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(54) Title: A MAGNETOSTRICTIVE ACTUATOR ADAPTED TO BE USED IN A MEDICAL ULTRASOUND TRANSDUCER ASSEMBLY, AND A MEDICAL ULTRASOUND HANDPIECE AND MEDICAL ULTRASOUND SYSTEM HAVING SUCH ACTUATOR

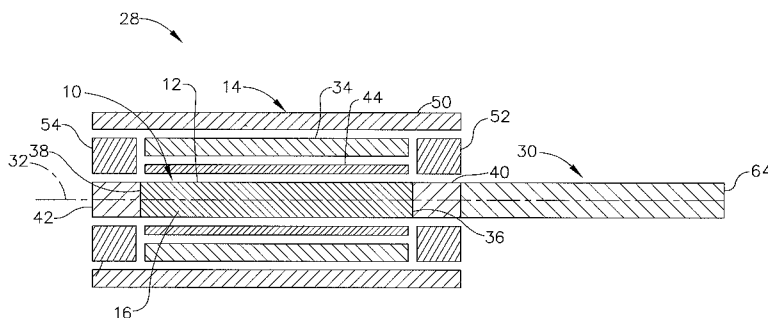


FIG. 1

(57) Abstract: Apparatus includes a magnetostrictive actuator of a medical ultrasound transducer assembly. The actuator comprises a magnetostrictive alloy chosen from a list. A medical ultrasound handpiece includes an ultrasound transducer assembly adapted to attachingly receive an end effector. The transducer assembly includes a magnetostrictive actuator having a magnetostrictive alloy, and includes a first coil surrounding the actuator and adapted to excite the actuator to substantially a desired medical resonant frequency and substantially a desired medical amplitude. A medical ultrasound system includes a handpiece housing, a first medical ultrasound transducer assembly, and a first medical end effector attachable to the first transducer assembly. The first transducer assembly includes a magnetostrictive first actuator having a first magnetostrictive alloy. At least a portion of the first transducer assembly is attachingly insertable in the handpiece housing without the use of tools, without damaging the handpiece housing, and without damaging the first transducer assembly.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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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 practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 033 791 A (KACZKOWSKI ZBIGNIEW) 5 July 1977 (1977-07-05)	1
Y	column 1, lines 4-7 column 2, lines 19-24	4-23
X	US 5 958 154 A (O'HANDLEY ROBERT C [US] ET AL) 28 September 1999 (1999-09-28) column 3, lines 1-16 column 4, lines 8-18	1

Further documents are listed in the continuation of Box C.

See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	US 6 164 968 A (FEINE JAMES [US]) 26 December 2000 (2000-12-26) column 3, line 22 - column 5, line 14; figures 1-8	4-23

INTERNATIONAL SEARCH REPORT

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