

US008795183B2

US 8,795,183 B2

Aug. 5, 2014

# (12) United States Patent

Siebrecht et al.

(54) HANDPIECE FOR ULTRASONIC MEDICAL DEVICES INCLUDING SEAL FOR MECHANICAL ISOLATION OF ULTRASONIC DRIVER ASSEMBLY

(75) Inventors: Wayne A. Siebrecht, Golden, CO (US);

David J. Wesley, Lyons, CO (US); David B. Mogill, Westminster, CO (US); Daniel S. Goldberger, Boulder, CO

(US

(73) Assignee: Sound Surgical Technologies LLC,

Hayward, CA (US)

(\*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 821 days.

(21) Appl. No.: 12/965,632

(22) Filed: Dec. 10, 2010

(65) Prior Publication Data

US 2011/0196266 A1 Aug. 11, 2011

#### Related U.S. Application Data

- (60) Provisional application No. 61/285,508, filed on Dec. 10, 2009.
- (51) **Int. Cl. A61B 8/00** (2006.01)

(45) **Date of Patent:** 

(10) Patent No.:

Field of Classification Search None

(58)

See application file for complete search history.

### (56) References Cited

#### U.S. PATENT DOCUMENTS

8,118,743	B2*	2/2012	Park et al	600/437
8,562,535	B2 *	10/2013	Driedger	600/462
2007/0276241	A1*	11/2007	Park et al	600/437

\* cited by examiner

Primary Examiner — Unsu Jung
Assistant Examiner — Amanda Lauritzen Moher
(74) Attorney, Agent, or Firm — Wood, Herron & Evans
LLP

#### (57) ABSTRACT

Described are embodiments including methods and devices for venting a handpiece of a medical device. These embodiments provide a vent for the handpiece. A porous membrane is positioned over an opening of the vent to allow gas, including steam, to enter and escape from the handpiece and prevent liquids from entering the handpiece. Other embodiments include methods and devices for holding an ultrasonic driver assembly within a handpiece and preventing the ultrasonic driver assembly from rotating within the handpiece. These embodiments include positioning the ultrasonic driver assembly such that the ultrasonic driver assembly is held in place at a node of the ultrasonic driver assembly and an anti-rotation mechanism is also located at the node.

## 8 Claims, 13 Drawing Sheets

