US 20220354034A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2022/0354034 A1

Brosseau et al. (43) Pub. Date: Nov. 3, 2022

(54) ROTATIONAL REMOVAL OF ELECTRONIC CHIPS AND OTHER COMPONENTS FROM PRINTED WIRE BOARDS USING LIQUID HEAT MEDIA

(71) Applicant: **Greene Lyon Group, Inc.**, Beverly, MA (US)

(72) Inventors: **Andre Brosseau**, Montreal (CA); **Svitlana Moskovchenko**, Montreal (CA)

(73) Assignee: **Greene Lyon Group, Inc.**, Beverly, MA (US)

(21) Appl. No.: **17/725,014**

(22) Filed: **Apr. 20, 2022**

Related U.S. Application Data

(63) Continuation of application No. 16/437,822, filed on Jun. 11, 2019, now Pat. No. 11,343,950, which is a continuation of application No. 15/501,481, filed on Feb. 3, 2017, now Pat. No. 10,362,720, filed as application No. PCT/US2015/043930 on Aug. 6, 2015.

(60) Provisional application No. 62/033,730, filed on Aug. 6, 2014.

Publication Classification

(51) **Int. Cl.**

H05K 13/04	(2006.01)
B23K 1/018	(2006.01)
B03B 5/04	(2006.01)
B03B 5/30	(2006.01)
B07C 5/342	(2006.01)
B23K 1/00	(2006.01)

(52) **U.S. Cl.**

CPC ***H05K 13/0486*** (2013.01); ***B23K 1/018*** (2013.01); ***B03B 5/04*** (2013.01); ***B03B 5/30*** (2013.01); ***B07C 5/342*** (2013.01); ***B23K 1/0016*** (2013.01); *B23K 2101/42* (2018.08)

(57) **ABSTRACT**

Systems and methods for the removal of electronic chips and other components from PWBs using liquid heat media are generally described. According to certain embodiments, PWBs comprising solder can be positioned within a rotatable housing. The rotatable housing can, in some embodiments, be at least partially immersed within a liquid heat medium. The liquid heat medium can be heated and/or maintained at a temperature sufficiently high to melt the solder. In some embodiments, the rotatable housing can be rotated while it is at least partially immersed in the liquid heat medium. The rotational force can aid, according to some embodiments, in the removal of solder, electronic chips (including those in which an integrated circuit is positioned on a piece of semiconductor material, such as silicon), and/or other electronic components attached to one or more surfaces of the PWB.