

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2007 (13.12.2007)

PCT

(10) International Publication Number
WO 2007/140577 A3

(51) International Patent Classification:
B29C 45/50 (2006.01)

(21) International Application Number:
PCT/CA2007/000855

(22) International Filing Date: 11 May 2007 (11.05.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/448,262 7 June 2006 (07.06.2006) US

(71) Applicant (for all designated States except US): **HUSKY INJECTION MOLDING SYSTEMS LTD.** [CA/CA];
500 Queen Street South, Bolton, Ontario L7E 5S5 (CA).

(72) Inventor: **CHOI, Christopher Wai-Ming**; 75 Cassandra Crescent, Richmond Hill, Ontario L4B 3Z9 (CA).

(74) Agent: **HUSKY INTELLECTUAL PROPERTY SERVICES**; c/o Husky Injection Molding Systems Ltd., 500 Queen Street South, Bolton, Ontario L7E 5S5 (CA).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

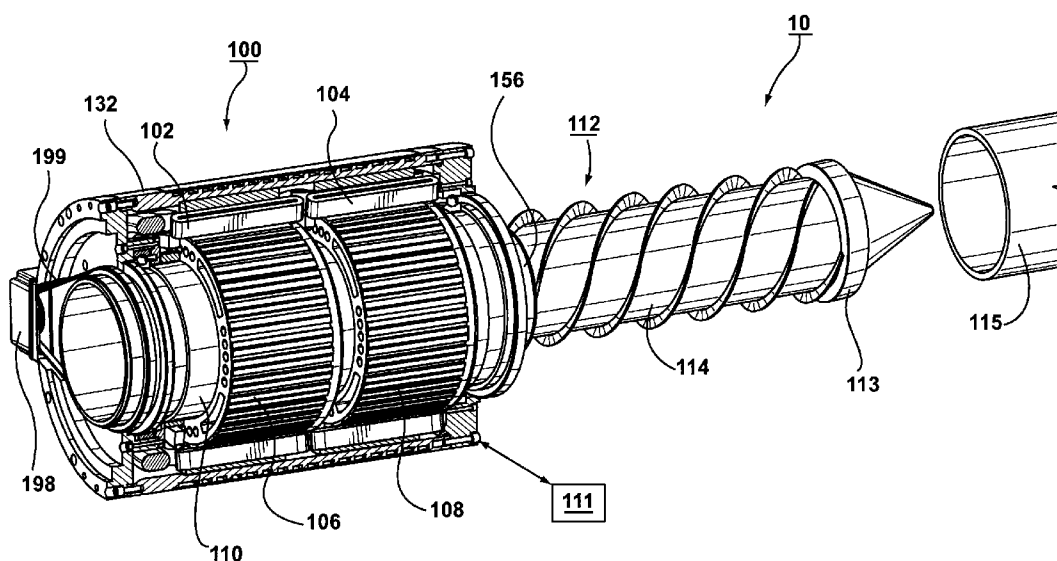
Published:

— with international search report

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

6 March 2008

(54) Title: MOLDING-SYSTEM DRIVE



(57) Abstract: The present invention provides a molding system drive. The drive is an AC electrical motor having at least two stators and at least two rotors. The at least two stators and the at least two rotors are mounted inside a common housing, and the at least two rotors mounted on a common shaft. As a result, the drive can separately be controlled by each pair of the stator and rotor to energize or to de-energize the common shaft.

WO 2007/140577 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2007/000855

A. CLASSIFICATION OF SUBJECT MATTER IPC: B29C 45/50 (2006.01) 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) IPC: B29C (2006.01), H02K (2006.01)		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used) Delphion, Derwent, Questel-Orbit (Pluspat), Goggle, CPD with key words, such as: molding/moulding machine, extruder, injector, motor, drive, stator, stators, rotor and rotors.		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5513719 A (MOROTO, S. et al.) 7 May 1996 (07-05-1996) *whole document*	1-5, 8-31, 34-60, 63-86 and 89-107
X	EP 0084717 A1 (KALMAN, G. et al.) 3 August 1983 (03-08-1983) *whole document*	1-5, 8-31, 34-60, 63-86 and 89-107
X	WO 99/44274 A1 (PALMERO, A.) 2 September 1999 (02-09-1999) *whole document*	1-5, 8-31, 34-60, 63-86 and 89-107
X	US 4755700 (YONGNING, T. et al.) 5 July 1988 (05-07-1988) *whole document*	1-5, 8-31, 34-60, 63-86 and 89-107
☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
Date of the actual completion of the international search 8 November 2007 (08-11-2007)		Date of mailing of the international search report 8 November 2007 (08-11-2007)
Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001-819-953-2476		Authorized officer Pengfei Zhang 819- 953-0654

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CA2007/000855

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US 5513719 A	07-05-1996	JP2967103 B2 USRE36678 E	25-10-1999 02-05-2000
EP 0084717 A1	03-08-1983	DE3273069 D1 US4445081 A	09-10-1986 24-04-1984
WO 99/44274 A1	02-09-1999	CA2321585 A1 US6531798 B1	02-09-1999 11-03-2003
US 4755700	05-07-1988	AT79988T T AU596588 B2 AU5719886 A CN1006265 B DE3686499 D1 DE3686499 T2 EP0196649 A2 JP63154096 A	15-09-1992 10-05-1990 06-11-1986 27-12-1989 01-10-1992 28-01-1993 08-10-1986 27-06-1988