

02 SEP 2003



162162

20030 479 66

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
24 October 2002 (24.10.2002)

PCT

(10) International Publication Number
WO 02/084159 A3(51) International Patent Classification⁷: F16L 19/028

(21) International Application Number: PCT/US02/09496

(22) International Filing Date: 25 March 2002 (25.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/278,413 23 March 2001 (23.03.2001) US(71) Applicant: THE GATES CORPORATION [US/US];
900 South Broadway, Denver, CO 80209 (US).(72) Inventors: COTTRELL, Michael, A.; 7775 Glen Ridge
Drive, Castle Rock, CO 80104 (US). DIFRANCIA,
Ronald, D.; 61750 Nighthawk Road, Montrose, CO 81401
(US).(74) Agent: AUSTIN, Steven, G.; The Gates Corporation, Mail
Stop: 31-4-1-A3, 900 S. Broadway, Denver, CO 80209
(US).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, 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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN,
YU, ZA, ZM, ZW.(84) Designated States (*regional*): ARIPO patent (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, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

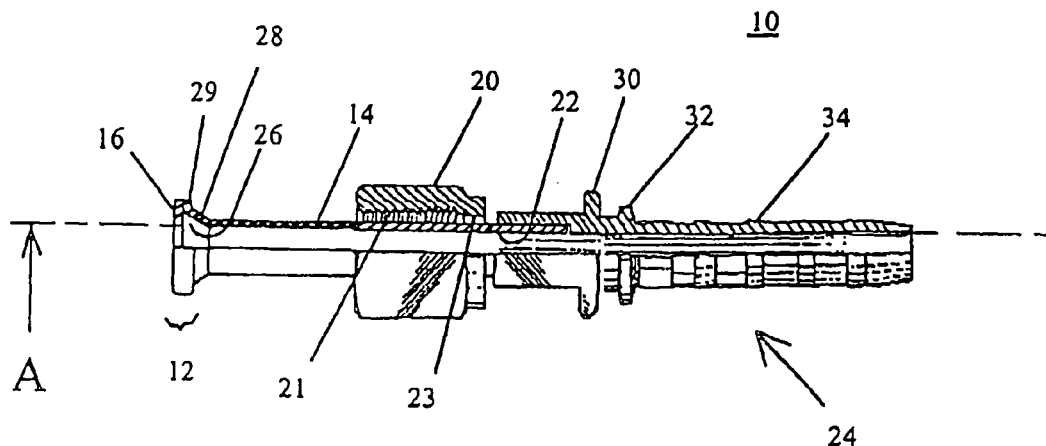
Published:

— with international search report

(88) Date of publication of the international search report:
4 December 2003For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

ACTION

(54) Title: O-RING SEAL FLAT FACE FITTING



(57) Abstract: The present invention is an improved O-ring seal flat face fitting of the type having a male portion including an O-ring, and a female portion having a tube with an inside diameter, a nut (20), and a joinder portion (12). It is improved by the joinder portion (12) including a void (26) having a portion extending radially beyond the extended peripheral limit.

WO 02/084159 A3