

Title: New Medical Alert System

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BACKGROUND OF THE INVENTION: (Describe the old methods, materials or apparatus used to achieve the purpose of the invention and state their limitations and disadvantages.)

Nowadays, there are growing numbers of elderly people living at home and needing sense of security. to open their doors easily with the press of a button on a remote that attaches to their key rings.(see Appendix B) Since it utilizes radio-frequency technology, people won't even need to aim the remote at the lock for it to release the lockset.

Traditional medical alert systems, such as Lifeline, Rescue Alert's Medical Alert System, secure elderly people, who are at risk of losing their independence. The medical alert system consists of three parts; the Personal Help Button, the CarePartner Communicator, and theLife Responds Associate Center (see Appendix Q. When elderly people need help, they press the Personal Help Button, which establishes two-way voice communication between the patient and a Lifeline Response Associate Center. The Associate then contacts a neighbor, loved one,or emergency services, based on the patient's specific needs, to notify them of the patient's situation.

However, one limitation of the medical Alert System is that it is not easy for the medical staff or other personal to enter the house and perform first aid immediately. The Associate needs to make sure that the patient's door is unlocked or has to ask about the location of a key so that the medical staff can get into the house. All of this takes time and reduces the patient's chance of survival.

SUMMARY OF THE INVENTION

My proposed invention is for elderly people who spend time alone at home and/or are at risk of losing their independence. (See Appendix A for a description of people who need a medical alert system) Besides notifying the medical team when an emergency occurs, as traditional medical alert systems do, this system allows people to be secure in their homes until help arrives and enables the medical team to enter the house immediately.

My invention includes combining the personal help button (which notifies the medical team, neighbor, or loved one when emergency occurs) with the remote-controlled key (which can unlock any of the doors of the house) and installing an electric double lock on the door, a personal lock, and an emergency lock. When an elderly person needs help, s/he can push the help button to unlock the personal lock. When help arrives, the medical team can use their emergency key to unlock the emergency lock and enter the house. The purpose of my invention is to create a uniform procedure for medical teams to gain access to the homes of elderly residents in need of aid.

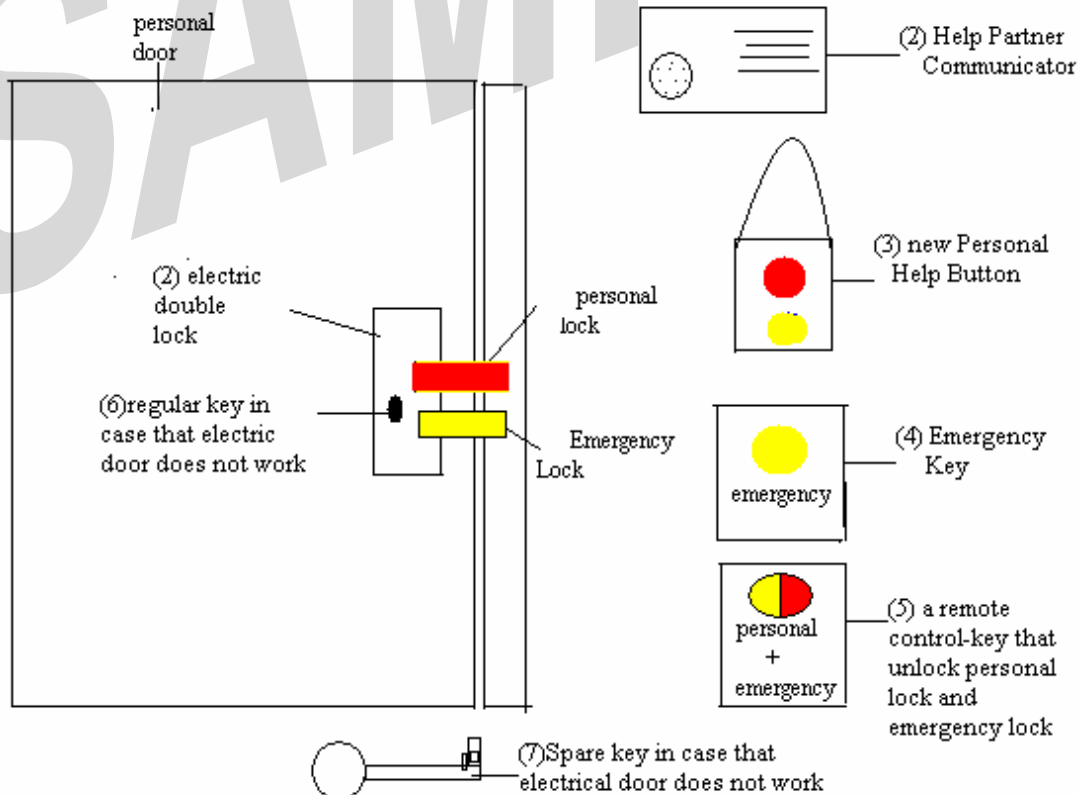
DETAILED DESCRIPTION:

(Describe clearly and completely the invention and its parts. Where possible, include sketches, drawings, circuit diagrams, photographs, chemical formulas, etc. Give a detailed written description of the operation and use of the invention referring to the parts by the numerals. State the advantages of the invention over the old or known methods, materials, or apparatus and the features believed to be new. Describe any alternative versions of the invention.)

