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(12) United States Patent

Calderon Oliveras et al.

(54) DRUG DELIVERY DEVICE WITH ELECTRONICS

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(57) ABSTRACT

A system may include a mobile application residing on an external device and an inhalation device. The inhalation device may include a mouthpiece, a mouthpiece cover, medicament, and an electronics module comprising a processor. The inhalation device may be configured to both prepare a dose of medicament for delivery to a user and cause the processor to transition between power states when the mouthpiece cover is moved from a closed position to an open position to expose the mouthpiece. The electronics module or the mobile application may be configured to generate usage events based on usage of the inhalation device by the user. The electronics module may also include a pressure sensor, and the electronics module or the mobile application may be configured to determine whether a usage event is a good inhalation event, a fair inhalation event, or a no inhalation event based on feedback from the pressure

16 Claims, 12 Drawing Sheets

