United States Patent

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[54] **REFRIGERATED SAFETY CABINET**
7 Claims, 7 Drawing Figs.

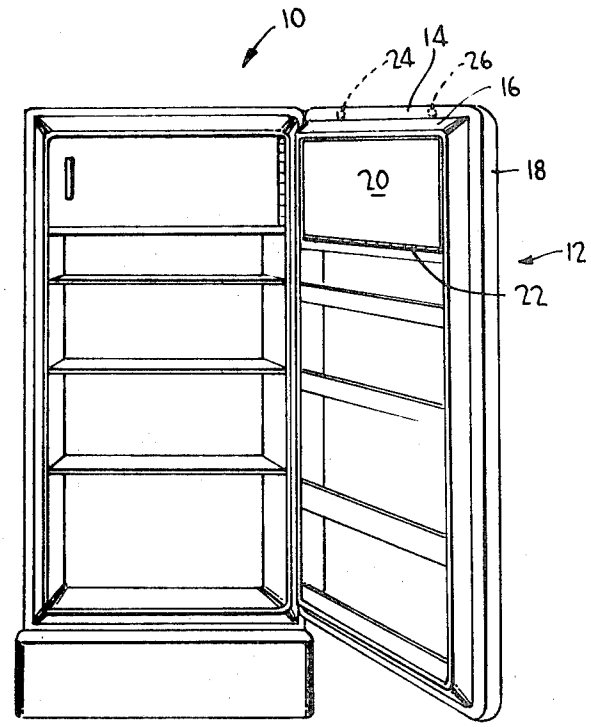
[52] **U.S. Cl.** **312/214,** 312/138
[51] **Int. Cl.** **A47f 3/00,** F25d 11/00, A47b 81/00
[50] **Field of Search** 312/214, 138; 62/440

[56] **References Cited**
UNITED STATES PATENTS

2,819,138	1/1958	Betz	312/214
3,218,111	11/1965	Steiner	312/214
3,467,458	9/1969	Simms et al.	312/138 X

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ABSTRACT: A refrigerator having a safety latch medicine compartment integral with the refrigerator door is described. The door latch of the medicine compartment is invisible and integral with the refrigerator door, e.g., below the door seal, and actuated only by touching or pressing one or more predetermined spots on the door. A medicine compartment is provided for normal household use which will maintain drugs at storage temperatures without constituting a hazard to children and/or inattentive adults.



