CLAIMS

1. A portable, personal storage and carrying case for an e-liquid e-cigarette PV in which the case includes: (a) a power source for re-charging a rechargeable battery in the PV; (b) a reservoir for holding e-liquid; and (c) a fluid transfer system adapted to transfer e-liquid from the reservoir to a chamber in the PV.

2. The case of Claim 1 in which the e-liquid includes nicotine and the PV is not a medicinal device but instead a device that in normal use replaces cigarettes, with the e-liquid being vapourised in the PV and the vapour inhaled to replicate or replace the experience of smoking a cigarette.

3. The case of Claim 1 or 2 in which the reservoir for holding e-liquid is a user-replaceable e-liquid cartridge.

4. The case of Claim 1 in which the user-replaceable e-liquid cartridge fits in the case or is attached to the case.

5. The case of any preceding Claim in which the user-replaceable e-liquid cartridge is designed in normal use to permit e-liquid to escape only if the cartridge is correctly positioned in the case.

6. The case of any preceding Claim in which the e-liquid capacity of the user replaceable cartridge is at least three times greater than the e-liquid capacity of the chamber in the PV.

7. The case of any preceding Claim in which the fluid transfer system adapted to transfer e-liquid from the case to a reservoir in the PV includes a pump that delivers e-liquid approximately equivalent to a single cigarette for each pumping stroke.

8. The case of any preceding Claim which can be locked or disabled to prevent under-age or unauthorised use.

9. The case of any preceding Claim in which moving a movable holder or chassis, into which the PV has been inserted, brings electrical charging contacts on the PV into direct or indirect engagement with electrical charging contacts in the case that are connected to a power source, such as a rechargeable battery in the case.

10. The case of preceding Claim 9 in which the movable chassis also has mounted on it an e-fluid reservoir, a battery, a printed circuit board and a fluid transfer mechanism.

11. The case of any preceding Claim which is operable to re-fill the PV with e-liquid if the PV is inserted, fully or in part, into the case, whilst maintaining the PV whole and intact.

12. The case of any preceding Claim which is operable to re-fill the PV using a fluid transfer system pump activated by moving relative to the pump the entire, complete PV, whilst the PV is held in a compartment of the case.

~~13. The case of any preceding Claim in which is operable to re-fill the PV with e-liquid if the PV is inserted, fully or in part, into the case without the need to dis-assemble or puncture the PV, maintaining the PV whole and intact.~~

~~14~~13. The case of any preceding Claim in which a hollow e-liquid filing tube or shaft extends up from the central axis of a hollow compartment into which the PV is inserted.

~~15~~14. The case of any preceding Claim in which the PV re-fills using a fluid transfer system in which the PV moves relative to a pump in the case.

~~16~~15. The case of any preceding Claim in which the PV is re-filled by the user manually depressing and releasing the PV.

~~17~~16. The case of any preceding Claim in which the PV is re-filled by a mechanical camming action caused by the top of the PV being pressed or cammed downwards when it is closed inside a carrying case, the camming action depressing the PV so that it completes a

downstroke of the pumping action.

~~18~~17. The case of any preceding Claim in which the PV is filled by a motor moving the PV up and down in relation to a pump, or the pump in relation to the PV.

~~19~~18. The case of any preceding Claim in which the case includes a hinged compartment that the PV is slotted into, mouthpiece end downwards, and which guides an aperture of the PV into contact with a pump nozzle that fills a reservoir in the PV with e-liquid until the pressure in the reservoir equals the pressure in an e-liquid cartridge in the case.

~~20~~19. The case of any preceding Claim in which the case the case includes a micro-pump designed to slot into an aperture in an e-liquid cartridge.

~~21~~20. The case of any preceding Claim in which the case includes a nozzle or aperture operable to engage with a micro-pump formed in an e-liquid cartridge inserted into or attached to the case.

~~22~~21. The case of any preceding Claim in which the case is adapted to lock the PV securely in a charging position; and when the PV is locked in the charging position, then electrical charging contacts on the PV are in direct or indirect engagement with electrical charging contacts in the case that are connected to a power source, such as a rechargeable battery, in the case.

~~23~~22. The case of preceding Claim ~~22~~ 21 in which the case automatically charges the PV only if the PV is fully inserted and an inter-lock operates to secure the PV in position.

~~24~~23. The case of preceding Claim ~~22~~ 21 in which the case automatically locks the e-cigarette PV into a secured re-charging position when the case is fully closed for storage and carrying the PV.

~~25~~24. The case of any preceding Claim in which the case includes a user-removable e-liquid cartridge and the combination of cartridge and case forms in normal use a portable, personal

device for the storage, carrying of the PV and its re-filling with e-liquid.

~~26~~25. The case of any preceding Claim in which the case can fill the PV by combining e-liquid from several different e-liquid compartments.

~~27~~26. The case of any preceding Claim in which the case includes several user-removable e-liquid cartridges and can fill the PV by combining e-liquid from several cartridges.

~~28~~27. The case of any preceding Claim in which the case includes an overflow channel that enables excess e-liquid that is pumped up from the cartridge but is not stored in the PV to be captured and returned to the cartridge.

~~29~~28. The case of any preceding Claim which includes a data processor that controls sending a signal requesting a replacement for a user-replaceable e-liquid cartridge in the case.

~~30~~29. The case of preceding Claim ~~29~~ 28 in which the case or cartridge detects the level of e-liquid or the quantity of e-liquid in the user-replaceable cartridge.

~~31~~30. The case of preceding Claim ~~29~~ 28 in which the signal is sent to a connected smartphone which in turn connects to an e-fulfilment platform.

~~32~~31. The case of any preceding Claim which starts providing power to heat an electrical atomising element in a PV automatically when the case in which the PV is stored is opened.

~~33~~32. The case of any preceding Claim which includes a locking system to lock the PV securely in a heating position during which time the PV is heating using power from a power source in the case and, after the PV has been sufficiently heated, to release the locking mechanism.

~~34~~33. The case of preceding Claim ~~33~~ 32 in which the case automatically moves the PV to a position which allows it to be readily removed from the case by an end-user once the PV has been sufficiently heated.

~~35~~34. The case of preceding Claim 1 in which the user presses the PV down when it is in the case to initiate heating.

~~36~~35. Method used in portable, personal storage and carrying case according to Claim 1 adapted specifically for a refillable e-cigarette PV and that re-fills and re-charges the PV, the method including the steps of the case (a) transferring e-liquid from a user-replaceable e-liquid cartridge to the PV and (b) automatically sending a signal requesting a replacement for the user-replaceable e-liquid cartridge to an e-fulfilment platform, either directly or via a connected smartphone.

~~37~~36. The method of Claim ~~36~~ 35 including the steps of (a) detecting the level of or quantity of e-liquid in a user-replaceable e-liquid cartridge in the case and (b) automatically sending a signal requesting a replacement for the user-replaceable e-liquid cartridge to an e-fulfilment platform, either directly or via a connected smartphone.