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(71) Applicant (for all designated States except US): **THE ENSIGN-BICKFORD COMPANY** [US/US]; 660 Hopmeadow Street, P.O. Box 483, Simsbury, CT 06070-0483 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LEE, Robert, A.** [CA/CA]; 28 Crystal Beach Drive, Nepean, Ontario,

K2H 5M8 (CA). **CHILDS, John** [US/US]; 10 Woodland Drive, Granby, CT 06035 (US). **SUTULA, Daniel, P., Jr.** [US/US]; 45A Grandview Drive, Farmington, CT 06032 (US). **DAYTON, Michael, A.** [US/US]; 1200 Buckpasser Court, Florissant, MO 63034 (US).

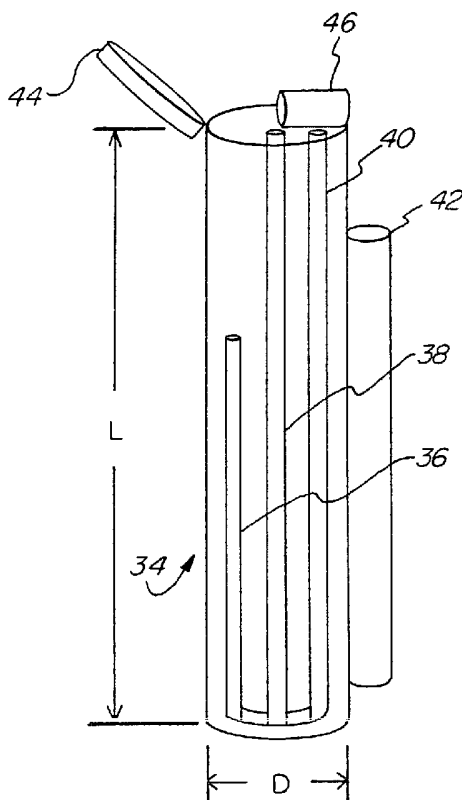
(74) Agents: **LIBERT, Victor, E.** et al.; Libert & Associates, 3 Mill Pond Lane, P.O. Box 538, Simsbury, CT 06070-0538 (US).

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(54) Title: NARROW CAST BOOSTER CHARGES



(57) Abstract: The use of elongated booster or booster charges for initiating bulk explosives in boreholes provides advantages relative to conventional booster charges. Such booster charges are generally cylindrical in configuration and charges in accordance with this invention typically have a length-to-diameter ratio of at least 4:1, preferably greater than 4:1. In addition, the diameter of the booster charge is significantly less than the diameter of the borehole in which it is used, so that a significant amount of bulk explosive occupies the region in the borehole between the booster charge and the interior surface of the borehole. A vented stabilizer (14) is provided for combination with the booster in order to retain the booster centrally within the borehole. The stabilizer is preferably vented so that bulk explosive can flow through or past the booster and stabilizer assembly, and so that the assembly can be moved through the bulk explosive after the hole is filled.

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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations* 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, VC, VN, YU, ZA, ZM, ZW, 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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations* 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, VC, VN, YU, ZA, ZM, ZW, 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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

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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 practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,276,372 A (Cerwonka) 04 October 1966, see column 2	1-5 and 11-17

Y		6 and 18
Y	US 4,961,381 A (McLaughlin) 09 October 1990 (09.10.1990) O. G. Figure	6 and 18
X	US 4,938,143 A (Thomas et al) 03 July 1990, see entire document	7-10
A	US 5,661,256 A (Sutula, Jr. et al) 26 August 1997 (26.08.1997) see 40	6 and 18
A	US 5,780,764 A (Welch et al) 14 July 1998 (14.07.1998) see 24	1-17
A	US 5,798,477 A (Givens et al) 25 August 1998 (25.08.1998)	6 and 18
A	US 6,186,069 A (Dippenaar) 13 February 2001 (13.02.2001) see 19 in the Figure	6 and 18

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"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	"&" document member of the same patent family

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Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Peter A Nelson

Telephone No. 703-308-1113