As stated in the background information, the limitation for the traditional medical alert system is that the medical team cannot get into the house and perform first aid or serve the patient immediately.

To solve the problem stated above, and increase the patient's survival rate, my proposed medical alert system includes two additional features. First, it includes the installation of a remote-controlled electrical double lock on the door. Second, it combines the personal help button (which notifies the medical team, neighbor, or loved one when emergency occurs) with the remote-controlled key (which can unlock any of the doors of the house).

Here is the diagram of the new medical alert system:



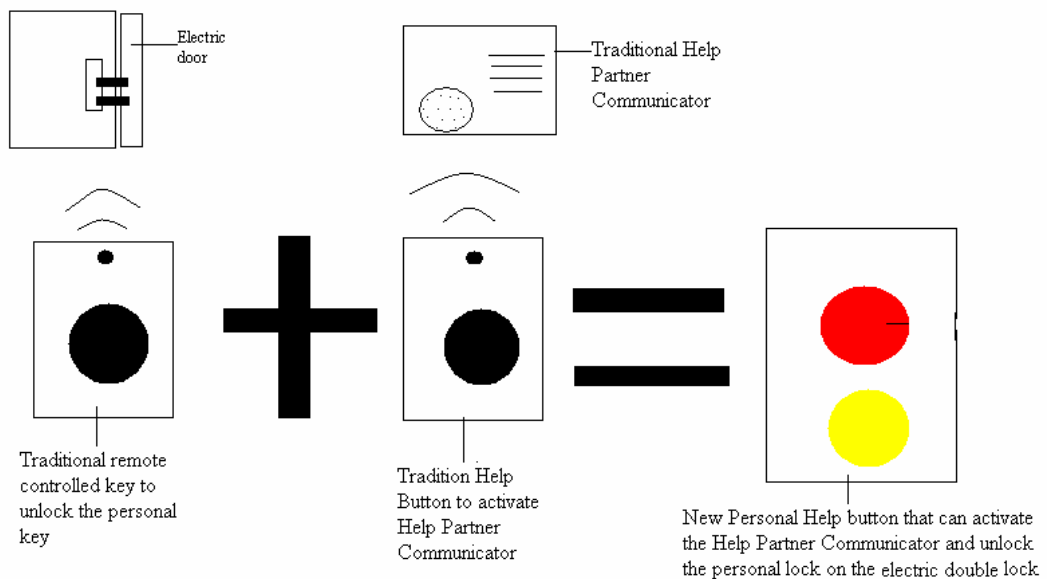
As shown in the diagram above, the new medical emergency system consists of six parts: [1] an electric double lock with the emergency and personal locks, [2] a Help Partner Communicator, which establishes two-way communication between the patient and the help service, [3] a Personal Help Button that can activate the Help Partner Communicator and send out a signal to unlock the personal lock, [4] an emergency key to unlock the emergency lock, [5] a remote-controlled key to unlock the emergency and personal locks, and [6][7] a regular key that can unlock the personal and emergency locks in case the electric lock does not work.

The following paragraphs contain detailed descriptions which explain the construction and utilization of each part of the new medical alert system.

Electrical Double Lock [1]

There are two locks in the electrical double lock—a personal lock and an emergency lock. There is a unique code which unlocks the personal lock. In this new medical alert system, a new Personal Help Button [3] and a remote-controlled key [5] can unlock the personal lock. Only the house owner has the key which unlocks the personal lock. On the other hand, the emergency lock can be unlocked by two codes. One of them is a universal code, which medical team has. The other is a unique code, which will allow neighbors, friends, or other designated individuals into the house. Also, once people close the door, both locks will automatic locked again.

Personal Help Button [3]



As shown in the diagram above, the new Personal Help button inherits all the characteristics of the traditional Personal Help Button. It is waterproof, so the elderly person can wear it at all times, even when taking a shower. Also, it is wireless, so the elderly person can activate the Help Partner Communicator from any location in the house. However, compared to the traditional Help Button, the new personal Help Button has one more function, which is to send out a message to unlock the personal lock. The elderly person needs to carry the Personal Help Button all the time. As shown in the diagram, there are two buttons in the new Personal Help Button—a red button and a yellow button. When the elderly person needs help, s/he can push the red button to activate the Help Partner Communicator which notifies the medical team, neighbor, and/or family member. It will also send a signal to unlock the personal lock in the electric double locked door. At this time, the personal lock is unlocked, but the emergency lock is still locked, so that any unauthorized individual cannot enter the house. If the person knows there is someone outside who can help but does not have the emergency key, s/he can push the yellow button to unlock the personal lock and emergency lock to gain access to the house.

