

Title (en)

DEVICE AND METHOD FOR PERMITTING HIGH MAXIMUM LOAD ON SENSITIVE SWINGING SCALES

Title (de)

ANORDNUNG UND VERFAHREN ZUR ERZEUGUNG GROSSER HÖCHSTLASTEN AN EMPFINDLICHEN SCHWEBUNGSWAAGEN

Title (fr)

DISPOSITIF ET PROCEDE D'OBTENTION D'UNE CHARGE MAXIMALE ELEVEE POUR BALANCES OSCILLANTES SENSIBLES

Publication

**EP 0901612 A1 19990317 (DE)**

Application

**EP 96946172 A 19961206**

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Abstract (en)

[origin: WO9815802A1] The present invention pertains to modern ultramicrobalances on which only small masses up to 5 g. are placed. On the other hand, the order of magnitude of the relative sensitivity reaches 40 millions. The maximum load for the best scales is so small that it is not possible to reproduce in a technically reliable manner the movements of the mass interactive force through a purposeful arrangement or through the permutation of static masses and off-bottom masses in an operable order of magnitude and to produce such movements in an economically efficient way. With the conventional scales, the operating ratio of the force is too low. The oscillations are too disturbing. So, the inventive efforts were aimed at developing an oscillating balance for heavy off-bottom masses, the excess weight of which is as tricky to measure as with microscopes. In order to overcome the problem, an oscillating balance is used having as a pulling and flexional fibre a double acting elastic parallel fibre. The strong pulling force allows for both balance and mass to be supported up to as high a maximum load as the maximum tensile strength. The weak flexional force is used for measuring the inclination towards overweight with the same accurateness as with the flexional stick of a microbalance. The inventive method reveals new motions and natural forces beyond what is presently measurable with the common technical means.

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IPC 8 full level

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