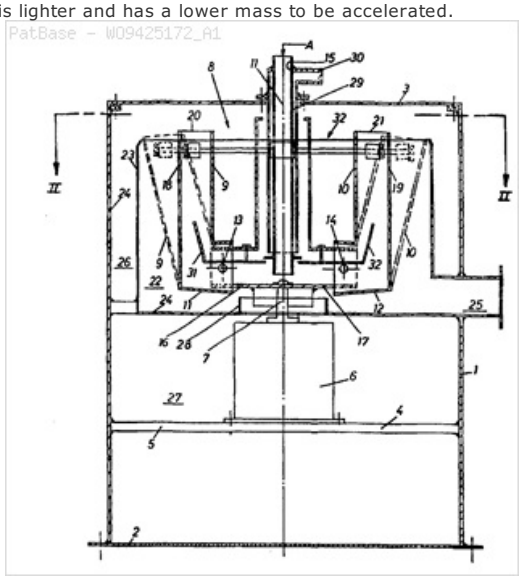
Patent	Date recorded	Event group	Code	Event	Details
GB539140 A	19410828	LSGT	+	granted / extensions (spc, cpc, pte)	
GB539140 A	19600927	PEXP		Calculated Patent Term Expiry	

54) Family number: 17164650 (WO9425172A1)

Title: CENTRIFUGE

Abstract: A centrifuge with a rotor having a rotary drive and inlet and outlet devices has a rotor (8) with a plurality of **separator** tubes (9, 10) distributed over the circumference which are arranged substantially towards the rotor axis (11) at a radial distance from the rotor axis (11). The **separator** tubes can be radially pivoted or moved about a pivot axis (13, 14). The inlet device (15) opens into the **separator** tubes via radial connecting pipes (16, 17). Unlike prior art centrifuge structures with a rotating drum, the invention requires less material, is lighter and has a lower mass to be accelerated.

Classifications:
International (IPC 8-9): B01D45/14 B04B5/02 (Advanced/Invention); B01D45/12 B04B5/00 (Core/Invention)
International (IPC 1-7): B01D45/12 B04B3/00 B04B5/02
CPC: B01D45/14 B04B5/02
European: B01D45/14 B04B5/02



Family:

Publication number	Publication date	Application number	Application date
DE9306721 U1	19930916	DE19930006721U	19930504
WO9425172 A1	19941110	WO1994DE00469	19940428

Priority:
DE19930006721U 19930504

Probable Assignee: WEISE HEINZ
Assignee(s): (std): WEISE HEINZ
Assignee(s): WEISE HEINZ 41238 MOENCHENGLADBACH DE
Inventor(s): (std): WEISE HEINZ
Designated states: AT BE CA CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE US

Legal status (INPADOC)

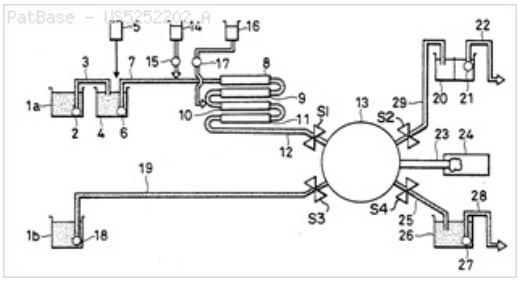
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE9306721 U1	19930916	LSGT	+	granted / extensions (spc, cpc, pte)	
DE9306721 U1	20030504	PEXP		Calculated Patent Term Expiry	
WO9425172 A1	19941110	LSPB	+	published / reissued	
WO9425172 A1	19951025	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO9425172 A1	19960304	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA

55) Family number: 11840661 (US5252202A)

Title: MUDDY AND WASTE WATER TREATMENT DEVICE AND METHOD

Abstract: A water treatment method and device can perform a regeneration treatment of the muddy water once used in a water excavation work to decrease its specific gravity for reuse in the water excavation work, and a dehydration treatment of various waste waters such as muddy water from the water excavation work and industrial waste water for final disposal. The dehydration treatment includes a flocculating step for flocculating fine muddy particles, a solid-**liquid** separating step for separating the floccus to a solid part and a **liquid** part, a discharging step for discharging the **liquid** part through a filtering and water cleansing step, and a solid part treatment step for treating the solid part separated at the solid-**liquid** separating step, and the regeneration treatment including a solid-**liquid** separating step for separating the muddy water to a solid part and a **liquid** part and a reusing step for reusing the separated **liquid** part which is free from the muddy particles by the solid-**liquid** separating step, and a solid part treatment step for treating the solid part separated at the solid-**liquid** separating step. The solid-**liquid** separating step is achieved by a **centrifugal** **separator** whose inner basket is composed of a non-perforated wall and a wheel shaped bottom.



Classifications:
International (IPC 8-9): B01D21/00 B01D21/26 B01D21/30 B04B1/02 B04B11/04 B04B11/08 C02F1/38 C02F1/52 C02F11/12 C02F9/00 E02F7/00 E21B21/06 G01F23/22 G06F7/52 G06F9/302 (Advanced/Invention);
B01D21/00 B01D21/26 B01D21/30 B04B1/00 B04B11/00 C02F1/38 C02F1/52 C02F11/12 C02F9/00 E02F7/00 E21B21/00 G01F23/22 G06F7/48 G06F9/302 (Core/Invention);
G06F (Subclass/Invention)
International (IPC 1-7): B01D21/01 B01D21/26 B01D21/30 B03B5/32 B04B1/02 B04B11/00 B04B11/08 B04B5/00 B04B5/10 B04B7/02 B04B7/06 B04B7/08 C02F1/38 C02F1/52 C02F11/12 C02F11/14 C02F9/00 E21B21/06 E21B43/34 G01F15/12 G01F23/00
CPC: B01D21/34 Y10S210/918 B01D21/262 B01D2221/04 C02F1/5281 B01D21/01 C02F1/385 C02F2103/06 Y02W10/37 B01D21/00 B01D21/26
European: B01D21/00 B01D21/01 B01D21/26 C02F1/38B C02F1/52P M02F103/06
US: 209/5 210/104 210/112 210/143 210/199 210/205 210/257.1 210/512.1 210/710 210/712 210/726 210/744 210/787 210/86 210/918 494/26 494/5 494/58

Family:

Publication number	Publication date	Application number	Application date
DE4211254 A1	19930527	DE19924211254	19920403
DE4211254 C2	19961002	DE19924211254	19920403
DE4244839 C2	19981112	DE19924244839	19920403
DE4244840 C2	20021114	DE19924244840	19920403
FR2683812 A1	19930521	FR19920002663	19920305
FR2683812 B1	19940128	FR19920002663	19920305
IT1254625 B	19950928	IT1992MI00388	19920221
ITMI920388 A0	19920221	IT1992MI00388	19920221
ITMI920388 A1	19930520	IT1992MI00388	19920221
JP2527701 B2	19960828	JP19910352057	19911213
JP2565482 B2	19961218	JP19910331379	19911119
JP2807657 B2	19981008	JP19960087206	19960315
JP5138174 A2	19930601	JP19910331379	19911119
JP5164596 A2	19930629	JP19910352057	19911213
JP8229572 A2	19960910	JP19960087206	19960315
TW235954 B	19941211	TW19930102638	19930409
US5252202 A	19931012	US19920845203	19920303
US5338459 A	19940816	US19930122338	19930917

Priority:

JP19910331379 19911119 JP19910352057 19911213 US19920845203 19920303
DE19924211254 19920403 US19930122338 19930917 JP19960087206 19960315

Probable Assignee: DAIYO KIKO IND INC

Assignee(s): (std): DAIYO KIKO IND ; DAIYO KIKO IND INC ; DAIYO KIKO INDUSTRY ; DAIYO KIKO INDUSTRY INC ; DAIYOU KIKO KOGYO KK ; DAIYOU KIKO IND INC ; DAIYOKIKO KOGYO KK

Assignee(s): LARGE CAPACITY BASED POWER INDUSTRIAL CO LTD ; DAIYO KIKO INDUSTRY INC KOCHI JP ; DAIYO KIKO INDUSTRY INC KOCHI ; DAIYO KIKO KOGYO KK

Inventor(s): (std): HIROSE KAORU ; KAORU HIROSE

Inventor(s): HIROSE KAORU KOCHI JP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE4211254 A1	19930527	LSPB	+	published / reissued	
DE4211254 A1	19930527	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4211254 C2	19961002	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4211254 C2	19961002	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4211254 C2	19970403	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	

DE4211254 C2	20030213	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4211254 C2	20120403	PEXP		Calculated Patent Term Expiry	
DE4244839 C2	19981112	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4244839 C2	19950420	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
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DE4244839 C2	20120403	PEXP		Calculated Patent Term Expiry	
DE4244840 C2	20021114	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4244840 C2	20021114	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4244840 C2	20030213	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4244840 C2	20120403	PEXP		Calculated Patent Term Expiry	
FR2683812 A1	19930521	LSPB	+	published / reissued	
FR2683812 B1	19940128	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2683812 B1	20030110	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2683812 B1	20120305	PEXP		Calculated Patent Term Expiry	
IT1254625 B	19950928	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1254625 B	19950928	LSGT	0001	GRANTED	
IT1254625 B	19991027	LSFE	TA	FEE PAYMENT DATE (SITUATION AS OF EVENT DATE), DATA COLLECTED SINCE 19931001	EFFECTIVE DATE : 19971231
IT1254625 B	20120221	PEXP		Calculated Patent Term Expiry	
ITMI920388 A1	19930520	LSPB	+	published / reissued	
JP2527701 B2	19960828	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2527701 B2	20111213	PEXP		Calculated Patent Term Expiry	
JP2565482 B2	19961218	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2565482 B2	20111119	PEXP		Calculated Patent Term Expiry	
JP2807657 B2	19981008	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2807657 B2	20040511	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2807657 B2	20070628	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP2807657 B2	20070703	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP2807657 B2	20080715	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP2807657 B2	20090630	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 14
JP2807657 B2	20111119	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	

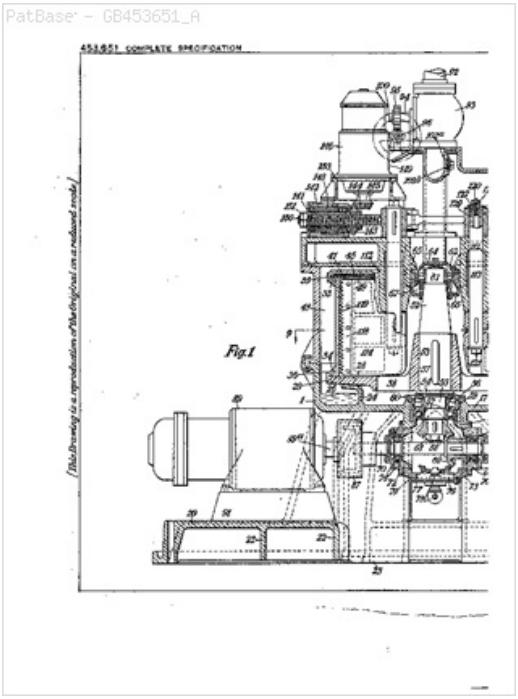
JP2807657 B2	20120208	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 14
JP2807657 B2	20160315	PEXP		Calculated Patent Term Expiry	
JP5138174 A2	19930601	LSPB	+	published / reissued	
JP5164596 A2	19930629	LSPB	+	published / reissued	
JP8229572 A2	19960910	LSPB	+	published / reissued	
TW235954 B	19941211	LSGT	+	granted / extensions (spc, cpc, pte)	
TW235954 B	20130409	PEXP		Calculated Patent Term Expiry	
US5252202 A	19931012	LSGT	+	granted / extensions (spc, cpc, pte)	
US5252202 A	19920303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAIYO KIKO INDUSTRY INC., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:HIROSE, KAORU; REEL/FRAME:006044/0092 EFFECTIVE DATE : 19920130
US5252202 A	19930929	LSGT	PAT1	Patented Case	
US5252202 A	19930929	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5252202 A	19970414	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5252202 A	20010412	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5252202 A	20050412	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5252202 A	20120303	PEXP		Calculated Patent Term Expiry	
US5338459 A	19940816	LSGT	+	granted / extensions (spc, cpc, pte)	
US5338459 A	19940805	LSGT	PAT1	Patented Case	
US5338459 A	19940805	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5338459 A	19980217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5338459 A	20020213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5338459 A	20060215	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5338459 A	20130917	PEXP		Calculated Patent Term Expiry	

56) Family number: 20532680 (GB453651A)

Title: Improvements in continuous automatic **centrifugal** separating machines

Abstract: 453,651. **Centrifugal** machines. AMERICAN **CENTRIFUGAL** CORPORATION, 70, Pine Street, New York, U.S.A. Feb. 15, 1935, No. 4979. Convention date, Feb. 21, 1934. [Class 23] A **centrifugal** machine for the treatment of sewage and like material has a basket 13 with imperforate walls and openings in its base for the discharge of separated solids. The **liquid** passes through a **sieve** plate 43 at the top to radial seepage channels, and the basket is driven through bevel gearing by a high speed motor for purging and by a low speed motor for cleaning. The bottom section 1 of the casing has inner and outer flanges 24, 25 forming an annular trough 26 for the reception of the **liquid** discharged from the basket; an outlet pipe 27 leads from the trough. This section 1 is supported by inclined walls 12 rising from a base with tapered end portions forming platforms 19, 20 for the support of the high and low speed motors 88, 89. A shaft 70, Figs. 1, 13 is connected by overrunning clutches 86, 87 to the motors 88, 89 and this shaft carries the sleeves and gearing through which the basket is rotated. The gearing is lubricated by oil supplied from a tank 80 by a pump 78. The clutch 86 has an outer cylindrical member 86, Fig. 15, secured to the high speed motor shaft and an inner member 86 with a number of peripheral cam or clutch faces 86 for engagement with spring-pressed rollers 86 interposed between the two members. The clutch 87 is of similar construction. The material is supplied to the machine through the pipe 92 under the control of a valve 93 which may be operated by a hand wheel 100 or by an electric motor 101, Fig. 2. The feed pipe 92 branches into two parts 103 which form continuations of the tubes 104 in the casing part 2, and dependent tubes 105 with flattened widened nozzles 106 convey the material to the lower part of the basket 13. The branches of the feed pipe have openings 107 for cleaning purposes; they are normally closed by caps 110 and have branch pipes 111 for the supply of chemicals, steam or the like for treatment of the material in the machine. Hollow vertical shafts 113 extend into the basket in quadrature with the pipes 105 and carry hollow scrapers 114 which can be turned into engagement with the deposit in the basket. The upper ends of the shafts 113 have arms 129 with pins 131 working in openings in blocks mounted to slide transversely in openings 134 in a sliding bar 135. One end of this bar slides in a guide 137 while the other end is connected to a screw 139 engaged in a threaded sleeve 141 which can be rotated by a motor 146, Fig. 1, through bevel gearing. By these means, the scrapers 114 may be brought into engagement with the deposited solids, or brought to the centre of the basket as shown in Fig. 9. Nuts 151 limit the movement of the screw and prevent the scrapers from actually touching the basket wall. Each scraper 114 has a **blade** 118 detachably secured to its outer edge and provided with teeth 119. A number of jet openings 125 are provided behind each **blade** for the purpose of cleaning the **blades** and the basket wall by means of compressed air supplied through the hollow shafts 113. The top plate 30 of the basket 13 has a recess in which is fitted a screen plate 43 with a number of ribs bounding a number of radial channels which communicate with the inclined apertures 45 in the screen plate, and also with the discharge apertures 47 in the basket flange. A screen 49 is arranged beneath the plate 43 and has a group of small perforations 50 arranged beneath each aperture 45. When the vertical bolts 5 which secure the casing sections 2, 3, 4 are removed, the sections 2, 4 with the mechanism for feeding to and discharging from the basket can be lifted as a complete unit. At the commencement of the operations, the slow speed motor 89 and the motor 146 are started to rotate the basket slowly and to move the scrapers 114 towards the basket wall. The motor 146 is then reversed to restore the scrapers to the central position. The high speed motor 88 is then started and the clutch arrangement permits it to overrun the motor 89 and to drive the basket at a high speed, while the motors 88, 146 are switched off. The valve 93 is then turned on to admit material to the basket 13 and the solids are deposited on the wall while the separated **liquid** passes through the screen plate apertures 45 to the casing part 3, the trough 26, and the outlet 27. The valve 93 is closed after a predetermined time and the cycle of operations is repeated. When the motor 146 moves the scrapers 114 outwards the deposited solids are removed and drop through the holes 38 in the base of the basket.

