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(54) Title: GLASS-METAL COMPOSITES AND METHOD OF MANUFACTURE

(57) Abstract: The shaped composites of the present disclosure have metal powder bonded with glass powder. This feature provides the advantages of metal, metal powder, or glass composite materials, without suffering from the disadvantages. The composite is prepared with simple sintering methods, and can easily be formed into any number of desired shapes with dimensional characteristics and ingredients suited to a particular application.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 14/29581

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - B22F 3/10, B22F 3/12, B22F 7/00, C03C 3/00, C22C 45/00 (2014.01)
CPC - B22F 1/0085, B22F 3/10, B22F 3/12, B22F 7/00, C03C 3/00, C22C 45/00
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) - B22F 3/10, B22F 3/12, B22F 7/00, C03C 3/00, C22C 45/00 (2014.01)
CPC - B22F 1/0085, B22F 3/10, B22F 3/12, B22F 7/00, C03C 3/00, C22C 45/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 75/252, 148/113, 264/434, 264/437, 428/426, 428/432, 501/11, 501/19
Patents and NPL (classification, keyword; search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Pub West (US EP JP WO), Pat Base (AU BE BR CA CH CN DE DK EP ES FI FR GB IN JP KR SE TH TW US WO), Google Patent, Google Scholar, Free Patents Online; search terms: sinter, metal, glass, powder, particle, granule, composite, shape, bond, shape, form, mold, mould, die, paste, mill, grind, pulverize, solvent, refractory, lanthanide, rare earth

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/0248707 A1 (LIEBALD et al) 09 October 2008 (09.10.2008) para [0006], [0007], [0018], [0022], [0023], [0027], [0029]	1, 6-7, 9, 11, 13
X	US 5,785,879 A (KAWAMURA et al) 28 July 1998 (28.07.1998) col 1, ln 17-26; col 2, ln 7, ln 15-23; col 8, ln 3-4, 21-23, 45-46	1, 16-17
X ----- Y	EP 0 718 249 A1 (WAKU et al) 26 June 1996 (26.06.1996) col 1, ln 7-8; col 2, ln 37-43; col 4, ln 20-52; col 5, ln 57 to col 6, ln 10; col 7, ln 51; col 8, ln 54-57; col 9, ln 54 to col 10, ln 10, Example 1; col 11, ln 48-52, Example 6	1-9, 13-14, 18 ---------- 12, 19-20
X	US 3,332,751 A (BRETON '751) 25 August 1967 (25.08.1967) col 11, 46-71; col 15, ln 22-25	1, 7, 9-10, 13-14
X	US 3,165,821 A (BRETON '821) 19 January 1965 (19.01.1965) Fig. 1; col 1, ln 10-11; col 2, ln 28-34; col 4, ln 68-74; col 6, ln 66-71; col 12, ln 6	1, 6-7, 15
Y	US 2004/0043051 A1 (PILLIAR et al.) 04 March 2004 (04.03.2004) para [0008], [0115]-[0119]	12, 19
Y	US 4,0458,485 A (CHEUNG) 15 November 1977 (15.11.1977) col 1, ln 33-37; col 1, ln 50-59; col 11, ln 34-35; col 12, ln 46-47; col 12, ln 62-64	20
Y	EP 0 396 806 A1 (SAMMET) 14 November 1990 (14.11.1990) p 1-10	1-20
Y	US 4,383,944 A (ONDRACEK) 17 May 1983 (17.05.1983) col 1-5	1-20
Y	GB 1354363 A (DANNOHL) 30 May 1974 (30.05.1974) p 1-6	1-20

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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