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MEANS AND METHOD FOR MAINTAINING A SHELF IN A CABINET

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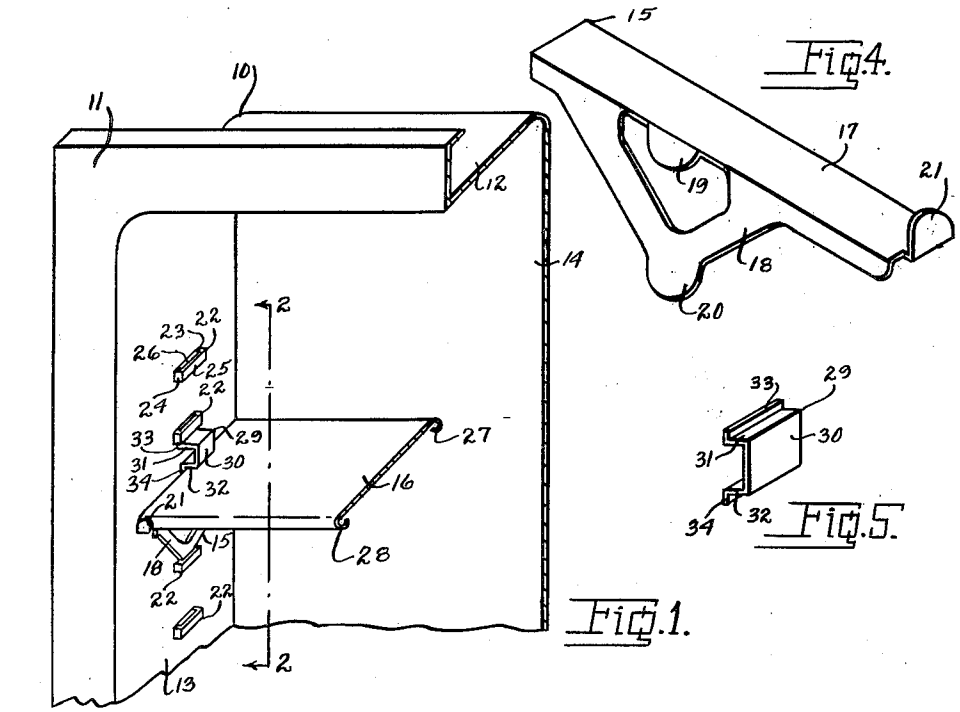


Fig. 1.

Fig. 4.

Fig. 5.

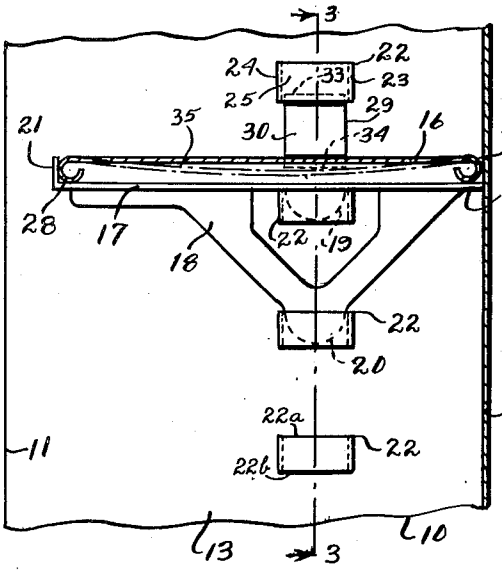


Fig. 2.

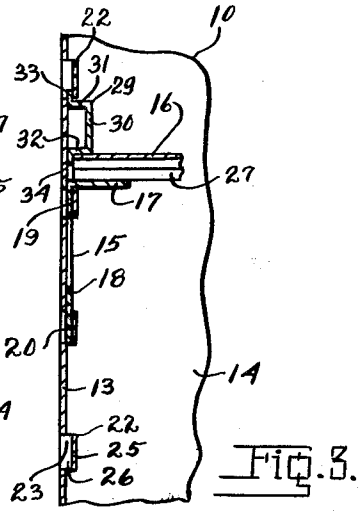


Fig. 3.

