4901916-8
1105

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C22C 19/07, B22F 3/15 — A1

(11) International Publication Number: WO 98/20177

(43) International Publication Date: 14 May 1998 (14.05.98)

(21) International Application Number: PCT/US97/20185

(22) International Filing Date: 3 November 1997 (03.11.97)

(30) Priority Data:
08/743,335 4 November 1996 (04.11.96) US

(71) Applicant: THIXOMAT, INC. [US/US]; 717 E. Huron, Ann Arbor, MI 48104 (US).

(72) Inventors: KENNETH, E., Pinnow; 131 Drood Lane, Pittsburgh, PA 15237 (US). RAYMOND, F., Decker; 3065 Provincial Drive, Ann Arbor, MI 48104 (US).

(74) Agents: SOSENKO, Eric, J. et al.; Harness, Dickey & Pierce, P.L.C., P.O. Box 828, Bloomfield Hills, MI 48303 (US).

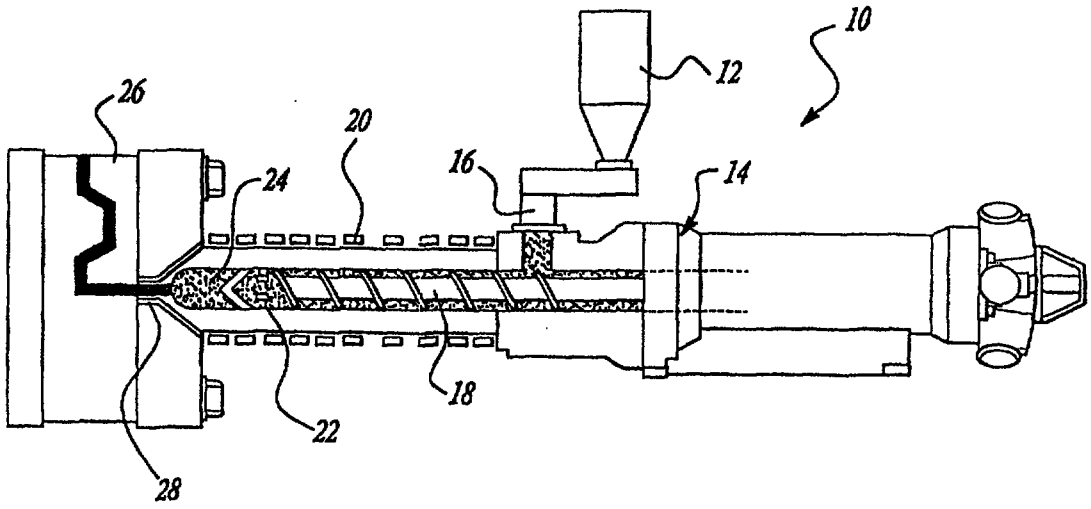
(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: POWDER METALLURGY, COBALT-BASED ARTICLES HAVING HIGH RESISTANCE TO WEAR AND CORROSION IN SEMI-SOLID METALS



(57) Abstract

A fully dense powder metal cobalt-base article having high resistance to semi-solid metal wear and corrosion. The article has a constituent composition of C in an amount of about 0.65 to less than about 1 %, W in an amount of about 3 to about 5 %, Cr in an amount of about 25 to about 30 %, Co in an amount principally comprising the balance of the article. The article has a hardness of greater than 42HRC and more preferably 45HRC, a bend fracture strength of greater than 330 ksi and substantial dimensional and mechanical property stability during exposure to temperatures in range of about 1100 °F to 1500 °F.