Nov. 14, 1961 S. W. GEHRS 3,008,785

SAFETY MEDICINE CABINET

Filed Aug. 13, 1959 2 Sheets-Sheet 1

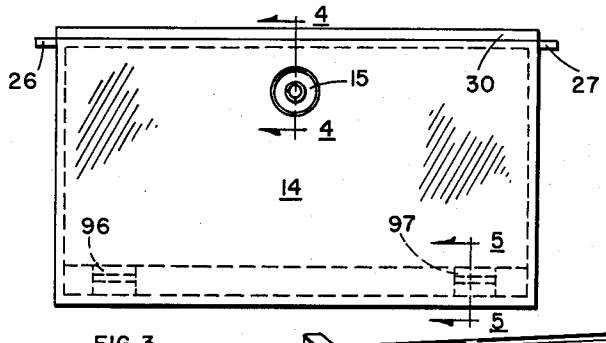


FIG. 3

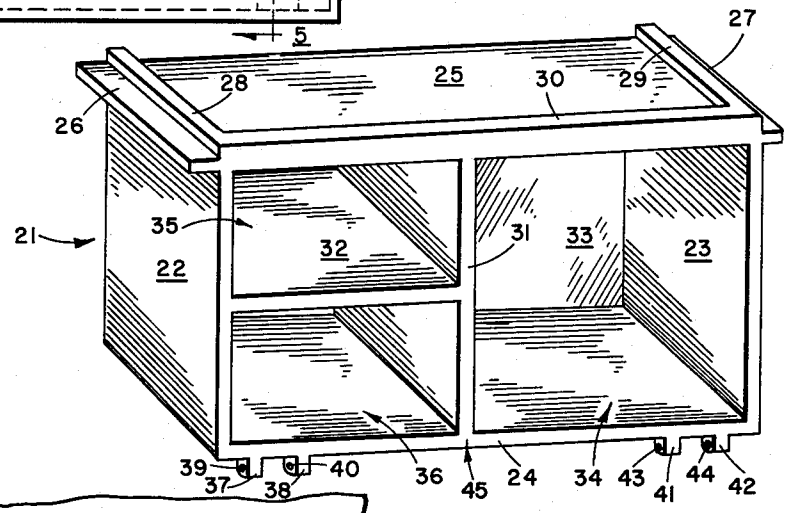


FIG. 2

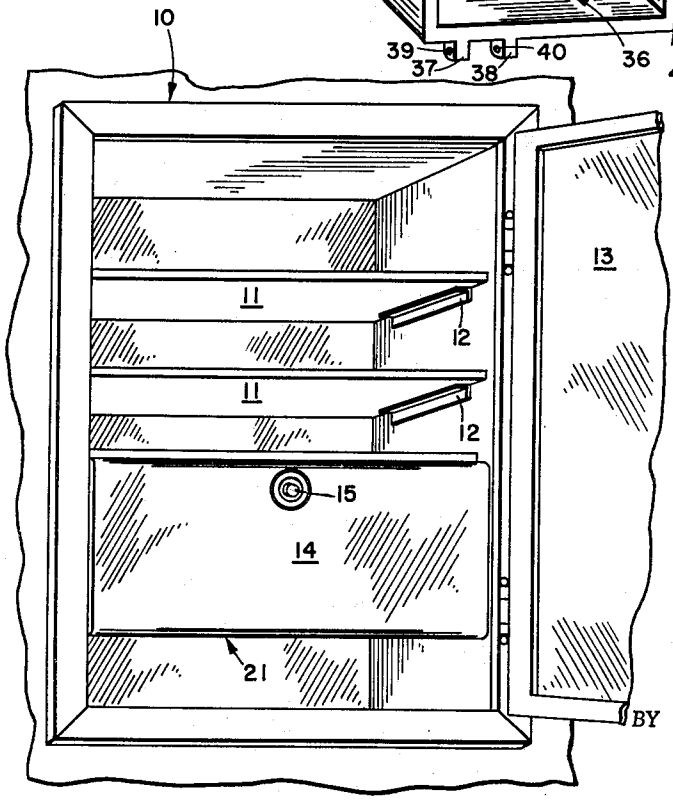


FIG. 1

INVENTOR.
STEPHEN W. GEHRS
BY William N. Patrick
ATTORNEY

Nov. 14, 1961 S. W. GEHRS 3,008,785

SAFETY MEDICINE CABINET

Filed Aug. 13, 1959 2 Sheets-Sheet 2

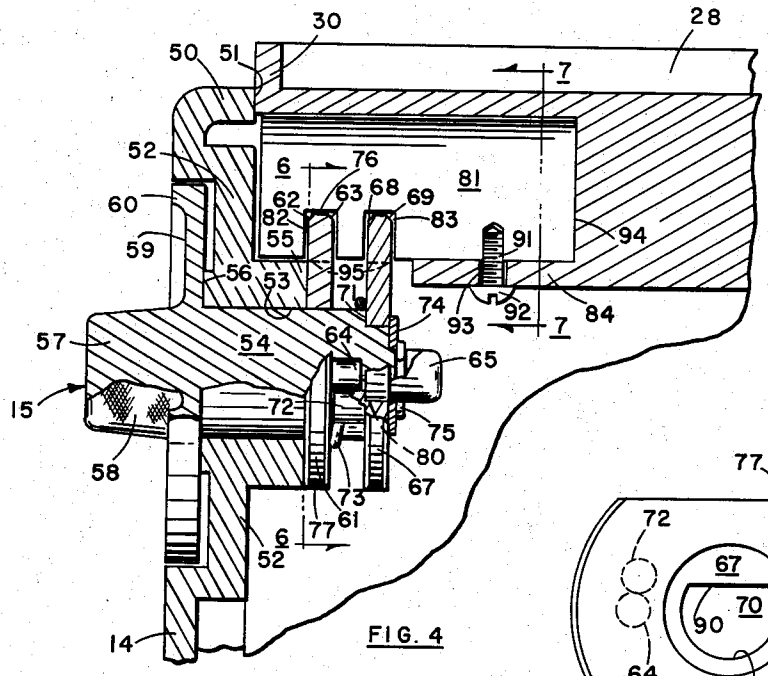


FIG. 4

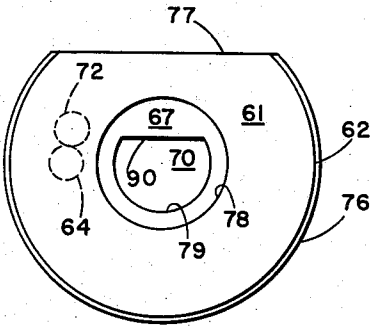


FIG. 6

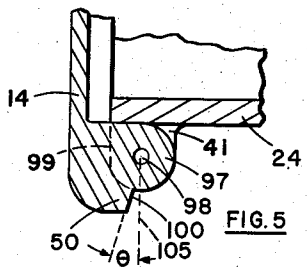


FIG. 5

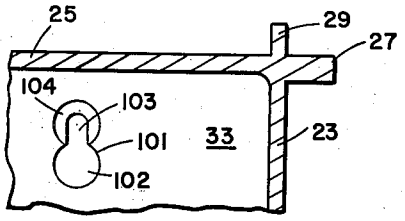


FIG. 8

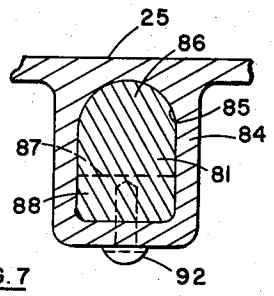


FIG. 7

INVENTOR.
STEPHEN W. GEHRS
BY William N. Patrick
ATTORNEY

United States Patent Office

3,008,785

Patented Nov. 14, 1961

3,008,785

SAFETY MEDICINE CABINET

Stephen W. Gehrs, 7502 Baird St., Reseda, Calif.

Filed Aug. 13, 1959, Ser. No. 833,498
6 Claims. (Cl. 312—209)

This invention relates to a safety medicine cabinet. More particularly, this invention relates to a safety medicine cabinet which is adapted for installation in a conventional wall medicine cabinet.

In modern dwelling construction, bathrooms are ordinarily equipped with built-in wall medicine cabinets which are either of the prefabricated type or are custom built. Such wall cabinets, however, make no provisions for the safe keeping of toxic medications and medicines which could result in serious consequences if taken internally in error. Strong medicines are often inadvertently taken in excessive doses by persons not fully awake. Even more serious incidents occur when small children gain access to the medicine cabinet. This is especially true in the case of children at ages of about four years and under, before they have been taught that the medicine cabinet is out of bounds for them.

