CLAIMS

1. A pendulum mass damper for damping oscillations of a structure comprising a mass balanced by a first spring system and supported by a carrying part to maintain a vertical position, the carrying part carrying the mass in the vertical direction extends between the mass and a position below the mass, i.e. the weight of the mass is carried or supported from or at a point or level below the mass, wherein the mass at the position below the mass is fixed and/or connected to a unit constituting a base of a supporting system for the mass which unit is floating i.e. the unit can move either horizontally or both horizontally and vertically.

2. The pendulum mass damper according to claim 1, wherein the unit is constituted of a floating part, such as a plate or another suitable shape, e.g. being balanced by flexible parts such as a second spring system.

3. The pendulum mass damper according to any previous claim, wherein the carrying part comprises a central carrying part extending from a suspension frame to the position.

4. The pendulum mass damper according to any previous claim, wherein the first spring system balances the mass horizontally and is positioned above, below or at approximately the same vertical level as the mass.

5. The pendulum mass damper according to any previous claim, wherein the first spring system balances the mass horizontally and is attached or fixed at the central axis above the vertical level of the mass within a distance of the top of the mass being less than 20%, e.g. less than 10% or e.g. less than 5%, from the total length of the pendulum measured from the central point to the fastening points or fastening level of the springs.

6. The pendulum mass damper according to any previous claim, wherein the first spring system comprises at least 3 springs or at least balances the mass in three directions.

7. The pendulum mass damper according to any previous claim, the carrying part comprises a central carrying part in form of one or more cables or similar extending from a suspension frame to the position, or in form of a rigid beam e.g. made of steel or similarly rigid material extending from the mass to the position.

8. The pendulum mass damper according to any previous claim, wherein the carrying part also comprises support parts e.g. in form of one or more rigid beams or similar part(s) extending from the mass to the unit positioned below the mass which support part(s) may be resting on the unit.

9. The pendulum mass damper according to claim 8, wherein the unit comprises a joint allowing either the support part(s) or the carrying part(s) to pivot relative to the unit.

10. The pendulum mass damper according to claim 9, wherein the joint has 1, 2 or 3 degrees of freedom i.e. the joint may allow the mass to pivot relative to the unit in one, two or more than two directions.

11. A structure comprising the pendulum mass damper according to any of the claims 1-10.

12. The structure according to claim 11, wherein the structure is a building, wind turbine tower, chimney or other towers or similar flexible structures.