Classifications:
International (IPC 8-9): B04B11/08 (Advanced/Invention)
International (IPC 1-7): B04B13/00
CPC: B04B11/08 B04B2011/086
European: B04B11/08 L04B11/08F



Family:

Publication number	Publication date	Application number	Application date
GB453651 A	19360915	GB19350004979	19350215

Probable Assignee: AMERICAN CENTRIFUGAL CORP
Assignee(s): (std): AMERICAN CENTRIFUGAL CORP

Legal status (INPADOC)

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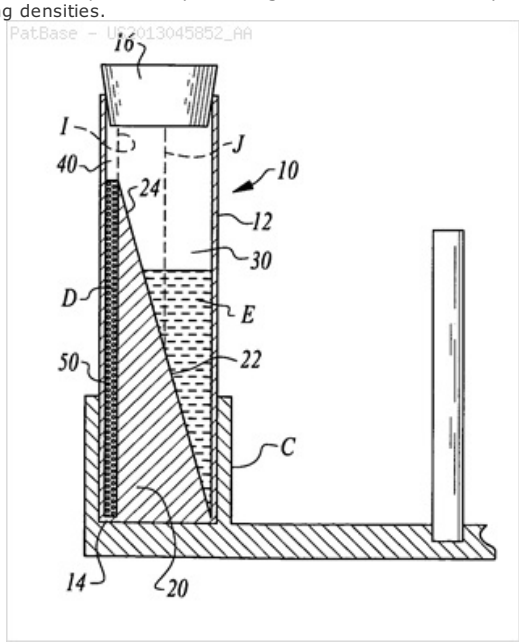
Patent	Date recorded	Event group	Code	Event	Details
GB453651 A	19360915	LSGT	+	granted / extensions (spc, cpc, pte)	
GB453651 A	19550215	PEXP		Calculated Patent Term Expiry	

57) Family number: 53040700 (US2013045852A)

Title: CENTRIFUGE SEPARATION METHOD AND APPARATUS USING A MEDIUM DENSITY FLUID

Abstract: The centrifugation vessel includes an outer wall containing an interior space. A dam defines a barrier which divides the interior space into at least two regions including a catch basin defining a higher gee region and a reservoir defining a lower gee region. These regions are joined together over the dam. The dam includes a face which is preferably tapered to enable optimization of speed of separation of a sample placed within the vessel. The vessel is usable in a biological sample processing method by having the higher gee region of the vessel configured to have an elongate form and the volume optimized for collection of a higher density fraction of the sample. Supply and withdrawal tubes extend into the regions for reliable extraction and separate collection of differing density fractions after separation by centrifugation. A medium density fluid is used within the vessel to further isolate constituents of differing densities.

Classifications:
International (IPC 8-9): B01D21/26 B01L3/00 B04B15/00 B04B7/16 G01N33/49 (Advanced/Invention);
A61M1/36 (Advanced/Non-invention)
CPC: B01D21/26 A61M1/3693 B01D21/262 B01D2221/10 B01L3/5021 B01L2200/026 B01L2300/0864 G01N33/491
US: 1/1 494/10 494/36 494/37



Family:

Publication number	Publication date	Application number	Application date
US2013045852 AA	20130221	US20110199129	20110819
US9095798 BB	20150804	US20110199129	20110819

Priority:
US20110199129 20110819

Probable Assignee: MICROAIRE SURGICAL INSTRUMENTS LLC
Assignee(s): (std): CHAPMAN JOHN R ; MICROAIRE SURGICAL INSTR LLC ; SPARKS RODNEY
Assignee(s): STEM CELL PARTNERS LLC ; MICROAIRE SURGICAL INSTRUMENTS LLC
Inventor(s): (std): SPARKS RODNEY ; CHAPMAN JOHN R
Agent(s): BRET E; BOZICEVIC FIELD AND FRANCIS LLP; KHIN K

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2013045852 AA	20130221	LSPB	+	published / reissued	
US2013045852 AA	20140529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STEM CELL PARTNERS, INC.; REEL/FRAME:032991/0794 EFFECTIVE DATE : 20140426
US2013045852 AA	20150715	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9095798 BB	20150804	LSGT	+	granted / extensions (spc, cpc, pte)	
US9095798 BB	20120615	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STEM CELL PARTNERS, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHAPMAN, JOHN R.; SPARKS, RODNEY; REEL/FRAME:028386/0052

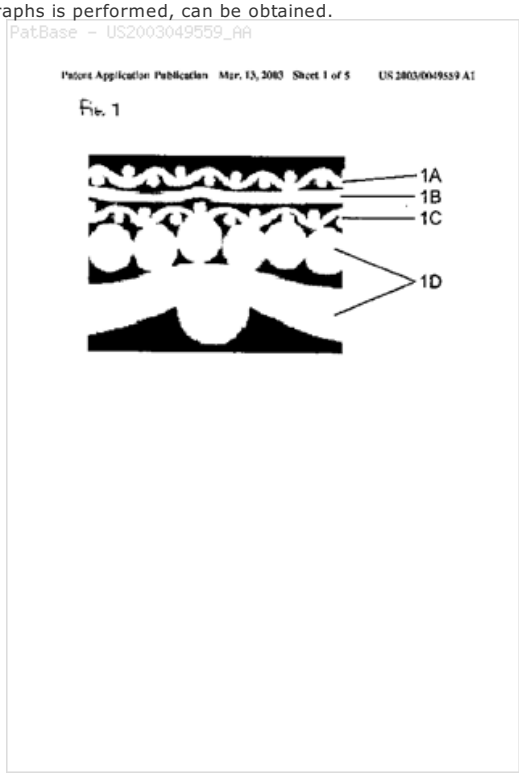
					EFFECTIVE DATE : 20120607
US9095798 BB	20150715	LSGT	PAT1	Patented Case	
US9095798 BB	20190104	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9095798 BB	20340427	PEXP		Calculated Patent Term Expiry (PTA 982 days)	

58) Family number: 30077717 (US2003049559A)

Title: Method for producing toner by mixing colored particles and outer-additive by mixer with stirrer of high speed rotation

Abstract: A method of producing a toner having a process of mixing colored particles and outer-additives by using a mixer with an agitating **blade** whose shaft portion is sealed with a gas having a flow rate of from 0.4 m3/hr to 3 m3/hr and which rotates at such a high speed as a peripheral speed at a tip of said agitating **blade** in a range of from 20 m/sec to 50 m/sec. When the colored particles and outer-additives are mixed with each other, there is no generation of aggregates thereby and the toner can be obtained at a high yield. Therefore the toner which hardly generates a white streak and fog, even after a long period of continuous operation of development of electrophotographs is performed, can be obtained.

Classifications:
International (IPC 8-9): B01D39/12 B01J4/00 B04B3/00 B04B7/16 B07B11/06 B07B7/06 G03G9/08 G03G9/087 G03G9/097 (Advanced/Invention);
B04B7/16 (Advanced/Non-invention);
B01D39/10 B01J4/00 B04B3/00 B04B7/00 B07B11/00 B07B7/00 G03G9/08 G03G9/087 G03G9/097 (Core/Invention);
B04B7/00 (Core/Non-invention)
International (IPC 1-7): B01D39/12 B01J4/00 B04B3/00 B04B7/16 B07B11/06 B07B7/06 G03G9/08 G03G9/087
CPC: G03G9/0808 G03G9/0819 G03G9/09708 G03G9/09733
European: G03G9/08B4 G03G9/08D G03G9/097B G03G9/097D
US: 430/105 430/137.1 430/137.18



Family:

Publication number	Publication date	Application number	Application date
JP2003005439 A2	20030108	JP20010188146	20010621
JP2003015350 A2	20030117	JP20010197219	20010628
JP2003043744 A2	20030214	JP20010231287	20010731
JP2003071323 A2	20030311	JP20010261017	20010830
JP4085233 B2	20080514	JP20010188146	20010621
JP4106879 B2	20080625	JP20010197219	20010628
JP4126525 B2	20080730	JP20010231287	20010731
US2003049559 AA	20030313	US20020174533	20020619
US6740463 BB	20040525	US20020174533	20020619

Priority:
JP20010188146 20010621 JP20010197219 20010628 JP20010231287 20010731 JP20010261017 20010830

Probable Assignee: ZEON CORP

Assignee(s): (std): AZUMA HIDETOSHI ; MAKUTA YOSHIHIRO ; NIPPON ZEON CO ; NIPPON ZEON CO LTD ; OTA NOBUYASU ; SHIGEMORI KAZUNORI ; YAMAMOTO HIROSI ; SATO KAZUHIRO ; OTA RYUJI ; ZEON CORP

Inventor(s): (std): YAMAMOTO HIROSHI ; OTA TATSUSHI ; OTA RYUJI ; SATO KAZUHIRO ; OTA NOBUYASU ; YAMAMOTO HIROSI ; MAKUTA YOSHIHIRO ; AZUMA HIDETOSHI ; SHIGEMORI KAZUNORI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP2003005439 A2	20030108	LSPB	+	published / reissued	
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JP2003005439 A2	20080124	LSGT	+A01	WRITTEN DECISION TO GRANT A	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080123

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JP4085233 B2	20080131	LSFE	R1001	特許料納付書 (包括納付) (Patent fee payment form (inclusive payment))	
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JP4126525 B2	20210731	PEXP		Calculated Patent Term Expiry	
US2003049559 AA	20030313	LSPB	+	published / reissued	
US2003049559 AA	20040506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6740463 BB	20040525	LSGT	+	granted / extensions (spc, cpc, pte)	
US6740463 BB	20020923	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ZEON CORPORATION, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHIGEMORI, KAZUNORI; AZUMA, HIDETOSHI; MAKUTA, YOSHIHIRO; AND OTHERS; REEL/FRAME:013320/0174; SIGNING DATES FROM 20020819 TO 20020919
US6740463 BB	20040506	LSGT	PAT1	Patented Case	
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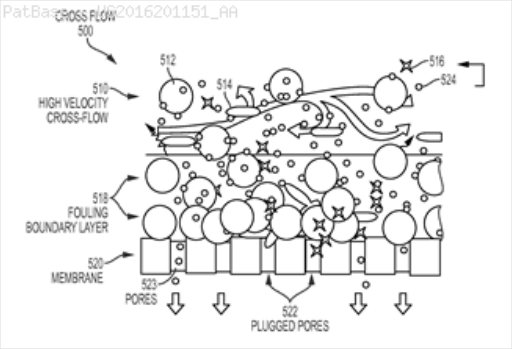
US6740463 BB	20111026	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6740463 BB	20151111	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6740463 BB	20220619	PEXP		Calculated Patent Term Expiry	

59) Family number: 61544721 (US2016201151A)

Title: PROCESSING BIOMASS

Abstract: Biomass feedstocks (e.g., plant biomass, animal biomass, and municipal waste biomass) are processed to produce useful products, such as fuels. For example, systems are described that can be useful for separating solids from **liquids** of bioprocessed biomass material slurries. For example, filtration systems are described that include multiple centrifuges, e.g., multiple tandem centrifuges.

Classifications:
International (IPC 8-9): B01D1/26 B01D15/00 B01D61/02 B01D61/14 B01D61/42 B01D61/44 B01D61/58 B01D63/02 B01D63/06 B01D63/10 B01D69/00 B01D69/02 B01D69/04 B01D69/06 B01D69/08 B04B1/00 B04B11/00 B04B11/02 B09B3/00 B09B5/00 C02F11/12 C12P19/00 C12P19/02 C12P19/14 C12P7/62 C13B C13B20/16 C13K1/04 C13K1/08 C13K13/00 (Advanced/Invention); B01D61/58 (Core/Invention)
International (IPC 1-7): B01D61/58 B04B11/00 B04B11/02 C13K1/04 C13K1/08
CPC: C13B20/165 C13K13/002 C13B20/16 Y02E50/16 B01D61/02 B01D61/142 B01D61/44 B01D61/58 B01D2311/2688 B01D2315/12 B01D2317/025 C12P7/10 C12P7/62 C12P19/02 C13K1/04
US: 1/1 127/55 127/56



Family:

Publication number	Publication date	Application number	Application date
AP201609637 A0	20161231	AP20160009637	20150721
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AU2015292787 AA	20170105	AU20150292787	20150721
AU2015292799 AA	20170105	AU20150292799	20150721
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CA2954896 AA	20170111	CA20152954896	20150721
CA2954936 AA	20170110	CA20152954936	20150721
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CU20170005 A7	20170303	CU20170000005	20170120
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EA201790037 A1	20170831	EA20170090037	20150721
EP3171966 A1	20170531	EP20150825266	20150721
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SG11201610702S A1	20170227	SG20161110702	20150721
TH171875 A	20171228	TH20171000142	20150721
US2016201151 AA	20160714	US20150897931	20150721
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US2018355446 AA	20181213	US20180055397	20180806
US2019048428 AA	20190214	US20180105146	20180820
WO16014511 A1	20160128	WO2015US41306	20150721
WO16014523 A1	20160128	WO2015US41320	20150721

Priority:

US20140026742P 20140721 US20140027489P 20140722 AU20150292799 20150721
US20150897931 20150721 WO2015US41320 20150721 WO2015US41306 20150721
US20150897947 20150721 US20150897931 20151211 US20150897947 20151211
US20180055397 20180806 US20180105146 20180820 AU20190204058 20190611

Probable Assignee: XYLECO INC

Assignee(s): (std): XYLECO ; XYLECO INC

Assignee(s): CAHILL JOHN M ; MASTERMAN THOMAS CRAIG ; MEDOFF MARSHALL ; RODITI SOLOMON I

Inventor(s): (std): MASTERMAN THOMAS CRAIG ; CAHILL JOHN M ; MEDOFF MARSHALL ; RODITI SOLOMON I ; MARSHALL MEDOFF ; CRAIG MASTERMAN THOMAS ; JOHN M CAHILL ; THOMAS CRAIG MASTERMAN ; SOLOMON I

RODITI ; MASTERMAN THOMAS

Agent(s): WRAYS PTY LTD; BERESKIN AND PARR LLP SENCRL SRL; SMART AND BIGGAR; SCANNELL MICHAEL; CASEY ALAN MICHAEL; ACHMAD FATCHY; DONALDSON AND BURKINSHAW LLP; SCOZZAFAVA MARY ROSE ET AL; SCOZZAVAFAVA MARY ROSE ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2015292787 AA	20170105	LSPB	+	published / reissued	
AU2015292799 AA	20170105	LSPB	+	published / reissued	
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AU2019204058 AA	20190704	LSPB	+	published / reissued	
CA2954896 AA	20170111	LSPB	+	published / reissued	
CA2954936 AA	20170110	LSPB	+	published / reissued	
CN106488796 A	20170308	LSPB	+	published / reissued	
CN106488796 A	20170308	LSPB	+C06	PUBLICATION	
CN106536760 A	20170322	LSPB	+	published / reissued	
CN106536760 A	20170322	LSPB	+C06	PUBLICATION	
CU20170005 A7	20170303	LSPB	+	published / reissued	
CU20170006 A7	20170303	LSPB	+	published / reissued	
EA201790035 A1	20171031	LSPB	+	published / reissued	
EA201790037 A1	20170831	LSPB	+	published / reissued	
EP3171966 A1	20170531	LSPB	+	published / reissued	
EP3171966 A1	20170531	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170103
EP3171966 A4	20180314	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180209
EP3172343 A1	20170531	LSPB	+	published / reissued	
EP3172343 A1	20170531	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170130
EP3172343 A4	20180307	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180207
ID201802146 A	20180302	LSPB	+	published / reissued	
ID201802147 A	20180302	LSPB	+	published / reissued	
IN201727005951 A	20170331	LSPB	+	published / reissued	
IN201727006019 A	20170331	LSPB	+	published / reissued	

JP2017523035 T2	20170817	LSPB	+	published / reissued	
JP2017523035 T2	20180719	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180719
JP2017523035 T2	20180719	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180719
JP2017523035 T2	20190730	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190730
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JP2017527267 T2	20190618	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190618
KR20170030572 A	20170317	LSPB	+	published / reissued	
KR20170030574 A	20170317	LSPB	+	published / reissued	
MX2017000870 A1	20170308	LSPB	+	published / reissued	
MX2017000871 A1	20170308	LSPB	+	published / reissued	
PH2016502457 A	20170306	LSPB	+	published / reissued	
PH2016502458 A	20170306	LSPB	+	published / reissued	
SG10201809655W A1	20181129	LSPB	+	published / reissued	
SG11201610700Y A1	20170227	LSPB	+	published / reissued	
SG11201610702S A1	20170227	LSPB	+	published / reissued	
TH171875 A	20171228	LSPB	+	published / reissued	
US2016201151 AA	20160714	LSPB	+	published / reissued	
US2016201151 AA	20160229	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYLECO, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDOFF, MARSHALL; MASTERMAN, THOMAS CRAIG; RODITI, SOLOMON I.; REEL/FRAME:037853/0633 EFFECTIVE DATE : 20150410
US2016201151 AA	20170118	LSES	NFA1	Non Final Action Mailed	
US2016201151 AA	20180305	LSES	NFA1	Non Final Action Mailed	
US2016201151 AA	20180910	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016201152 AA	20160714	LSPB	+	published / reissued	
US2016201152 AA	20160229	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYLECO, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDOFF, MARSHALL; MASTERMAN, THOMAS CRAIG; CAHILL, JOHN M.; REEL/FRAME:037853/0505 EFFECTIVE DATE : 20150410
US2016201152 AA	20170207	LSES	NFA1	Non Final Action	

				Mailed	
US2016201152 AA	20180316	LSES	NFA1	Non Final Action Mailed	
US2016201152 AA	20180925	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018355446 AA	20181213	LSPB	+	published / reissued	
US2018355446 AA	20180806	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYLECO, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDOFF, MARSHALL; MASTERMAN, THOMAS CRAIG; RODITI, SOLOMON I.; REEL/FRAME:046561/0138 EFFECTIVE DATE : 20150410
US2018355446 AA	20190503	LSES	NFA1	Non Final Action Mailed	
US2019048428 AA	20190214	LSPB	+	published / reissued	
US2019048428 AA	20180821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYLECO, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDOFF, MARSHALL; MASTERMAN, THOMAS CRAIG; CAHILL, JOHN M.; REEL/FRAME:046652/0106 EFFECTIVE DATE : 20150410
US2019048428 AA	20190522	LSES	NFA1	Non Final Action Mailed	
WO16014511 A1	20160128	LSPB	+	published / reissued	
WO16014511 A1	20161212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12016502457 COUNTRY OF REF DOCUMENT : PH
WO16014511 A1	20170103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015825266 COUNTRY OF REF DOCUMENT : EP
WO16014511 A1	20170105	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015292787 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150721 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014511 A1	20170110	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2954936 COUNTRY OF REF DOCUMENT : CA
WO16014511 A1	20170112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017501700 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014511 A1	20170117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201790037 COUNTRY OF REF DOCUMENT : EA
WO16014511 A1	20170117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 250159 COUNTRY OF REF DOCUMENT : IL
WO16014511 A1	20170119	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2017/000870 COUNTRY OF REF DOCUMENT : MX
WO16014511 A1	20170123	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