It is, therefore, an object of this invention to provide a safety medicine cabinet with a lock which is sufficiently complicated that a small child will not be able to readily open. It is also an object to provide a safety medicine cabinet having a lock which will require a degree of awareness to open, sufficient to put one operating the lock in a perceptive state of mind so as to prevent the unintentional taking of special medications. Another object of this invention is to provide a safety medicine cabinet which can readily be installed in a conventional wall medicine cabinet. The above and other objects will become more apparent from the discussion which follows in connection with the accompanying drawings.

The safety medicine cabinet of this invention is installed in an ordinary wall medicine cabinet by simply replacing a shelf with the extended top of the safety medicine cabinet. It is illustrated in the accompanying drawing, in which—

FIGURE 1 is a view of front elevation of an ordinary wall cabinet equipped with the safety medicine cabinet of this invention. The top of the safety medicine cabinet serves as a shelf and the body of the safety medicine cabinet is suspended below this top.

FIGURE 2 is a perspective view of the safety medicine cabinet without the front door.

FIGURE 3 is a front view of the safety medicine cabinet with the door in closed position.

FIGURE 4 is a side view through 4—4 of FIGURE 3 in vertical section showing a cut-away view of the lock and latch mechanism.

FIGURE 5 is a side view through 5—5 of FIGURE 3 in vertical section showing the hinge detail.

FIGURE 6 is a front view of part of the locking mechanism through 6—6 of FIGURE 4.

FIGURE 7 is a view through 7—7 of the FIGURE 4 in vertical section showing the keeper and brace members of the locking mechanism mounted to top of safety medicine cabinet.

FIGURE 8 is a front view of the upper right hand portion of the safety medicine cabinet showing the screw slot in the rear wall by which the safety medicine cabinet may be hung on a wall.

The safety medicine cabinet may be made of any suitable material such as wood, metal, plastic, etc. or a combination of two or more different substances. Plastic casting affords an economical method of manufacture. The safety medicine cabinet of this invention is not limited to construction of any particular material. The

construction of the safety medicine cabinet will be more readily understood from the following detailed description which has reference to the accompanying drawing.

In FIGURE 1, a conventional wall cabinet **10** is shown having door **13** and containing transverse shelves **11** resting on shelf support members or brackets **12**. The brackets **12** are usually formed in one piece with the side of the cabinet by stamped out portions which extend into the interior of the cabinet. The brackets may also be of separate construction and be subsequently fixedly mounted on the walls of the cabinet with the aid of screws, bolts or by welding procedures. Normally there are a number of such shelf support members or brackets within an ordinary or conventional wall medicine cabinet. The safety medicine cabinet **21** of this invention having door **14** containing lock **15** is shown installed in the place of one of the shelves. The safety medicine cabinet **21** is shown in FIGURE 1 with door **14** in closed position.

The safety medicine cabinet **21** is shown in perspective view in FIGURE 2 without the front door. It has first and second side walls or members **22** and **23**, bottom or base member **24**, back member **33** and top member **25** which serves as a shelf when installed in a conventional medicine cabinet. The top member **25** extends beyond the outer surface of the side walls **22** and **23** to form ledge or extension members **26** and **27** respectively. These extension members rest on shelf supports when installed in conventional medicine cabinet thus suspending the safety medicine cabinet of this invention from shelf supports. The first and second side wall member structures are continued above the top of the safety medicine cabinet to form raised portions or flanges **28** and **29** respectively. The raised portion or flange **30** along the front of the top joins the front ends of the flanges **28** and **29** to form a guard rail, **28—30—29**. The purpose of the guard rail is to prevent objects which are placed on the top of the safety medicine cabinet from sliding off. This feature is useful whether the safety medicine cabinet is mounted on a wall or inside an ordinary medicine cabinet. The interior of the safety medicine cabinet has at least one compartment. In the one illustrated in FIGURE 2, there are three compartments. Compartment **34** in the right hand portion is bounded by side wall member **23**, bottom **24**, back **33**, top **25** and vertical partition member **31** which extends from the top **25** to the bottom **24**. Horizontal partitions member **32**, which joins vertical partition **31** to side wall **22**, divides the left hand portion of the safety medicine cabinet into an upper compartment **35** and lower compartment **36**. Two sets of lugs or ears, **37, 38** and **41, 42** having circular openings **39, 40** and **43, 44** respectively are shown mounted on the underside of the base member of the safety medicine cabinet. The front of the lugs are mounted flush with the face **45** of the cabinet **21**.

