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(54) Title: MOTION AMPLIFICATION USING PIEZOELECTRIC ELEMENT

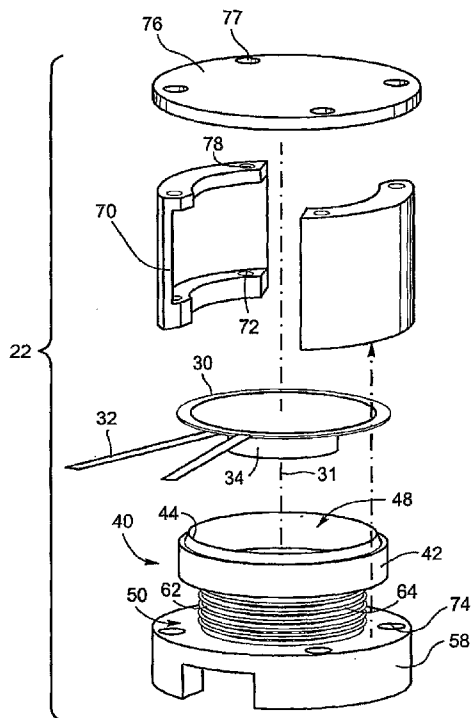


Fig. 1

(57) Abstract: A motion amplifier (22) comprises piezoelectric diaphragm (30) and drive electronics (26) for applying a drive signal to the piezoelectric diaphragm. The motion amplifier preferably comprises (in addition to the piezoelectric diaphragm) a reaction mass (34) connected to the piezoelectric diaphragm; a reacted mass (40) connected to the piezoelectric diaphragm; and, a reacted mass spring (50, 270) for resiliently carrying the reacted mass. Motion or displacement of the piezoelectric diaphragm (30) is amplified to produce a greater displacement or motion of an actuator region or surface (46) of the reacted mass (40).

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FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
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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 --- Y	US 5,780,958 (STRUGACH et al.) 14 July 1998 (14.07.1998), Figure 3 and column 4, lines 65 through column 5, line 5	1-5 ----- 6,7,9-22,24-33,35-44,46-48
Y	US 2003/0137216 A1 (TANAYO DE MIGUEL et al.) 24 July 2003 (24.07.2003), Paragraphs 23-25	6,7,21,22,32,33,43,44
Y	US 2002/0084723 A1 (KAWAZOE) 4 July 2002 (04.07.2002), Figure 1 and Paragraph 64	9-22,24-33,35-44,46-48

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

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