



US009980700B2

(12) **United States Patent**
Gubbini et al.

(10) **Patent No.:** **US 9,980,700 B2**
(45) **Date of Patent:** **May 29, 2018**

(54) **ULTRASOUND APPARATUS COVER**

(56) **References Cited**

(75) Inventors: **Alessandro Gubbini**, State College, PA (US); **Bradley Nelson**, Boalsburg, PA (US)

(73) Assignee: **Sound Technology, Inc.**, State College, PA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 348 days.

(21) Appl. No.: **14/234,063**

(22) PCT Filed: **Jul. 22, 2011**

(86) PCT No.: **PCT/US2011/044798**

§ 371 (c)(1),
(2), (4) Date: **Jan. 21, 2014**

(87) PCT Pub. No.: **WO2013/015769**

PCT Pub. Date: **Jan. 31, 2013**

(65) **Prior Publication Data**

US 2014/0163382 A1 Jun. 12, 2014

(51) **Int. Cl.**
A61B 8/00 (2006.01)

(52) **U.S. Cl.**
CPC **A61B 8/4422** (2013.01); **A61B 8/4281** (2013.01); **A61B 8/4455** (2013.01)

(58) **Field of Classification Search**
CPC combination set(s) only.
See application file for complete search history.

U.S. PATENT DOCUMENTS

4,617,239 A * 10/1986 Maruyama B41M 5/443 428/452
5,722,412 A * 3/1998 Pflugrath A61B 8/00 600/441
5,738,099 A 4/1998 Chang
(Continued)

FOREIGN PATENT DOCUMENTS

JP 2011083363 4/2011
WO 96-25888 8/1996
WO 2008024515 A2 2/2008

OTHER PUBLICATIONS

Japanese Office Action dated Apr. 28, 2015 for Japanese Application No. 2014-522794.

(Continued)

Primary Examiner — Serkan Akar

Assistant Examiner — Farshad Negarestan

(74) *Attorney, Agent, or Firm* — Anthony M. Del Zoppo, III; Driggs, Hogg, Daugherty & Del Zoppo, Co., LPA

(57) **ABSTRACT**

An ultrasound transducer cover (100) includes a base (202), including an acoustically transmissive membrane (110) with first and second opposing sides. The cover further includes walls (204, 206) protruding from the base in a same direction away from the first side of the base, forming a cavity about the acoustically transmissive membrane with a geometry that conforms to a geometry of a probe head of an ultrasound apparatus housing a transducer array and a corresponding acoustic window. The cover further includes an acoustically transmissive adhesive (108) disposed on the

(Continued)