FIGURE 3 shows front view of the safety medicine cabinet with the door **14** having lock **15** in closed position. The raised portion or flange is shown above the door. Extension members **26** and **27** are described hereinabove.

FIGURE 4 shows a side view of the locking mechanism **15** in door **14**. The door has an inturned coved extension **50** around its periphery. The end face **51** of the inturned portion contacts the face **45** of the safety medicine cabinet when the door is in closed position. The door has a depressed circular portion **52** with a circular opening therethrough which accommodates cylindrical lock shaft **54**. The circular opening is defined by line **53** as it traces out a circular path of revolutions about an axis common to both shaft **54** and the opening. The door member **14** has a raised portion **55** extending inwardly (to the inside of the medicine cabinet when door is in closed position)

around the periphery of the circular opening, and a raised portion 56 extending outwardly around the periphery of the opening. The shaft 54 has a knob 57 with a knurled surface 58. The lock shaft 54 also has a disc-shaped collar 59 projecting radially from the shaft. The outer edge of the disc-shaped collar has a raised portion or coved extension 60 extending outwardly. The collar has indicia (not shown) disposed thereon for the purpose of indicating the relative position of the locking mechanism on the inside of the door. The shaft 54 is positioned within the circular opening in the door in a manner such that the base of the disc-shaped collar 59 contacts the outwardly extending raised portion 56. A disc-shaped member 61 having chamfered edges 62 and 63 and having a coaxial circular opening therethrough of a diameter slightly larger than the diameter of the shaft 54 and substantially equal to the diameter of the circular opening through the door member is rotatably mounted on shaft 54. Disc member 61 has a stud member 64 fixedly mounted on the face of the disc farthest removed from door member 14. The stud is mounted at a point intermediate the outer edge and the center of the coaxial opening through the disc. Disc 61 is mounted on shaft 54 next to the raised portion 55 in door 14. Shaft 54 has a reduced diameter at a circumferential line 71 at a distance measuring inwardly from collar 59 which is substantially equivalent to the thickness of the door member at the opening. This includes the thickness of the raised portions as measured along the inside of the opening through the door, plus the thickness of the door, plus the thickness of disc member 61 plus the height of stud 64 measured outwardly from the face of disc 61 on which it is mounted. Thus, shaft 54 has a shoulder 71 at which its diameter is reduced, relative to the diameter of the shaft within the circular opening in the door. The shaft at the reduced diameter portion 65 has circular cross section with a flattened surface 80 in a plane parallel to the axis of the shaft. A second disc shaped member 67, like disc 61, has chamfered outer circumferential edges 68—69. Disc member 67 has an opening 70 through its center adapted to accommodate the reduced portion 65 of shaft 54. The periphery of opening 70 is of the same shape as the outer surface of the reduced diameter portion 65 of shaft 54. Disc-shaped member 67 has stud member 72 fixedly mounted on one face. Disc member 67 is fixedly mounted on the reduced diameter portion 65 of shaft 54 with the face which bears stud member 72 adjacent the shoulder 71.

A spring 73 between disc members 61 and 67 urges disc 67 and hence shaft 54 in an inwardly direction away from the door member and raised portion 55, thereby keeping the shaft and disc members in position. The spring is not absolutely necessary since the stud members also serve to keep the disc members apart. When the shaft 54 and disc members 61 and 67 are made of plastic, disc member 67 may be fixedly mounted on the reduced diameter portion 65 of shaft 54 by heat swaging or an appropriate adhesive. Alternatively, disc member 67 may be kept in place by a pin through the shaft on the side of the disc member 67 farthest removed from shoulder 71.

A method of mounting disc member 67 is to place washer member 74 adjacent disc member 67 on the side of said disc member farthest removed from shoulder 71. A pin 75 is inserted through hole adapted to accommodate the pin, in reduced diameter portion 65 of shaft 54. The hole passes through portion 65 adjacent washer 74 on the side farthest removed from disc member 67.

