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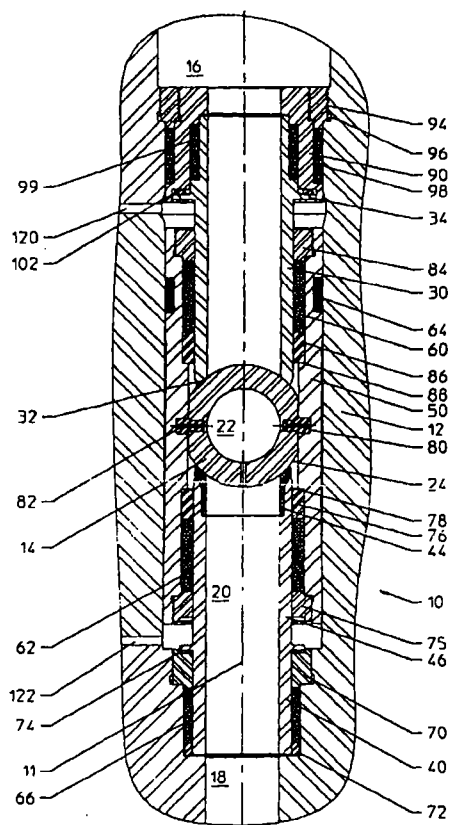
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10/137,219 2 May 2002 (02.05.2002) **US**(71) Applicant: **DRIL-QUIP, INC.** [US/US]; 13550 Hempstead Highway, Houston, TX 77040 (US).(72) Inventors: **MILBERGER, Lionel, J.**; 8911 Rocky Lane, Houston, TX 77040 (US). **REIMERT, Larry, E.**; 6 Winner's Circle, Houston, TX 77024 (US). **MCCANNA, Jason, C.**; 2850 WALLINGFORD Drive, #111, Houston, TX 77042 (US). **KACULI, Xhemal**; 1956 Winrock Blvd., #328, Houston, TX 77057 (US).(74) Agent: **HELMREICH, Loren, G.**; Browning Bushman, P.C., 5718 Westheimer, Suite 1800, Houston, TX 77057 (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, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, 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, 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).

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(54) Title: **BALL VALVE ASSEMBLY**

(57) **Abstract:** The ball valve assembly 10 includes a valve body 12, a ball 14, a seat ring 30, a support ring 40, and an actuator sleeve 50 surrounding the ball and axially moveable within the valve body for rotating the ball between the open position and the closed position. A plurality of seals seal with the seat ring, the actuator sleeve, the support ring, and the valve body. The actuator sleeve 50 maintains fluid pressure within the valve body. The ball, support ring and seat ring are each formed from a selective material to enhance life of the ball valve assembly. A pair of pins 80, 82 each extend in a slot within the ball and holes in the sleeve, and preferably the pair of pins and the ball rotate with respect to the sleeve as the sleeve moves axially within the valve body.



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