

(12) International Application Status Report

Received at International Bureau: 27 September 2019 (27.09.2019)

Information valid as of: 04 May 2020 (04.05.2020)

Report generated on: 22 September 2020 (22.09.2020)

(10) Publication number:

WO2020/108029

(43) Publication date:

04 June 2020 (04.06.2020)

(26) Publication language:

Chinese (ZH)

(21) Application Number:

PCT/CN2019/106444

(22) Filing Date:

18 September 2019 (18.09.2019)

(25) Filing language:

Chinese (ZH)

(31) Priority number(s):

201811456886.5 (CN)

(31) Priority date(s):

30 November 2018 (30.11.2018)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

C01B 21/38 (2006.01)

(71) Applicant(s):

WISDRI ENGINEERING & RESEARCH INCORPORATION LIMITED [CN/CN]; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN) *(for all designated states)*

(72) Inventor(s):

ZHAO, Jinbiao; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN)

WANG, Jun; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN)

DING, Yu; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN)

GAO, Junfeng; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN)

WU, Zongying; WANG, Jing 33 University Garden Road, Donghu New Technology Development Zone Wuhan, Hubei 430223 (CN)

(74) Agent(s):

BEIJING HUIZE INTELLECTUAL PROPERTY LAW LLC; ZHANG, Tao Room 1201, 12 Floor, Hubei Information Industry Science and Technology Building, Wujiawan, Luoyu Road, East Lake High-tech Development Zone Wuhan, Hubei 430000 (CN)

(54) Title (EN): APPARATUS FOR REGENERATING ACID FROM ACID-CONTAINING WASTE LIQUOR OF STAINLESS STEEL

(54) Title (FR): APPAREIL DE RÉGÉNÉRATION D'ACIDE À PARTIR DE LIQUEUR RÉSIDUAIRE CONTENANT DE L'ACIDE D'ACIER INOXYDABLE

(54) Title (ZH): 一种不锈钢混酸废液再生酸设备

(57) Abstract:

(EN): An apparatus for regenerating acid from acid-containing waste liquor of stainless steel, comprising a reaction furnace (1), an absorption tower (7), and a pre-concentration displacement device configured to perform a hydrofluoric acid and nitrate replacement reaction and pre-concentration treatment on the acid-containing waste liquor. The apparatus for regenerating acid from acid-containing waste liquor of stainless steel improves the recovery rate of nitric acid, reduces the generation of NO_x, and reduces the operating costs.

(FR): L'invention concerne un appareil de régénération d'acide à partir d'une liqueur résiduaire contenant de l'acide d'acier inoxydable, comprenant un four de réaction (1), une tour d'absorption (7), et un dispositif de déplacement de pré-concentration configuré pour effectuer une réaction de remplacement d'acide fluorhydrique et de nitrate et un traitement de pré-concentration sur la liqueur résiduaire contenant de l'acide. L'appareil de régénération d'acide à partir de liqueur résiduaire contenant de l'acide d'acier inoxydable améliore le taux de récupération d'acide nitrique, réduit la génération de NO_x, et réduit les coûts de fonctionnement.

(ZH): 一种不锈钢混酸废液再生酸设备,包括反应炉(1)、吸收塔(7)以及用于对混酸废液进行氢氟酸和硝酸盐置换反应以及预浓缩处理的预浓缩置换装置。该不锈钢混酸废液再生酸设备提高了硝酸的回收率,减少了NO_x的产生,降低了运行费用。

International search report:

Received at International Bureau: 19 December 2019 (19.12.2019) [CN]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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

European Patent Office (EPO) : 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

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM

Declarations:

Declaration made as to the identity of the inventor (PCT Rules 4.17(i) and 51bis.1(a)(i))

Declaration made as applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate

Declaration made as applicant's entitlement, as at the international filing date, to claim the priority of the earlier application, where the applicant is not the applicant who filed the earlier application or where the applicant's name has changed since the filing of the earlier application (Rules 4.17(iii) and 51bis.1(a)(iii))

Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America