

CLAIMS

1. Mechanical oscillator including a network of cells joined together, each of the cells being a basic oscillator (18) including a deformable closed-contour beam (3), and deformable linking beams (19, 20) joining  
5 the closed-contour beams (3), characterised in that the closed-contour beams (3) are deformable, the linking beams (19, 20) extend over rows along a plurality of cells and the oscillator includes anchoring points (21, 22) for anchoring the linking beams to a stationary  
10 substrate, which are arranged along each linking beam according to a periodic pattern allowing a step equal to a multiple of the length of a cell.

2. Mechanical oscillator according to claim 1,  
15 characterised in that the linking beams are joined to a plurality of closed-contour beams distributed by pairs on two opposite sides of the linking beams, wherein the network of cells is two-dimensional.

20 3. Mechanical oscillator according to claim 1 or 2, characterised in that the cells are delimited by two of said linking beams and by two other linking beams, joined to the previous ones to form quadrilaterals.

25 4. Mechanical oscillator according to claim 1, 2 or 3, characterised in that the pattern is staggered, identical for parallel linking beams but offset from one to another of said parallel linking beams.

5. Mechanical oscillator according to any one of claims 1 to 4, characterised in that it includes coupling devices (23, 24) extending between pairs of cells, wherein the coupling devices include rigid massless oscillating deformable closed-contour beams (25), while each of the basic oscillators (18) includes two oscillating masses joined rigidly to the closed-contour beam (3) of said basic oscillator.

10 6. Mechanical oscillator according to claim 5, characterised in that the coupling devices extend along a plurality of said cell pairs.

15 7. Mechanical oscillator according to claim 6, characterised in that 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.

20 8. Mechanical oscillator according to any one of claims 1 to 7, characterised in that it includes electrodes (41, 44) for creating an electrical field for adjusting stiffness in front of the closed-contour beams.

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9. Mechanical oscillator according to any one of claims 1 to 8, characterised in that it includes electrodes (39, 40, 42, 43) for creating an electrical field for adjusting stiffness in front of the closed-contour beams.

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