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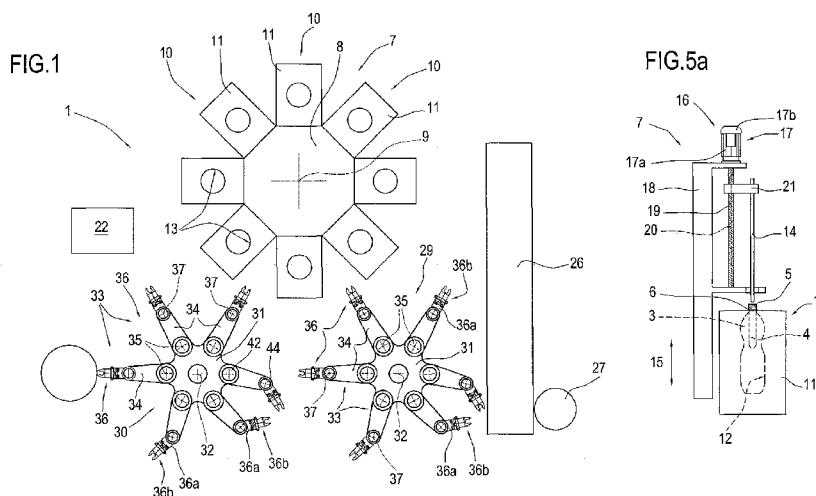
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(88) Date of publication of the international search report:

27 May 2010

(54) Title: SYSTEM FOR BLOWING PLASTIC CONTAINERS, SPECIFICALLY BOTTLES.



(57) Abstract: A plant for blow-moulding plastic containers (2) from respective parisons (3) comprises a plurality of moulding units (10), each having a mould (11) for blow-moulding at least one container (2) and at least one stretching rod (14) that moves under the action of a drive device (16) in such a way as to axially deform a respective parison (3); the drive device (16) comprises, for each moulding unit (10) drive motor (17) coupled to the stretching rods (14) of the moulding unit (10) itself.



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. B29C49/12 B29C49/42 B65G29/00
ADD. B29C49/36 B29C49/78 B65G47/84

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B29C B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2008/098565 A (SIG TECHNOLOGY AG [CH]; HERKLOTZ THORSTEN [DE]; LESINSKI WERNER [DE];) 21 August 2008 (2008-08-21) claims 13-16,23-25; figures 2,3,5,6 page 1, line 11 - line 20 page 4, line 27 - page 5, line 2 page 5, line 17 - line 33 page 6, line 19 - line 26 page 8, line 19 - page 9, line 2 page 10, line 21 - line 23 page 11, line 1 - line 7 page 14, line 12 - page 16, line 32 page 17, line 18 - line 30 ----- -/--	1-4,8-10

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *P* document published prior to the international filing date but later than the priority date claimed

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- * & * document member of the same patent family

Date of the actual completion of the international search

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08/04/2010

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INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2009/052203

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/108380 A (SIG TECHNOLOGY LTD [CH]; LITZENBERG MICHAEL [DE]; LINKE MICHAEL [DE];) 19 October 2006 (2006-10-19)	1,3,4, 6-10,14, 15
Y	claims 15-19,23; figures 2,3,6,8 page 5, line 4 - line 25 page 6, line 21 - line 23 page 6, line 29 - line 35 page 11, line 13 - line 25 page 15, line 17 - page 17, line 19 page 19, line 31 - page 20, line 20 page 5, line 4 - line 25 page 12, line 7 - line 17	1-7, 11-13
Y	EP 0 577 384 A (HOOVER UNIVERSAL [US]) 5 January 1994 (1994-01-05) claims 1-4,8; figures 1,2 column 2, line 28 - column 4, line 29 & DATABASE WPI Week 199350 Thomson Scientific, London, GB; AN 1993-404696 & US 5 269 672 A (HOOVER UNIVERSAL INC) 14 December 1993 (1993-12-14) abstract	1-3
Y	EP 1 588 825 A (A K TECH LAB INC [JP]) 26 October 2005 (2005-10-26) paragraphs [0009] - [0013], [0018] - [0020], [0023], [0024]; claims 1-5; figures 1-3 & DATABASE WPI Week 200446 Thomson Scientific, London, GB; AN 2004-487851 & WO 2004/052623 A (AK TECH LAB INC) 24 June 2004 (2004-06-24) abstract	6,7
Y	JP 11 048316 A (TAHARA KK) 23 February 1999 (1999-02-23) paragraphs [0002], [0006], [0007], [0009], [0011], [0015], [0016]; claims 1-4; figures 6,7 & DATABASE WPI Week 199918 Thomson Scientific, London, GB; AN 1999-209520 & JP 11 048316 A (TAHARA KK) 23 February 1999 (1999-02-23) abstract	1-3,6
Y	JP 11 348101 A (TAHARA KK) 21 December 1999 (1999-12-21) paragraphs [0005], [0010] - [0012]; claims 1,3,5; figures 1,3 -/--	4,5