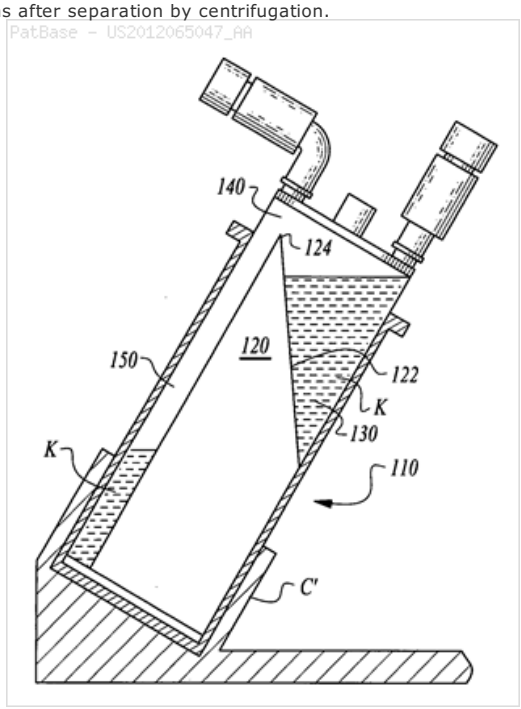
WO16014511 A1	20170206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20177003328 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014511 A1	20171121	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112017001206 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20170119
WO16014523 A1	20160128	LSPB	+	published / reissued	
WO16014523 A1	20161212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12016502458 COUNTRY OF REF DOCUMENT : PH
WO16014523 A1	20170105	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015292799 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150721 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014523 A1	20170111	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2954896 COUNTRY OF REF DOCUMENT : CA
WO16014523 A1	20170117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 250155 COUNTRY OF REF DOCUMENT : IL
WO16014523 A1	20170117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201790035 COUNTRY OF REF DOCUMENT : EA
WO16014523 A1	20170118	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017502986 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014523 A1	20170119	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2017/000871 COUNTRY OF REF DOCUMENT : MX
WO16014523 A1	20170123	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16014523 A1	20170130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015824522 COUNTRY OF REF DOCUMENT : EP
WO16014523 A1	20170206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20177003326 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16014523 A1	20170213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : A201700457 COUNTRY OF REF DOCUMENT : UA
WO16014523 A1	20171128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112017001212 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20170119

60) Family number: 50736730 (US2012065047A)

Title: CENTRIFUGE AND SEPARATION VESSEL THEREFORE

Abstract: The centrifugation vessel includes an outer wall containing an interior space. A dam defines a barrier which divides the interior space into at least two regions including a catch basin defining a higher gee region and a reservoir defining a lower gee region. These regions are joined together over the dam. The dam includes a face which is preferably tapered to enable optimization of speed of separation of a sample placed within the vessel. The vessel is usable in a biological sample processing method by having the higher gee region of the vessel configured to have an elongate form and the volume optimized for collection of a higher density fraction of the sample. Supply and withdrawal tubes extend into the regions for reliable extraction and separate collection of differing density fractions after separation by centrifugation.

Classifications:
International (IPC 8-9)**:** A61M1/36 B01D21/26 B01L3/00 B04B1/00 B04B11/00 B04B5/02 B04B5/04 B04B7/08 G01N33/49 (Advanced/Invention)
CPC: A61M1/3693 B01L2300/0851 B01L2400/0409 G01N33/491 B04B1/00 B01D21/262 B01L3/5021 B04B5/02 B04B5/0414
European: B01L3/5021 L01L300/08D2 L01L400/04F4
US: 1/1 422/548 422/548S 494/16 494/16P 494/37 494/37P



Family:

Publication number	Publication date	Application number	Application date
EP2646165 A2	20131009	EP20110820276	20110819
EP2646165 A4	20160727	EP20110820276	20110819
US2012065047 AA	20120315	US20110199111	20110819
US2012065048 AA	20120315	US20110199119	20110819
US2015321203 AA	20151112	US20150793542	20150707
US2015343458 AA	20151203	US20150793532	20150707
US9101925 BB	20150811	US20110199111	20110819
US9101926 BB	20150811	US20110199119	20110819
WO12026970 A2	20120301	WO2011US01467	20110819
WO12026970 A3	20120524	WO2011US01467	20110819

Priority:

US20100401877P 20100821 US20110199111 20110819 US20110199119 20110819
WO2011US01467 20110819 US20150793542 20150707 US20150793532 20150707

Probable Assignee: MICROAIRE SURGICAL INSTRUMENTS LLC

Assignee(s): (std)**:** CHAPMAN JOHN R ; COELHO PHILIP H ; MICROAIRE SURGICAL INSTR LLC ; SPARKS RODNEY

Assignee(s): STEM CELL PARTNERS LLC ; MICROAIRE SURGICAL INSTRUMENTS LLC

Inventor(s): (std)**:** COELHO PHILIP H ; SPARKS RODNEY ; CHAPMAN JOHN R ; CHAPMAN JOHN RAYMOND ; SPARKS RODNEY D

Agent(s): EXELL JONATHAN MARK; BRET E; BOZICEVIC FIELD AND FRANCIS LLP; KHIN K; HEISLER BRADLEY P

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2646165 A2	20131009	LSPB	+	published / reissued	
EP2646165 A2	20131009	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130712
EP2646165 A2	20141203	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC

EP2646165 A2	20160727	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20160624
EP2646165 A2	20170719	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20170124
US2012065047 AA	20120315	LSPB	+	published / reissued	
US2012065047 AA	20120605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STEM CELL PARTNERS, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHAPMAN, JOHN R.; COELHO, PHILIP H.; SPARKS, RODNEY; SIGNING DATES FROM 20120417 TO 20120601; REEL/FRAME:028319/0615
US2012065047 AA	20140529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STEM CELL PARTNERS, INC.; REEL/FRAME:032991/0832 EFFECTIVE DATE : 20140426
US2012065047 AA	20150722	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012065048 AA	20120315	LSPB	+	published / reissued	
US2012065048 AA	20120605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STEM CELL PARTNERS, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHAPMAN, JOHN R.; COELHO, PHILIP H.; SPARKS, RODNEY; SIGNING DATES FROM 20120417 TO 20120601; REEL/FRAME:028319/0615
US2012065048 AA	20140529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STEM CELL PARTNERS, INC.; REEL/FRAME:032991/0841 EFFECTIVE DATE : 20140426
US2012065048 AA	20150722	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015321203 AA	20151112	LSPB	+	published / reissued	
US2015321203 AA	20150925	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STEM CELL PARTNERS, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHAPMAN, JOHN R.; SPARKS, RODNEY; COELHO, PHILIP H.; SIGNING DATES FROM 20120417 TO 20120601; REEL/FRAME:036656/0571
US2015321203 AA	20150925	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STEM CELL PARTNERS, INC.; REEL/FRAME:036656/0615 EFFECTIVE DATE : 20140426
US2015321203 AA	20170519	LSES	NFA1	Non Final Action Mailed	
US2015321203 AA	20180109	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015343458 AA	20151203	LSPB	+	published / reissued	
US2015343458 AA	20150925	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STEM CELL PARTNERS, LLC, CALIFORNIA

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHAPMAN, JOHN R.; SPARKS, RODNEY; COELHO, PHILIP H.; SIGNING DATES FROM 20120417 TO 20120601; REEL/FRAME:036656/0523
US2015343458 AA	20150925	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MICROAIRE SURGICAL INSTRUMENTS, LLC, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STEM CELL PARTNERS, INC.; REEL/FRAME:036656/0549 EFFECTIVE DATE : 20140426
US2015343458 AA	20170519	LSES	NFA1	Non Final Action Mailed	
US2015343458 AA	20180109	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
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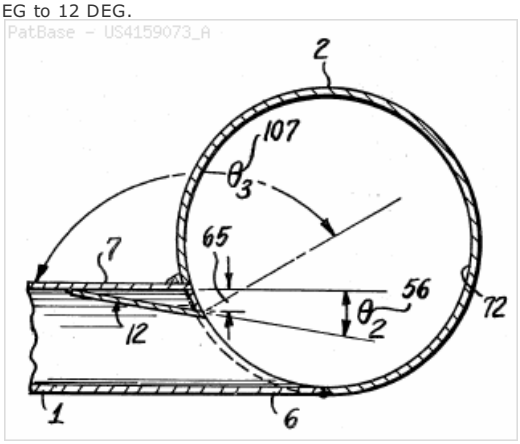
US9101925 BB	20150722	LSGT	PAT1	Patented Case	
US9101925 BB	20190114	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9101925 BB	20340504	PEXP		Calculated Patent Term Expiry (PTA 989 days)	
US9101926 BB	20150811	LSGT	+	granted / extensions (spc, cpc, pte)	
US9101926 BB	20150722	LSGT	PAT1	Patented Case	
US9101926 BB	20190114	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9101926 BB	20340504	PEXP		Calculated Patent Term Expiry (PTA 989 days)	
WO12026970 A2	20120301	LSPB	+	published / reissued	
WO12026970 A3	20130221	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12026970 A3	20130712	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011820276 COUNTRY OF REF DOCUMENT : EP

61) Family number: 7468735 (US4159073A)

Title: METHOD OF MANUFACTURING AND INSTALLING AN INLET LINE DEFLECTOR IN A **CENTRIFUGAL** CYCLONE FOR WASHING COAL

Abstract: The invention relates to a process for the manufacture of a generally flat triangularly shaped metal deflector for installation to the interior non-tangential surface of an inlet pipe to the bowl of a **centrifugal** separating cyclone. The deflector constricts the inlet cross section to the bowl by about 19 percent to about 32 percent. The process comprises the steps of selecting a pipe section of the same size as the inlet pipe and marking the chord ends at the center angle between 118 DEG and 149 DEG, preferably close to 120 DEG; marking the chord on a template sheet to fix the width of the base of the deflector pattern; determining the length of the deflector at its triangular apex and so marking the template sheet; cutting the sheet at the base and cutting the triangular sides slightly beyond the edges for later trimming near the apex; trimming the top apex of the sheet to form a short straight line parallel to the base and trimming the sides to form arcuate sides, thereby completing the deflector pattern; cutting a metal sheet to the form of the deflector pattern; and welding the cut deflector at its side edges and apex within the pipe at an angle of 8 DEG to 12 DEG.

Classifications:
International (IPC 8-9): B03B9/00 B04C5/02 (Advanced/Invention); B03B9/00 B04C5/00 (Core/Invention)
International (IPC 1-7): B03B7/00 B04B11/00 B23K28/02
CPC: B03B9/005 Y10T137/85938 B04C5/02
European: B03B9/00B B04C5/02
US: 137/561A 138/39 209/10 209/13 209/498 209/726 209/729 209/733 209/734 210/512.1 228/125 228/170 228/182



Family:

Publication number	Publication date	Application number	Application date
US4159073 A	19790626	US19780926168	19780719
US4164467 A	19790814	US19780926058	19780719
US4217207 A	19800812	US19780973408	19781226
US4219409 A	19800826	US19770860330	19771214

Priority:
US19770860330 19771214 US19780926058 19780719 US19780973408 19781226

Probable Assignee: LILLER DELBERT I
Assignee(s): (std): LILLER DELBERT I
Inventor(s): (std): LILLER DELBERT I

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US4159073 A	19790626	LSGT	+	granted / extensions (spc, cpc, pte)	
US4164467 A	19790814	LSGT	+	granted / extensions (spc, cpc, pte)	
US4217207 A	19800812	LSGT	+	granted / extensions (spc, cpc, pte)	
US4219409 A	19800826	LSGT	+	granted / extensions (spc, cpc, pte)	

62) Family number: 51597737 (US2012309636A)

Title: SYSTEMS AND METHODS FOR SAMPLE USE MAXIMIZATION

Abstract: The present invention provides systems, devices, and methods for point-of-care and/or distributed testing services. The methods and devices of the invention are directed toward automatic detection of analytes in a bodily fluid. The components of the device can be modified to allow for more flexible and robust use with the disclosed methods for a variety of medical, laboratory, and other applications. The systems, devices, and methods of the present invention can allow for effective use of samples by improved sample preparation and analysis.

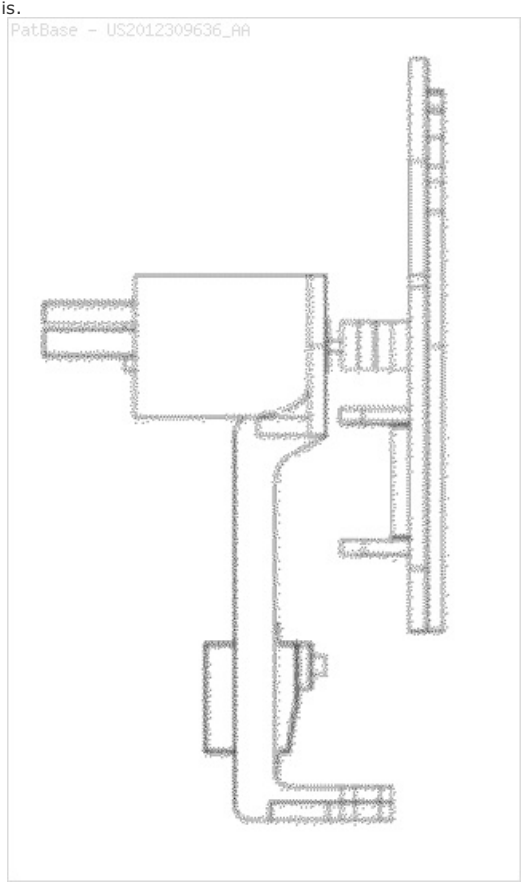
Classifications:

International (IPC 8-9): B01D43/00 B01L B01L3/02 B04B11/04 B04B13/00 B04B15/00 B04B5/02 B04B5/04 B04B7/00 C12M1/34 C12Q1/00 C12Q1/42 C12Q1/48 C12Q1/52 C12Q1/68 C40B30/04 G01J G01J3/42 G01N G01N1/00 G01N1/10 G01N1/28 G01N1/40 G01N15/06 G01N21/00 G01N21/03 G01N21/05 G01N21/27 G01N21/51 G01N21/59 G01N21/63 G01N21/78 G01N33/48 G01N33/483 G01N33/53 G01N33/543 G01N33/569 G01N33/573 G01N33/74 G01N33/80 G01N33/82 G01N33/92 G01N35/00 G01N35/02 G01N35/10 G01N37/00 G06F G06F19/00 G06K9/36 G06T3/40 G06T7/00 H04N5/232 (Advanced/Invention); B01L3/02 G01N35/00 G06F19/00 (Advanced/Non-invention); G01N21/00 (Core/Invention); G01J G01N (Subclass/Invention)

CPC: C12Q1/6809 C12Q1/48 G01N33/74 G01N33/573 C12Q1/42 C12Q1/689 G01N33/54326 G06T3/4084 G01N21/59 G01N2333/91188 G01N2333/96463 G01N2333/62 G01N2333/575 C12Q2600/158 G06T7/0002 G06T7/0012 G06T2207/30168 G06T2207/30004 G01N33/80 G01N1/4077 C12Q1/6806 G01N33/92 C12Q1/52 G01N33/56983 G01N33/5308 G01N33/82 G01N33/743 G01N2001/4083 G01N2035/00495 H04N5/23222 B01L2300/168 G01N21/0303 G01N21/51 G01N33/54393 B04B5/0421 B01L3/0275 G01N33/56972 G01N21/05 G01N21/00 G01N35/10 G01N2035/1018 G16C20/20 G01N33/543 C12Q1/00

European: G01N33/543M L01L3/02E L01L300/16B S06F19/703

US: 1/1 348/125 348/79 356/246 356/433 356/440 382/128 422/72 435/15 435/16 435/2 435/21 435/287.2 435/288.7 435/34 435/36 435/38 435/5 435/6.11 435/6.12 435/6.15 435/7.24 435/7.9 435/7.92 436/165 436/177 436/501 436/70 436/71 436/74 494/10 494/16 494/20 494/37 506/9



Family:

Publication number	Publication date	Application number	Application date
AR085087 AA	20130911	AR2012P100204	20120120
AU2012207090 AA	20130502	AU20120207090	20120120
AU2012207090 BB	20150423	AU20120207090	20120120
AU2013205019 AA	20130516	AU20130205019	20130413
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AU2016201032 AA	20160310	AU20160201032	20160219
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Priority:

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AU20180204311	20180615				

Probable Assignee: THERANOS IP CO LLC

Assignee(s): (std): GIBBONS IAN ; HOLMES ELIZABETH ; KEMP TIMOTHY MICHAEL ; NUGENT TONY ; THERANOS INC ; PANGARKAR CHINMAY ; YOUNG DANIEL ; NUGENT ANTHONY J ; TERANOS INK ; THERANOS IP CO LLC ; BALWANI SUNNY ; DELACRUZ ANTHONY ; DRAKE ANDREW