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SHEET 1 OF 2

FIG. 1

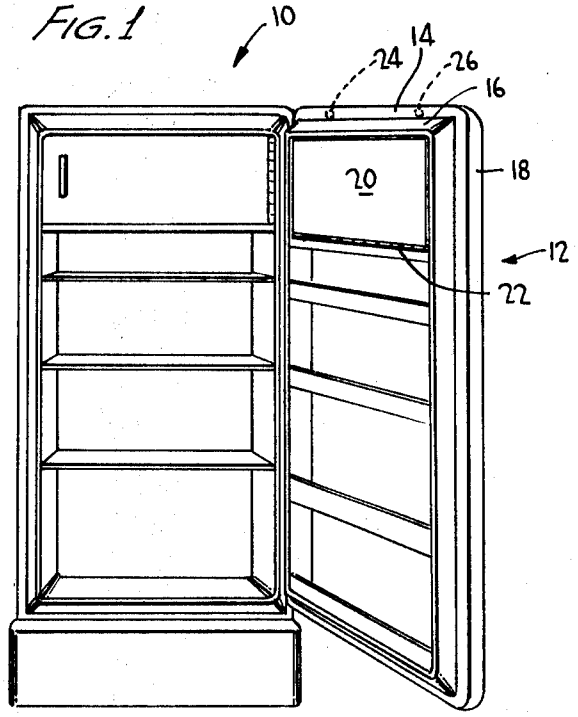


FIG. 7

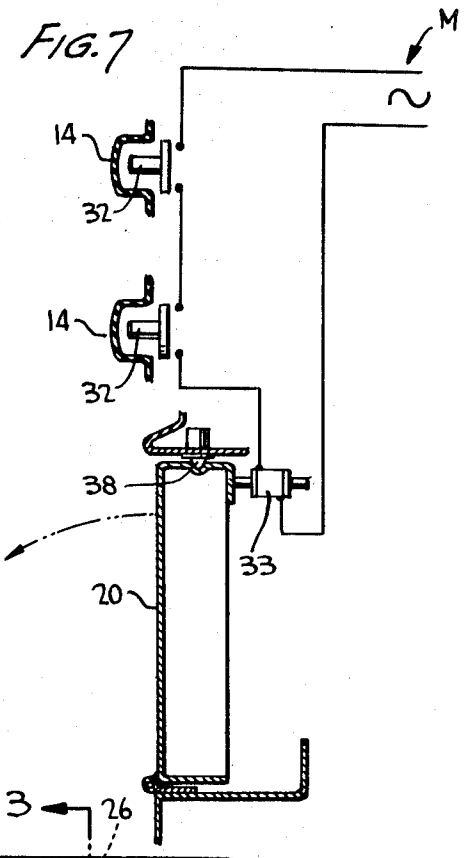
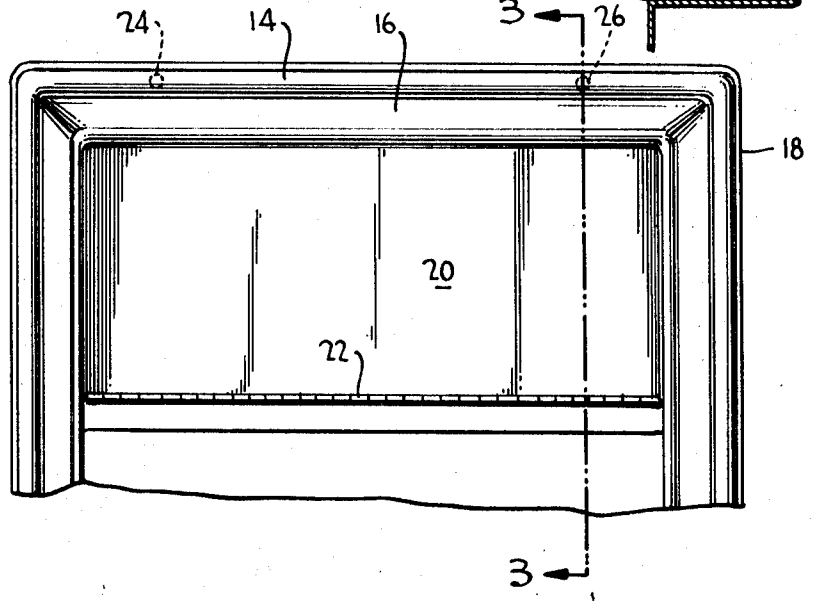


