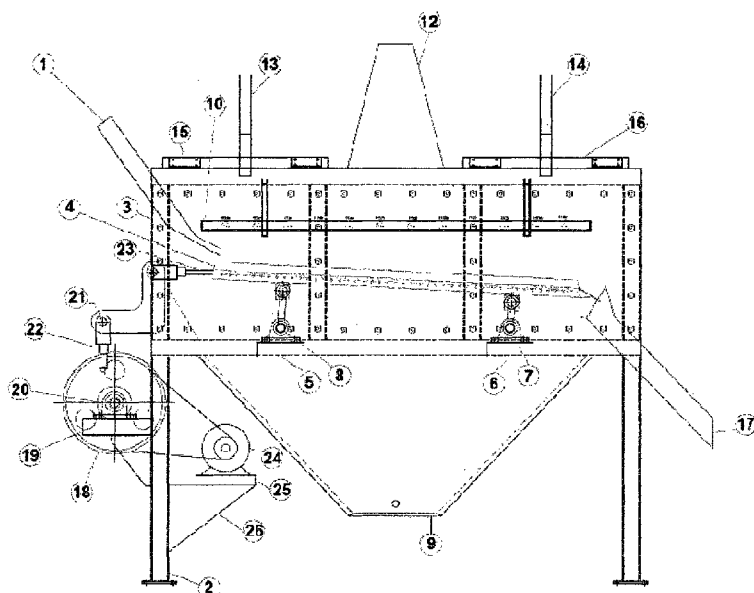




- (51) **International Patent Classification:**
H05K 13/04 (2006.01)
- (21) **International Application Number:**
PCT/IN2012/000288
- (22) **International Filing Date:**
20 April 2012 (20.04.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
1048/DEL/2011 20 April 2011 (20.04.2011) IN
- (71) **Applicant (for all designated States except US):** **ATTERO RECYCLING PVT. LTD.** [IN/IN]; B-92, Sector-63, Noida, Uttar Pradesh, Noida 201307 (IN).
- (72) **Inventors:** **SINGH, Khadak;** Attero Recycling Pvt. Ltd., B-92, Sector-63, Noida, Uttar Pradesh, Noida 201307 (IN). **REHMAN, Abdul;** Attero Recycling Pvt. Ltd., B-92, Sector-63, Noida, Uttar Pradesh, Noida 201307 (IN).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **DAS, Pranamesh** [IN/IN]; Attero Recycling Pvt. Ltd., B-92, Sector-63, Noida, Uttar Pradesh, Noida 201307 (IN). **GUPTA, Nitin** [IN/IN]; Attero Recycling Pvt. Ltd., B-92, Sector-63, Noida, Uttar Pradesh, Noida 201307 (IN).
- (74) **Agents:** **AMBASTHA, Lalit** et al.; Patentwire Consultants Pvt. Ltd., B-10, Ground Floor, Vishwakarma Colony, M.B. Road, New Delhi 110044 (IN).
- (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, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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,

[Continued on next page]

(54) **Title:** METHOD AND APPARATUS FOR COMPONENT REMOVAL**FIG. 1**

(57) **Abstract:** The proposed invention relates to an apparatus and a method of separating all the parts including but not limited to electronic components, mechanical components, and electromechanical components, modules etc either individually or in sections and modular parts from the main input PCB. The proposed invention is an apparatus and method for component removal during recycling of an electronic device comprising in combination an isothermal system; heating to achieve desired range of temperature within the said isothermal system; at least one system for mechanical handling of the object being recycled; at least one system for selective separation of components being removed.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:**Declarations under Rule 4.17:**

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

- with international search report (Art. 21(3))
- 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:

23 May 2013