



(12) **CORRECTED EUROPEAN PATENT APPLICATION**

(15) Correction information:
Corrected version no 1 (W1 A1)
Corrections, see
Bibliography INID code(s) 30

(51) Int Cl.:
F04B 19/00 ^(2006.01) **F04B 43/04** ^(2006.01)
F04B 45/047 ^(2006.01) **H02N 2/00** ^(2006.01)

(48) Corrigendum issued on:
08.05.2019 Bulletin 2019/19

(43) Date of publication:
27.02.2019 Bulletin 2019/09

(21) Application number: **18187199.7**

(22) Date of filing: **03.08.2018**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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(30) Priority: **22.08.2017 TW 106128420**

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(54) **ACTUATOR**

(57) The actuator (1) includes a suspension plate (11), an outer frame (12), at least one bracket (13) and a piezoelectric plate (14). The suspension plate (11) includes a first surface (11c) and a second surface (11b) and is capable of bending and vibrating. The outer frame (12) surrounds a periphery of the suspension plate (11). The at least one bracket (13) is connected between the suspension plate (11) and the outer frame (12) for supporting the suspension plate (11). The piezoelectric plate (14) includes a first electrode (14a) and a second electrode (14b) made of silver palladium alloy doped with

graphene. The first electrode (14a) is coated with a conducting layer (14c) made of graphene-doped paint, and the second electrode (14b) is coated with an adhesive layer (14d) made of graphene-doped epoxy glue. The adhesive layer (14d) is configured to attach and in adhesion with the first surface (11c) of the suspension plate (11). A voltage is applied to the first electrode (14a) and the second electrode (14b) to make the suspension plate (11) bend and vibrate.

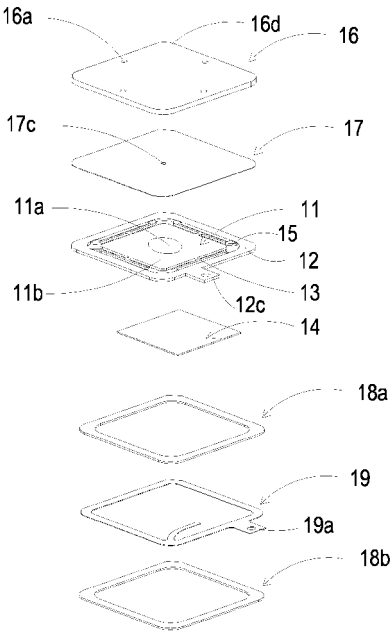


FIG. 1