FIG. 2



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FIG. 3

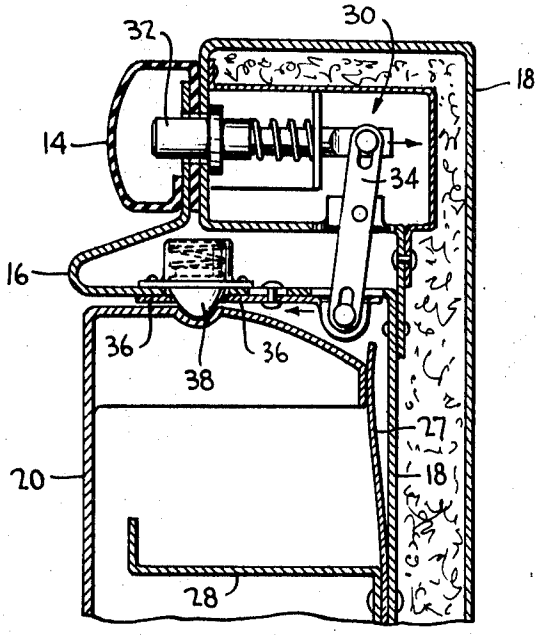


FIG. 4

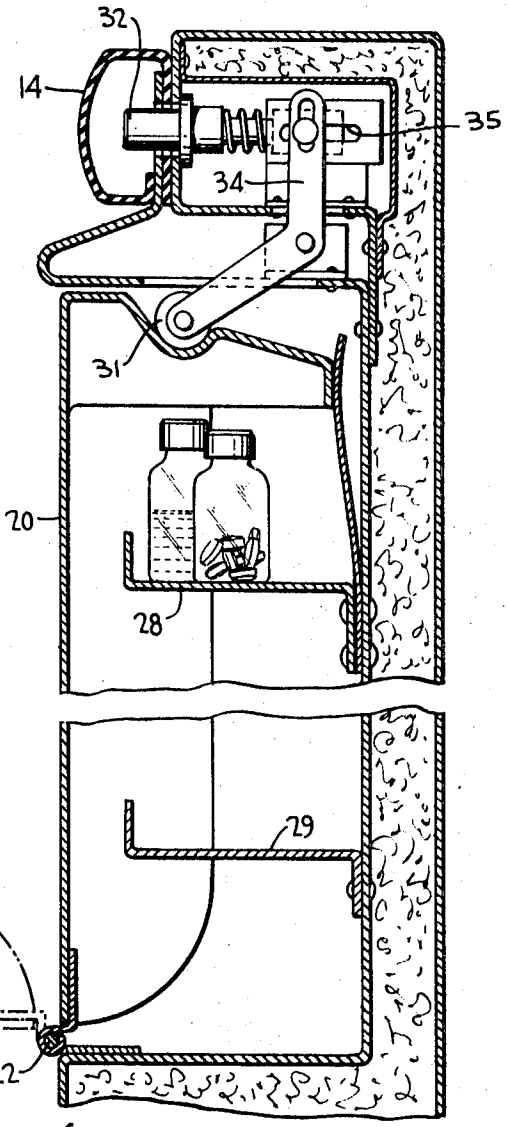


FIG. 6

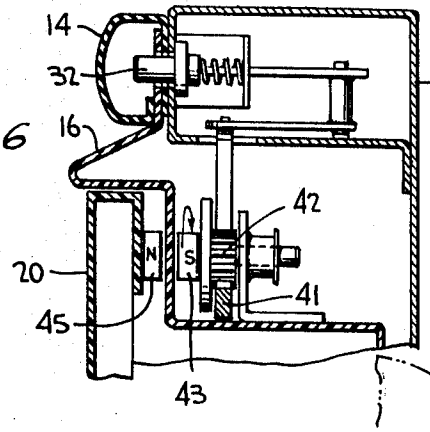
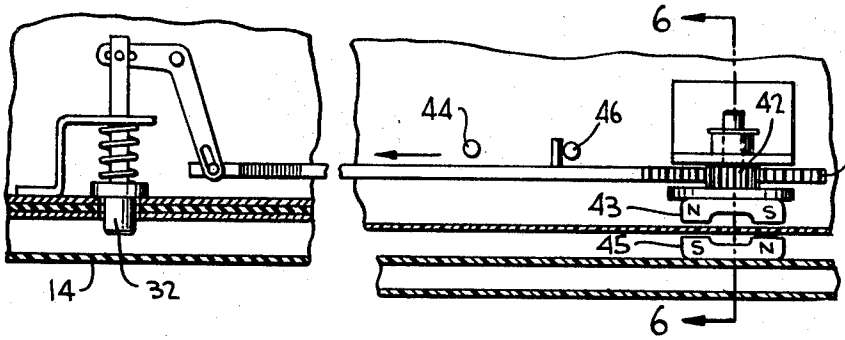


FIG. 5



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REFRIGERATED SAFETY CABINET

FIELD OF THE INVENTION AND THE PRIOR ART

This invention is directed to safety medicine cabinets. More particularly, this invention is directed to a safety medicine cabinet contiguous with a refrigerator door. The latching mechanism of the medicine cabinet is invisible and integral with the refrigerator door, e.g., below the door seal, and actuated only by touching or pressing one or more predetermined spots on the door. A compartment for medicine is thus provided which retains drugs and perishable medicines at a cool, safe temperature and which does not constitute a hazard to children and/or inattentive adults.

It is recognized that storage of drugs and medicines in a typical bathroom medicine cabinet presents a hazard to children as well as to inattentive or confused adults. Children, more often than commonly realized, in an exploring mood, sample mother or father's "pretty pink pills" requiring at least a rush trip to the hospital and a bout with a stomach pump. Adults when not fully awake, or emotionally confused, often inadvertently take the wrong medicine or an overdose of the right medicine, resulting again in a quick trip to the hospital, or not such a quick trip to the friendly undertaker. Furthermore, the temperature and humidity conditions, not to mention the presence of select odors, in a typical bathroom are detrimental to the safe and uncontaminated storage of many drugs and medicines. More particularly, the temperature and humidity of a bathroom are often high due to hot showers or the running of a hot bath. Accordingly, as a result of the heat, dampness, and the like, a typical bathroom can be about the poorest place to store perishable drugs and medicines.

