

Batteryless, Oscillatorless, Binary time cell usable as an horological device with
associated programming methods and devices

Abstract

A simple electronic horological device, termed a time cell, is presented with associated methods, systems, and computer program products. A time cell has an insulated, charge storage element (222) that receives an electrostatic charge through its insulating medium (220), i.e. it is programmed. Over time, the charge storage element (222) then loses the electrostatic charge through its insulating medium (220). Given the reduction of the electric potential of the programmed charge storage element (222) at a substantially known discharge rate, and by observing the electric potential of the programmed charge storage element (222) at a given point in time, an elapsed time period can be determined. Thus, the time cell is able to measure an elapsed time period without a continuous power source.

Fig. 2A



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