Each of the circular discs 61 and 67 has a section cut away from the outer edge. The cut-away section is in the shape of an arc bounded by a chord. Hence a part of the periphery of each disc is flat. The shape of disc 61 viewed along line 6—6 in FIGURE 4 is shown in FIGURE 6 after having been rotated 180°. Disc 61 has circular peripheral edge 76 and flat edge portion 77. Line 78 in FIGURE 6 marks the boundary of the circular coaxial opening in disc 61 which is of a diameter slightly larger than the diameter of shaft 54 in order to permit free rotation of disc 61 on shaft 54. Disc member 67 is directly behind disc member 61 in FIGURE 6, away from the reader and into the paper. The inner edge of the disc member 67 around the opening therethrough is partly circular and part flat, defining an opening in the shape of a circle having a flat outer edge portion. The periphery of this opening is of the same shape as the outer surface of the reduced diameter portion of shaft 54. The outer periphery of disc 67 has the same shape as the periphery of disc 61.

When both disc members 61 and 67 are rotatively positioned so that the flat surface on the outer edge of each is in a horizontal position, the discs are free of keeper member 81. When the discs are rotated so that the flat portion of either or both of the discs, e.g. flat portion 77 on disc member 61, are displaced from the horizontal position, part of at least one of the discs will come into engaging position with keeper member 81 in either of the slots 82 or 83 which are cut into keeper member 81. When so engaged the door is prevented from opening outwardly.

The top of the safety medicine cabinet has a rectangular brace member 84 fixedly attached to the top as shown in FIGURE 7, which is a view along vertical section 7—7 of FIGURE 4. Brace member 84 has a central opening 85 adapted to receive keeper member 81. The opening is irregular in cross section to accommodate a keeper member of like cross section so as to hold it in a fixed position. In this instance the keeper member 81 has a cross section in which the upper portion 86 is semicircular, the semicircular portion rests on and is integral with lower rectangular portion 88. The dotted line 87 indicates the height to which keeper member 81 is slotted to make slot 82 and 83. It is into these slots that disc members 61 and 67 latch upon rotation when the door is closed.

Keeper member 81 is fixedly mounted in brace member 84 by heat swaging or by the use of an appropriate adhesive material. Alternately the keeper member may be anchored in the brace member by means of bolt 91 having head 92 passing through hole 93 made for that purpose in the brace member. When the safety medicine cabinet is made of plastic, the brace member is cast integrally with the top 25. The brace member has a closed rear section 94 on that side of the keeper member farthest removed from the door of the safety medicine cabinet. In plastic type manufacture, the rear section of the brace member is extended and made continuous to the back wall of the cabinet. This makes it more convenient in casting procedures.

Stud 72 is positioned on disc member 67 at a distance from the axis of rotation which is substantially the same as the distance that stud 64 on disc 61 is positioned from the axis of rotation of the latter disc. In other words, each of the studs 64 and 72 is located on disc member 61 and 67 respectively at substantially equal radii from the center of rotation of the discs. The size of the studs is such that when either disc member is rotated through some angle less than 306° in a particular direction, the stud on the disc being rotated contacts the stud on the other disc member and causes said other disc member to rotate along with it. Members 64 and 72 may be square, rectangular, or any other shape of raised member, so long as they perform the same function the studs do. The studs can be in contact with each other in two different relative positions. They are so positioned on their respective disc members that when they are in contact in one particular position, the cut-away flat peripheral edge on each disc member lies in a plane parallel to the axis of rotation of said discs and also of the shaft 54 as shown in FIGURE 6. When this plane is also parallel with the top of the cabinet to which the keeper member 81

is attached, no part of the disc members is located within the slots of the keeper member. There is, then, no engaging relationship between the disc members and the keeper member. When, in this non-engaging relationship, the flat peripheral edges of the disc are indicated by dotted lines **95** in FIGURE 4. In this case the door to the safety medicine cabinet can be opened outwardly. To engage the discs in latching position in the slots within the keeper member, requires only a twirl of knob **57**. A twirl to the right in the illustration accompanying this writing will not only engage the discs in the keeper but will also rotatively displace one disc relative to the other disc since the stud on disc **67** will be moved away from stud **61**.

Keeper member **81** is mounted in a cooperating relationship with disc members **61** and **67** when the door is in a closed position. Thus, when the door is closed, a turn of knob **57** is sufficient to bring the disc members into engaging position with slots **82** and **83**.

