

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
5 August 2004 (05.08.2004)

PCT

(10) International Publication Number
WO 2004/065097 A1

(51) International Patent Classification⁷: **B29C 45/44**

(74) Agent: SMITH, Derek, K., W.; Husky Injection Molding Systems Ltd., 500 Queen Street South, Bolton, Ontario L7E 5S5 (CA).

(21) International Application Number:
PCT/CA2003/001995

(22) International Filing Date:
23 December 2003 (23.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/350,325 24 January 2003 (24.01.2003) US

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

(72) Inventors: **MILLER, William, E.**; 153 Rockwood Court, Ann Arbor, MI 48103 (US). **DONG, Lingxin**; 19 Westhampton Drive, Thornhill, Ontario L4J 7H4 (CA). **FAVOT, Frank**; 19 Whitebread Avenue, Bolton, Ontario L7E 1L4 (CA). **MARSHALL, Michael**; 3 Travis Grove, Pittsford, NY 14534-2757 (US). **PAEGEL, Walter, H.**; 4421 Swiss Stone Lane West, Apartment C, Ypsilanti, MI 48197 (US).

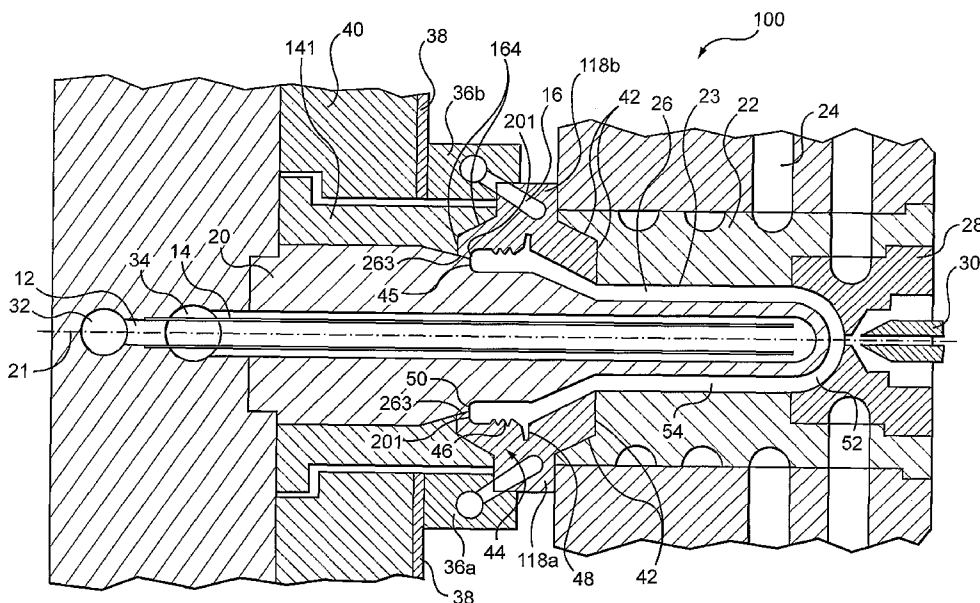
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

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

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR REMOVING A MOLDED ARTICLE FROM A MOLD



(57) Abstract: Injection molding method and apparatus for ejecting a molded plastic article (26) from a mold. A lifting structure and/or step is provided with a lifting portion (201) which is configured to contact at least one half of an end of the molded plastic article (26) along a line substantially perpendicular to the lifting direction. Since the molded plastic article (201) is lifted by its end, the article (26) does not have to be solidified at its interior, thus allowing earlier removal of the article from the mold (100), reducing cycle time. A tapered surface (263) forms an acute angle with respect to the lifting portion (201) to form a tight seal with the mold, preventing leakage. Preferably, the neck ring (118a, 118b) engages only an outer circumferential portion of the molded plastic article during a majority of a mold opening stroke.

WO 2004/065097 A1