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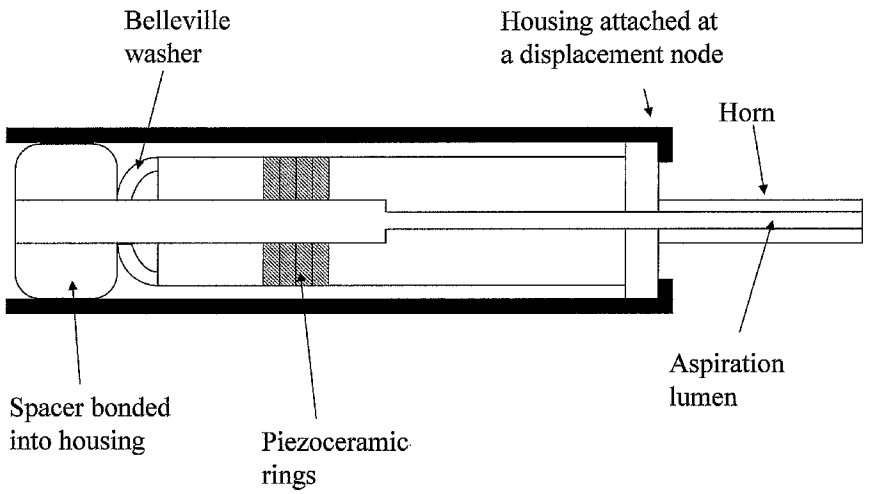
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(54) Title: ULTRASONIC TRANSDUCER DEVICES AND METHODS OF MANUFACTURE



(57) Abstract: The present invention provides for single use ultrasonic transducers for use in surgical and dental applications. Specifically, the invention provides transducers comprising one or more of the following features, an active piezo ceramic material that contains less than 2% lead; piezo materials with a low Curie temperature, a high compressive bias force applied to the piezo ceramic elements, a bias bolt sub-assembly that includes a component assembled with a low-temperature glass-transition point filled epoxy material, and/or a permanently attached end effector with a self-locking taper.

WO 2007/014142 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/28643

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **H01L 41/08**

USPC: 310/323.01,325
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 310/323.01,325

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 3,772,538 A (Supitilov) 13 Nov. 1973 (13-11-1973) see figure 1 and column 5, line 12-column 7, line 27.	10 and 12 --- 1-4, 7, 8 and 11
X --- Y	3, 681, 627 A (Murry) 1 Aug.1972 (01-08-1972) see figures 1 and 2. Also, column 3, line 11-column for, line 31.	10 and 12 --- 1-4, 7, 8 and 11

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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