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[Continued on next page]

(54) Title: STAINLESS STEEL ALLOY

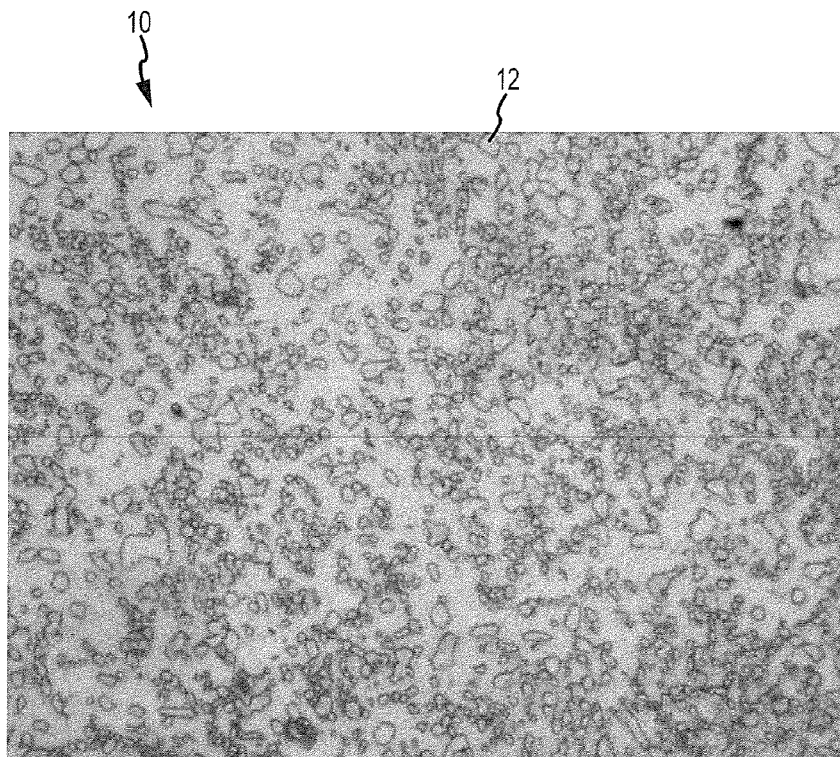


FIG.5

[Continued on next page]





SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(57) Abstract: Stainless steel alloy composition. The stainless steel alloy composition includes rounded carbides and free chromium in a ferrite matrix. The rounded carbides have particle sizes under 5 microns. The rounded carbides include a first quantity of niobium-containing carbide and a second quantity of chromium carbide, and are substantially free of large, irregularly-shaped carbides.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/44325

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - C22C 38/48; C22C 38/58; G21C 3/06 (2011.01) USPC - 376/457; 376/900; 420/56; 420/97 According to International Patent Classification (IPC) or to both national classification and IPC																				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC(8): C22C 38/48; C22C 38/58; G21C 3/06 (2011.01) USPC: 376/457; 376/900; 420/56; 420/97 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC: 376/457; 376/900; 420/56; 420/97 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Google Scholar, Google Patents, PubWEST (PGPB,USPT,EPAB,JPAB) Search terms used: Stainless, steel, alloy, carbide, particle, size, Cr, shape, Nb, Fe, binder, feed, mold, green, brown, isostatic, press, heat, cool, temperature, injection, mold, corrosion, carbon, powder, sinter, density, austenize, anneal																				
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>US 2008/0038144 A1 (Maziasz, et al.) 14 February 2008 (14.02.2008), para [0364], [0428]-[0436], [0479]-[0480], [0491]-[0493], [0573], [0626]-[0627], [0749], [0799], [0858], [0941], [1064], [1089]-[1097], [1175], [1185]</td> <td>1-29</td> </tr> <tr> <td>Y</td> <td>US 2003/0133824 A1 (Taguchi, et al.) 17 July 2003 (17.07.2003), para [0090]</td> <td>1-6, 12-16</td> </tr> <tr> <td>Y</td> <td>US 5,769,969 A (Ishikawa, et al.) 23 June 1998 (23.06.1998), col 4, ln 60-67, col 5, ln 36-40</td> <td>7-11, 28-29</td> </tr> <tr> <td>Y</td> <td>US 2007/0068340 A1 (Nyberg, et al.) 29 March 2007 (29.03.2007), Fig 3, para [0021]-[0032]</td> <td>17-27</td> </tr> <tr> <td>Y</td> <td>US 2006/0180252 A1 (Branagan, et al.) 17 August 2006 (17.08.2006), para [0025]-[0026]</td> <td>3</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	US 2008/0038144 A1 (Maziasz, et al.) 14 February 2008 (14.02.2008), para [0364], [0428]-[0436], [0479]-[0480], [0491]-[0493], [0573], [0626]-[0627], [0749], [0799], [0858], [0941], [1064], [1089]-[1097], [1175], [1185]	1-29	Y	US 2003/0133824 A1 (Taguchi, et al.) 17 July 2003 (17.07.2003), para [0090]	1-6, 12-16	Y	US 5,769,969 A (Ishikawa, et al.) 23 June 1998 (23.06.1998), col 4, ln 60-67, col 5, ln 36-40	7-11, 28-29	Y	US 2007/0068340 A1 (Nyberg, et al.) 29 March 2007 (29.03.2007), Fig 3, para [0021]-[0032]	17-27	Y	US 2006/0180252 A1 (Branagan, et al.) 17 August 2006 (17.08.2006), para [0025]-[0026]	3
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