Assignee(s): FORTRESS CREDIT CORP ; THERANOS IP COMPANY LLC

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Agent(s): SPRUSON AND FERGUSON; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; WILKINSON MARC GEORGE; IT AND T INTELLECTUAL PROPERTY; HONG KONG INTELLECTUAL PROPERTY AGENT LTD; EITAN MEHULAL AND SADOT; SPRUSON AND FERGUSON ASIA PTE LTD; KIM ELAINE A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AR085087 AA	20130911	LSPB	+	published / reissued	
AU2012207090 AA	20130502	LSPB	+	published / reissued	
AU2012207090 BB	20150423	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN103477197 A	20131225	LSPB	+	published / reissued	
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CN106248582 A	20161221	LSPB	+	published / reissued	
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CN106323875 A	20180302	LSAS	TA01	TRANSFER OF PATENT APPLICATION RIGHT	
CN106323875 A	20180302	LSAS	TA01	专利申请权的转移 (Transfer of patent application right)	TEXT : 专利申请权、专利权的转移 (TRANSFER OF PATENT APPLICATION OR PATENT RIGHT) APPLICANT AFTER CHANGE : 西拉诺斯知识产权有限责任公司 (SYRAH NORTH INTELLECTUAL PROPERTY LIMITED LIABILITY COMPANY) APPLICANT BEFORE CHANGE : 提拉诺斯公司 (PULLING NOVARTIS COMPANY) EFFECTIVE DATE : 20180208
CN106323875 B	20190709	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN106323875 B	20320120	PEXP		Calculated Patent Term Expiry	
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EP2666008 A2	20150211	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS, INC.
EP2666008 A4	20150603	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20150508
EP2666008 A4	20160622	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20160523
EP2666008 A4	20180124	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS, INC.
EP2666008 A4	20181017	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC
EP2666008 A4	20190306	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190206
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HK1192312 A1	20140815	LSPB	+	published / reissued	
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JP2014504731 T2	20160603	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5945282 COUNTRY OF REF DOCUMENT : JP
JP2016197106 A2	20161124	LSPB	+	published / reissued	
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JP2016197106 A2	20180417	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180417
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JP5945282 B2	20160519	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5945282 B2	20160531	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5945282 B2	20160603	LSGT	+R150	特許証 (Patent certificate)	
JP5945282 B2	20180202	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313113
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TW201243056 A	20121101	LSPB	+	published / reissued	
TW201802245 A	20180116	LSPB	+	published / reissued	
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US2012309636 AA	20150319	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015185234 AA	20150702	LSPB	+	published / reissued	
US2015185234 AA	20160808	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GIBBONS, IAN; NUGENT, TONY; DELACRUZ, ANTHONY; AND OTHERS; SIGNING DATES FROM 20120604 TO 20120809; REEL/FRAME:039369/0303
US2015185234 AA	20160921	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2016006928 AA	20160107	LSPB	+	published / reissued	
US2016006928 AA	20160808	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GIBBONS, IAN; NUGENT, TONY; DELACRUZ, ANTHONY; AND OTHERS; SIGNING DATES FROM 20120604 TO 20120809; REEL/FRAME:039369/0448
US2016006928 AA	20170207	LSES	NFA1	Non Final Action Mailed	
US2016006928 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US2016006928 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US2016006928 AA	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045075/0310 EFFECTIVE DATE : 20171211
US2016006928 AA	20180430	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016006928 AA	20180803	LSWD	-ABD7	Abandonment for Failure to Correct Drawings/Oath/NonPub Request	
US2016006928 AA	20180803	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016006928 AA	20190301	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016006928 AA	20190404	LSWD	-PRS1	Prosecution Suspended	
US2016006928 AA	20190812	LSES	NFA1	Non Final Action Mailed	
US2016047834 AA	20160218	LSPB	+	published / reissued	
US2016047834 AA	20161011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NUGENT, ANTHONY; YOUNG, DANIEL; HOLMES, ELIZABETH A.; AND OTHERS; SIGNING DATES FROM 20120607 TO 20140717; REEL/FRAME:039984/0948
US2016047834 AA	20161011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : EMPLOYMENT AGREEMENT; ASSIGNOR:WISTORT, RYAN; REEL/FRAME:040306/0942 EFFECTIVE DATE : 20100716
US2016047834 AA	20170426	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	

US2016047834 AA	20170524	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016334403 AA	20161117	LSPB	+	published / reissued	
US2016334403 AA	20160808	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GIBBONS, IAN; NUGENT, TONY; DELACRUZ, ANTHONY; AND OTHERS; SIGNING DATES FROM 20120604 TO 20120809; REEL/FRAME:039369/0507
US2016334403 AA	20170926	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2016334403 AA	20171002	LSES	NFA1	Non Final Action Mailed	
US2016334403 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US2016334403 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US2016334403 AA	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045075/0310 EFFECTIVE DATE : 20171211
US2016334403 AA	20180502	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016334403 AA	20180803	LSWD	-ABD7	Abandonment for Failure to Correct Drawings/Oath/NonPub Request	
US2016334403 AA	20180803	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016334403 AA	20190301	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016334403 AA	20190508	LSWD	-PRS1	Prosecution Suspended	
US2016334403 AA	20190923	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017363536 AA	20171221	LSPB	+	published / reissued	
US2017363536 AA	20170511	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NUGENT, ANTHONY; YOUNG, DANIEL; HOLMES, ELIZABETH A.; AND OTHERS; SIGNING DATES FROM 20120604 TO 20140717; REEL/FRAME:042338/0723
US2017363536 AA	20170511	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS, INC., CALIFORNIA OLDPARTY : EMPLOYMENT

					AGREEMENT; ASSIGNOR:WISTORT, RYAN; REEL/FRAME:042445/0939 EFFECTIVE DATE : 20100716
US2017363536 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US2017363536 AA	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US2017363536 AA	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045075/0310 EFFECTIVE DATE : 20171211
US2017363536 AA	20190129	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017363536 AA	20190501	LSWD	-PRS1	Prosecution Suspended	
US9464981 BB	20161011	LSGT	+	granted / extensions (spc, cpc, pte)	
US9464981 BB	20151109	LSES	NFA1	Non Final Action Mailed	
US9464981 BB	20160921	LSGT	PAT1	Patented Case	
US9464981 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US9464981 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US9464981 BB	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045075/0310 EFFECTIVE DATE : 20171211
US9464981 BB	20180507	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9464981 BB	20341205	PEXP		Calculated Patent Term Expiry	

US9677993 BB	20170613	LSGT	+	granted / extensions (spc, cpc, pte)	
US9677993 BB	20170524	LSGT	PAT1	Patented Case	
US9677993 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS INC.; REEL/FRAME:044838/0909 EFFECTIVE DATE : 20171211
US9677993 BB	20171212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORTRESS CREDIT CORP., NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:THERANOS IP COMPANY, LLC; REEL/FRAME:044839/0568 EFFECTIVE DATE : 20171211
US9677993 BB	20180116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THERANOS IP COMPANY, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THERANOS, INC.; REEL/FRAME:045075/0310 EFFECTIVE DATE : 20171211
US9677993 BB	20180507	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9677993 BB	20350701	PEXP		Calculated Patent Term Expiry	
WO12100235 A2	20120726	LSPB	+	published / reissued	
WO12100235 A3	20130502	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012207090 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20120120 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12100235 A3	20130718	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2825196 COUNTRY OF REF DOCUMENT : CA
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WO12100235 A3	20130722	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013550651 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12100235 A3	20130722	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12100235 A3	20130802	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012737013 COUNTRY OF REF DOCUMENT : EP
WO12100235 A3	20130819	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20137021727 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12100235 A3	20130821	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013137661 COUNTRY OF REF DOCUMENT : RU

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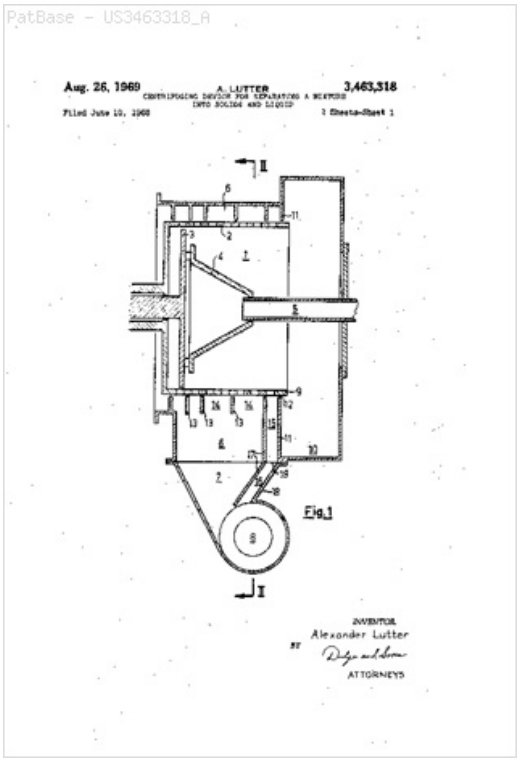
WO12100235 A3	20161018	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112013018656 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130722
ZA201305478 A	20160831	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201305478 A	20330718	PEXP		Calculated Patent Term Expiry	

63) Family number: 437776 (US3463318A)

Title: CENTRIFUGING DEVICE FOR SEPARATING A MIXTURE INTO SOLIDS AND **LIQUID**

Abstract: ABSTRACT OF THE DISCLOSURE
A centrifuging device for separating a mixture into solid matter and **liquid**, having a rotatable **sieve** drum through which said mixture flows; a collecting space for said solid matter being discharged at the rear edge of said drum; a collecting space for said **liquid**, surrounding said drum and axially subdivided by one or more partitions; a device for degasifying said **liquid**, connected to said **liquid** collecting space; one of said partitions extending, in the direction towards said degasifying device, to a point at which the excess pressure relatively to the pressure in said solid matter collecting space is practically equalised.
B

Classifications:
International (IPC 8-9): B04B11/02 B04B7/04 (Advanced/Invention); B04B11/00 B04B7/00 (Core/Invention)
International (IPC 1-7): B01D19/00 B01D33/06 B04B11/02 B04B3/00 B04B3/02 B04B7/04
CPC: B04B7/04 B04B11/02
European: B04B11/02 B04B7/04
US: 210/188 210/376 210/378



Family:

Publication number	Publication date	Application number	Application date
CH466806 A	19681215	CH19670008197	19670609
DE1757711 A1	19710513	DE19681757711	19680606
FR1568551 A	19690523		19680607
GB1170378 A	19691112	GB19680027533	19680610
NL6808115 A	19681210	NL19680008115	19680610
US3463318 A	19690826	US19680735713	19680610

Priority:
CH19670008197 19670609

Probable Assignee: ESCHER WYSS AG
Assignee(s): (std): ESCHER WYSS AG ; ESCHER WYSS GMBH ; ESCHER WYSS LTD
Assignee(s): ESCHER WYSS LIMITED ; ESCHER WYSS AKTIENGESELLSCHAFT
Inventor(s): (std): ALEXANDER LUTTER ; LUTTER ALEXANDER

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CH466806 A	19681215	LSGT	+	granted / extensions (spc, cpc, pte)	
CH466806 A	19870609	PEXP		Calculated Patent Term Expiry	
DE1757711 A1	19710513	LSPB	+	published / reissued	
FR1568551 A	19690523	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1568551 A	19880607	PEXP		Calculated Patent Term Expiry	
GB1170378 A	19691112	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1170378 A	19700325	LSGT	+PS	PATENT SEALED	
GB1170378 A	19770106	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
GB1170378 A	19880610	PEXP		Calculated Patent Term Expiry	
NL6808115 A	19681210	LSPB	+	published / reissued	

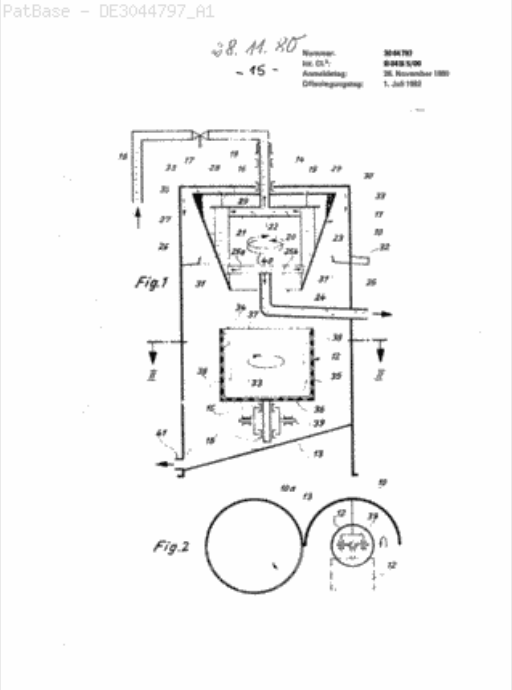
US3463318 A	19690826	LSGT	+	granted / extensions (spc, cpc, pte)

64) Family number: 2052784 (DE3044797A1)

Title: REMOVING SOLIDS FROM LIQ. USING TWO CENTRIFUGES - SUPERIMPOSED IN COMMON CASING AND OPERATED INDEPENDENTLY

Abstract: Solids are recovered from liq. suspensions by a two-stage centrifuge process, with a first centrifuge in the upper section of a casing. Solids deposited on the wall of the first centrifuge are removed with residual liq. by briefly reversing the direction of rotation, and the mixt. passes into a lower second centrifuge. On its exterior the second centrifuge has a replaceable filter bag to trap solid particles, and this entire centrifuge can be tilted into a discharge positon. The second centrifuge drum may have expandable pressure pads for sepg. a used filter bag from the drum wall. The appts. may act as a pump, with a **bladed** rotor in the first centrifuge. Used to remove dirt particles from tanning or dye liquor, cleaning solvent etc. The system operates almost continuously, with the two centrifuges operating independently of each other.

Classifications:
International (IPC 8-9): B04B5/10 B04B7/16 (Advanced/Invention); B04B5/00 B04B7/00 (Core/Invention)
International (IPC 1-7): B04B11/00 B04B5/00 B04B7/16
CPC: B04B5/10 B04B7/16
European: B04B5/10 B04B7/16



Family:

Publication number	Publication date	Application number	Application date
DE3044797 A1	19820701	DE19803044797	19801128

Priority:
DE19803044797 19801128

Probable Assignee: FLUORMATIC GMBH
Assignee(s): (std): FLUORMATIC GMBH ; NOXON PAUL ADELBERT TENAFLY N J
Inventor(s): (std): BIESINGER ERWIN ; ZUG ERICH

Legal status (INPADOC)

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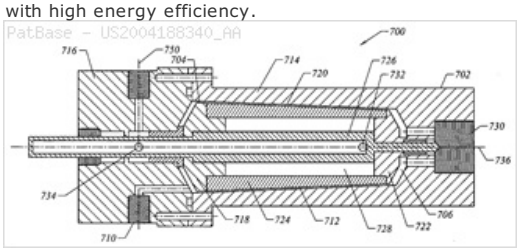
Patent	Date recorded	Event group	Code	Event	Details
DE3044797 A1	19820701	LSPB	+	published / reissued	
DE3044797 A1	19841220	LSAS	8127	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	PARTYTYPE : OWNER OWNER : FM FILTERMASCHINENBAU GMBH, 7407 ROTTENBURG, DE
DE3044797 A1	19851107	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

65) Family number: 31002790 (US2004188340A)

Title: APPARATUS FOR SEPARATING PARTICULATES FROM A SUSPENSION, AND USES THEREOF

Abstract: The present invention includes an apparatus for separating particulates from a fluid in a suspension, comprising: a housing defining a frusto-conically shaped inner chamber with an inner wall, an inlet and a first outlet communicating with the chamber, and a second outlet; and a spinning assembly with a hollow interior mounted in the chamber, the assembly being shaped to define an annular gap with the chamber inner wall, the hollow interior communicating with the second outlet, and the hollow interior communicating with the annular gap for flow of fluid materials from the gap into the interior and out of the second outlet in response to rotation of the spinning assembly. The **separator** finds application in the preparation of waste products such as municipal sewage sludge for processes that produce useful materials including gas, oil, specialty chemicals, fertilizer, and carbon solids, in reliable purities and compositions, and with high energy efficiency.