Although, in the drawing, the keeper member is shown mounted on the top of the safety medicine cabinet, it can, however, be mounted on any supporting structure of the cabinet, so long as it is placed in cooperating relationship with the disc members when the door is closed. The keeper member can, for example, be mounted on the side walls or the partitions.

FIGURE 5 which is a side view through 5—5 of FIGURE 3, illustrates the manner in which the door is mounted on the hinge lugs or ears **37**, **38**, **41** and **42** shown in FIGURE 2. The door has knuckle members **96** and **97** mounted in cooperating relationship with the two sets of lugs mounted on the underside of the base member of the safety medicine cabinet.

In FIGURE 5, knuckle member **97** is shown mounted onto bottom part of door **14** immediately above the lower inturned end portion **50'** of the door. Knuckle member **97** has circular opening **98** coaxial with openings **43** and **44**, the latter also being coaxial with each other. In FIGURE 5, opening **98** is coaxial with and directly in front of circular opening **43** in lug **41** indicated in part by broken line **99**. A pin, not shown, passes through openings **42**, **43** and **98** to complete the hinging mechanism. In a similar manner, ear **96**, shown in FIGURE 3, cooperates with lugs **37** and **38** which are shown in FIGURE 2. The inturned end portion **50** has an end face **100**. When the door is in the vertical and closed position, an extension of the plane in which end face **100** is located passes through the center of opening **98** and makes an angle θ with a vertical line **105** which also passes through the center of opening **98**. Angle θ is less than 90° so that when the door is opened downwardly, it will come to rest in some position before making an angle of revolution of 180°. This result is brought about by end face **100** coming in contact with the underneath surface of the bottom of the safety medicine cabinet. Since the door will not hang straight down when opened, it will extend partially out of the wall medicine cabinet. This precludes the closing of the door of the conventional medicine cabinet unless the safety medicine cabinet is locked. There is no latch at the top of the safety medicine cabinet to hold the door in closed position without engaging the discs of the lock with the keeper member. Hence, the door will open outwardly and prevent the door of the conventional cabinet from being closed. This is an added safety feature to insure that medicines are securely locked in the safety medicine cabinet and out of the reach of the hands of small children.

Another method of hingedly securing the door to the base member in the case of plastic construction, as when the safety cabinet is cast with melamine plastic, is to cast the bottom edge of the door with a C-shaped lip or extension. The body of the safety cabinet is cast with a reverse C-shaped lip or extension on the forward edge of the base member. The bottom C-shaped extension on the door is then placed in interlocking relationship with the reverse C-shaped extension of the base member. The interlocked portion is then heat treated under pressure as with a hot iron, etc., until the plastic softens and flows and adheres together to form a flexible hinge means. The door in this instance will open in a manner similar to the opening of a hard cover on a text book.

FIGURE 8 illustrates a front view of the upper right hand portion of the safety medicine cabinet showing the front view of rear wall **33** having a screw receiving opening **101** which has an enlarged lower portion **102** to permit passage therethrough of the head of a screw or nail, and a constricted portion **103** that permits the passage therethrough of the stem of a screw or nail from which the safety medicine cabinet is suspended. Around the constricted portion **103** is a raised or built-up portion **104** which serves to reinforce the back wall member **33** around the upper part of the opening **101**. A similar opening is located in the left hand portion.

Although a specific embodiment of the invention has been specifically disclosed, it is obvious that changes in the size, shape and proportions of the parts in accordance with different sizes of the safety medicine cabinet may be made without departing from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. In combination with a cabinet having shelf supports therein, a removable safety cabinet having a body containing at least one substantially enclosed compartment therein bounded by a plurality of fixedly connected members, said connected members comprising a base member, a back member, a first side member, a second side member disposed opposite said first side member, a top member and an open front, and a door for the front of said body, a first extension member attached to said first side member, a second extension member attached to said second side member, said extension members projecting outwardly from said first and second side members substantially in the plane in which said top member is located, said extension members cooperating with said supports to mount said safety cabinet within said cabinet.