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MEANS AND METHOD FOR MAINTAINING A SHELF IN A CABINET

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This invention relates to improvement in means and method for maintaining a shelf in a cabinet, that is, to a means which for a want of a better single word name has been designated as a "Clip" for retaining a shelf in a cabinet.

The device of the present invention will probably find its greatest use in the medicine or bath room cabinet art and particularly while shipping the said cabinet from the manufacturer to the user. In the past it has been customary to ship or box the cabinet and to enclose the shelf or shelves thereof as a separate package since in this type of cabinet the shelves are intended to be removed for cleaning purposes as well as for adjustability by the ultimate user.

In the past it has frequently occurred that in removing the cabinet from its shipping container the package containing the shelves was unnoticed and the said package and shelves discarded along with the shipping container with the result that a complaint was subsequently lodged with the manufacturer or supplier that while the cabinet was received the shelves were not. In the past the shelves could not be mounted within the cabinet as there was nothing to retain them in operative positions wherefore they have been bounced around within the cabinet during shipment and resulted in damage to the shelves as well as to the interior of the cabinet and damage even to the extent of breaking the mirror which is generally a part of a bath room cabinet door.

By the present invention the cabinets may be economically shipped with their shelves locked in place yet they may be readily released by the recipient or installer or the shelves may be left in their locking position until the user desires to remove the same either for cleaning or appropriate positioning according to his desires and their intended use.

It is therefor the principal object of the present invention to provide in a cabinet having removable and adjustable shelves, means for securing said shelves in position in a cabinet during the shipment thereof.

Another object of this invention is the provision of means for accomplishing the foregoing object which is extremely economical to produce and use wherefore the increasing cost of producing and supplying the cabinet is negligible.

It is also an object of this invention to provide an economical method of preparing a cabinet with a loose shelf or shelves so that it may be shipped with said shelf or shelves temporarily locked or secured in position, at least during the time of said shipment.

A still further and specific object of the present invention is the provision of a clip that will cooperate with the elements of a cabinet and its shelf or shelves as heretofore produced and which clip retains the shelf in its operative position during shipment of the cabinet.

Other objects and advantages of the present invention should be readily apparent by reference to the following specification considered in conjunction with the accompanying drawings forming a part thereof and it is to be understood that any modifications may be made in the exact structural details there shown and described, within the scope of the appended claims, without departing from or exceeding the spirit of the invention.

In the drawings:

FIG. 1 is a fragmentary perspective view of a medicine or bath room cabinet illustrating the clip of the present invention in operation.

FIG. 2 is a fragmentary elevational view of a portion of the cabinet of FIG. 1, on an enlarged scale, as seen from line 2—2 on said FIG. 1.

FIG. 3 is a vertical sectional view through the disclosure in FIG. 2 as seen from line 3—3 on said FIG. 2.

FIG. 4 is a perspective view of a shelf mounting bracket as used in supporting one end of the cabinet shelf.

FIG. 5 is a perspective view of the shelf retaining means or clip forming the subject matter of the present invention.

Throughout the several views of the drawings similar reference characters are employed to denote the same or similar parts.

As noted above this invention pertains to means for locking or securing a shelf in a cabinet during the shipment of the cabinet from the manufacturer or supplier to the user. These cabinets are generally formed of sheet metal and the shelves are likewise of metal each being formed in such a way they are reenforced to perform their function.

Specifically and as illustrated in the drawings use is made of a cabinet indicated in its entirety by the reference numeral **10** and which is provided at its forward end with a front **11**, generally in the form of a frame, and, thereby providing the opening to the interior of the cabinet and with said opening normally closed by a door either hingedly mounted on said front **11** or with said door mounted for sliding movement with respect thereto. The frame **10** has projecting from its upper end a top wall **12** and from its lower end a bottom wall, not shown in the drawings. Additionally the cabinet front has projecting from each side thereof a side wall, one of which is illustrated in the drawings and identified by the numeral **13**. It is to be understood that the cabinet is symmetrical and includes a bottom and a second side wall which are, respectively, substantially duplicates of the top **12** and side wall **13**. The top, bottom and side walls have their rear edges joined by the cabinet back **14**.