Classifications:

International (IPC 8-9): B09B3/00 C10G1/10 C10L3/00 C10L5/40 A01C3/00 A23K1/00 A23K1/175 A23L1/00 B01D3/00 B01D3/06 B01D3/14 B01D5/00 B01D53/00 B01D53/86 B01D63/16 B01J10/00 B01J19/00 B01J19/18 B01J3/00 B04B5/12 B09C1/02 B09C1/08 B29B17/00 C01B C01B31/02 C01B7/00 C01B7/19 C01G1/00 C02F1/68 C02F1/70 C02F11/00 C02F11/08 C02F11/10 C02F11/18 C05B17/00 C05F1/00 C05F11/00 C05F17/00 C05F17/02 C05F3/00 C05F5/00 C05F7/00 C05F9/00 C05G C05G1/00 C05G3/00 C07C C07C1/00 C07C1/20 C07C4/00 C07C7/00 C07C9/00 C07H15/04 C07H15/06 C07H5/04 C07H5/06 C08J11/10 C10B1/00 C10B35/00 C10B47/00 C10B53/00 C10B53/02 C10B53/07 C10B7/10 C10G C10G1/00 C10G1/02 C10G1/04 C10G1/06 C10G3/00 C10G45/00 C10G9/00 C10L1/00 C10L1/02 C10L1/04 C10L3/06 C10L5/00 C11B13/00 C11B13/04 C11B3/00 (Advanced/Invention);
B01D63/00 B09B3/00 C02F1/38 C02F103/20 C02F103/22 C02F11/10 C02F11/12 C05F1/00 C05F3/00 C05F7/00 C05F9/00 C07C1/00 C07H15/04 C07H15/06 C10G1/00 C10G1/06 C10G1/10 C10G3/00 C10L1/04 (Advanced/Non-invention);
A23K1/00 A23K1/175 A23L1/00 B01D53/00 B01D53/86 B09B3/00 B29B17/00 C01B7/00 C02F11/00 C02F11/06 C02F11/10 C05B17/00 C05F1/00 C05F11/00 C05F3/00 C05F5/00 C05F7/00 C05F9/00 C05G1/00 C07C1/00 C07H15/00 C07H5/00 C08J11/00 C10B53/00 C10B53/07 C10G1/00 C10G45/00 C10L1/00 C10L3/00 C10L5/40 C11B13/00 (Core/Invention);
C05F1/00 C05F3/00 C05F7/00 (Core/Non-invention);
C01B C05G C07C C10G C10L (Subclass/Invention)

International (IPC 1-7): A01C3/00 B01D53/00 B01D53/86 B01D63/16 B01J10/00 B09B3/00 B09B3/02 B09B3/02 B29B17/00 C01B7/19 C01L1/04 C02F11/00 C05F17/00 C05F17/02 C05F5/00 C05G C05G0/00 C05G1/00 C07C1/00 C07C4/00 C10B35/00 C10G1/00 C10G1/00 C10L1/00 C10L1/04

CPC: C07H5/06 C10G3/40 C10G2300/807 C02F1/02 C02F1/04 C02F1/44 C02F11/18 C02F2103/28 C02F2103/322 C02F2103/36 C02F2209/02 C02F2209/03 C05F1/00 C10G9/005 C10L1/00 C10L3/12 C10L5/40 C10G1/047 A61L11/00 B01J19/18 B01J19/20 B01J2219/00006 B01J2219/00083 B01J2219/00779 B03B9/06 C10G1/045 C10G2300/805 C10G2300/1018 C10G2300/4006 C10G2300/4012 C05F3/06 B01D3/009 B01D3/06 B01D3/148 B01D5/0036 B01D63/16 B04B5/12 C02F1/38 C02F11/10 C02F11/121 C02F2103/20 C02F2103/22 C05B17/00 C05F1/005 C05F3/00 C10B53/00 C10B53/02 C10B53/07 C10G2300/1003 C10G2300/1014 C10G2300/202 C10G2300/205 C10G2300/304 C10G2300/307 C10G2400/26 Y02E50/14 Y02E50/343 Y02E50/30 C10B47/00 Y02W30/43 Y02W10/33 Y02W10/37 C07C1/02 C10G3/00 Y02P20/143 Y02P20/145 Y02T50/678 Y02P20/127 C10G1/00 C10G1/10 C10L1/04 Y02A40/203 Y02A40/205 Y02A40/201 C10G1/002 C10G1/02 Y02P30/20

European: A61L11/00 B01D3/00R B01D3/06 B01D3/14B4 B01D5/00F10 B01D63/16 B01J19/18 B01J19/20 B03B9/06 B04B5/12 C02F11/18 C05B17/00 C05F1/00 C05F1/00D C05F3/00 C07H5/06 C10B53/00 C10B53/02 C10B53/07 C10G1/00 C10G1/00B C10G1/02 C10G1/04E C10G1/04W C10G1/10 C10G3/00 C10G9/00L C10L1/00 C10L1/04 C10L3/12 C10L5/40 L01J219/00A2B L01J219/00B2D2D L01J219/00D2D M02F1/02 M02F1/04 M02F1/38 M02F1/44 M02F103/20 M02F103/22 M02F103/28 M02F103/32B M02F103/36 M02F11/10 M02F11/12C M02F209/02 M02F209/03 Y02E50/14 Y02E50/30

US: 201/21 201/25 201/25S 202/118 202/26 202/260 202/260S 202/262 202/262S 202/96 202/96S 208/15 208/15S 210/321.67 210/321.670S 210/321.68 210/321.680P 210/321.87 210/650 210/731 210/749 210/774 210/806 422/184.1 422/187 422/187S 422/188 422/188S 422/198 422/198S 422/600 422/600S 422/608 423/445.00RS 423/445R 423/484 423/484P 44/605 44/606 536/55.3 536/55.300 585/1 585/15 585/16 585/16P 585/1S 585/240 585/240P 585/240S 585/241 585/241P 585/242 585/310 585/310S 585/469 585/638 585/733 585/800 585/800S

Family:

Publication number	Publication date	Application number	Application date
AR043944 AA	20050817	AR2004P101030	20040329
AR052014 AA	20070228	AR2005P104103	20050929
AR052644 AA	20070328	AR2005P104130	20050930
AR057141 AA	20071121	AR2006P104263	20060928
AU2004225961 AA	20041014	AU20040225961	20040325
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR043944 AA	20050817	LSPB	+	published / reissued	
AR043944 AA	20151026	LSWD	-FB	SUSPENSION OF GRANTING PROCEDURE	
AR052014 AA	20070228	LSPB	+	published / reissued	
AR052014 AA	20081023	LSWD	-FB	SUSPENSION OF GRANTING PROCEDURE	
AR052644 AA	20070328	LSPB	+	published / reissued	
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AR057141 AA	20071121	LSPB	+	published / reissued	
AR057141 AA	20081103	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
AU2004225961 AA	20041014	LSPB	+	published / reissued	
AU2004225961 BB	20100218	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2004225961 BB	20100617	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2004225961 BB	20161020	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2004225961 BB	20240325	PEXP		Calculated Patent Term Expiry	
AU2005292068 AA	20060413	LSPB	+	published / reissued	
AU2005292068 AA	20081113	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2005292069 AA	20060413	LSPB	+	published / reissued	
AU2005292069 AA	20091008	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2006303016 AA	20070426	LSPB	+	published / reissued	
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AU2006303016 BB	20130725	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2006303016 BB	20190502	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2006303016 BB	20260929	PEXP		Calculated Patent Term Expiry	
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AU2009219278 AA	20140918	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
BRPI0408894 A	20060613	LSPB	+	published / reissued	
BRPI0408894 A	20130409	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF	

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BRPI0408894 A	20140204	LSRV	B09B	DECISION: REFUSAL	TEXT : INDEFIRO O PEDIDO DE ACORDO COM O(S) ARTIGO(S) 8O, 11, 13 E 25 DA LPI.
BRPI0408894 A	20150324	LSRV	B09B	DECISION: REFUSAL	TEXT : MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL.
BRPI0515959 A	20080812	LSPB	+	published / reissued	
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BRPI0617461 A2	20140729	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 8A ANUIDADE.
BRPI0617461 A2	20141202	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 2273 DE 29/07/2014.
BRPI0907920 A2	20170110	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 8A ANUIDADE.
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EP1615862 A2	20060118	LSPB	+	published / reissued	
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EP1615862 A2	20110615	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20110518
EP1615862 A2	20110907	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20110804
EP1615862 A2	20131018	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1086815 COUNTRY OF REF DOCUMENT : HK
EP1615862 A2	20170208	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S.
EP1797023 A2	20070620	LSPB	+	published / reissued	
EP1797023 A2	20070620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070426
EP1797023 A2	20081210	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	EFFECTIVE DATE : 20081030
EP1797023 A2	20110803	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20110705
EP1797023 A2	20140219	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20140115
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EP1799793 A2	20070627	LSPB	+	published / reissued	
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EP1951618 A4	20091118	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20091016

EP1951618 A4	20101117	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20101018
EP1951618 A4	20170208	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S.
EP1951618 A4	20180124	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180105
EP1951618 A4	20180620	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180517
EP1951618 B1	20180627	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1951618 B1	20180627	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1951618 B1	20180715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1012136 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180715
EP1951618 B1	20180719	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006055707 COUNTRY OF REF DOCUMENT : DE
EP1951618 B1	20180725	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1951618 B1	20180925	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181107	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : RO REF LEGAL EVENT CODE : EPE
EP1951618 B1	20181112	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP1951618 B1	20181126	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2691202 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20181126

EP1951618 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20181003 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181027
EP1951618 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO PAYMENT DATE : 20181004 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20181003 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20181005 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20181003 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181023 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID	COUNTRY OF REF DOCUMENT :

				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	ES PAYMENT DATE : 20181001 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20181002 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG PAYMENT DATE : 20181025 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 13
EP1951618 B1	20190314	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : EP REF DOCUMENT NUMBER : 20180402753 COUNTRY OF REF DOCUMENT : GR EFFECTIVE DATE : 20190225
EP1951618 B1	20190328	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006055707 COUNTRY OF REF DOCUMENT : DE
EP1951618 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20190605	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190328
EP1951618 B1	20190626	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1951618 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180929
EP1951618 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180929
EP1951618 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180627
EP1951618 B1	20260929	PEXP		Calculated Patent Term Expiry	
EP2257510 A1	20101208	LSPB	+	published / reissued	
EP2257510 A1	20101208	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100923

EP2257510 A4	20110928	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20110829
EP2257510 A4	20140514	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20140414
EP2257510 A4	20170208	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S.
EP2257510 A4	20181010	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180913
EP2257510 B1	20190410	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2257510 B1	20190410	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2257510 B1	20190415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2257510 B1	20190415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1118443 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190415
EP2257510 B1	20190501	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2257510 B1	20190502	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602009057825 COUNTRY OF REF DOCUMENT : DE
EP2257510 B1	20190826	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2257510 B1	20190915	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1118443 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190410
EP2257510 B1	20190930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				FROM NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190710
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190910
EP2257510 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190410
EP2257510 B1	20290226	PEXP		Calculated Patent Term Expiry	
ES2691202 T3	20181126	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2691202 T3	20260929	PEXP		Calculated Patent Term Expiry	
HK1086815 A1	20060929	LSPB	+	published / reissued	
HK1086815 A3	20060929	LSPB	+	published / reissued	
HK1106788 A1	20080320	LSPB	+	published / reissued	
HK1106788 A3	20080320	LSPB	+	published / reissued	
HK1121733 A1	20090430	LSPB	+	published / reissued	
HK1121733 A3	20090430	LSPB	+	published / reissued	
HK1156596 A1	20120615	LSPB	+	published / reissued	
HK1156596 A3	20120615	LSPB	+	published / reissued	
IL171084 A1	20121129	LSPB	+	published / reissued	
IN01810CN2007 A	20070928	LSPB	+	published / reissued	
IN01832CN2007 A	20070831	LSPB	+	published / reissued	
IN02440CN2008 A	20090306	LSPB	+	published / reissued	
IN02781CN2005 A	20070831	LSPB	+	published / reissued	
IN03485CN2007 A	20080627	LSPB	+	published / reissued	
IN05989CN2010 A	20110429	LSPB	+	published / reissued	
IN223477 B	20081121	LSGT	+	granted / extensions (spc, cpc, pte)	

IN223477 B	20251027	PEXP		Calculated Patent Term Expiry	
JP2007524498 T2	20070830	LSPB	+	published / reissued	
JP2007524498 T2	20100413	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100412
JP2007524498 T2	20101013	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101012
JP2007524498 T2	20110809	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110808
JP2007524498 T2	20111209	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111208
JP2007524498 T2	20120126	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20120106
JP2007524498 T2	20120201	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20120131
JP2007524498 T2	20120302	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120301
JP2007524498 T2	20120602	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120601
JP2007524498 T2	20120619	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2007524498 T2	20120625	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120622
JP2007524498 T2	20120628	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2007524498 T2	20120712	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120703
JP2007524498 T2	20120713	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2007524498 T2	20120713	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2008514421 T2	20080508	LSPB	+	published / reissued	
JP2008514421 T2	20080919	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080918
JP2008514421 T2	20111114	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20111111
JP2008514421 T2	20120313	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120312
JP2008514421 T2	20120331	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20120313
JP2008514421 T2	20130108	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130107

JP2008514422 T2	20080508	LSPB	+	published / reissued	
JP2008514422 T2	20080919	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080918
JP2008514422 T2	20111111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20111110
JP2008514422 T2	20120211	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120210
JP2008514422 T2	20120313	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120312
JP2008514422 T2	20120706	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120705
JP2008514422 T2	20130318	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130315
JP2008514422 T2	20130618	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130617
JP2008514422 T2	20130716	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130712
JP2008514422 T2	20140115	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140114
JP2008514422 T2	20140206	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008514422 T2	20140212	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140210
JP2008514422 T2	20140227	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140224
JP2008514422 T2	20140228	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5486767 COUNTRY OF REF DOCUMENT : JP
JP2009511734 T2	20090319	LSPB	+	published / reissued	
JP2011515509 T2	20110519	LSPB	+	published / reissued	
JP2011515509 T2	20120228	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120227
JP2011515509 T2	20120228	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20120227
JP2011515509 T2	20130806	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20130806
JP2012082434 A2	20120426	LSPB	+	published / reissued	
JP2012082434 A2	20120804	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120803
JP2012082434 A2	20131007	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20131004

JP2012082434 A2	20140603	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20140602
JP5036303 B2	20120926	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5036303 B2	20120710	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5036303 B2	20150625	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5036303 B2	20150630	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5036303 B2	20160713	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP5036303 B2	20240325	PEXP		Calculated Patent Term Expiry	
JP5486767 B2	20140507	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5486767 B2	20140213	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5486767 B2	20140225	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5486767 B2	20140228	LSGT	+R150	特許証 (Patent certificate)	
JP5486767 B2	20170302	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5486767 B2	20170307	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5486767 B2	20180228	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP5486767 B2	20250922	PEXP		Calculated Patent Term Expiry	
KR101419756 B1	20140715	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101419756 B1	20170710	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR101419756 B1	20260929	PEXP		Calculated Patent Term Expiry	
KR20060002888 A	20060109	LSPB	+	published / reissued	
KR20060002888 A	20100105	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20070058673 A	20070608	LSPB	+	published / reissued	
KR20070058673 A	20101023	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20070060138 A	20070612	LSPB	+	published / reissued	
KR20070060138 A	20101023	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20080063842 A	20080707	LSPB	+	published / reissued	
KR20080063842 A	20110521	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20080064866 A	20080709	LSPB	+	published / reissued	
KR20080064866 A	20110929	LSES	A201	REQUEST FOR EXAMINATION	
KR20080064866 A	20130213	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080064866 A	20131030	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	

KR20080064866 A	20140423	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080064866 A	20140709	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20100122103 A	20101119	LSPB	+	published / reissued	
KR20100122103 A	20140226	LSES	A201	REQUEST FOR EXAMINATION	
KR20100122103 A	20160114	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100122103 A	20160328	LSRV	-E601	DECISION TO REFUSE APPLICATION	
MX2007003808 A1	20070605	LSPB	+	published / reissued	
MX2007003808 A1	20100609	LSGT	+FG	GRANT OR REGISTRATION	
MX2007003898 A1	20070607	LSPB	+	published / reissued	
MX2007003898 A1	20110727	LSGT	+FG	GRANT OR REGISTRATION	
MX2010009293 A1	20110329	LSPB	+	published / reissued	
MX2010009293 A1	20190331	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
MX336111 B	20160108	LSGT	+	granted / extensions (spc, cpc, pte)	
MX336111 B	20260929	PEXP		Calculated Patent Term Expiry	
MXPA05010366 A1	20060308	LSPB	+	published / reissued	
MXPA05010366 A1	20110317	LSGT	+FG	GRANT OR REGISTRATION	
NO20054596 A	20051223	LSPB	+	published / reissued	
NO20054596 A	20091026	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20071923 A	20070621	LSPB	+	published / reissued	
NO20071923 A	20090427	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20071925 A	20070621	LSPB	+	published / reissued	
NO20071925 A	20090427	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20081895 A	20080708	LSPB	+	published / reissued	
NO20081895 A	20140428	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NZ588214 A	20121026	LSPB	+	published / reissued	
NZ588214 A	20130222	LSGT	+PSEA	PATENT SEALED	
NZ588214 A	20130531	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 26 FEB 2016 BY ANDY BREEDEN EFFECTIVE DATE : 20130529
NZ588214 A	20160930	LSLE	-LAPS	PATENT LAPSED	
PA8599201 A1	20041008	LSPB	+	published / reissued	
PE07802006 A1	20060918	LSPB	+	published / reissued	
PE07802006 A1	20090416	LSWD	-FD	APPLICATION	

				DECLARED VOID OR LAPSED	
PE07812006 A1	20060915	LSPB	+	published / reissued	
PE07812006 A1	20090416	LSWD	-FD	APPLICATION DECLARED VOID OR LAPSED	
PE08602007 A1	20070904	LSPB	+	published / reissued	
PE08602007 A1	20100511	LSWD	-FD	APPLICATION DECLARED VOID OR LAPSED	
PE10232004 A1	20050210	LSPB	+	published / reissued	
PE10232004 A1	20081113	LSRV	-FC	REFUSAL	
PE20041023 A1	20050210	LSPB	+	published / reissued	
PE20060780 A1	20060918	LSPB	+	published / reissued	
PE20060781 A1	20060915	LSPB	+	published / reissued	
PE20070860 A1	20070904	LSPB	+	published / reissued	
PL1951618 T3	20181130	LSGT	+	granted / extensions (spc, cpc, pte)	
PL1951618 T4	20190228	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1951618 T	20181127	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1951618 T	20260929	PEXP		Calculated Patent Term Expiry	
RU2005133203 A	20060810	LSPB	+	published / reissued	
RU2005133203 A	20090810	LSWD	-FA92	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (LACK OF SUPPLEMENTARY MATERIALS SUBMITTED)	EFFECTIVE DATE : 20090702
RU2007116133 A	20081110	LSPB	+	published / reissued	
RU2007116133 A	20090110	LSWD	-FA93	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (NO REQUEST FOR EXAMINATION)	EFFECTIVE DATE : 20081127
RU2007116134 A	20081110	LSPB	+	published / reissued	
RU2007116134 A	20081227	LSWD	-FA93	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (NO REQUEST FOR EXAMINATION)	EFFECTIVE DATE : 20081119
TH70435 A	20050907	LSPB	+	published / reissued	
TR201312836 T4	20190923	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201312836 T4	20290226	PEXP		Calculated Patent Term Expiry	
TR201312854 T4	20181022	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201312854 T4	20260929	PEXP		Calculated Patent Term Expiry	
TW200505839 A	20050216	LSPB	+	published / reissued	
TW200626228 A	20060801	LSPB	+	published / reissued	
TW200628600 A	20060816	LSPB	+	published / reissued	
TW200732467 A	20070901	LSPB	+	published / reissued	
US2004188340 AA	20040930	LSPB	+	published / reissued	

