



US 20100199909A1

(19) **United States**

(12) **Patent Application Publication**
Bamberg et al.

(10) **Pub. No.: US 2010/0199909 A1**

(43) **Pub. Date: Aug. 12, 2010**

(54) **SYSTEMS AND METHODS FOR RECYCLING SEMICONDUCTOR MATERIAL REMOVED FROM A RAW SEMICONDUCTOR BOULE**

(86) PCT No.: **PCT/US08/52130**

§ 371 (c)(1),
(2), (4) Date: **Apr. 15, 2010**

(75) Inventors: **Eberhard Bamberg**, Salt Lake City, UT (US); **Dinesh R. Rakwal**, Richfield, MN (US); **Dean Jorgensen**, Midvale, UT (US); **Ian R. Harvey**, Salt Lake City, UT (US); **Michael L. Free**, Salt Lake City, UT (US); **Alagar K. Balaji**, Salt Lake City, UT (US)

Related U.S. Application Data

(60) Provisional application No. 60/886,645, filed on Jan. 25, 2007.

Publication Classification

(51) **Int. Cl.**
C30B 15/00 (2006.01)
B23H 7/02 (2006.01)
B23H 11/00 (2006.01)
(52) **U.S. Cl. 117/13; 117/208; 219/69.12; 219/69.17**

Correspondence Address:
Ballard Spahr LLP
SUITE 1000, 999 PEACHTREE STREET
ATLANTA, GA 30309-3915 (US)

(57) **ABSTRACT**

Methods of recycling excess semiconductor material removed from an unshaped semiconductor boule are disclosed. Excess semiconductor material is cut from an semiconductor unshaped boule thereby generating a shaped semiconductor boule. The excess semiconductor material is removed in the form of large pieces that can easily be cleaned and retrieved for reuse.

(73) Assignee: **University of Utah Research Foundation**, Salt Lake City, UT (US)

(21) Appl. No.: **12/524,142**

(22) PCT Filed: **Jan. 25, 2008**