Each of the side walls **13** has mounted thereon, at corresponding opposite points a shelf supporting bracket such as illustrated in FIG. 4 and indicated in its entirety by the reference numeral **15**. Said brackets **15** are positioned opposite one another for supporting a shelf **16** in a substantially horizontal plane. No means is normally provided for securing the shelf **16** to its brackets **15** except its own weight and the weight of the removable articles normally placed thereon and obviously with the parts so positioned with respect to one another the said shelf or shelves **16** of the cabinet would be tumbled upon the upsetting of the cabinet as occurs during shipment.

The shelf bracket **15** may take any suitable or desirable form, the form illustrated in the drawings being a typical example of structures heretofore used. The said shelf bracket comprises a horizontal shelf supporting body portion **17** from one side of which depends a mounting flange **18** and which includes securing lugs **19** and **20**. The forward end of the shelf supporting body portion **17** is upturned as a flange **21** for, as is obvious from FIG. 2, preventing the forward movement or shifting of the shelf **16**.

The shelf supporting bracket **15** is mounted, as noted above, adjacent each side wall of the cabinet and for this purpose said side walls are each provided with a plurality of spaced louvers **22**. The said louvers are each formed between a pair of cuts or slits **22*a*** and **22*b***, see FIG. 2, in the side wall and with the material between said slits inwardly punched or stamped thereby, in effect,

providing an integrally inwardly projecting U-shaped lug. Each U-shaped lug, therefore, has inwardly projecting from the inner surface of the side wall, such as side wall **13**, arms **23** and **24** having their outer end joined by a body portion **25** and providing a passageway **26** vertically of the inner face of the side walls and the body portion **25** of the U-shaped lugs or louvers **22**. The said louvers or U-shaped lugs **22** are spaced from one another a distance that any two adjacent lugs or louvers **22** respectively and simultaneously receive the shelf bracket mounting lugs **19** and **20**, most clearly illustrated in FIGS. 2 and 3. The length of the body portion **17** of the shelf bracket **15** is such as to extend from substantially adjacent the inner surface of the cabinet back **14** to a point at or inwardly of the cabinet front surface including a distance substantially equal to the shelf **16**. By this construction the shelf **16** when mounted on its bracket has substantially no lateral play or movement, that is, toward and from the cabinet back wall.

The shelf **16** is formed of sheet metal, generally stainless steel, to avoid corrosion and of a minimum thickness or gauge commensurate with the weight it is to support. To reenforce said relatively thin panel of metal its longitudinal edges are crimped or rolled, the latter being shown in the drawings and said rolls identified by reference numerals **27** and **28**, the ends of the shelf being however devoid of any reenforcement and therefore plain.

The foregoing descrpition of a cabinet is as heretofore manufactured and used with said cabinets including, broadly, the front frame, inwardly projecting top, bottom and side walls with their inner edges joined to or by a back wall and with said side walls having means whereby shelf supporting brackets may be removably mounted thereon and with said supporting brackets selectively adjustable between the cabinet top and bottom wall members for supporting a shelf in said desired adjusted positions. It being understood that the cabinet may be of such height that two or more shelves may be mounted between the side walls.

As was noted above, in the past, it was customary to ship the shelves and their supporting brackets as a separate package from the cabinet itself even though all of the parts were enclosed in a single shipping container. This practice sometimes resulted in overlooking the shelf and bracket package and the discarding thereof with the shipping container and the subsequent lodgement of a complaint to the manufacturer or supplier of the failure to receive said shelf, shelves and brackets.

To overcome this difficulty, applicant prior to the shipment of the cabinets mounts the shelf brackets and shelves within the cabinet and temporarily locks or secures the parts in their positions with sufficient rigidity that said shelves can not be dislodged during shipment. Specifically, applicant provides a retaining or locking clip shown most clearly in FIG. 5 and which clip is identified in its entirety by the reference numeral **29** and is substantially U-shaped in elevation. Specifically the clip **29** comprises a vertical or body portion **30** from the sides of which, respectively, project arms **31** and **32** and which arms have their free ends upset or outwardly bent as flanges **33** and **34**.