The prior art, recognizing the danger to children and inattentive adults presented by an unlocked medicine cabinet, has suggested various safety locks or the like designed to prevent the inadvertent reaching of drugs by young and old. These safety medicine cabinets, however, are still most commonly located in the bathroom. The prior art has also recognized the need for refrigerated cabinets for storing drugs and medicine. These refrigerated cabinets, however, apparently as a result of expense, are normally found only in hospitals, research laboratories, or similar institutions and are not readily available in the home where they are most universally needed.

OBJECTS AND GENERAL DESCRIPTION OF THE INVENTION

Accordingly, it is the primary object of this invention to provide a readily available refrigerated and safe medicine compartment for the average home.

It is another object of this invention to provide a safety medicine cabinet integral with a refrigerator door.

It is another object of this invention to provide a refrigerated safety medicine cabinet with a latching mechanism sufficiently complex so that a small child or inattentive adult will not be able to readily open the cabinet.

It is still another object of this invention to provide a refrigerated medicine cabinet integral with a refrigerator and capable of being unlatched only by touching or pressing predetermined spots on said refrigerator door, e.g., such as select spots on the door seal.

It is another object of this invention to provide a refrigerated safety medicine cabinet having a latch which will require a degree of awareness to open sufficient to place one operating the latch in a perceptive state of mind so as to prevent the unintentional taking of medications.

The above and other objects will become more readily apparent from the following detailed discussion with particular reference to the accompanying drawing.

According to the present invention, a medicine compartment is constructed as an integral part of an otherwise conventional refrigerator. More particularly, a medicine compartment which may or may not be capable of separate temperature control is formed as an integral part of a refrigerator door preferably directly below the seal on the upper part of the door. The latching mechanism is invisible at least to casual observation with the door to the medicine compartment only being opened by touching or pressing one or more predetermined spots on the seal. It is within the scope of the invention, however, to mark these predetermined spots as, for example, with colored dye or paint to facilitate their use by an attentive adult. The desideratum is to fabricate the compartment utilizing two separate invisible latches in order that the cabinet can be opened only when two predetermined locations on the seal are touched or pressed to activate these latches. The unlatching of such a mechanism will require an attentive adult since it will be necessary to first know or determine the correct points to be touched or pressed, and secondly the freedom of two hands, or a hand and a chin or nose, for the actuation of the mechanism preventing children or inattentive adults from mistakenly opening the compartment.

Since the compartment can be built into a conventional refrigerator at the time of manufacture with little or no added cost, a safe convenient storage for medicines and drugs can be available to every home or apartment dweller.

THE DRAWING AND DETAILED DESCRIPTION OF THE INVENTION

In the drawing, FIG. 1 is an elevational view of a typical refrigerator with the door opened and medicine compartment shown closed with no apparent way of its being opened. FIG. 2 illustrates a fragmentary view of the refrigerator door showing the compartment and indicating the latch-actuating buttons hidden beneath the sealing strip.

FIG. 3 is a cross-sectional view taken along lines 3—3 of FIG. 2 showing in detail the operating mechanism of one latching means.

FIG. 4 is a cross-sectional fragmentary view of a refrigerator door, medicine compartment, and a latching means according to the invention.

FIGS. 5 and 6 illustrate still another embodiment of a latching mechanism which comprises magnetic means and utilizable according to the present invention.

FIG. 7 is a schematic view of yet another latching mechanism operable according to the present invention which utilizes an electrical circuit and solenoid.

In the various figures of the drawing like numerals are employed wherever possible to designate like parts.

Referring primarily to FIGS. 1 and 2 of the drawing, refrigerator 10 is illustrated with refrigerator door 12 open. The sealing strip 14, molding 16, and frame 18 of the door are identical to a conventional refrigerator. Door 20 of the medicine cabinet which is secured by piano hinges 22 to door frame 18 has no visible opening mechanism. However, touching or pressing the sealing strip 14 at predetermined spots i.e., 24 and 26, which may be colored for identification, actuate the latch mechanism designated generally by the numeral 30 (referring now to FIG. 3) by depressing spring-loaded button 32 which in turn moves the upper end of pivotally connected bar 34 back and the lower end forwarded. This movement pushes slide plate 36 forward as shown by the arrow depressing spring-loaded button 38 to unlatch medicine compartment door 20. Leaf spring 27 attached to the door frame 18 presses the door outward on hinges 22 exposing compartment shelves 28 and 29 which are attached to the door of the refrigerator.