Help Partner Communicator [2]

When it is activated, it can establish two way communications between the patient and the help center. It notifies the medical team, neighbor, and/or family member.

Emergency key [4]

The emergency key can unlock only the emergency lock. Again, it contains two codes, which can unlock it. One is universal, which the medical officials have. The other is unique, which any designated individuals can have.

Remote-Controlled Key [5]

The remote-controlled key can unlock the personal lock and the emergency lock. The homeowner can use this one to unlock the door for normal circumstances.

Regular Lock and Key [6][7]

The regular key opens the door in case the electric lock does not work. The homeowner can hide a spare key outside the house in case the electric lock should fail.

The following paragraphs demonstrate how the new medical alert system works and compare it with the tradition medical alert system.



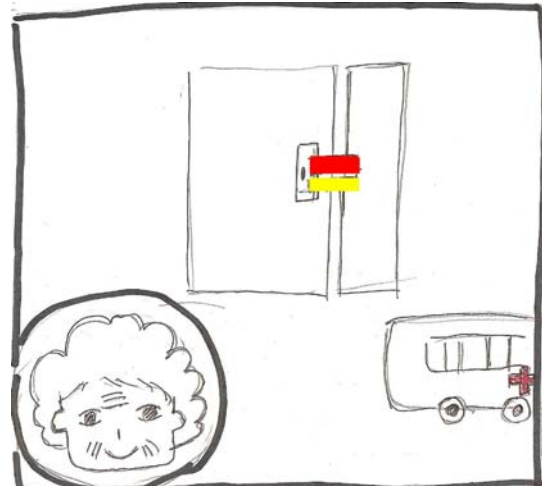
Normally, both the emergency lock and personal lock are locked. They prevent people breaking into the house and provide security.



When an elderly person needs immediately help, s/he will push the Personal help Button, which notifies the medical center and sends out a signal to unlock the personal lock. At this time, the personal lock is unlocked, but the emergency lock is still locked.



When the medical team arrives, they can use their emergency key to unlock the emergency lock and unlock the emergency lock. At this time, both the personal lock and emergency lock are unlocked, so the medical team can enter the house and provide assistance immediately.



After the medical teams, both the personal lock and emergency lock are locked, so the electric double lock can continue its function of safeguarding the

the person's home.

The following paragraph will discuss why the new medical alert system is superior to the traditional one:

First, the new medical alert system allows for uniformity of procedure for medical teams to gain access. Because no time is lost in finding a personal key, the new system helps to shorten the medical response time and increase the patient's chance of survival.

^[1]According to Thomas H. Blackwell, M.D., and Jay S. Kauffman, Ph.D.'s research on emergency calls where response time (RT) was less than 5 minutes were associated with improved survival when compared with calls where RT exceeded 5 minutes. The mortality risk was 1.58% for patients whose RT exceeded 15 minutes and 0.5% for those whose RT was under 5 minutes ($p = 0.002$). Therefore, the shorter the time that medical help arrives, the higher the chance of patient survival.

Second, because the door remains locked before and after the medical team arrives, the new system gives the patient a substantial sense of security. In the traditional alert system, the medical team may need to break down the door in order to get into the house. Then the door will be unlocked when the medical team leaves, which creates a security problem for the homeowner. The new system helps to solve this problem. Before the medical team arrives, the electric double lock prevents unauthorized individuals from entering the house. After the medical team leaves, the electric door continues to function to safeguard the patient's security.

Third, the reason for double lock is to increase sense of security for the elderly people. When the elderly people do not need help, personal lock can prevent people with emergency lock access to the house. On the other hand, when the elderly people need assistance, the emergency lock can prevent the undesired individual enter the house.

[1] Blackwell, Thomas. "Response Time Effectiveness: Comparison of Response Time and Survival in an Urban Emergency Medical Services System."

Another alternative for my invention

--electric double lock with timer

This invention is for people who need to allow a housekeeper access when they are not at home. In this invention there are three parts, the personal lock, the emergency lock and a timer which controls the personal lock. In this system, both the personal lock and the emergency lock have unique codes which unlock them.

Normally, both the emergency lock and the personal lock are locked. The homeowner give the housekeeper the emergency key (which can unlock the emergency lock) and set the timer to a specific time for personal lock to be unlocked. For example, the housekeeper comes to clean the house every Tuesday at three o'clock. The homeowner can set the timer to unlock the personal lock from 2:45 to 3:15. When the housekeeper arrives, s/he use the emergency key to unlock the emergency lock and go into the house. However, the housekeeper cannot open the door many other time because the personal lock would stay locked.

The advantage of the electric double lock is that it improves the security of the house. Instead of giving a master key to the housekeeper, the homeowner can give him/her only the emergency key which will allow access only during a specific interval of time.

SAMPLE