Oct. 18, 1955 G. M. EBERLE 2,720,776

SAFETY MEANS FOR CABINETS

Filed April 24, 1953 2 Sheets-Sheet 1

FIG. 1.

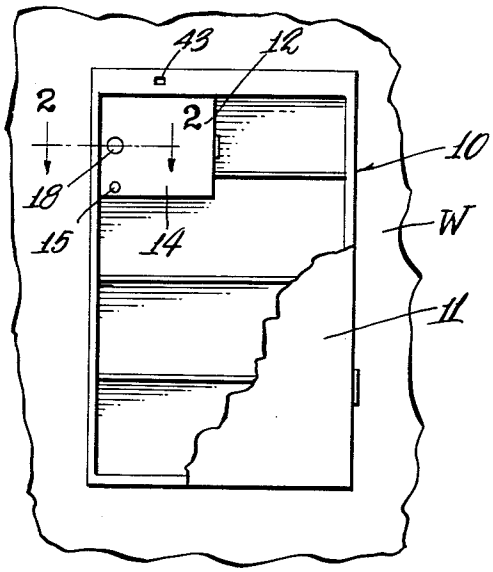


FIG. 6.

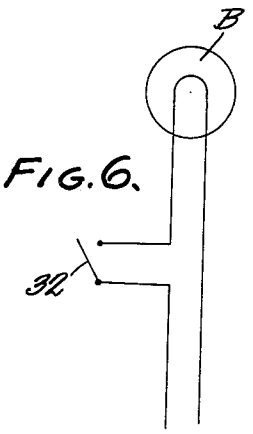
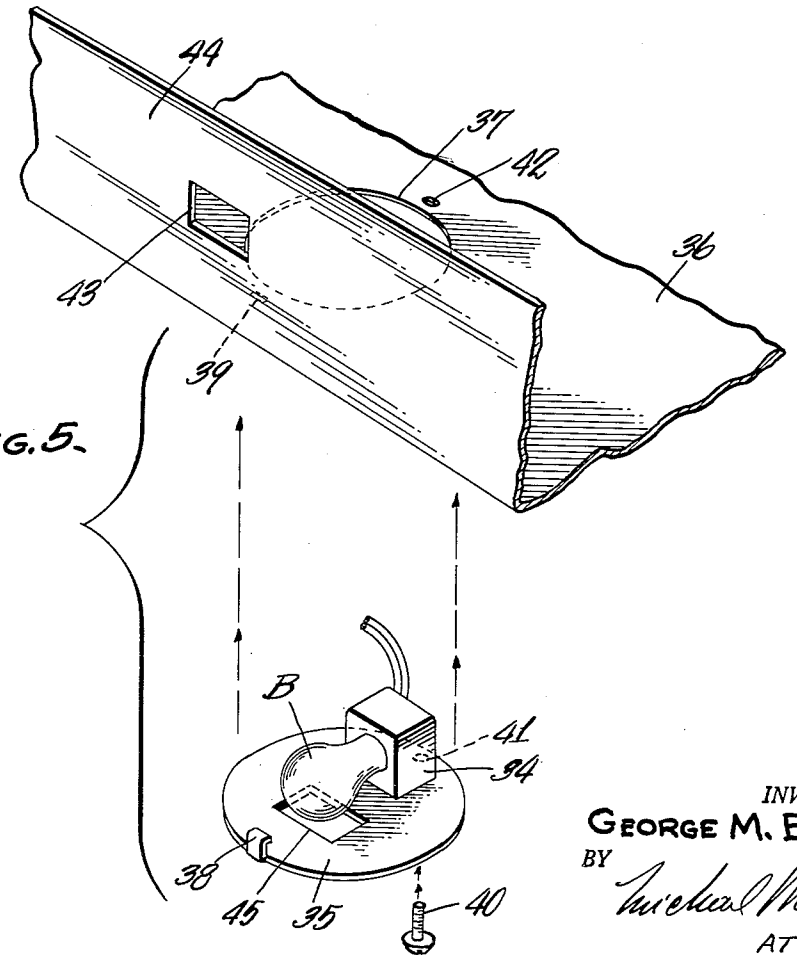


FIG. 5.



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Filed April 24, 1953 2 Sheets-Sheet 2

FIG. 2.

