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**Benjamin**

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(54) **SLOTTED CYLINDER TRANSDUCER WITH SEALING BOOT AND METHOD OF MAKING SAME**

5,267,223 \* 11/1993 Flanagan et al. .... 367/159

\* cited by examiner

(75) Inventor: **Kim C. Benjamin**, Portsmouth, RI (US)

*Primary Examiner*—Daniel T. Pihulic

(74) *Attorney, Agent, or Firm*—Michael J. McGowan; Prithvi C. Lall; Michael F. Oglo

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

(57) **ABSTRACT**

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

A sealed slotted cylinder includes an active transducer assembly, end caps at each end of the assembly, and a boot fused to the end caps and sealing the assembly. The sealed slotted cylinder is made using a dummy insert and a spacer within the dummy insert for spacing the end caps. A boot material made from an uncured rubber is wrapped around the dummy insert and the end caps. This assembly is placed in a mold that fuses the boot material to the end caps by vulcanizing the uncured rubber material. The mold and dummy insert preferably form longitudinal and circumferential boot roll seals on the boot material. A section of the boot is then removed forming an open region, allowing the dummy insert and spacer to be removed. The active transducer assembly can then be inserted through the open region such that the longitudinal boot roll seal engages and seals the slot in the active transducer assembly and the circumferential boot roll seals engage the end of the active transducer assembly.

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(51) **Int. Cl.**<sup>7</sup> ..... **H04R 17/00**

(52) **U.S. Cl.** ..... **367/159**

(58) **Field of Search** ..... 367/159, 173, 367/174; 310/337

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**18 Claims, 5 Drawing Sheets**

