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(21) International Application Number: PCT/US00/05916 (22) International Filing Date: 8 March 2000 (08.03.00) (30) Priority Data: 60/123,230 8 March 1999 (08.03.99) US (71) Applicant (for all designated States except US): CRS HOLDINGS, INC. [US/US]; 209F Baynard Building, 3411 Silver-side Road, Wilmington, DE 19810 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MARTIN, James, W. [US/US]; 140 Horseshoe Drive, Sinking Spring, PA 19608 (US). SCHMITT, Roland, E. [US/US]; R.D. 5, Mohnton, PA 19540 (US). GOWER, Ronald, C. [US/US]; 31 Thornbury Road, Reading, PA 19606 (US). (74) Agents: PACE, Vincent, T. et al.; Dann, Dorfman, Herrell and Skillman, P.C., Suite 720, 1601 Market Street, Philadelphia, PA 19103-2307 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: AN ENHANCED MACHINABILITY PRECIPITATION-HARDENABLE STAINLESS STEEL FOR CRITICAL APPLICATIONS		
(57) Abstract A precipitation-hardenable, martensitic stainless steel alloy is described having the following composition in weight percent: C 0.030 max.; Mn 1.00 max.; Si 1.00 max.; P 0.030 max.; S 0.005-0.015; Cr 14.00-15.50; Ni 3.50-5.50; Mo 1.00 max.; Cu 2.50-4.50; Nb+Ta (5xC)-0.30; Al 0.05 max.; B 0.010 max.; N 0.030 max; and the balance is essentially iron and the usual impurities. The alloy provides a unique combination of properties in that useful articles made therefrom provide superior machining characteristics relative to known high strength 15Cr-5Ni precipitation-hardenable stainless steel alloys, while meeting the strength, ductility, and hardness requirements specified in AMS 5659 for critical applications.		