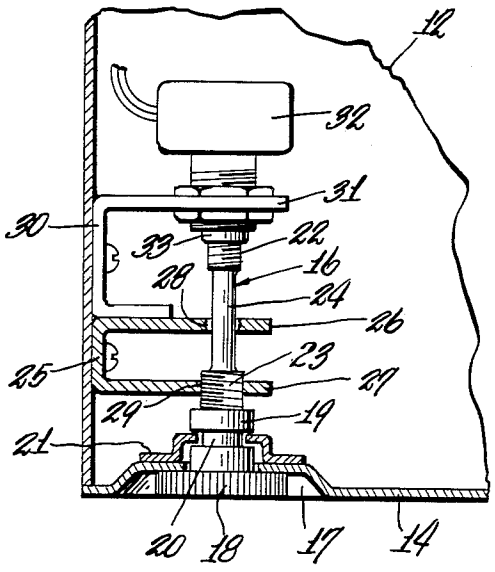


FIG. 3.

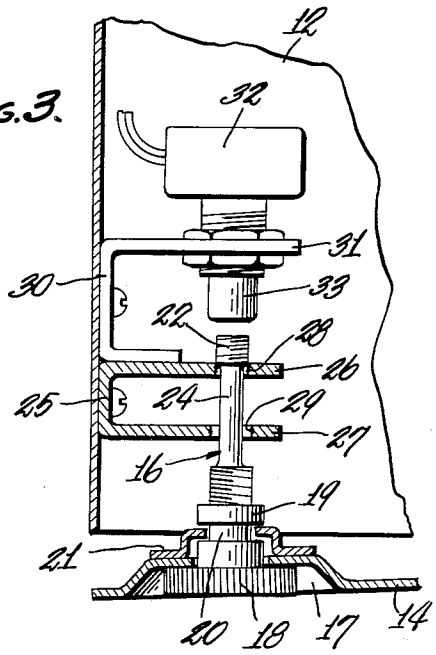
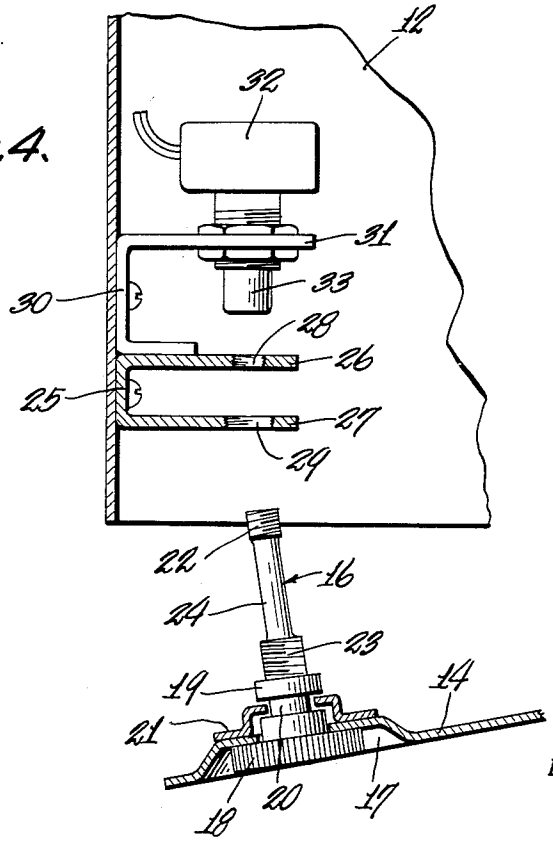


FIG. 4.



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SAFETY MEANS FOR CABINETS

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9 Claims. (Cl. 70—289)

My invention relates to safety means for cabinets, particularly medicine cabinets, and the principal object of my invention is to provide new and improved safety means of such character.

Since my invention has a great use in connection with medicine cabinets, its use in such connection will hereinafter be described although it will be understood that my invention has other uses not specifically mentioned.

Medicine cabinets have been used to store many items, some harmless, some harmful if not administered properly, and some poisonous. Children quite frequently get into medicine cabinets on playful exploratory expeditions and are so fascinated by the array of bottles and jars that they quite frequently take medicines which are harmful or take relatively harmless medicines in harmful quantities.

In addition, adults sometimes reach into a medicine cabinet when absorbed in other thoughts, or when drowsy, and take unintended medicine or medicine in wrong quantities since their mind is not acute, at that particular time, to the dangers involved.

My invention prevents unauthorized access to harmful medicines, or medicines which can be harmful when taken in wrong amounts and further prevents thoughtless access to such medicines. Thus, children can be prevented from obtaining harmful items, and adults are required to concentrate on the matter at hand in order to obtain harmful and possible harmful medicines from the medicine cabinet.

In the drawings accompanying this specification and forming a part of this application there is shown, for purposes of illustration, an embodiment which my invention may assume, and in these drawings:

Figure 1 is a plan view of a medicine cabinet with its door partially broken away to illustrate the disclosed embodiment of my invention,

Figure 2 is an enlarged fragmentary sectional view corresponding generally to the line 2—2 of Figure 1,

Figure 3 is a view similar to Figure 2 but with parts in different relation,

Figure 4 is a view similar to Figures 2 and 3 but showing further relation of parts,

Figure 5 is an exploded perspective view showing parts of the embodiment disclosed, and

Figure 6 is a wiring diagram of electrical connections.