US2004192980 AA	20040930	LSPB	+	published / reissued	
US2004192980 AA	20110803	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004192981 AA	20040930	LSPB	+	published / reissued	
US2004192981 AA	20081222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2005113611 AA	20050526	LSPB	+	published / reissued	
US2005113611 AA	20050624	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ADAMS, TERRY N.; APPEL, BRIAN S.; EINFELDT, CRAIG T.; AND OTHERS; REEL/FRAME:016415/0775; SIGNING DATES FROM 20041117 TO 20050113
US2005113611 AA	20050624	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC,NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ADAMS, TERRY N.; APPEL, BRIAN S.; EINFELDT, CRAIG T.; AND OTHERS; SIGNING DATES FROM 20041117 TO 20050113; REEL/FRAME:016415/0775
US2005113611 AA	20100317	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006004237 AA	20060105	LSPB	+	published / reissued	
US2006004237 AA	20071107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007088157 AA	20070419	LSPB	+	published / reissued	
US2007088157 AA	20051222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EASTMAN CHEMICAL COMPANY, TENNESSEE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HUBBS, JOHN CLARK; REEL/FRAME:017138/0290 EFFECTIVE DATE : 20051202
US2007088157 AA	20091008	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007098625 AA	20070503	LSPB	+	published / reissued	
US2007098625 AA	20100514	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PTGR)
US2007098625 AA	20100721	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009062581 AA	20090305	LSPB	+	published / reissued	
US2009062581 AA	20141015	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011306808 AA	20111215	LSPB	+	published / reissued	
US2011306808 AA	20140730	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015060258 AA	20150305	LSPB	+	published / reissued	
US2015060258 AA	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301

US2015060258 AA	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US2015060258 AA	20160804	LSES	NFA1	Non Final Action Mailed	
US2015060258 AA	20170308	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US7179379 BB	20070220	LSGT	+	granted / extensions (spc, cpc, pte)	
US7179379 BB	20031118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; LANGE, WILLIAM F.; REEL/FRAME:014730/0542; SIGNING DATES FROM 20031110 TO 20031112
US7179379 BB	20070612	LSRE	CC	CERTIFICATE OF CORRECTION	
US7179379 BB	20110201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7179379 BB	20150220	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7179379 BB	20150323	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7179379 BB	20150323	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7179379 BB	20150414	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150220
US7179379 BB	20240921	PEXP		Calculated Patent Term Expiry (PTA 308 days)	
US7301060 BB	20071127	LSGT	+	granted / extensions (spc, cpc, pte)	
US7301060 BB	20050624	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; FREISS, JAMES H.; LANGE, WILLIAM F.; REEL/FRAME:016415/0786; SIGNING DATES FROM 20041206 TO 20050301
US7301060 BB	20071107	LSGT	PAT1	Patented Case	
US7301060 BB	20110603	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7301060 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US7301060 BB	20150518	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7301060 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY

					RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US7301060 BB	20190715	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7301060 BB	20191114	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE-LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2556); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7301060 BB	20191114	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7301060 BB	20250423	PEXP		Calculated Patent Term Expiry (PTA 205 days and a terminal disclaimer has been filed)	
US7476296 BB	20090113	LSGT	+	granted / extensions (spc, cpc, pte)	
US7476296 BB	20031118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; LANGE, WILLIAM F.; REEL/FRAME:014730/0551; SIGNING DATES FROM 20031010 TO 20031112
US7476296 BB	20081222	LSGT	PAT1	Patented Case	
US7476296 BB	20120125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7476296 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US7476296 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US7476296 BB	20160630	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7476296 BB	20250307	PEXP		Calculated Patent Term Expiry (PTA 475 days)	
US7692050 BB	20100406	LSGT	+	granted / extensions (spc, cpc, pte)	
US7692050 BB	20100317	LSGT	PAT1	Patented Case	
US7692050 BB	20130930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7692050 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US7692050 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE

					ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US7692050 BB	20171004	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7692050 BB	20280707	PEXP		Calculated Patent Term Expiry (PTA 1377 days and a terminal disclaimer has been filed)	
US7771699 BB	20100810	LSGT	+	granted / extensions (spc, cpc, pte)	
US7771699 BB	20061226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ADAMS, TERRY N.; APPEL, BRIAN S.; EINFELDT, CRAIG TIMOTHY; AND OTHERS; REEL/FRAME:018676/0851; SIGNING DATES FROM 20061115 TO 20061120
US7771699 BB	20061226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ADAMS, TERRY N.; APPEL, BRIAN S.; EINFELDT, CRAIG TIMOTHY; AND OTHERS; SIGNING DATES FROM 20061115 TO 20061120; REEL/FRAME:018676/0851
US7771699 BB	20100721	LSGT	PAT1	Patented Case	
US7771699 BB	20140207	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7771699 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US7771699 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US7771699 BB	20180209	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7771699 BB	20270830	PEXP		Calculated Patent Term Expiry (PTA 335 days)	
US8003833 BB	20110823	LSGT	+	granted / extensions (spc, cpc, pte)	
US8003833 BB	20031118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; ADAMS, TERRY N.; ROBERTS, MICHAEL J.; AND OTHERS; REEL/FRAME:014726/0047; SIGNING DATES FROM 20031029 TO 20031112
US8003833 BB	20031118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNORS:APPEL, BRIAN S.; ADAMS, TERRY N.; ROBERTS, MICHAEL J.; AND OTHERS; SIGNING DATES FROM 20031029 TO 20031112; REEL/FRAME:014726/0047
US8003833 BB	20110803	LSGT	PAT1	Patented Case	
US8003833 BB	20150213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8003833 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US8003833 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US8003833 BB	20190415	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8003833 BB	20190823	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 7.5 YR SURCHARGE - LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2555); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8003833 BB	20190823	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8003833 BB	20260904	PEXP		Calculated Patent Term Expiry (PTA 1021 days and a terminal disclaimer has been filed)	
US8809606 BB	20140819	LSGT	+	granted / extensions (spc, cpc, pte)	
US8809606 BB	20110819	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT, LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; ADAMS, TERRY N.; ROBERTS, MICHAEL J.; AND OTHERS; SIGNING DATES FROM 20031029 TO 20031112; REEL/FRAME:026778/0086
US8809606 BB	20140730	LSGT	PAT1	Patented Case	
US8809606 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US8809606 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US8809606 BB	20180126	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8809606 BB	20320121	PEXP		Calculated Patent	

				Term Expiry (PTA 155 days and a terminal disclaimer has been filed)	
US8877992 BB	20141104	LSGT	+	granted / extensions (spc, cpc, pte)	
US8877992 BB	20080821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT,LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; ADAMS, TERRY N.; FREISS, JAMES H.; AND OTHERS; REEL/FRAME:021422/0010; SIGNING DATES FROM 20080811 TO 20080812
US8877992 BB	20080821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AB-CWT,LLC, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPEL, BRIAN S.; ADAMS, TERRY N.; FREISS, JAMES H.; AND OTHERS; SIGNING DATES FROM 20080811 TO 20080812; REEL/FRAME:021422/0010
US8877992 BB	20141015	LSGT	PAT1	Patented Case	
US8877992 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035275/0499 EFFECTIVE DATE : 20150301
US8877992 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SYNPET TEKNOLOJI GELISTIRME A.S., TURKEY OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE ADDRESS PREVIOUSLY RECORDED ON REEL 035275 FRAME 0499. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:AB-CWT, LLC; REEL/FRAME:035833/0867 EFFECTIVE DATE : 20150301
US8877992 BB	20180425	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8877992 BB	20320213	PEXP		Calculated Patent Term Expiry (PTA 1336 days and a terminal disclaimer has been filed)	
WO04087619 A2	20041014	LSPB	+	published / reissued	
WO04087619 A2	20050826	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2517440 COUNTRY OF REF DOCUMENT : CA
WO04087619 A2	20050921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004225961 COUNTRY OF REF DOCUMENT : AU
WO04087619 A2	20050922	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006509261 COUNTRY OF REF DOCUMENT : JP
WO04087619 A2	20050925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 171084 COUNTRY OF REF DOCUMENT : IL
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WO04087619 A2	20050928	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020057018369 COUNTRY OF REF DOCUMENT : KR
WO04087619 A2	20050928	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 542689 COUNTRY OF REF DOCUMENT : NZ
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WO04087619 A2	20051026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004758275 COUNTRY OF REF DOCUMENT : EP
WO04087619 A2	20051027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2781/CHENP/2005 COUNTRY OF REF DOCUMENT : IN
WO04087619 A2	20051028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005133203 COUNTRY OF REF DOCUMENT : RU
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WO04087619 A3	20060613	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0408894 COUNTRY OF REF DOCUMENT : BR
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WO06039354 A3	20070329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2582351 COUNTRY OF REF DOCUMENT : CA
WO06039354 A3	20070329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007534737 COUNTRY OF REF DOCUMENT : JP
WO06039354 A3	20070330	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2007/003898 COUNTRY OF REF DOCUMENT : MX
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WO06039354 A3	20070430	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1832/CHENP/2007 COUNTRY OF REF DOCUMENT : IN
WO06039354 A3	20070430	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005292068 COUNTRY OF REF DOCUMENT : AU
WO06039354 A3	20070502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007116133 COUNTRY OF REF DOCUMENT : RU
WO06039354 A3	20070524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2005292068 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20050922 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO06039354 A3	20070530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580041172.2 COUNTRY OF REF DOCUMENT : CN
WO06039354 A3	20070627	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005802984 COUNTRY OF REF DOCUMENT : EP
WO06039354 A3	20080923	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0516864 COUNTRY OF REF DOCUMENT : BR
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WO06039355 A2	20050922	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580040897.X COUNTRY OF REF DOCUMENT : CN
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WO06039355 A2	20070329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007534738 COUNTRY OF REF DOCUMENT : JP
WO06039355 A2	20070329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2007/003808 COUNTRY OF REF DOCUMENT : MX
WO06039355 A2	20070330	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO06039355 A2	20070410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 182448 COUNTRY OF REF DOCUMENT : IL
WO06039355 A2	20070410	LSNP	+WWE	WIPO	REF DOCUMENT NUMBER :

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WO06039355 A2	20070430	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005292069 COUNTRY OF REF DOCUMENT : AU
WO06039355 A2	20070430	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1810/CHENP/2007 COUNTRY OF REF DOCUMENT : IN
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WO06039355 A2	20080812	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0515959 COUNTRY OF REF DOCUMENT : BR
WO07046858 A1	20070426	LSPB	+	published / reissued	
WO07046858 A1	20080418	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO07047063 A2	20080416	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2626251 COUNTRY OF REF DOCUMENT : CA
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WO07047063 A2	20080418	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07047063 A2	20080424	LSNP	+WWE	WIPO	REF DOCUMENT NUMBER :

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WO07047063 A2	20080515	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006303016 COUNTRY OF REF DOCUMENT : AU
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WO07047063 A2	20080516	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2440/CHENP/2008 COUNTRY OF REF DOCUMENT : IN
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WO07047063 A2	20080605	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2006303016 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20060929 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO09108761 A1	20090903	LSPB	+	published / reissued	
WO09108761 A1	20090226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980114820.0 COUNTRY OF REF DOCUMENT : CN
WO09108761 A9	20100824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2010/009293 COUNTRY OF REF DOCUMENT : MX
WO09108761 A9	20100824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010547871 COUNTRY OF REF DOCUMENT : JP
WO09108761 A9	20100827	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09108761 A9	20100923	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 5989/CHENP/2010 COUNTRY OF REF DOCUMENT : IN
WO09108761 A9	20100923	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009714171 COUNTRY OF REF DOCUMENT : EP
WO09108761 A9	20100924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009219278 COUNTRY OF REF DOCUMENT : AU
WO09108761 A9	20100924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 588214 COUNTRY OF REF DOCUMENT : NZ
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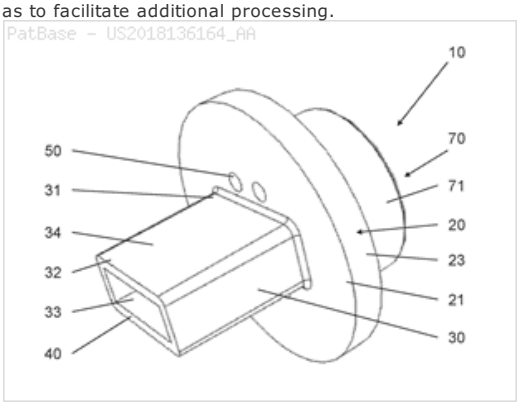
WO09108761 A9	20110824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2753534 COUNTRY OF REF DOCUMENT : CA
WO09108761 A9	20150728	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0907920 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20100825
ZA200507817 A	20070425	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200507817 A	20250926	PEXP		Calculated Patent Term Expiry	
ZA201006788 A	20120125	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201006788 A	20290225	PEXP		Calculated Patent Term Expiry	

66) Family number: 69737797 (US2018136164A)

Title: SYSTEMS AND METHODS TO EXTRACT TARGET MATERIAL FROM A GEL

Abstract: A device, system, and method of extracting a target component from a gel. A gel processing system comprises a gel excision and fragmentation device with a cutting edge shaped to cut a sample containing a targeted component from a gel, a receptacle shaped to receive the gel sample, and a fragmentation membrane to fragment the gel sample coupled to a receiving container. The gel processing system may be used in conjunction with a centrifuge to break down gel material surrounding the targeted component cause the fragmentation as well as to facilitate additional processing.

Classifications:
International (IPC 8-9)**:** B01L3/00 B04B5/10 G01N27/447 (Advanced/Invention)
CPC: G01N27/44739 G01N27/44756 B01L2300/08 B01L2300/0672 B01L2300/0681 B04B5/10 B01L3/502 B01L3/50825 B01L2300/042 B01L2300/046 B01L2300/047 B01L2300/048 B01L2300/0832 B01L3/5021
US: 1/1 204/462



Family:

Publication number	Publication date	Application number	Application date
US2018136164 AA	20180517	US20170809865	20171110

Priority:
US20160421938P 20161114 US20170809865 20171110

Probable Assignee: SEQMATIC LLC
Assignee(s): (std)**:** SEQMATIC LLC
Inventor(s): (std)**:** LEE DANNY ; YAEP SHANG MOON

Legal status (INPADOC)

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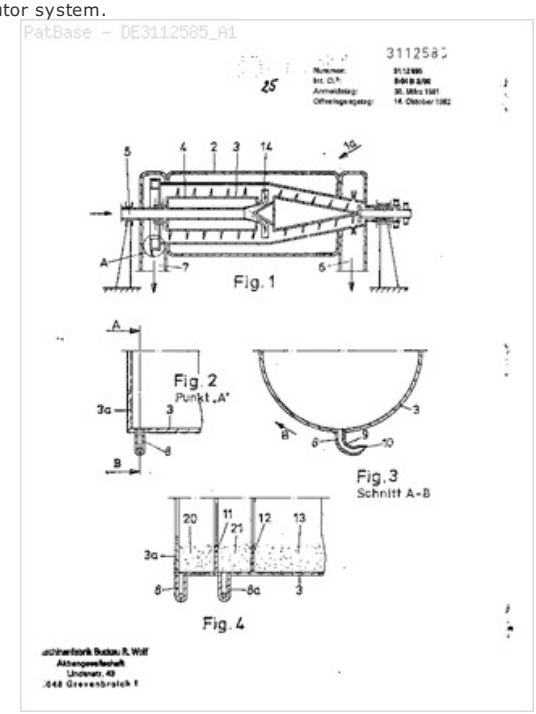
Patent	Date recorded	Event group	Code	Event	Details
US2018136164 AA	20180517	LSPB	+	published / reissued	
US2018136164 AA	20190422	LSES	NFA1	Non Final Action Mailed	
US2018136164 AA	20190705	LSES	NFA1	Non Final Action Mailed	

67) Family number: 2103809 (JP57174165A)

Title: METHOD AND DEVICE FOR SEPARATING TWO COMPONENT MIXTURE

Abstract: The subject-matter relates to a rotation system in which kinetic and potential energy are recovered during centrifuging by means of a repulsion force and/or a rotating distributor system.

