

opportunities. After great analysis, some creative suggestions of new innovations taken for this product have been done. It includes the designation of compartments, appearance material, water proof and airtight and support notification feature.

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4.0 DESCRIPTION OF PRODUCT INNOVATION

In this digital generation, everything must be innovation to produce the new product. With the development of science and technology, the pill dispenser is innovating become an electronic reminder. Before the pill dispenser innovation, the name of the pill dispenser called EZY Dose Classic Pill Reminder while after innovation, this product called Med-E-Lert Automatic Pill Dispenser.

Before the pill dispenser innovation, the number of compartments EZY Dose Classic Pill Reminder is 7 compartments. The capacity of this product is one week supply of pills to once times per day. Besides that, the compartment size of this product can holds up 12 aspirin size pills. This product was facing some problem which is no enough space for the patients who are eating the medicine more than once times per day and for the patient to put the medicine more than 12 aspirin size pills. Therefore, the inventor found the solution to overcome this problem. After innovation, the number of compartments in the pill dispenser is designed with 28 compartments and the compartment size of this product can holds up 18 aspirin size pills. In additional, the capacity of this product is upgrade become one week supply of pills to four times per day. The objective of this innovation is to help the patients have enough space to storage the pills and can easy to use this pill dispenser. Thus, this invention relates to automatic pill dispensers, particularly to methods and devices which may be programmed to automatically dispense predetermined quantities and preselected types of pills at preset times.

Moreover, EZY Dose Classic Pill Reminder does not have alarm to call the patient eating the medicine on time. The problem is the patients will forget to eat the medicine on time. Thus, the innovation must be taking to solve the problem. After innovation, Med-E-Lert Automatic Pill Dispenser has installed the alarm. When the time of taking pills is coming, the alarm will auto ring with the loud sound and blinking red LED light until the pills are removed by the user. The objective of installed alarm is to remind the patients to taking the medicine on time especially for the mentally infirm and the obtunded who are more susceptible to memory problems.

Furthermore, EZY Dose Classic Pill Reminder also does not have locking system to prevent over-medication. For example, the elderly who have Alzheimer will over-medication. The improper taking of pills may be detrimental to their health. To overcome the problem, the

Or even worst they have hearing problem and cannot hear the beeping sound of the alarm? All these are questionable. So to overcome this, we can design a pager for Med-e-lert. This pager is different from the communication pager, but it has similarities that is, call the user or the device. The “pager” may design in any shape with small body size which can attach to necklace and portable. So when the elderly want to call the e-pill dispenser, he/she can just simply press the button on the “pager”. The alarm on the e-pill dispenser will ring up, light up or even vibrate and snooze so that the elderly can find it easily by just following the sound generated from the devices. If elderly still cannot find the devices, he/she can just press again the button. This not only facilitate them to find the dispenser but also another features that can ensure correct medication schedule as they no need to wait until medication period just start to find their device (as the previous device only ring during medication period). Besides, the “pager” itself also will ring during medication period. An alarm has installed to the “pager”. This is because, elderly always have hearing difficulty, if Med-e-lert is far from them or the environment is noisy, they may not able to hear the alarm of the device. This can lead to disruptions regimens. So the “pager” is attached to necklace and put on the elderly or patient neck, they can easily heard the alarm from the “pager” as it is close to them and always follow where they are going. Thus, it can ensure correct medication schedule and reduce the elderly burden.

7.3 Attractiveness

Med-e-lert pill dispenser is in bright white color currently. This feature had made people or old folks not detect of it easily. Even the button was click and alarm ring up, but there still a problem where people do not aware it quickly. So, we would change the appearance color like red color or green color which more enable attract people’s attraction. There will be a lot of dazzling color and let people choose. People can choose depend on their favorite colors. Besides that, we make it lighting surrounding the pill dispenser as current design is just three dot flashing red LED on the dispenser surface. It is not obvious and the lighting not last long. After finish lighting, user still don’t know it. To work better this future, we will make it that there will flashing red LED surrounding the whole pill dispenser. Every compartment will have two dots flashing light dot beside it. In additional, the flashing light also would be continues to flash until any button is pressed to acknowledge the alarm. When

The notification system is a very user-friendly application. First, the e-pill dispenser is installed with communication features which can send notification or signal to mobile devices or web page. So, when the patient has or hasn't taken medicine, the e-pill dispenser will update to the web pages. The concept is just similar with the "punch-card" system as we do every day to proof our attendance. With auto-generated notification system, the caretaker able to monitor elderly medication schedule when they are not be with them. Thus reduce the caretaker burden and anxiety.

In this technological era, most of the people are smart phone user, even not they will also know how to online. We believed that the caretaker are young and have the knowledge of this technologies (using smart phone and online). So to monitor the medication schedule of the elderly or patient, the caretaker can download the application from the apps-store or just log in to the web page. E-pill dispenser will send notification to the user through Wi-Fi or just update to the web page if elderly had taken the medicine or after 30 minutes when the alarm stop ringing. From this, the caretaker can easily log in to the web page to monitor their regimens. With this feature, if elderly were not taking medicine, the caretaker can take immediate action to prevent it in a ignable consequences.

Besides, the last 5 compartments of the e-pill dispenser also been installed with stimulus or sensors. These sensors are used to ensure the pills are being refill before exhausted. As we know, the Med-e-lert is designed with opaque cover which prevents elderly from looking inside and counts the pills remaining that maybe will cause the patient to feel pressure. Everything has it pros and con, the pros is can reduce the elderly pressure and the con is the elderly might face medicine shortage if they don't replenish the pill in time. So to ensure elderly or caretaker can replenish the medicines in time; the device should install sensors and notification system. The sensors will notify the user with different alarm sound when the device left 5 compartments of pills. At the same time, it will send a notification to the caretaker to remind them to replenish the pill or inform the user to refill. With this technologies, we able to eliminate shortage and thus simplify the medication schedule. Information that has been updated to the web will be summarizing in a monthly report and the caretaker can download from the website as a reference for doctor or other purposes.