The invention is herein disclosed for use with a medicine cabinet **10** of any standard construction. The ordinary cabinet is mounted on a wall W and may have a hinged door **11** controlling access to the interior of the cabinet.

The embodiment of the invention herein disclosed comprises a compartment **12** within the cabinet, the compartment being preferably formed by a casing which may be a unit readily assemblable with the standard cabinet. The compartment is provided with a hinged door **14** controlling access to the interior of the compartment, and the door may be provided with a knob **15** or any other suitable handle.

The compartment is provided for storage of poisonous matter, or for medicines and supplies which may have a dangerous effect if taken or administered in improper manner, whereas the medicine cabinet may house medicines and supplies which have no harmful effects whatsoever, even when taken by children.

It is intended, through use of my invention, to make materials stored in the compartment inaccessible to children and to make it necessary for full attention to be directed to the opening of the door of the compartment so that drowsy or absent-minded persons cannot acquire access to the compartment without the exercise of alertness and attention.

In this respect I have provided safety means for controlling the opening of the door **14** and in the embodiment herein disclosed such means comprises a spindle **16** revolvably carried by the door. As best seen in Figures 2, 3 and 4, the door **14** is preferably formed with a localized depression **17** to accommodate a control knob **18** which may be integral with the spindle or structurally connected thereto.

The knob **18** is herein shown as provided with a cylindrical boss **19** having an undercut groove **20** for the purpose of receiving an inturned flange of a bracket **21** which is spot-welded or otherwise secured to the door **14**. It will be appreciated that the bracket **21**, together with the head of the knob **18**, will hold the spindle assembled with the door **14** and yet will permit rotation of the spindle.

The spindle, in the presently disclosed embodiment, is formed with a threaded terminal portion **22** and a spaced threaded portion **23** of larger diameter than the terminal portion **22** and having threads of opposite hand with respect to the threads of the terminal portion. An undercut portion **24** connects the threaded portions **22—23**.

A bracket **25** is bolted or otherwise suitably secured to the compartment, as best seen in Figures 2, 3 and 4, in position for cooperation with the spindle **16**, and the bracket provides spaced nut means which in this case are formed by legs **26, 27**.

The leg **26** is formed with a threaded aperture **28** for threading action with the threads on the terminal portion **22** and the leg **27** is formed with a threaded aperture **29** for threading action with the threads of the enlarged portion **23**, the legs **26—27** being spaced-apart a suitable distance so that the terminal portion **22** threadedly engages in the aperture **28** shortly after the enlarged portion **23** has been threaded out of the aperture **29**, the undercut portion **24** providing for axial movement of the spindle to effect this action.

In Figure 2, the enlarged portion **23** is threaded into the aperture **29** and the terminal portion **22** extends beyond the leg **26**, and in this position of parts the door **14** is held in position closing off access to the interior of the compartment **12**.

To gain access to the compartment, it is necessary to rotate the knob **18** (and the spindle **16** connected thereto) in a predetermined direction to thread the enlarged portion **23** out of the aperture **29** and then axially shift the spindle **16** so that the terminal portion is in position to start in its aperture **28**. This position of parts is shown in Figure 3. Thereupon, it is necessary to rotate the knob **18** in a reverse direction in order for the terminal portion **22** to thread through and become free of its aperture, whereupon the door **14** may be swung open, the terminal portion **22** passing freely through the enlarged aperture **29**. To lock the door **14**, a reversal of the above described operations is necessary.

From the foregoing, it will be evident that considerable attention must be directed to the opening of the door **14** and therefore the contents of the compartment are safe guarded against children and also against adults unless the latter are sufficiently alert to carry out the re-

quired unlocking procedure. My invention does away with locks of the ordinary kind and therefore the problem of lost keys is overcome. Further, the lock of my invention is far more economical to produce than a combination lock and there is no fear of losing or forgetting the combination to the lock.

In addition to the locking feature of my invention, I may also provide a signal to visibly or audibly indicate when the door is open, or in the process of being opened. In the embodiment disclosed, I provide an additional bracket **30** positioned adjacent the bracket **25** and bolted to the compartment **12**. It will be appreciated that the bracket **30**, if desired, may be made as an integral part of the bracket **25**.

In any event, the bracket **30** provides a leg **31** for carrying an electrical switch **32**. The switch may be of any commercially available type which is provided with an operating plunger **33** spring-pressed outwardly of the switch housing.