Classifications:
International (IPC 8-9): B04B1/02 B04B1/20 B04B11/00 B04B3/00 (Advanced/Invention)
International (IPC 1-7): B04B1/00 B04B11/00 B04B3/00 B04B7/08 B04B7/18 C13D1/06
CPC: B04B1/02 B04B1/20 B04B3/00 B04B11/00 B04B2001/2033 B04B2001/2075
European: B04B1/02 B04B1/20 B04B11/00 B04B3/00 L04B1/20E L04B1/20L



Family:

Publication number	Publication date	Application number	Application date
DE3112585 A1	19821014	DE19813112585	19810330
JP57174165 A2	19821026	JP19820050281	19820330

Priority:

DE19813112585 19810330

Probable Assignee: BUCKAU WALTHER AG
Assignee(s): (std): BUCKAU WALTHER AG ; BUTSUKAUUUARUTERU AG
Inventor(s): (std): MANZ ROLF DR ING ; RORUFU MANTSU

Legal status (INPADOC)

View legal status timeline

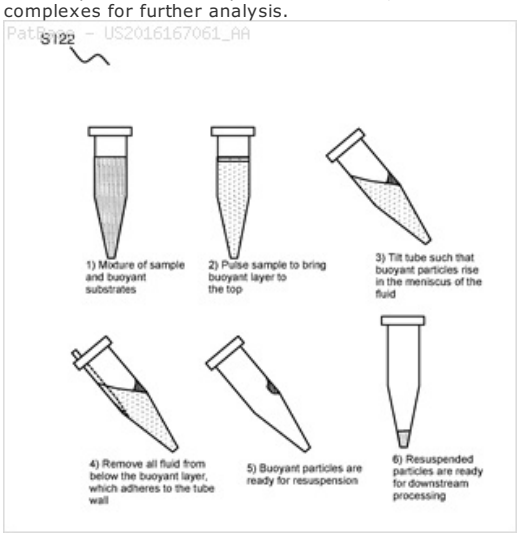
Patent	Date recorded	Event group	Code	Event	Details
DE3112585 A1	19821014	LSPB	+	published / reissued	
DE3112585 A1	19820527	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE3112585 A1	19831027	LSWD	-8130	WITHDRAWAL	
JP57174165 A2	19821026	LSPB	+	published / reissued	

68) Family number: 62649811 (US2016167061A)

Title: METHOD AND SYSTEM FOR BUOYANT SEPARATION

Abstract: A method and system for buoyant separation of a target constituent of a sample, the method comprising: at a process chamber, combining a volume of substrates having a first density with the sample, thereby producing a population of target-bound complexes comprising the target constituent bound to at least a portion of the volume of substrates; within the process chamber, physically separating the population of target-bound complexes from the sample based upon interaction between the volume of substrates and an applied force; aggregating the population of target-bound complexes at a collection region of the process chamber; extracting the population of target-bound complexes from the process chamber; and processing the target constituent from the population of target-bound complexes for further analysis.

Classifications:
International (IPC 8-9): B01D17/02 B01D21/00 B01D21/24 B01D21/26 B01L3/00 B04B7/18 E02B15/04 E03F5/14 G01N33/49 (Advanced/Invention)
CPC: B01D21/262 B01D21/0084 B01L2400/06 B01L2200/0652 B01D21/2433 B01L3/5021 B01L2200/026 B01L2400/0616 G01N33/491
US: 1/1 494/37 494/56 494/67



Family:

Publication number	Publication date	Application number	Application date
CN107206291 A	20170926	CN201580075955	20151215
EP3233232 A1	20171025	EP20150870844	20151215
EP3233232 A4	20181114	EP20150870844	20151215
US2016167061 AA	20160616	US20150969446	20151215
US2018290077 AA	20181011	US20180004874	20180611
US10195547 BB	20190205	US20150969446	20151215
WO16100290 A1	20160623	WO2015US65732	20151215

Priority:

US20140092019P 20141215 US20150189518P 20150707 US20150969446 20151215
WO2015US65732 20151215 US20170517543P 20170609 US20180616647P 20180112
US20180004874 20180611

Probable Assignee: AKADEUM LIFE SCIENCES INC

Assignee(s): (std): AKADEUM LIFE SCIENCES INC ; AKADEUM LIFE SCIENCES LLC

Inventor(s): (std): MCNAUGHTON BRANDON H ; YOUNGER JOHN G ; OSTRUSZKA LEO J ; OSTRUSZKA LEO ; ROUSSEY JONATHAN ; PARUNAK GENE ; KEHRER AARON

Agent(s): STANNERS DAVID RALPH; SCHOX JEFFREY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN107206291 A	20170926	LSPB	+	published / reissued	
CN107206291 A	20170926	LSPB	PB01	PUBLICATION	
CN107206291 A	20191018	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
EP3233232 A1	20171025	LSPB	+	published / reissued	
EP3233232 A1	20171025	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170609
EP3233232 A4	20181114	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN	EFFECTIVE DATE : 20181012

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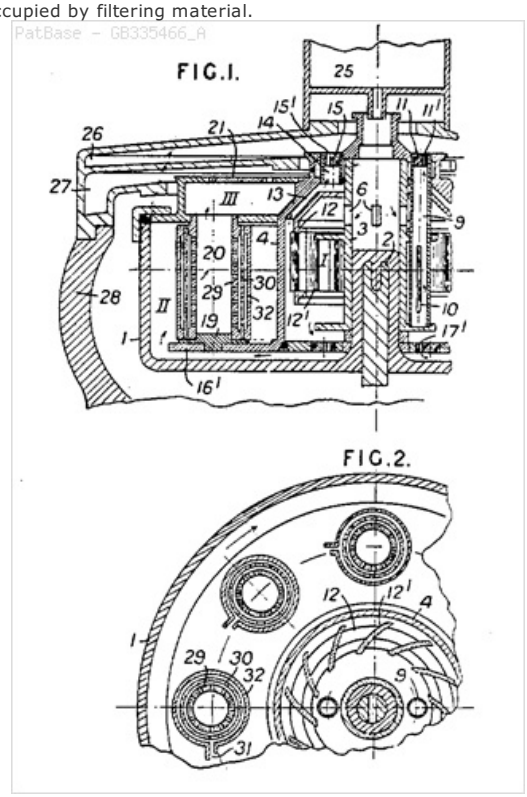
EP3233232 A4	20190710	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190611
US10195547 BB	20190205	LSGT	+	granted / extensions (spc, cpc, pte)	
US10195547 BB	20160218	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AKADEUM LIFE SCIENCES, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCNAUGHTON, BRANDON H.; YOUNGER, JOHN; OSTRUSZKA, LEO; SIGNING DATES FROM 20151223 TO 20160218; REEL/FRAME:037767/0924
US10195547 BB	20190116	LSGT	PAT1	Patented Case	
US10195547 BB	20360830	PEXP		Calculated Patent Term Expiry (PTA 259 days)	
US2016167061 AA	20160616	LSPB	+	published / reissued	
US2016167061 AA	20171013	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2016167061 AA	20171017	LSES	NFA1	Non Final Action Mailed	
US2016167061 AA	20190116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018290077 AA	20181011	LSPB	+	published / reissued	
US2018290077 AA	20180813	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AKADEUM LIFE SCIENCES, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCNAUGHTON, BRANDON H.; YOUNGER, JOHN G.; OSTRUSZKA, LEO; AND OTHERS; SIGNING DATES FROM 20180717 TO 20180731; REEL/FRAME:046626/0417
WO16100290 A1	20160623	LSPB	+	published / reissued	
WO16100290 A1	20170616	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

69) Family number: 18722821 (GB335466A)

Title: Improvements in and relating to centrifuges

Abstract: Density and strainer **separators** combined.-In a **centrifugal** **separator** where a first separation is effected according to the densities of the treated materials, a further separation is effected by a number of independent filters distributed round the periphery of the centrifuge. The rotor consists of two drums 1, 4 on a common shaft 2, and is enclosed by a casing 28 supporting the two receiving chambers 26, 27. The inner drum 4 contains vertical tubes 9 with inlet slots 10, and with their upper ends closed by screw plugs 11 with eccentrically bored holes 11'. A bellshaped part 12 in the drum 4 forms with the cover an annular passage 13 which leads to discharge pipes 14 closed by plugs 15 with eccentric holes 15 <1> . The bell 12 also supports **blades** 12' inclined as shown in Fig. 2 to assist in the separation. The outer drum 1 contains a number of cylindrical filters 20 on sockets 19 in the flange 16 <1> attached outside the drum 4. Each filter consists of an inner perforated cylinder 29, an outer filter 30, and an enclosing casing 32 which has an inlet slot 31 extending the entire axial length of the filter. The upper end of each filter opens into a chamber III from which discharge occurs through the eccentrically bored hole in the screw plug 21. The **liquid** for treatment is supplied to the container 25 and passes through the slots 6 in the sleeve 3 to the chamber I inside the drum 4. The heavy particles are thrown to the wall of the drum 4, pass upwards through the channel 13 and are discharged through the adjustable passages 15 <1> into the chamber 26. The light particles pass through the slots 10, up the tubes 9 and are discharged through the adjustable passages 11 <1> into the chamber 26. The main **liquid** stream passes on from the chamber I through adjustable passages 17 <1> into the chamber II where heavy particles are thrown outwards to the wall of the drum 1 and light particles pass to the wall of the drum 4. The **liquid** stream enters the inlets 31 of the filters, passes through the walls 30, 29, upwards into the chamber III and from thence to the chamber 27. The filters may be rotated on their sockets so that the inlets 31 draw **liquid** from any particular zone, and the space inside the filters and the chamber III may be occupied by filtering material.

Classifications:
International (IPC 8-9): B04B3/00 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B04B3/00
CPC: B04B3/00
European: B04B3/00



Family:

Publication number	Publication date	Application number	Application date
FR686372 A	19300725		19291210
GB335466 A	19300925	GB19290037911	19291210

Priority:
19281210 19281210 19281210

Probable Assignee: RAMESOHL AND SCHMIDT AG
Assignee(s): (std): RAMESOHL AND SCHMIDT AG
Assignee(s): RAMESOHL AND SCHMIDT AKTIENGESELLSCHAFT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR686372 A	19300725	LSGT	+	granted / extensions (spc, cpc, pte)	
FR686372 A	19491210	PEXP		Calculated Patent Term Expiry	
GB335466 A	19300925	LSGT	+	granted / extensions (spc, cpc, pte)	
GB335466 A	19491210	PEXP		Calculated Patent Term Expiry	

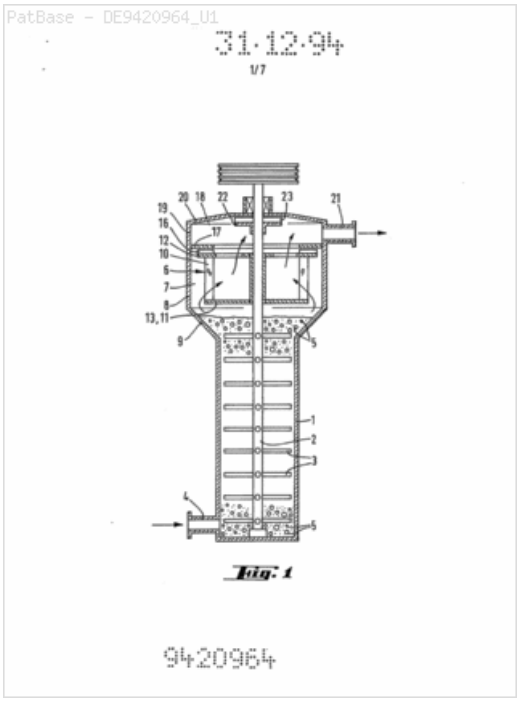
70) Family number: 17710872 (DE9420964U1)

Title: RUEHRWERKSMUEHLE MIT **SEPARATOR** ZUR ZURUECKHALTUNG VON MAHLPERLEN Agitator **MILL** WITH **SEPARATOR** FOR RETENTION OF grinding beads (Machine translation)

Abstract: Source: DE9420964U1 [DE] (Claim 1) 1. Ruehrwerksmuehle, in deren mit einem Einlass und einem Auslass versehenen und mit einer Ladung von Mahlperlen beschickten Mahlbe- haelter eine mit Ruehrorganen bestueckte Ruehrwerkswelle (Ruehrwerk) drehbar ist, auf welcher zur Zurueckhaltung der Mahlperlen vor dem Auslass ein **Separator** sitzt, der mit radialen Durchlaessen versehen ist, die sich zwischen einem dem Mahlraum zugehoerenden radial aeusseren Ringraum und einem ringfoermig die Ruehrwerkswelle umgebenden inneren Auslassraum erstrecken, dadurch gekennzeichnet, dass der **Separator** von einem Rotor nach Art eines Zentrifugalkraft-Sichterrotors (6) gebildet ist, wobei die Durchlaesse von den Zwischenraeumen oder Spaltraeumen zwischen je zwei Sichterrotorschaufeln (10) gebildet sind.

Machine translation: (Claim 1) 1 Stirred **mills**, in which having an inlet and an outlet equipped with a charge of grinding media-fed grinding jars, holding a fitted with agitators agitator (agitator) is rotatable on which the restraint of the beads before the outlet of a **separator** is sitting, which is provided with radial passages is to extend between one of the grinding chamber associated radial outer annular space and a ring surrounding the agitator shaft inner outlet space, wherein the **separator** is formed by a rotor like a **centrifugal** classifier rotor (6), with the passages of the Interstitial or Spaltraeumen between two Sichterrotorschaufeln (10) are formed.

Classifications:
International (IPC 8-9): B02C17/16 (Advanced/Invention); B02C17/16 (Core/Invention)
International (IPC 1-7): B02C17/18 B02C17/20 B02C23/06 B02C23/10 B02C23/12 B04B1/00
CPC: B02C17/161
European: B02C17/16B



Family:

Publication number	Publication date	Application number	Application date
DE9420964 U1	19950504	DE19940020964U	19941231

Priority:
DE19940020964U 19941231

Probable Assignee: OMYA GMBH
Assignee(s): (std)**:** OMYA GMBH
Assignee(s): OMYA GMBH 50968 KOELN DE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE9420964 U1	19950504	LSGT	+	granted / extensions (spc, cpc, pte)	
DE9420964 U1	20041231	PEXP		Calculated Patent Term Expiry	

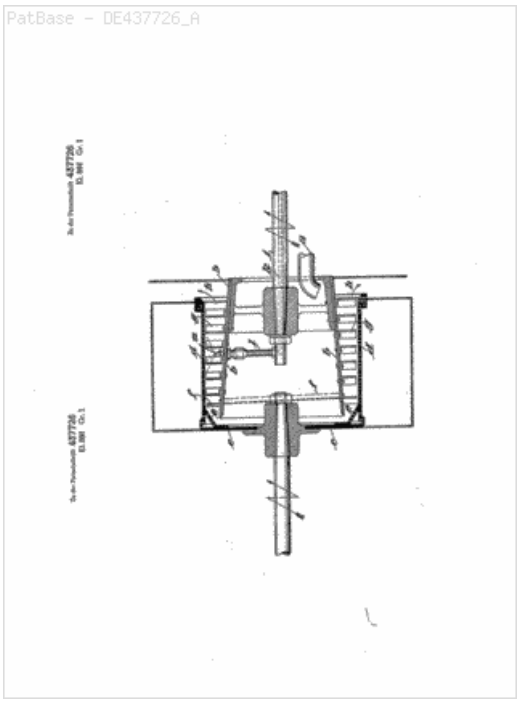
71) Family number: 19236885 (DE437726A)

Title: SCHLEUDER, INSBESONDERE FUER ZUCKERFUELLMASSE SPIN, ESPECIALLY FOR sugar massecuite (Machine translation)

Abstract: Source: DE437726A [DE] (Claim 1) PATENT ANSPRUECHE i. Schleuder zum Trennen von festen und fluessigen Stoffen mit sich drehender Aussen- und Innentrommel, insbesondere fuer Zuckerfuellmasse, gekennzeichnet durch einen mit Durchtrittsoeffnungen versehe- nen Kegel (e) an der geschlossenen Seite der Aussentrommel (c1) und einen sich -4n- mittelbar anschliessenden, auf die Innen trommel (b) aufgesetzten Schneckengang a.