The latching mechanism of FIG. 4 is similar to that of FIG. 3, however pivotally connected bar 34 rides in a slot 35 at its upper end and has a roller 31 at the lower end. When button 32 is depressed, roller 31 is moved forward out of contact with door 20 in the direction of the arrow with leaf spring 27 again pressing the door outward, exposing shelves 28 and 29 containing medicines and drugs.

FIG. 5 and 6 illustrate a third latching mechanism utilizing magnetic means. In this embodiment as spring-loaded button

32 is depressed, the linkage shown most clearly in the plan view of FIG. 5 moves in the direction of the arrow. Rack 41 at the end of the linkage turns pinion 42 180° controlled by pin stops 44 and 46 in order that the magnets 43 and 45 are changed from a north-south to a north-north and south-south alignment pushing the door open.

FIG. 7 is a schematic of still another embodiment whereby separately located buttons 32 are pushed to close an electrical circuit M activating a solenoid 33 which in turn pushes door 20 open against the action of a retaining button such as 38 as shown in FIG. 3. The current for this latching mechanism can be readily derived from the current used to operate the refrigerator.

The present invention has been described generally with reference to a latching mechanism for opening the door of the medicine cabinet which requires the simultaneous pressing of two separately located buttons. This is the preferred embodiment from the standpoint of safety. However, as is readily apparent, the mechanism is operable and will provide a substantial safety factor when the mechanism requires the pushing of only one actuating button. The magnetic mechanism of FIGS. 5 and 6 is primarily for utilization where only one latch is employed.

Moreover, although it is preferred that the medicine compartment be positioned at the top of the refrigerator door with the actuating buttons being beneath and hidden by the sealing strips, the medicine compartment can be centrally, or otherwise, located in the door with the actuating buttons being located behind or hidden by the door frame or molding. Alternatively, in refrigerators where the freezing compartment is at the bottom, it may be desirable to have the refrigerated medicine compartment located inside the refrigerator. In such embodiments, the latching mechanism will preferably be hidden behind the upper molding and sealing strip. Furthermore, it should be appreciated, as noted hereinbefore, that the medicine compartment can be separately insulated from the main refrigeration compartments with the temperature separately controlled by a thermostat. Normally this is not necessary nor is it desirable from the standpoint of cost. It is, therefore, apparent that the instant invention is not to be construed as limited by the illustrative embodiments. It is possible to produce still other embodiments without departing from the inventive concept herein disclosed. Such embodiments are within the ability of one skilled in the art.

What is claimed is:

1. A refrigerator comprising a thermatically insulated cabinet and an access door, said access door including as essential elements, a frame, a molding, and a sealing strip and including at least one safety compartment integral with said access door, said compartment comprising closure means, latching means for said closure means, and actuating means for said latching means, said actuating means being constructed and arranged beneath the outer surface of at least one of said essential elements, thereby being completely concealed, said actuating means only being capable of actuation by pressing a predetermined point on said one of said essential elements.

2. The refrigerator of claim 1 wherein said actuating means include two separate, spaced-apart means on said door frame, molding or sealing strip.

3. The refrigerator of claim 2 wherein said separate, spaced-apart means are both concealed beneath said sealing strip.

4. The refrigerator of claim 3 wherein said actuating means includes a spring-press button located beneath said sealing strip, whereby the depression of said button sets means in motion to release said latching means.

5. The refrigerator of claim 4 wherein said means set in motion includes a bar pivotally connected at its center whereby the depression of said spring-loaded button moves the upper end of said bar rearward and the lower end of said bar forward, said movement opening said closure means.

6. The refrigerator of claim 4 wherein the said latter means sets in motion a linkage which includes a rack and pinion for realignment of magnetic means upon the depression of said spring-pressed button to unlatch said latching means.

7. The refrigerator of claim 4 wherein said means set in motion includes an electrical circuit completed by the simultaneous pressing of two buttons to close said circuit-actuating solenoid means for unlatching said latching means.