As noted above the louvers or inwardly projecting U-shaped lugs **22** are spaced from one another equal distances wherefore the positioning of a shelf bracket **15** may be any desired point and with a shelf **16** mounted thereon the space between the upper surface of the said shelf **16** and the louver or U-shaped lug thereabove would be the same. It is to this distance that the body portion **30** is formed and by mounting same to have the flanges **33** and **34** thereof against the inner surface of a side wall, said flanges, respectively, flange **33**, for example, would project into the passageway **26** of the louver or U-shaped lug **22** above the shelf **16** while the other, flange **34**, would project between the end of the shelf **16** and the inner surface of the adjacent side wall, as illustrated most clearly in FIGS. 1 and 3.

It is appreciated that the distance between the free or outer edges of the flanges **33** and **34** is greater than the distance between the upper surface of the shelf **16** and the lower, or opposed, edge of the louver or U-shaped lug **22** immediately thereabove. In order, therefore, to operatively associate the parts the said clip has one of its flanges, flange **34**, for example, first disposed behind the edge of the shelf **16** whereupon the said shelf has pressure applied thereto so that it is slightly depressed or downwardly bowed, as indicated in phantom lines at **35** in FIG. 2, until the clip flange **33** is below the above noted lower edge of the louver or U-shaped lug **22** and in line with the passageway **26** thereof, whereupon, the pressure is removed from the shelf **16** so that it returns to its normal solid line position of FIG. 2 thereby definitely and, to all intents and purposes, permanently locking the shelf **16** in position. It is obvious of course that a reverse manipulation of the parts, namely, depressing the shelf **16** to the said bowed phantom line position thereof in FIG. 2 will permit release of the clip **29** so that the shelf **16** may be then removed for any desired purpose. After the cabinet **10** has been installed it is no longer necessary to lock the shelves in position as they will not be displaced except when purposely displaced by a user.

From the foregoing it will be noted that the manufacturer or supplier of cabinets having removable and/or adjustable shelves may temporarily lock the said shelves in position during shipment and thereby eliminate the annoyance of a user having to look for the shelves and their mounting brackets and also eliminating the possibility of loss of said shelves and their brackets, inadvertently it is true, and the subsequent complaint and refurnishing by the manufacturer or supplier.

What is claimed is:

1. In a device of the class described the combination of a cabinet having opposed side walls, a shelf extending between said side walls, means carried by said side walls for supporting the shelf, a louver inwardly projecting from each side wall with each louver including a passageway located above the shelf, and removable clips each including a body portion at each end of the shelf overlying the shelf at and inwardly of its end, each clip having an upwardly projecting flange from its body portion disposed in its side wall louver passageway, and each clip body portion having a flange downwardly projecting therefrom and disposed between its shelf end and the adjacent side wall.

2. In a device of the class described the combination of a cabinet having opposed side walls, a shelf support associated with each side wall, a plurality of equally spaced louvers in each side wall and with said louvers each having a passage and in alignment with one another, each shelf support including means cooperating with its side wall louvers whereby said shelf supports are mounted on its side wall and with, at least, one louver in each side wall above its shelf support, a shelf mounted on said shelf supports and of such width as to have its upper surface below said louvers above the shelf supports, and removable clips each including a body portion at each end of the shelf overlying the shelf at and inwardly of its end, each slip having an upwardly projecting flange from its body portion disposed in its side wall louver passageway, and each clip body portion having a flange downwardly projecting therefrom and disposed between its shelf end and the adjacent side wall.

3. The method of temporaritly securing a shelf in operative position within a cabinet and which cabinet comprises, at least, opposed side walls each having similarly and equally spaced louvers therein with each louver including a passageway, said cabinet having a shelf support secured in position on each opposed side wall and each said side wall having therein above its shelf support a louver, and a shelf capable of being downwardly

sprung on its shelf support and capable of inherently returning to normal position, the method of securing the shelf on its support consisting in applying pressure to the shelf and arcuately depressing same, placing a metallic clip including a body portion and an upwardly and downwardly projecting flange from said body portion at each end of the shelf with the downwardly projecting flange between its shelf end and its side wall and with its upper flange in line with the louver passageway in its side wall, and releasing the shelf so that it may return to its normal position and secure the body portion of each retaining clip between itself and the louver thereabove.

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