

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (New): A mechanical oscillator comprising:

at least two deformable linking beams connected to a stationary substrate at a plurality of anchoring points which are distributed along the deformable linking beams, the deformable linking beams facing each other; and

a plurality of vibrating cells each connected to and disposed between said at least two deformable linking beams, said plurality of vibrating cells being distributed along the deformable linking beams and a length between two of the plurality of anchoring points being greater or equal to a length of a number of cells greater or equal to 1, wherein

each of the plurality of vibrating cells includes a deformable beam having a closed contour, said deformable beam being connected to said at least two deformable linking beams at a first pair of parts which are opposite to each other in the deformable beam.

Claim 11 (New): The mechanical oscillator according to claim 10, wherein the deformable linking beams are connected to pairs of the plurality of vibrating cells, the plurality of vibrating cells in each of the pairs being present at opposite sides of the linking beams and forming a two-dimensional network.

Claim 12 (New): The mechanical oscillator according to claim 10, wherein the plurality of vibrating cells are delimited by two of said deformable linking beams joined together with two other linking beams to form quadrilaterals.

Claim 13 (New): The mechanical oscillator according to claim 10, wherein the anchoring points include periodic identical patterns for the deformable linking beams, said patterns being offset from one to another along the deformable linking beams.

Claim 14 (New): The mechanical oscillator according to claim 10, further comprising:

coupling devices extending between pairs of the plurality of vibrating cells, wherein the coupling devices include rigid oscillating deformable closed-contour beams, each of the plurality of vibrating cells including two oscillating masses joined rigidly to the deformable beam having the closed contour.

Claim 15 (New): The mechanical oscillator according to claim 14, wherein the coupling devices extend along a plurality of said pairs of the plurality of vibrating cells.

Claim 16 (New): The mechanical oscillator according to claim 15, wherein the coupling devices extend in a staggered fashion, in parallel rows in which the coupling devices are offset from one to another of said parallel rows.

Claim 17 (New): The mechanical oscillator according to claim 10, further comprising:

electrodes, facing the deformable beams having the closed contour, that create an electrical field to adjust stiffness of the deformable beams having the closed contour.

Claim 18 (New): The mechanical oscillator according to claim 10, further comprising:

electrodes, facing the deformable linking beams, that create an electrical field to adjust stiffness in front of the deformable linking beams.

Claim 19 (New): A mechanical oscillator comprising:

at least two deformable linking beams connected to a stationary substrate at a plurality of anchoring points which are regularly distributed along the deformable linking beams, and at spans in all of the deformable linking beams, the deformable linking beams being parallel to each other;

a plurality of vibrating cells each connected to and disposed between said at least two deformable linking beams, said plurality of vibrating cells being regularly distributed along the deformable linking beams with a pitch, a ratio between said spans and said pitch being an integer greater than or equal to 1, wherein

the plurality of vibrating cells include a deformable beam having a closed contour, said deformable beam being connected to each of the deformable linking beams at a first pair of parts which are opposite to each other in the deformable beam having the closed contour, and

the plurality of vibrating cells being interconnected between the deformable linking beams.

Claim 20 (New): The mechanical oscillator according to claim 19, wherein the plurality of vibrating cells form a two-dimensional network and are connected to at least one of the linking beams at both sides thereof.

Claim 21 (New): The mechanical oscillator according to claim 19, wherein said deformable linking beams include a first set of linking beams and at least two other parallel

deformable linking beams that include a second set of linking beams, the linking beams of the first set crossing the linking beams of the second set, the plurality of vibrating cells being enclosed inside quadrilateral areas defined by a pair of linking beams of the first set and a pair of linking beams of the second set.

Claim 22 (New): The mechanical oscillator according to claim 19, wherein the anchoring points include identical patterns for the deformable linking beams, said patterns being staggered with respect to one another along the deformable linking beams.

Claim 23 (New): The mechanical oscillator according to claim 19, further comprising:

coupling devices extending between pairs of the plurality of vibrating cells, wherein the coupling devices include rigid oscillating deformable closed contour beams, each of the plurality of vibrating cells including two oscillating masses joined rigidly to the deformable beam having the closed contour.

Claim 24 (New): The mechanical oscillator according to claim 23, wherein the coupling devices extend along a plurality of said pairs of the plurality of the vibrating pairs of cells.

Claim 25 (New): The mechanical oscillator according to claim 24, wherein the coupling devices extend in a staggered fashion, in parallel rows in which the coupling devices are offset from one to another of said parallel rows.

Claim 26 (New): The mechanical oscillator according to claim 19, further comprising:

electrodes, facing the deformable beam having the closed contour, that create an electrical field to adjust stiffness of the deformable beams having the closed contour.

Claim 27 (New): The mechanical oscillator according to claim 19, further comprising:

electrodes, facing the deformable linking beams, that create an electrical field to adjust stiffness in front of the deformable linking beams.

Claim 28 (New): A mechanical oscillator comprising:

at least two deformable linking beams connected to a stationary substrate at a plurality of anchoring points which are regularly distributed along the deformable linking beams, and at equal spans in all of the deformable linking beams, the linking beams being parallel to each other; and

a plurality of vibrating cells each connected to and disposed between said at least two deformable linking beams, said plurality of vibrating cells being regularly distributed along the deformable linking beams with a constant pitch, a ratio between said spans and said pitch being an integer greater than 1, wherein

the plurality of vibrating cells includes a deformable beam having a closed contour, said deformable beam being connected to each of the deformable linking beams at a first pair of parts which are opposite to each other in the deformable beam, a pair of masses rigidly connected to the deformable beam at a second pair of parts which are opposite to each other, and

the plurality of vibrating cells being connected to adjacent cells along the deformable linking beams at a third pair of parts which are opposite to each other and each extend at a middle distance between said first pair of parts.

Claim 29 (New): The mechanical oscillator according to claim 28, wherein the plurality of cells form a two-dimensional network and are connected to at least one of the linking beams at both sides thereof.

Claim 30 (New): The mechanical oscillator according to claim 28, wherein said deformable linking beams include a first set of linking beams and at least two other parallel deformable linking beams that include a second set of linking beams, the linking beams of the first set crossing the linking beams of the second set, the plurality of cells being enclosed inside quadrilateral areas defined by a pair of linking beams of the first set and a pair of linking beams of the second set.

Claim 31 (New): The mechanical oscillator according to claim 28, wherein the anchoring points include identical patterns for the deformable linking beams, said patterns being staggered with respect to one another along the deformable linking beams.

Claim 32 (New): The mechanical oscillator according to claim 28, further comprising:

coupling devices extending between pairs of the plurality of vibrating cells, wherein the coupling devices include rigid oscillating deformable closed-contour beams, each of the plurality of vibrating cells including two oscillating masses joined rigidly to the deformable beam having the closed contour.

Claim 33 (New): The mechanical oscillator according to claim 32, wherein the coupling devices extend along a plurality of said pairs of the plurality of the vibrating cells.

Claim 34 (New): The mechanical oscillator according to claim 33, wherein the coupling devices extend in a staggered fashion, in parallel rows in which the coupling devices are offset from one to another of said parallel rows.

Claim 35 (New): The mechanical oscillator according to claim 28, further comprising:

electrodes, facing the deformable beam having the closed contour, that create an electrical field to adjust stiffness of the deformable beams having the closed contour.

Claim 36 (New): The mechanical oscillator according to claim 28, further comprising:

electrodes, facing the deformable linking beams, that create an electrical field to adjust stiffness in front of the deformable linking beams.