



(12) **CORRECTED EUROPEAN PATENT SPECIFICATION**

(15) Correction information:
Corrected version no 1 (W1 B1)
Corrections, see
Bibliography INID code(s) 73

(51) Int Cl.:
C22B 7/00 (2006.01) C22B 3/00 (2006.01)

(86) International application number:
PCT/IB2016/050763

(48) Corrigendum issued on:
24.07.2019 Bulletin 2019/30

(87) International publication number:
WO 2016/128942 (18.08.2016 Gazette 2016/33)

(45) Date of publication and mention
of the grant of the patent:
03.04.2019 Bulletin 2019/14

(21) Application number: **16713072.3**

(22) Date of filing: **12.02.2016**

(54) **ASSEMBLY TO PERFORM A HYDROMETALLURGICAL RECOVERY OF MATERIALS FROM ELECTRONIC BOARDS**

ANORDNUNG ZUR HYDROMETALLURGISCHEM RÜCKGEWINNUNG VON MATERIALIEN AUS ELEKTRONISCHEN PLATTEN

ENSEMBLE POUR EFFECTUER UNE RÉCUPÉRATION HYDROMÉTALLURGIQUE DE MATÉRIAUX DE CARTES ÉLECTRONIQUES

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **12.02.2015 IT RM20150064**

(43) Date of publication of application:
20.12.2017 Bulletin 2017/51

(73) Proprietor: **Agenzia Nazionale Per Le Nuove
Tecnologie,
L'Energia E Lo Sviluppo Economico Sostenibile
(ENEA)
00196 Roma (IT)**

(72) Inventors:
• **FONTANA, Danilo**
00198 Roma (IT)
• **PIETRANTONIO, Massimiliana**
00198 Roma (IT)
• **PUCCIARMATI, Stefano**
00198 Roma (IT)

• **TORELLI, Giorgia Nadia**
00198 Roma (IT)
• **DE CAROLIS, Roberta**
00198 Roma (IT)
• **BRUNORI, Claudia**
00198 Roma (IT)

(74) Representative: **Bosman, Cesare et al**
Studio Torta S.p.A.
Via Viotti, 9
10121 Torino (IT)

(56) References cited:
US-A- 4 426 225

• **HAIYU YANG ET AL: "Leaching copper from
shredded particles of waste printed circuit
boards", JOURNAL OF HAZARDOUS
MATERIALS, ELSEVIER, AMSTERDAM, NL, vol.
187, no. 1, 11 January 2011 (2011-01-11), pages
393-400, XP028153114, ISSN: 0304-3894, DOI:
10.1016/J.JHAZMAT.2011.01.051 [retrieved on
2011-01-18]**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

- **YANHUA ZHANG ET AL:** "Current Status on Leaching Precious Metals from Waste Printed Circuit Boards", **PROCEDIA ENVIRONMENTAL SCIENCES**, vol. 16, 1 January 2012 (2012-01-01), pages 560-568, XP055121350, ISSN: 1878-0296, DOI: 10.1016/j.proenv.2012.10.077
- **ANDREA MECUCCI AND KEITH SCOTT:** "Leaching and electrochemical recovery of copper, lead and tin from scrap printed circuit boards", **JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY**, JOHN WILEY & SONS LTD, UNITED KINGDOM, vol. 77, no. 4, 1 April 2002 (2002-04-01), pages 449-457, XP001577446, ISSN: 0268-2575, DOI: 10.1002/JCTB.575 [retrieved on 2002-02-08]