

ABSTRACT

The invention relates to an oscillator for a timepiece, comprising a balance (1) and a hairspring (3; 3'), the balance having a lack of equilibrium. The lack of equilibrium in the balance and the geometry of the hairspring are such that: the
5 curves (S1-S4; S1'-S4') representing the running of the oscillator owing to the weight of the hairspring as a function of the oscillation amplitude of the balance in at least four vertical positions of the oscillator spaced apart by 90° each pass through the value zero at an oscillation amplitude of the balance between 200° and 240° ; and
10 between the oscillation amplitude of 150° and the oscillation amplitude of 280° , the curves (B1-B4; B1'-B4') representing the running of the oscillator owing to the lack of equilibrium in the balance as a function of the oscillation amplitude of the balance in said vertical positions of the oscillator each have an average slope of opposite sign to the average slope of the corresponding curve among said curves (S1-S4; S1'-S4')
15 representing the running of the oscillator owing to the weight of the hairspring. A reduction in the running discrepancies between the vertical positions can thus be achieved.

(Figure 1)