2. In combination with a cabinet having shelf supports therein, a removable safety cabinet having a body containing at least one substantially enclosed compartment therein adapted to receive articles for storage, said body being bounded by a plurality of fixedly connected members, said connected members comprising a first side member, a second side member disposed opposite said first side member, a back member, a top member having lock means attached thereto, a base member having hinge means attached thereto, and an open front, and a door in the front of said body, said door having hinge means at its lower edge cooperating with said hinge means on said base member to hingedly secure said door to said base member and lock means in said door cooperating with said lock means attached to said top member for locking said door when in closed position, a first extension member attached to said first side member, a second extension member attached to said second side member, said extension members cooperating with said supports to mount said safety cabinet within said cabinet.

3. In combination with a cabinet having shelf supports therein, a removable safety cabinet having a body containing at least one substantially enclosed compartment therein adapted to receive articles for storage, said body being bounded by a plurality of fixedly connected members, said connected members comprising a first side member, a second side member disposed opposite said first side member, a back member, a top member having lock means attached thereto, a base member having hinge means, and an open front, and a door for the front of said body, said door having hinge means at its lower edge cooperating with said hinge means on said base member to hingedly secure said door to said base member and lock means cooperating with said lock means attached to said top member for locking said door when in closed po-

sition, a first extension member attached to said first side member, a second extension member attached to said second side member said extension members projecting outwardly from said body in the plane in which said top member is located, said extension members cooperating with said supports to mount said safety cabinet within said cabinet, said safety cabinet having a first flange, a second flange and a third flange attached to the upper side of said top member so as to form a guard rail along the front and sides of said top member.

4. A separate article of manufacture comprising a safety cabinet adapted for mounting within a conventional cabinet having shelf supports therein, said safety cabinet having a body containing at least one substantially enclosed compartment therein, said body being bounded by a plurality of fixedly connected members, said connected members comprising a base member, a back member, a first side member, a second side member disposed opposite said first side member, a top member, and an open front, and a door for the front of said body, a first extension member attached to said first side member, a second extension member attached to said second side member, said extension members projecting outwardly from said first and second side members substantially in the plane in which said top member is located and adapted to cooperate with said supports for mounting said safety cabinet within said conventional cabinet.

5. A separate article of manufacture comprising a safety cabinet adapted for mounting within a conventional cabinet having shelf supports therein, said safety cabinet having a body containing at least one substantially enclosed compartment therein said body being bounded by a plurality of fixedly connected members, said connected members comprising a first side member, a second side member disposed opposite said first side member, a back member, a top member having lock means attached thereto, a base member having hinge means attached thereto, and an open front and a door for the front of said body, said door having hinge means at its lower edge cooperating with said hinge means on said base member to hingedly secure said door to said base member and lock means in said door cooperating with said lock means attached to said top member for locking said door when in closed position, two extension members, one of said extension members attached to each of said first and said second side members and projecting outwardly therefrom substantially in the plane in which said top member is located, said extension members adapted to cooperate with said supports for mounting said safety cabinet within said conventional cabinet.

6. A separate article of manufacture comprising a safety cabinet adapted for mounting within a conventional cabinet having shelf supports therein, said safety cabinet having a body containing at least one substantially enclosed compartment therein, said body being bounded by a plurality of fixedly connected members said connected members comprising a first side member, a second side member disposed opposite said first side member, a back member, a top member having lock means attached thereto, a base member having hinge means, and an open front and a door for the front of said body, said door having hinge means at its lower edge cooperating with said hinge means on said base member to hingedly secure said door to said base member and lock means cooperating with said lock means attached to said top member for locking said door when in closed position, a first extension member attached to said first side member, a second extension member attached to said second side member, said extension members projecting outwardly from said body in the plane in which said top member is located, said extension members adapted to cooperate with said supports to mount said safety cabinet within said cabinet, said safety cabinet having a first flange, a second flange and a third flange attached to the upper side of said top member so as to form a guard rail along the front and sides of said top member.

References Cited in the file of this patent

UNITED STATES PATENTS

317,355	Herig	May 5, 1885
1,152,404	Eldridge	Sept. 7, 1915
2,271,884	Blair	Feb. 3, 1942
2,338,889	Yoxsimer	Jan. 11, 1944
2,340,762	Lundin	Feb. 1, 1944
2,381,598	Jones	Aug. 7, 1945
2,450,337	Hearst	Sept. 28, 1948
2,720,776	Eberle	Oct. 18, 1955
2,728,623	Foerstner	Dec. 27, 1955

FOREIGN PATENTS

331,496	Great Britain	Mar. 13, 1929