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2009/052203

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	& DATABASE WPI Week 200011 Thomson Scientific, London, GB; AN 2000-119590 & JP 11 348101 A (TAHARA KK) 21 December 1999 (1999-12-21) abstract -----	
A	WO 02/24435 A (SIDEL SA [FR]; GALLONI BRUNO [FR]) 28 March 2002 (2002-03-28) cited in the application page 1, line 16 - line 18; claims 1-3; figures 1-4 & DATABASE WPI Week 200242 Thomson Scientific, London, GB; AN 2002-394107 & WO 02/24435 A (SIDEL SA) 28 March 2002 (2002-03-28) abstract -----	1-33
X	EP 1 484 160 A (SIG TECHNOLOGY LTD [CH]) 8 December 2004 (2004-12-08)	1,3,4,9, 10
Y	paragraphs [0015], [0051], [0053]; figures 2,3,5 & DATABASE WPI Week 200506 Thomson Scientific, London, GB; AN 2005-050038 & EP 1 484 160 A (SIG TECHNOLOGY LTD) 8 December 2004 (2004-12-08) abstract -----	11-13
Y	WO 2005/044540 A (NESTLE WATERS MAN & TECHNOLOGY [FR]; DENIS GERARD [FR]; CONTAL ALAIN []) 19 May 2005 (2005-05-19)	11-13
A	claims 3,6 & DATABASE WPI Week 200536 Thomson Scientific, London, GB; AN 2005-347993 & EP 1 529 620 A (NESTLE WATERS MANAGEMENT & TECHNOLOGY) 11 May 2005 (2005-05-11) abstract -----	14,15
Y	JP 2007 196542 A (TOYO SEIKAN KAISHA LTD) 9 August 2007 (2007-08-09) paragraphs [0009] - [0011], [0013], [0026]; figures 1,4-6 & DATABASE WPI Week 200761 Thomson Scientific, London, GB; AN 2007-644474 & JP 2007 196542 A (TOYO SEIKAN KAISHA LTD) 9 August 2007 (2007-08-09) abstract -----	16,20-25
X	DE 26 15 007 A1 (THYSSEN PLASTIK MASCHINEN GMBH) 20 October 1977 (1977-10-20)	26-28,33
Y	claims 1,10; figure 2 -----	16,20-25
	-/--	

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2009/052203

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/49829 A (KRONES AG [DE]; PICKEL HERBERT [DE]; VOTH KLAUS [DE]) 27 June 2002 (2002-06-27) claim 1; figure 3 -----	26-28,33
X	WO 96/26826 A (SIDEL SA [FR]; SANTAIS DIDIER [FR]; VALLES THIERRY [FR]) 6 September 1996 (1996-09-06) claims 1,11-13; figure 2 -----	26-28,33

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2009/052203

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

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

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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

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

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

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

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-15

Plant for blow moulding plastic containers.

2. claims: 16-33

Transfer wheel.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2009/052203

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2008098565	A	21-08-2008	EP 2117806 A2	18-11-2009
WO 2006108380	A	19-10-2006	DE 102005040905 A1 DE 112006001567 A5 EP 1868767 A2	19-10-2006 20-03-2008 26-12-2007
EP 0577384	A	05-01-1994	AU 4147593 A US 5269672 A	06-01-1994 14-12-1993
EP 1588825	A	26-10-2005	CA 2508450 A1 WO 2004052623 A1 MX PA05006304 A US 2006068048 A1	24-06-2004 24-06-2004 29-08-2005 30-03-2006
JP 11048316	A	23-02-1999	NONE	
JP 11348101	A	21-12-1999	JP 4097319 B2	11-06-2008
WO 0224435	A	28-03-2002	AT 320907 T AU 9196901 A AU 2001291969 B2 BR 0114077 A CA 2423702 A1 CN 1461253 A DE 60118223 T2 EP 1324870 A1 ES 2261473 T3 FR 2814392 A1 JP 3735345 B2 JP 2004508980 T MX PA03002254 A PT 1324870 E US 2004009257 A1	15-04-2006 02-04-2002 22-07-2004 29-07-2003 28-03-2002 10-12-2003 11-01-2007 09-07-2003 16-11-2006 29-03-2002 18-01-2006 25-03-2004 15-10-2003 31-07-2006 15-01-2004
EP 1484160	A	08-12-2004	DE 10325229 A1	23-12-2004
WO 2005044540	A	19-05-2005	AT 423670 T CN 1894084 A EP 1529620 A1	15-03-2009 10-01-2007 11-05-2005
JP 2007196542	A	09-08-2007	NONE	
DE 2615007	A1	20-10-1977	NONE	
WO 0249829	A	27-06-2002	AT 326330 T AU 3324702 A DE 10063795 A1 EP 1343626 A1	15-06-2006 01-07-2002 27-06-2002 17-09-2003
WO 9626826	A	06-09-1996	AT 207003 T AU 698165 B2 AU 4883896 A BR 9607527 A CA 2214099 A1 CN 1177316 A DE 69616035 D1 DE 69616035 T2 EP 0812254 A1	15-11-2001 29-10-1998 18-09-1996 30-12-1997 06-09-1996 25-03-1998 22-11-2001 27-06-2002 17-12-1997

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2009/052203

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9626826	A	ES 2165974 T3	01-04-2002
		FR 2731176 A1	06-09-1996
		JP 2889704 B2	10-05-1999
		JP 10503135 T	24-03-1998
		KR 100249753 B1	15-03-2000
		PT 812254 E	29-04-2002
		US 5863571 A	26-01-1999
