

1, or the pill dispenser 69 may be a standalone device. The pill dispenser 74 may use or include the system 32 of FIG. 3, in some embodiments.

[0229] The pill dispenser 74 includes a touch screen 75 that is coupled to a door 76 that swings open so that cartridges 78 may be inserted. The touch screen 75 may be used to dispense one or more pills into a receptacle 79. The pill dispenser 74 may also include a plurality of viewing windows 77 that display one or more pills of the one or more pill cartridges 78.

[0230] FIG. 8 shows a pill dispenser 80 having a plurality of vertical windows 82 below a touch screen 83 and an elongated receptacle 81 in accordance with an additional embodiment of the present disclosure. The pill dispenser 80 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 80 may be a standalone device. The pill dispenser 80 may use the system 32, in some embodiments.

[0231] The pill dispenser 80 includes a touch screen 83 disposed on a door 84. There is a plurality of viewing windows 82 to view one or more pills. The pills may be dispensed by pressing the dispense button 85. The pills may be dispensed into the receptacle 81.

[0232] FIG. 9 shows a pill dispenser 86 having a dispensing mechanism that dispenses one or more cartridges 90 in accordance with an embodiment of the present disclosure. The pill dispenser 86 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 86 may be a standalone device. The pill dispenser 86 may use or include the system 32 of FIG. 3 in some embodiments.

[0233] The pill dispenser 86 includes a touch screen 87 and openings 88 and 89. The pill dispenser 86 may dispense a cartridge 91 out the opening 89 which may then be used and disposed back in to the opening 88. The cartridge 91 may include a snap-on lid coupled to the rest of the cartridge 91 through a living hinge. There may be a camera disposed within the housing of the pill dispenser 86 (e.g., inside, but above, the opening 88 to view the contents of the cartridge 91 when inserted into the opening 88) to determine compliance. FIG. 9 shows a stack of cartridges 90 including the cartridge 91. The pill dispenser 86 may be returned to a pharmacy for refilling. The pill cartridges 90 may be sterilized and/or washed and reused.

[0234] FIG. 11 shows a pill dispenser 92 having a secondary housing 95 along a side thereof in accordance with an embodiment of the present disclosure. The secondary housing 95 may house one or more pill cartridges 96. The secondary housing 95 may be attachable to and/or detachable from the primary housing 99. The pill dispenser 92 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 92 may be a standalone device. The pill dispenser 92 may use or include the system 32 of FIG. 3, in some embodiments.

[0235] The pill dispenser 92 includes a speaker 94, a microphone 95, and a touch screen 93 to dispense a pill. The pills are dispensed from one or more cartridges 96 which are dropped into a cup 98 of a receptacle 97. The pill-dispensing mechanism may be within the primary housing 99, in the secondary housing 95, or may be distributed between of the housings 95 and 99.

[0236] FIG. 12 shows a pill dispenser 100 having a housing 101 coupled to the cartridge 102 and in sliding engagement with the cartridge 102 in accordance with an

embodiment of the present disclosure. The pill dispenser 100 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 100 may be a standalone device. The pill dispenser 100 may use or include the system 32 of FIG. 3, in some embodiments.

[0237] The housing 101 includes a touch screen 103 and a dispense button 104 coupled thereto. The pill cartridge 102 includes a viewing window 105 showing the pills. The housing 101 may slide such that an internal pill-dispensing mechanism may grab the pills stacked vertically and dispense the pills into the receptacle 106.

[0238] FIG. 13 shows a pill dispenser 107 having a sliding-door 110 for receiving the pill in accordance with an embodiment of the present disclosure. The pill dispenser 107 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 107 may be a standalone device. The pill dispenser 107 may use or include the system 32 of FIG. 3, in some embodiments. The pill dispenser 107 includes a touch screen 108 and a dispense button 109. The door 110 can be opened by the knob 111 to dispense a pill.

[0239] FIGS. 14A-14B show a pill dispenser 112 capable of receiving pill bottles as pill cartridges in accordance with an embodiment of the present disclosure. FIG. 14A shows a top view of the pill dispenser 112, and FIG. 14B shows a side view of the pill dispenser 112. The pill dispenser 112 may be used in addition to and/or in place of the pill dispenser 10 with system 1 of FIG. 1, or the pill dispenser 112 may be a standalone device. The pill dispenser 112 may use or include the system 32 of FIG. 3, in some embodiments.

[0240] The pill dispenser 112 includes a plurality of recesses 113 each shaped to receive a pill bottle. The cap of a pill bottle may be taken off and the pill bottle may be placed upside down and inserted into one or the plurality of recesses 113 such that the pills are poured into the recess. The recesses 113, in other embodiments, may include a snap-top door such that pills, e.g., a group for each day of scheduled pills to be taken, may be held within a recess of the plurality of recesses 113. The pills are dispensed out of a trap door 130. The pill-dispensing mechanism may be gumball-type pill dispensing mechanism.

[0241] The pill dispenser 112 also includes a touch screen 116, an identifying camera 115, and a pill-bottle identifying camera 114. As mentioned, the pill bottle may be opened and placed up-side down into one of the recesses. A camera 114 can rotate around the pill dispenser 112 to capture one or more images of the labels of the pill bottles including dosage and scheduling information displayed in text or encoded thereon. In some specific embodiments, the rotation may be made by a circular track coupled to stepper motor such that a circular structure having the camera 114 rests on the circular track and the stepper motor rotates the circular structure along the track. The stepper motor may be controlled by the one or more processors 30 within the pill dispenser 112.

[0242] The pill-bottle identifying camera 114 may use OCR or information encoded on a barcode to update a pill-dispensing schedule within a memory coupled to a processor 30 therein or to generate a pill-dispensing schedule including a dosage schedule. The pill-bottle identifying camera 114 may read instructions from the label of the pill bottle disposed on the pill dispenser 112. The label information can be compared to a prescription stored in internal