As shown in Figure 2, with the spindle **16** in position to hold the door **14** closed, its terminal portion **22** is extended to press the plunger **33** inwardly of the switch casing against the urging force of the spring. In Figure 3, the spindle **16** has been retracted sufficiently to disengage the plunger **33** whereby the latter is fully extended by its spring.

The signalling device, in the present case, is shown in the form of a warning light and, as best seen in Figure 5, a bulb B may be detachably carried by a socket **34** which is secured to a plate **35**. In this case, a flange **36** defining the medicine cabinet **10** is formed with an opening **37** of a size smaller than the plate so as to be closed by the latter. The plate **35** may be formed with a hook **38** which is engaged in an aperture **39** in the flange **36** and a bolt **40** is adapted to pass through an aperture **41** in the plate and be threaded into an aperture **42** in the flange to hold the plate in position against the flange. A sight hole **43** may be cut into the trim flange **44** of the medicine cabinet to correspond with a similar sight hole **45** in the plate **35**, and one or the other of the holes may be covered with a glass which may be colored red to indicate a warning light.

Figure 6 shows the wiring diagram used in connection with my invention, and it will be appreciated that with the parts in position as shown in Figures 3 and 4, the switch plunger **33** will be fully extended so as to close the switch contacts and complete an electrical circuit through the bulb B.

In view of the foregoing it will be apparent to those skilled in the art that I have accomplished at least the principal object of my invention and it will also be apparent to those skilled in the art that the embodiment herein described may be variously changed and modified, without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described, hence it will be appreciated that the herein disclosed embodiment is illustrative only, and that my invention is not limited thereto.

I claim:

1. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, and means for holding said door in closed position including cooperable screw-threaded means in part carried by said compartment and in part carried by said door, said cooperable screw-threaded means being movable to position providing for opening of said door by relative rotation thereof in consecutive opposite directions.

2. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, and means for holding said door in closed position including parts carried by said compartment and said door, one of said parts having a pair of screw-threads of opposite hand cooperable with like screw-threads on the other of said parts.

3. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, and means for holding said door in closed position including parts carried by said compartment and said door, one of said parts having a pair of spaced screw-threads of opposite hand cooperable with like screw-threads on the other of said parts, the spacing of the screw-threads being such that one set engages after the other set has disengaged.

4. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, means for holding said door in closed position including parts carried by said compartment and said door, one of said parts having a pair of spaced external screw-threads of opposite hand cooperable with complementary spaced internal screw-threads on the other of said parts, the spacing of the screw-threads being such that the one set engages after the other set has disengaged, and signal means actuated when one set of screw-threads is engaged.

5. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, a spindle revolvably carried by said door and having spaced screw-threads formed thereon, nut means carried by said compartment and providing spaced-apart internal screw-threads cooperable with respective screw-threads on said spindle, the spacing of said screw-threads being such that one set engages after the other set has disengaged.

6. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, a spindle revolvably carried by said door and having portions of different diameter, each portion being screw-threaded and the screw-threads of one portion being of opposite hand with respect to the screw-threads of the other portion, spaced-apart nut means carried by said compartment and having threaded openings to receive and cooperate with respective ones of said threaded portions, said nut means being spaced so that one portion threadedly engages its nut means after the other portion has been disengaged from its nut means.

7. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, a spindle revolvably carried by said door and having a first threaded portion and an oppositely threaded larger diameter portion, a bracket carried by said compartment and having spaced arms, each arm having a screw-threaded aperture complementary to a respective threaded portion of said spindle, said arms being positioned so that in order to provide for full opening of the door, said spindle must be rotated in one direction to disengage one set of screw-threads and then rotated in another direction to disengage the other set of screw-threads.

8. In combination, a compartment, a door movable to open position to provide for access into said compartment and movable to closed position to close said compartment, a spindle revolvably carried by said door and having a threaded terminal portion and an oppositely threaded larger diameter portion spaced inwardly from said terminal portion, the threaded portions being joined by an undercut portion, a bracket carried by said compartment and having spaced arms, each arm having a screw-threaded aperture complementary to a respective threaded portion of said spindle, said arms being positioned so that in door closed position said large diameter portion is in threaded relation with one arm and the undercut portion extends through the threaded aperture in the other arm, the foregoing construction providing for opening of said door by unthreading said large diameter

portion from its arm, axially shifting said spindle to engage said terminal portion with the threads in said other arm and threading said terminal portion free of its arm.

9. A safety means for use with a medicine cabinet, comprising a small compartment within said cabinet, a door for controlling access to said compartment, and lock means controlling opening of said door, comprising cooperable screw-threaded means in part carried by said compartment and in part carried by said door, said cooperable screw-threaded means being movable to door unlocking position by relative rotation thereof in consecutive opposite directions.

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