



- (51) International Patent Classification:
F27B 14/06 (2006.01) *F27B 14/20* (2006.01)
- (21) International Application Number:
PCT/US2012/039117
- (22) International Filing Date:
23 May 2012 (23.05.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/488,866 23 May 2011 (23.05.2011) US
61/497,787 16 June 2011 (16.06.2011) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: ELECTRIC INDUCTION FURNACE WITH LINING WEAR DETECTION SYSTEM

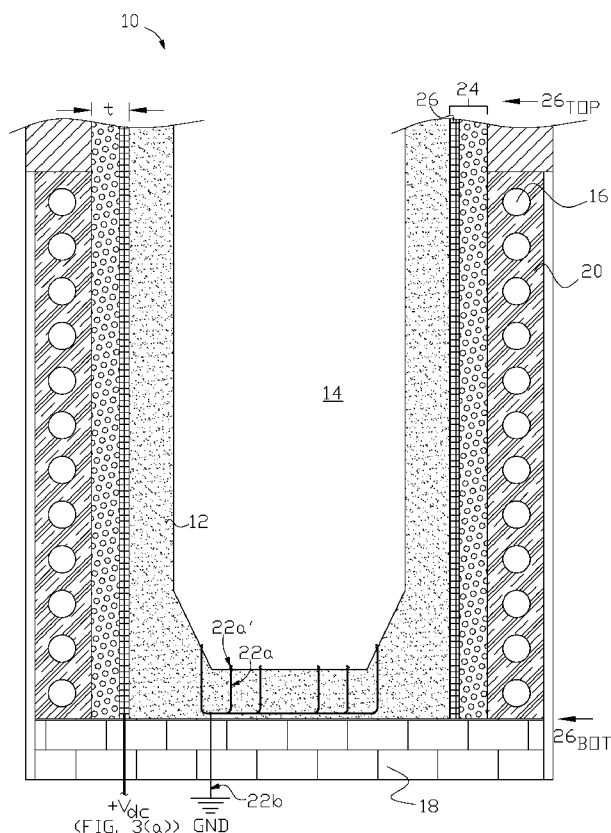


FIG. 2

(57) Abstract: An electric induction furnace for heating and melting electrically conductive materials is provided with a lining wear detection system that can detect replaceable furnace lining wear when the furnace is properly operated and maintained.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

17 January 2013

Published:

— *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/039117**A. CLASSIFICATION OF SUBJECT MATTER****F27B 14/06(2006.01)i, F27B 14/20(2006.01)i**

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)

F27B 14/06; C04B 35/64; F27D 21/04; G01N 27/20; F27D 21/00; F27D 1/16; G01K 1/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: induction furnace, lining, mesh

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 05-180583 A (FEUERFEST UEBERWACHUNGSTECHNOL SAVEWAY GMBH) 23 July 1993 See abstract, paragraphs 0001,0011,0015,0017 and figures 1-4	1-20
A	JP 02-298853 A (TOYOTA MOTOR CORP) 11 December 1990 See abstract, pages 331-333 and figure 1	1-20
A	US 04248809A A (SAKAI; TOSHIHIKO et al.) 03 February 1981 See abstract, columns 2-4 claim 1 and figure 1	1-20
A	US 2004-0114663 A1 (HILMAR R. MUELLER et al.) 17 June 2004 See abstract, paragraphs 0023-0025 and figures 1-3	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

21 NOVEMBER 2012 (21.11.2012)

Date of mailing of the international search report

23 NOVEMBER 2012 (23.11.2012)

Name and mailing address of the ISA/KR

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International application No.

PCT/US2012/039117

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