

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 October 2006 (12.10.2006)

PCT

(10) International Publication Number
WO 2006/107629 A2

(51) International Patent Classification:
B65D 90/36 (2006.01)

(21) International Application Number:
PCT/US2006/010989

(22) International Filing Date: 23 March 2006 (23.03.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/096,466 1 April 2005 (01.04.2005) US

(71) Applicant (for all designated States except US): **FIKE CORPORATION** [US/US]; 704 SW 10th Street, Blue Springs, Missouri 64015 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SHAW, Bon F.** [US/US]; 2905 SW 19th Street, Blue Springs, Missouri 64015 (US). **STILWELL, Bradford T.** [US/US]; 1616 SW Cross Creek Place, Blue Springs, Missouri 64015 (US). **KREBILL, Michael D.** [US/US]; 7337 North Richmond Avenue, Kansas City, Missouri 64158 (US). **LEONARD, Brent W.** [US/US]; 6204 NE Upperwood Road, Lee's Summit, Missouri 64164 (US).

(74) Agent: **WILLIAMS, Warren N.**; HOVEY WILLIAMS LLP, 2405 Grand Boulevard, Suite 400, Kansas City, Missouri 64108 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): 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, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, 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).

Published:

— without international search report and to be republished upon receipt of that 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: REVERSE ACTING RUPTURE DISC WITH LASER-DEFINED ELECTROPOLISHED LINE OF WEAKNESS AND METHOD OF FORMING THE LINE OF WEAKNESS

(57) Abstract: A reverse acting rupture disc is provided having a laser defined electropolished line-of- weakness recess, and an improved method of forming an electropolished line-of- weakness recess in a reverse acting rupture disc that assures full opening of the disc upon reversal. A rupture disc blank is pre-bulged, final bulged, and then provided with a layer of resist material. A laser is used to remove at least a portion of the layer of resist material corresponding to a desired line-of-weakness recess in the concave face of the bulged rupture disc. The disc is then subjected to an electropolishing operation to remove metal from the lased area of the rupture disc, thereby forming a lustrous polished line-of-weakness recess in the disc of desired configuration and of a predetermined depth that is related to material thickness. The electropolished line of weakness is defined by spaced opposed channel portions separated by a central raised crown portion wherein the channel portions are of greater depth than the crown portion. The burst/reversal pressure of the disc having an electropolished line-of-weakness recess may be selectively controlled by varying the pre- bulging pressure on the disc.

WO 2006/107629 A2