Machine translation: Marked (claim 1) PATENT CLAIM i spin for separating solid and **liquid** substances with a rotating outer and inner drum, especially for Zuckerfuellmasse by one with Durchtrittsoeffnungen various safety-NEN cone (s) on the closed side of the outer drum (c1) and one-to-4n subsequent indirectly, a drum on the inside (b) attached worm gear

Classifications:
International (IPC 8-9): B04B3/04 (Advanced/Invention); B04B3/00 (Core/Invention)
International (IPC 1-7): B04B3/04 C13C3/00 F26B17/34
CPC: B04B3/04 B04B15/12
European: B04B15/12 B04B3/04



Family:

Publication number	Publication date	Application number	Application date
DE437726 A	19261126	DE1926D049598	19260109

Priority:
DE1926D049598 19260109

Probable Assignee: KARL DOERFER
Assignee(s): (std)**:** KARL DOERFER

Legal status (INPADOC)

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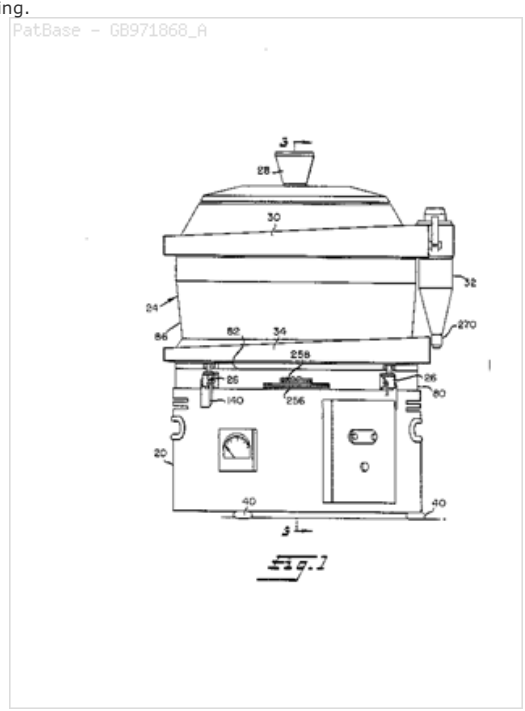
Patent	Date recorded	Event group	Code	Event	Details
DE437726 A	19261126	LSGT	+	granted / extensions (spc, cpc, pte)	

72) Family number: 20404893 (GB971868A)

Title: Classifiers

Abstract: 971,868. **Centrifugal** **separators**. DOUGLAS AIRCRAFT CO. Inc. Sept 23, 1963, No. 37284/63. Heading B2P. Solid particles are classified by the opposing actions of **centrifugal** force and an inward current of working fluid, the classifying zone comprising an outer annulus between inwardly converging stationary walls 130, 182, and an inner annulus between inwardly diverging walls of a rotor with vanes 158, the working fluid being impelled to flow as a free vortex into the outer annulus and taking up a constant radial velocity in the inner annulus, particles to be classified being fed with zero radial velocity into the junction between the inner and outer zones. Particles are fed into a hopper 28 at the top of the machine and fall into the feed pipes 146, Figs. 3 and 4, mounted on the rotor. From the pipes 146 particles enter a rotating annular chamber, containing spreading bars 154 and exit vanes 156 between which the particles emerge to strike a replaceable stationary ring 202 and to fall as a curtain into the central region of the separating zone. Once taken up in rotary motion the particles separate; heavy particles progressing against the flow of fluid into a series of peripheral outlets 106 leading to an annular outlet chamber 30; light particles proceeding inwardly with the fluid flow to turn round the U-section portion 150 of the rotor and be impelled by rotor **blades** 160, 164, into a lower annular trough bounded by the outer wall 86 and an inner conical wall 78. At the bottom of the trough is a series of radial outlets 92 leading to an annular outlet chamber 34 for the light particles. The working fluid is recirculated upwardly in towards the centre of the rotor past a sleeve throttle valve 230 and the feed pipes 146, and between impeller vanes 144 which drives the fluid back into the classifying zone round the stationary member 130. A grid of **separators** 174 is arranged side by side in circular array to clean returning fluid of residual light particles. As best seen in the alternative sections of Figs. 7 and 8, the grid comprises hollow bars with vertical slots to catch the radially incident fluid. Inside the bars the fluid throws out the residual particles which fall out the open bottoms of the bars and into the light particle collecting trough. To vary the separating point the sleeve valve 230 may be raised or lowered to raise or reduce the speed of the circulating fluid, A finger wheel 256 projects at the base of the machine and through gear wheels 248, 246, rotates the threaded sleeve 236 to control the valve. A geared down indicator wheel 258 is driven from the sleeve by gears 262, 260. Recirculating fluid, in the illustrated embodiment the fluid is air, is drawn into the machine beneath the top cover 120 at the peripheral gap 122. The shallow **blades** 142 at the top of the rotor impel the fluid outwards and upwards to pass through a hole 176 into the space between outer wall 108 and inner casing 90. From the bottom of this space passages, which are not shown, pass downwardly into the cavity 178 to escape through the gaps 184 and 186 between the stationary and rotary parts of the machine. By this means air losses are made up and the gaps are kept free of fine particles. The coarse particles ejected from the annular chamber 30, and the fine particles ejected from the annular chamber 34, are separated from the working fluid by means of cyclones attached by clip fastenings to the outlets of the chambers. The use of water as a working fluid requires the provision of a reservoir tank on the top of the machine (see Fig. 9, not shown). The machine is mounted on a coaxial motor housing.

Classifications:
International (IPC 8-9): B04B5/00 (Advanced/Invention); B04B5/00 (Core/Invention)
International (IPC 1-7): B04B5/00
CPC: B04B5/00
European: B04B5/00



Family:

Publication number	Publication date	Application number	Application date
GB971868 A	19641007	GB19630037284	19630923

Priority:
GB19630037284 19630923

Probable Assignee:	DOUGLAS AIRCRAFT CO INC
Assignee(s): (std):	DOUGLAS AIRCRAFT CO INC
Assignee(s):	DOUGLAS AIRCRAFT COMPANY INC
Inventor(s): (std):	HOFFSTROM BO NILSSON

Legal status (INPADOC)

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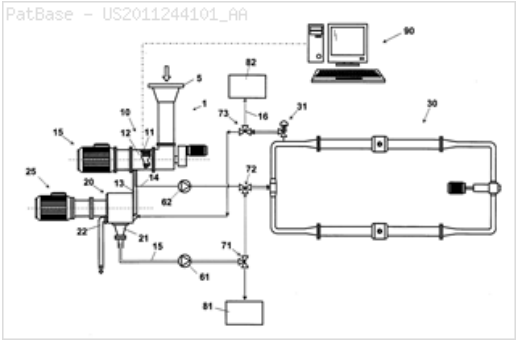
Patent	Date recorded	Event group	Code	Event	Details
GB971868 A	19641007	LSGT	+	granted / extensions (spc, cpc, pte)	
GB971868 A	19830923	PEXP		Calculated Patent Term Expiry	

73) Family number: 45549943 (US2011244101A)

Title: METHOD AND APPARATUS FOR EXTRACTING PUREE OR JUICE FROM A VEGETABLE OR ANIMAL FOOD

Abstract: Method for extracting puree, or juice, from a starting product based on vegetable or animal food comprising a starting treatment step, for example a step of softening the food product obtaining a treated product (101). A deviation step lows (102), during which the treated product is selectively directed towards a cold extraction (110), or towards a hot extraction (200). If the treated product is directed towards a cold extraction, it follows firstly an extraction step (103), in which the treated product at the inlet is separated into a main product comprising the puree, or the juice (103a) and into a waste material (103b). The main product is then subjected to an enzymatic inactivation step which provides quickly heating the treated product up to a determined temperature T (104). In case, instead, the treated product is directed towards a hot extraction, it follows firstly the enzymatic inactivation step (203), and then it follows the extraction step, from which the main product (204a) and the waste material (204b) derive.

Classifications:
International (IPC 8-9)**:** A23L1/10 A23L1/212 A23L1/216 A23L19/00 A23L19/12 A23L2/04 A23L2/06 A23L7/10 A23N1/00 A23N1/02 B02C15/00 B04B5/10 B26D1/00 (Advanced/Invention); A23L1/212 A23L2/02 A23N1/00 (Core/Invention)
CPC: A23L2/04 A23L2/06 A23N1/02 A23L19/09
European: A23L1/212E A23L2/04 A23L2/06 A23N1/02
US: 1/1 426/481 426/481P 99/511 99/511S



Family:

Publication number	Publication date	Application number	Application date
EP2367448 A1	20110928	EP20090812459	20091218
EP2367448 B1	20161214	EP20090812459	20091218
IT1393736 B1	20120508	IT2008PI00131	20081218
ITPI20080131 A1	20100619	IT2008PI00131	20081218
US2011244101 AA	20111006	US20090131405	20091218
US9161561 BB	20151020	US20090131405	20091218
WO10070437 A1	20100624	WO2009IB07812	20091218

Priority:
IT2008PI00131 20081218 WO2009IB07812 20091218

Probable Assignee: BERTOCCHI
Assignee(s): (std)**:** BERTOCCHI ; BERTOCCHI ALESSANDRO
Inventor(s): (std)**:** BERTOCCHI ALESSANDRO
Agent(s): CELESTINO MARCO; LADAS AND PARRY LLP
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2367448 A1	20110928	LSPB	+	published / reissued	
EP2367448 A1	20110928	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110622
EP2367448 A1	20151028	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20150928
EP2367448 A1	20160727	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160701
EP2367448 A1	20161005	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : BERTOCCHI, ALESSANDRO
EP2367448 B1	20161214	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2367448 B1	20161214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2367448 B1	20161215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP

EP2367448 B1	20161223	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 8
EP2367448 B1	20170111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2367448 B1	20170115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 852745 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170115
EP2367448 B1	20170126	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602009043124 COUNTRY OF REF DOCUMENT : DE
EP2367448 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161223 YEAR OF FEE PAYMENT : 8
EP2367448 B1	20170410	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2367448 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
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EP2367448 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170315
EP2367448 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161227 YEAR OF FEE PAYMENT : 8
EP2367448 B1	20170515	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 852745 COUNTRY OF REF DOCUMENT :

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EP2367448 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
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EP2367448 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
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EP2367448 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170414

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EP2367448 B1	20170915	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602009043124 COUNTRY OF REF DOCUMENT : DE
EP2367448 B1	20170929	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20171004	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2367448 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE

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EP2367448 B1	20171122	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170915
EP2367448 B1	20171129	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20170314
EP2367448 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161218
EP2367448 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20171220	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2367448 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171220 YEAR OF FEE PAYMENT : 9
EP2367448 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171222 YEAR OF FEE PAYMENT : 9
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EP2367448 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170314
EP2367448 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20091218
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EP2367448 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 9
EP2367448 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161214
EP2367448 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161218
EP2367448 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 10
EP2367448 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 10
EP2367448 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181228 YEAR OF FEE PAYMENT : 10
EP2367448 B1	20291218	PEXP		Calculated Patent Term Expiry	
IT1393736 B1	20120508	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1393736 B1	20281218	PEXP		Calculated Patent Term Expiry	
ITPI20080131 A1	20100619	LSPB	+	published / reissued	
US2011244101 AA	20111006	LSPB	+	published / reissued	
US2011244101 AA	20150930	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9161561 BB	20151020	LSGT	+	granted / extensions (spc, cpc, pte)	
US9161561 BB	20150930	LSGT	PAT1	Patented Case	
US9161561 BB	20190416	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9161561 BB	20300530	PEXP		Calculated Patent Term Expiry (PTA 163 days)	
WO10070437 A1	20100624	LSPB	+	published / reissued	
WO10070437 A1	20110610	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13131405 COUNTRY OF REF DOCUMENT : US
WO10070437 A1	20110620	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10070437 A1	20110622	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO	REF DOCUMENT NUMBER : 2009812459 COUNTRY OF REF DOCUMENT :

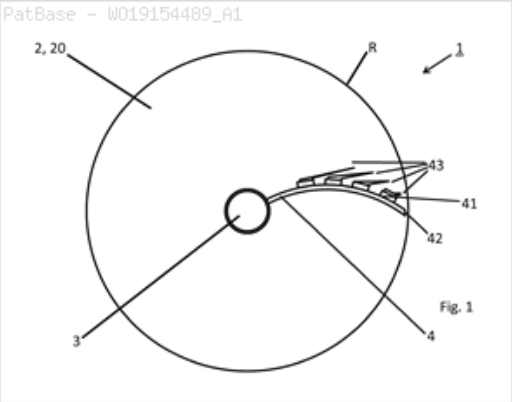
NATIONAL PHASE EP

74) Family number: 75511976 (WO19154489A1)

Title: ROTATING DEVICE FOR DISSOLVING AND SEPARATING MIXTURES

Abstract: The invention relates to a rotatable **separator**, comprising a hollow shaft (3) and a rotatable support body (2) extending radially away proceeding from the hollow shaft (3). The rotatable support body (2) and the hollow shaft (3) can be rotated about an axis (X), and a separation channel (4) extending from the hollow shaft (3) in a radial direction is arranged on the support body (2). The separation channel (4) is fluidically connected to the hollow shaft (3) in such a way that a mixture (G) can be fed from the hollow shaft (3) to the separation channel (4) during operation. A separation element (41) is arranged in the separation channel (4) such that the mixture (G) that can be fed into the separation channel (4) can be separated into at least a first and a second component at the separation element (41). A removal channel (43) fluidically connected to the separation channel (4) is provided in such a way that a specifiable amount of the first component can be removed from the separation channel (4) into the removal channel (43) by means of the separation element (41). The invention is not suitable for separating and enriching isotopes.

Classifications:
International (IPC 8-9): B01D11/02 B04B1/00 B04B1/14 B04B11/02 B04B3/00 B04B7/16 (Advanced/Invention)
CPC: A24B15/24 A23F5/226 A23L27/11 A24B15/243 B01D11/0203 B01D11/0273 B01D11/0403 B01D11/0476 B04B1/00 B04B1/14 B04B3/00 B04B7/16 B04B11/02 C13B10/02 C13B10/083 C13B10/14 C12C3/10 C11B1/104



Family:

Publication number	Publication date	Application number	Application date
WO19154489 A1	20190815	WO2018EP53064	20180207

Priority:
WO2018EP53064 20180207

Probable Assignee: FERRUM AG

Assignee(s): (std): FERRUM AG

Inventor(s): (std): SCHALTEGGER ERNST ; FOIDL NIKOLAUS

Agent(s): IRSCH MANFRED ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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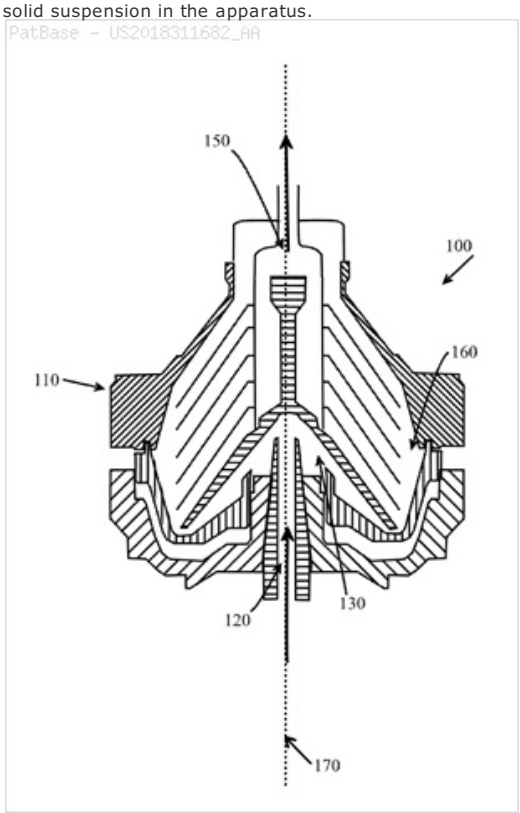
Patent	Date recorded	Event group	Code	Event	Details
WO19154489 A1	20190815	LSPB	+	published / reissued	

75) Family number: 61645987 (US2018311682A)

Title: A PROCESS FOR THE CONTINUOUS PRODUCTION OF SUB-MICRON TWO-DIMENSIONAL MATERIALS SUCH AS GRAPHENE

Abstract: A system and a method of continuously separating submicron thickness laminar solid particles from a solid suspension, segregating the suspension into a submicron thickness particle fraction suspension and a residual particle fraction suspension, the method comprising the steps of; providing a continuous centrifuge apparatus; providing a suspension of submicron thickness laminar solid particles in a solid suspension; wherein the solid suspension comprises the submicron thickness solid particles in a **liquid** continuous phase; separating the solid suspension in the apparatus.

Classifications:
International (IPC 8-9): B01D21/26 B01D43/00 B04B11/02 B04B7/14 C01B19/04 C01B32/194 C01B32/196 C01B32/215 C01G39/06 C01G41/00 C02F1/38 (Advanced/Invention)
CPC: B01D43/00 C01B32/194 B04B7/14 B04B11/02 C02F1/385 C01B19/04 C01B32/215 C01G39/06 C01G41/00 C01B32/196 B01D21/262
US: 1/1 494/37



Family:

Publication number	Publication date	Application number	Application date
CN108290089 A	20180717	CN201680068904	20161125
EP3380210 A1	20181003	EP20160804877	20161125
GB201521001 A0	20160113	GB20150021001	20151127
GB201619983 A0	20170111	GB20160019983	20161125
GB2544797 A1	20170531	GB20150021001	20151127
GB2545092 A1	20170607	GB20160019983	20161125
KR20180117595 A	20181029	KR20187018277	20161125
US2018311682 AA	20181101	US20160779361	20161125
WO17089818 A1	20170601	WO2016GB53710	20161125
WO17089825 A1	20170601	WO2016GB53718	20161125

Priority:
GB20150021001 20151127 WO2016GB53710 20161125

Probable Assignee: SWAN THOMAS AND CO LTD
Assignee(s): (std): SWAN THOMAS AND CO LTD
Assignee(s): THOMAS SWAN AND CO ; THOMAS SWAN AND CO LTD ; THOMAS SWAN AND COLTD ; SWAN THOMAS AND CO
Inventor(s): (std): LEE GLASGOW ; PAUL LADISLAUS ; LADISLAUS PAUL ; GLASGOW LEE ; FULFORD STEPHEN
Agent(s): HOUGHTON MARK PHILLIP; HOUGHTON MARK
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN108290089 A	20180717	LSPB	+	published / reissued	
CN108290089 A	20180717	LSPB	PB01	PUBLICATION	
EP3380210 A1	20181003	LSPB	+	published / reissued	

EP3380210 A1	20181003	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180615
GB2544797 A1	20170531	LSPB	+	published / reissued	
GB2545092 A1	20170607	LSPB	+	published / reissued	
KR20180117595 A	20181029	LSPB	+	published / reissued	
US2018311682 AA	20181101	LSPB	+	published / reissued	
WO17089818 A1	20170601	LSPB	+	published / reissued	
WO17089818 A1	20180525	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15779361 COUNTRY OF REF DOCUMENT : US
WO17089818 A1	20180529	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17089818 A1	20180627	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187018277 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17089818 A1	20180627	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016804877 COUNTRY OF REF DOCUMENT : EP
WO17089818 A1	20180713	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016804877 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20180627
WO17089825 A1	20170601	LSPB	+	published / reissued	
WO17089825 A1	20180529	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17089825 A1	20181219	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 16804885 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :