May 14, 1963 L. J. POSTULA ET AL 3,089,745

CABINET WITH MULTIPLE VERTICALLY MOUNTED SEPARATE SHELVING MEMBERS

Filed Dec. 27, 1960 3 Sheets-Sheet 1

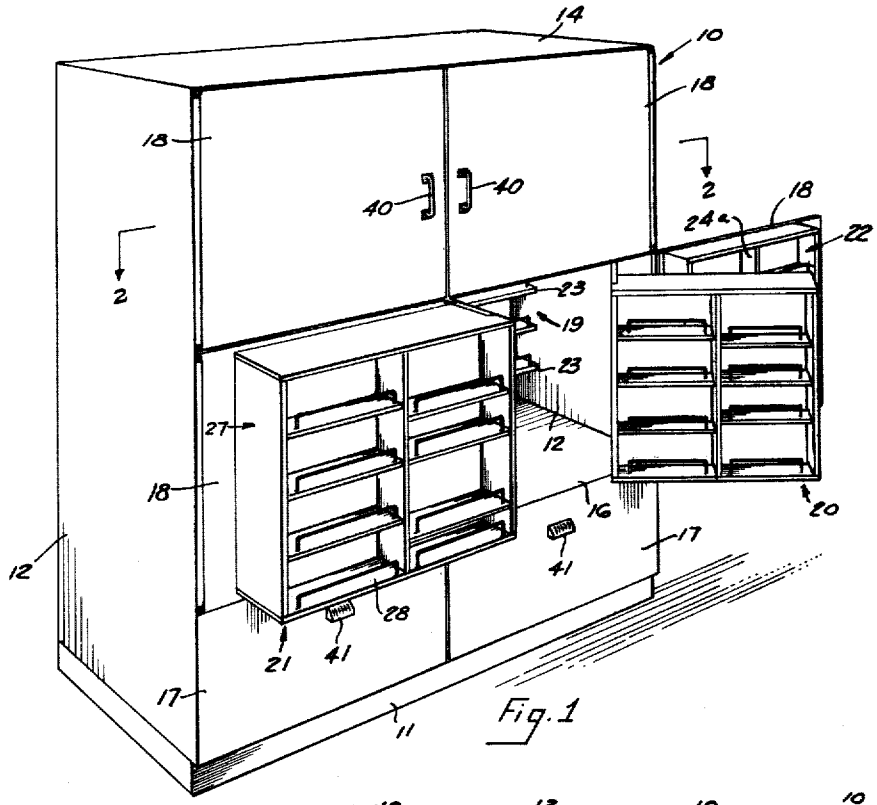



Fig. 1

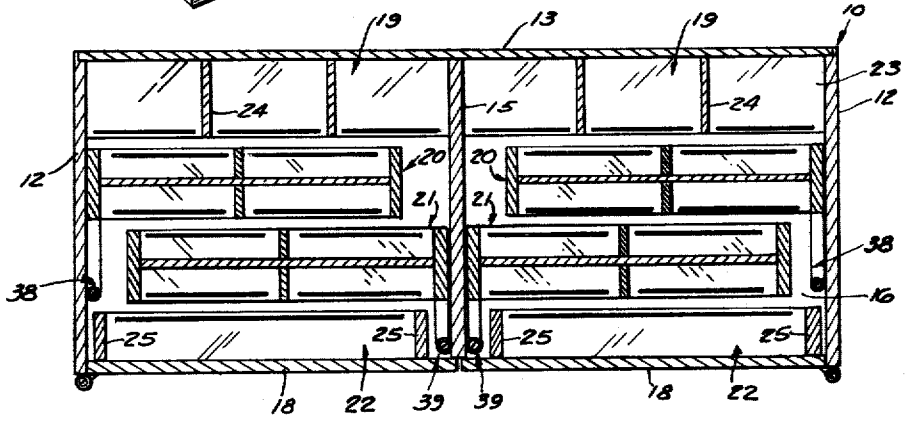



Fig. 2

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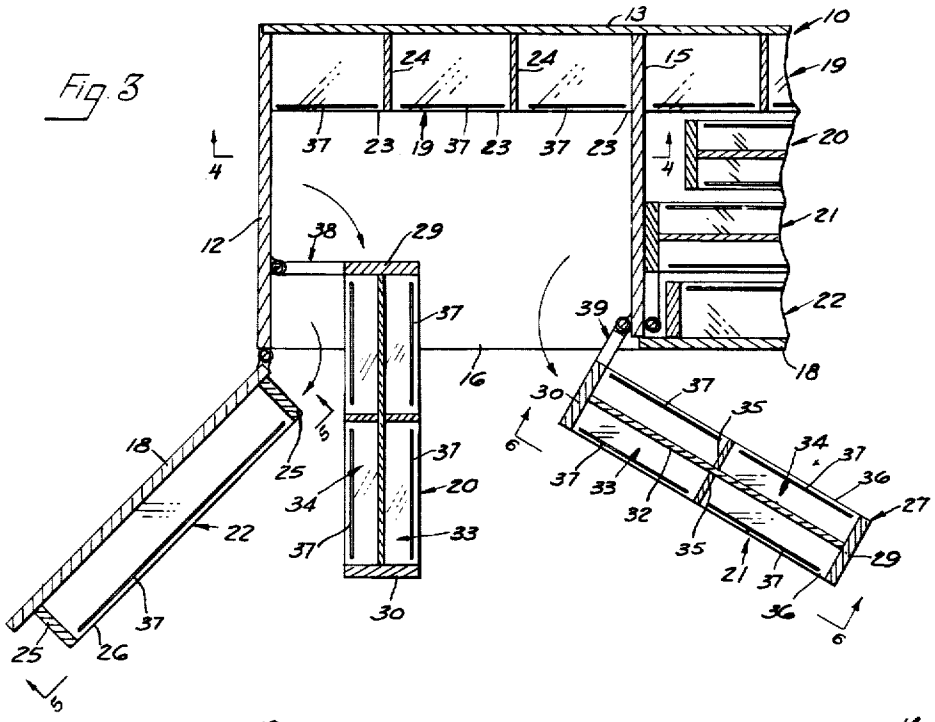
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Fig. 3



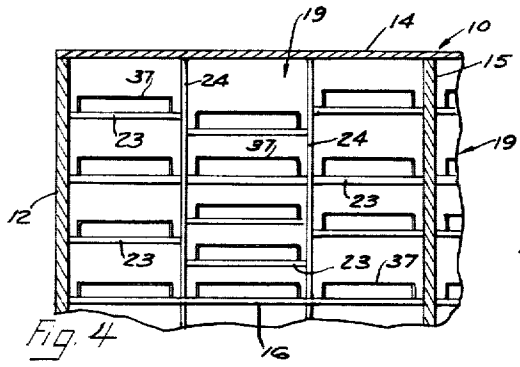




Fig. 4

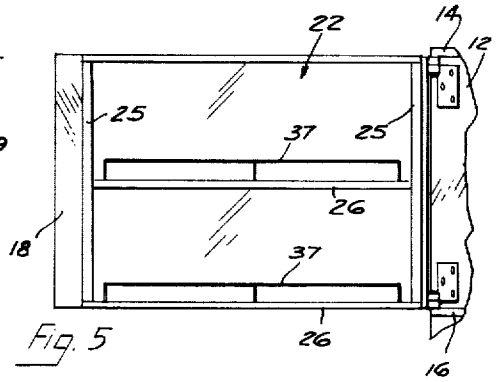



Fig. 5

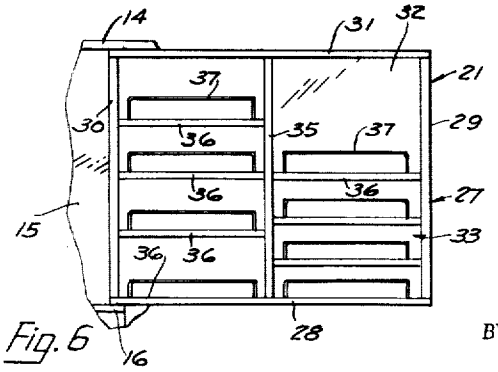



Fig. 6

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Fig. 7

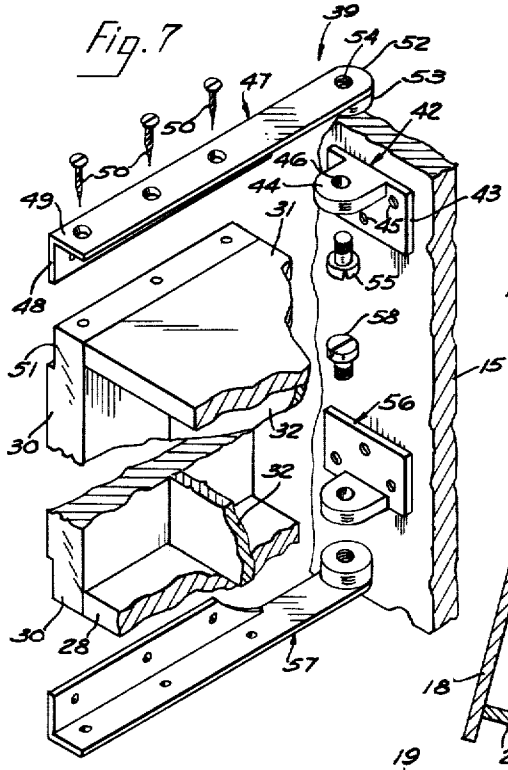



Fig. 8

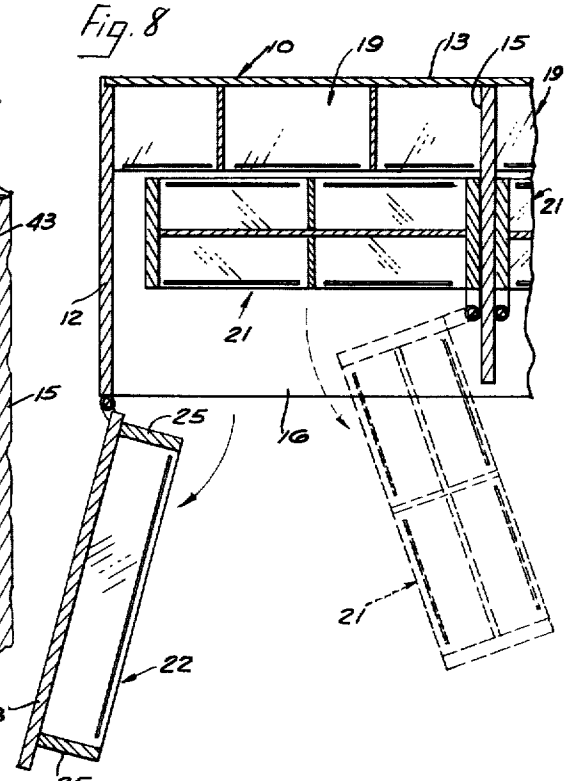
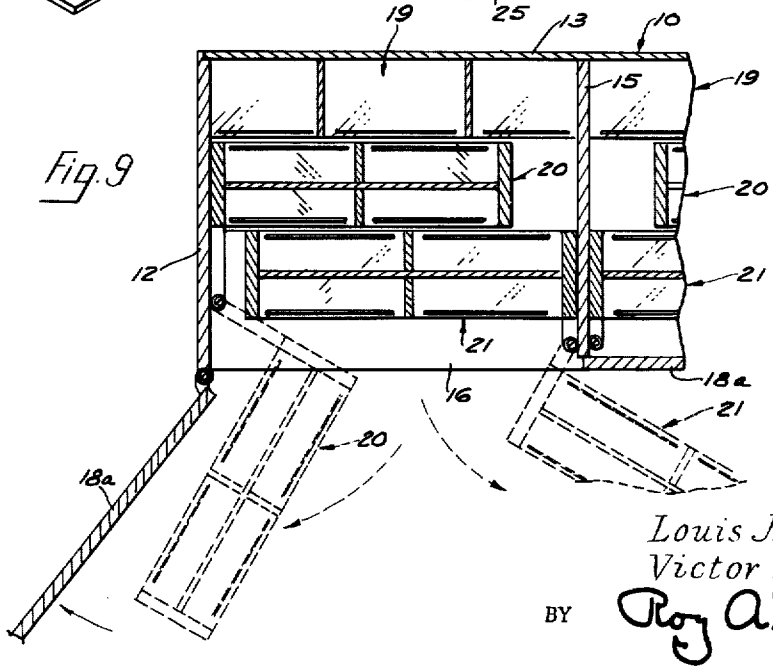



Fig. 9




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# CABINET WITH MULTIPLE VERTICALLY MOUNTED SEPARATE SHELVING MEMBERS

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8 Claims. (Cl. 312—324)

This invention relates in general to new and useful improvements in cabinet construction, and more particularly to a novel multiple shelf cabinet.

In practically all instances storage space, both commercial and residential, is at a premium. This is particularly true in commercial establishments. Also, in addition to space limitations, most home and commercial storage areas have restricted wall space suitable for cabinet installations. Further, from a use economics standpoint, storage areas should be as close as possible to the work area to save time consuming steps.

A typical requirement for compact, yet readily accessible, storage for a large number of small articles or containers is to be found in the prescription department of a drug store. The prescription department of an average drug store must store hundreds of drugs, many of which are packaged in small containers, in a manner wherein the container of each drug may be readily found and is immediately accessible. This storage problem could be very easily solved if unlimited cabinet space were available. However, the area generally assigned the prescription department is normally quite small with only limited space, ordinarily along a wall, being available for cabinets. As a result, the cabinets and their shelves are generally quite deep and the drugs are stored therein one behind the other. Although the taller containers may be initially stored in the rear portions of the cabinets in order that all drugs stored therein may be readily detected, this order is not easily maintained in a busy prescription department and in a short period of time some of the small containers of drugs, particularly those which are infrequently used, work to the back of the cabinet and become obscure. It was a recognition of this problem and the lack of any adequate and wholly satisfactory solution to same which led to the conception and development of the present invention.

Accordingly among the objects of the present invention is the provision of a novel cabinet construction wherein in lieu of the customary full depth single shelf, each compartment of the cabinet is provided with multiple shallow shelves disposed in front-to-rear relation with at least intermediate ones of the shelves being hingedly mounted for swinging movement out of the compartment to make the intermediate shelves fully accessible and to provide access to any further rearward shelf, whereby items may be stored substantially in single lines on all of the shelves and readily brought into view for selection and removal.

Another object of the invention is to provide a novel cabinet construction wherein the cabinet is of the customary depth, or even deeper, but wherein shelving is provided for the storage of articles in single rows and at the same time the available storage capacity of the cabinet is not materially reduced, the shelving being, in part, mounted for swinging movement out of the cabinet to provide for the ready inspection of all storage areas.

Another object of the invention is to provide a novel shelving unit for use in a cabinet construction, the shelving unit including a vertical divider having horzontal shelves secured to opposte faces thereof to provide two separate series of shelves wherein numerous articles may be stored in readily accessible positions on opposite faces of same, and hinge means for mounting the divider for swinging movement between a stored position within a cabinet and a projected position wherein both series of shelves are exposed.



A further object of the invention is to provide a novel cabinet construction including a compartment normally closed by a door, the compartment having a rear wall supporting rear shelving, other shelving disposed within the compartment intermediate the door and the rear shelving, said other shelving being hingedly mounted for swinging movement from within the compartment to a projecting position outside of the compartment and in which positions both the rear shelving and the other shelving are accessible.

Still another object of the invention is to provide a novel cabinet construction wherein multiple shelving is provided in spaced relation from the front to the rear of the cabinet and forward ones of the shelving may be moved to out of the way positions to provide access to the rearmost shelving, the cabinet construction being readily suitable for various arrangements of multiple shelving some of which may be fixed and others pivotally mounted.

A still further object of the invention is to provide in a cabinet a multiple shelf arrangement arranged in front to rear spaced relation and including a rear shelf unit carried by a rear cabinet wall, a front shelf unit carried by a swingable cabinet door, and at least one intermediate shelf unit hingedly mounted for swinging out of the cabinet to provide access to the rear shelf unit, the intermediate shelf unit, if desired, being a double unit with back-to-back shelving disposed on opposite faces of a vertical divider, all of the shelving of the double unit being readily accessible when the intermediate shelf unit is within the cabinet for one face of the same and the other face when said intermediate shelf unit is swung from within the confines of the cabinet.

Still further objects and advantages of the invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the cabinet means hereinafter fully described and particularly pointed out in the claims, the annexed drawings and the following description setting forth in detail certain means for carrying out the invention, such disclosed means illustrating, however, but several of the various ways in which the principle of the invention may be used.

In the annexed drawings:

FIGURE 1 is a perspective view of a double cabinet formed in accordance with the present invention, one compartment of the cabinet being open and the shelving thereof being swung to accessible positions.

FIGURE 2 is a horizontal sectional view on an enlarged scale, as taken along the line 2—2 of FIGURE 1, looking in the direction of the arrows, and shows a six shelf arrangement of the multiple shelving thereof in a closed position.

FIGURE 3 is an enlarged partial horizontal sectional view of the cabinet of FIGURE 1 and shows the shelving of one compartment thereof swung to projected accessible positions.

FIGURE 4 is a fragmentary elevational view as taken along the line 4—4 of FIGURE 3, looking in the direction of the arrows, and shows the general arrangement of the shelves of the fixed rear shelving unit.

FIGURE 5 is a fragmentary elevational view as taken along the line 5—5 of FIGURE 3, looking in the direction of the arrows, and shows the general arrangement of the shelves of the front shelving unit carried by the compartment door.

FIGURE 6 is a fragmentary elevational view as taken along the line 6—6 of FIGURE 3, looking in the direction of the arrows, and shows the general arrangement of the shelves of one group of shelves of one of the hinged intermediate shelving units.

FIGURE 7 is an enlarged fragmentary exploded perspective view and shows the details of a hinge assembly for one of the intermediate shelving units.

FIGURE 8 is an enlarged partial sectional view similar to FIGURE 3 showing the shelving of a four shelving arrangement with the front shelving unit carried by the compartment door swung to an open position, and the hinged intermediate shelving unit shown both in solid lines and in a projected position by dotted lines.

FIGURE 9 is another enlarged partial sectional view similar to FIGURE 3 showing the shelving of a five shelving arrangement with the compartment door open, the intermediate shelving units being shown both in solid lines and in projected accessible positions by dotted lines.

Reference is now made to the drawings in detail wherein a double cabinet unit formed in accordance with the invention is illustrated in FIGURE 1 and is generally referred to by the numeral **10**. The double cabinet unit **10** is typical of only one of the many arrangements which may be formed in accordance with the invention.

The double cabinet unit **10** is formed of a conventional type of frame which includes a base **11**, upstanding side panels **12**, a rear wall **13**, a top wall **14**, and a divider **15** extending forwardly from the rear wall **13** intermediate the side panels **12**. The frame is divided into a plurality of separate compartments by horizontal panels **16** spaced intermediate the base **11** and the top wall **14**.

In the cabinet arrangement illustrated in FIGURE 1, the lower compartments are preferably closed by drawers **17** which are slidable into and out of the cabinet frame. The drawers **17** are suitable for the storage of large items, such as large containers, jugs, jars, material in sacks, et cetera. The intermediate and upper compartments of the cabinet are normally closed by doors **18** preferably hingedly mounted on the cabinet frame adjacent the side panels **12** for swinging in opposite directions. These intermediate and upper compartments are provided with shelving in accordance with the invention as diagrammatically illustrated in FIGURES 2 through 6 for the FIGURE 1 assembly.

The shelving of each of the intermediate and upper compartments of the cabinet **10** is preferably identical and accordingly the typical form of shelving of only one compartment will be described. The shelving includes a rear shelving unit, generally referred to by the numeral **19**, a rear intermediate shelving unit, generally referred to by the numeral **20**, a forward intermediate shelving unit, generally referred to by the numeral **21**, and a forward shelving unit, generally referred to by the numeral **22**. The rear shelving unit **19** is carried by the rear wall **13** and includes a plurality of vertically spaced shelves **23** which extend between the adjacent side panel **12**, the divider **15** and intermediate dividers **24**. A typical arrangement of the shelves **23** and the dividers **24** is shown in FIGURE 4, although this arrangement may be varied as desired and in accordance with the particular requirements for the cabinet **10**.

The forward shelving unit **22**, FIGURE 5, is secured directly to the inner face of the respective door **18** and swings therewith when the door **18** is opened. The forward shelving unit **22** includes end panels **25** secured to the door and shelving **26** secured to the end panels **25**. Although no vertical dividers have been shown in the typical shelving arrangement of FIGURE 5, if desired, vertical dividers **24***a*, FIGURE 1, may be provided.

The general construction of the rear intermediate shelving unit **20** and the forward intermediate shelving unit **21** is the same and accordingly only the specific details of the forward intermediate shelving unit **21** will be described here. The shelving unit **21** is formed of a generally rectangular frame, FIGURE 6, generally referred to by the numeral **27**. The frame **27** includes a bottom panel **28**, side panels **29**, **30** and a top panel **31**. A generally rectangular divider **32**, FIGURE 3, is set within the frame **27** and divides the frame **27** into front and rear halves in which there is disposed rear shelving, generally referred to by the numeral **33**, and front shelving, generally referred to by the numeral **34**. Each of the shelvings **33**, **34** includes a vertical divider **35** which extends between the bottom panel **28**, FIGURE 6, and the top panel **31** and is usually secured to the divider **32**. Shelves **36** extend between the side panels **29**, **30** and the divider **35** and are secured thereto.



At this time it is pointed out that the various shelvings may be arranged as desired with the number and spacing of the dividers and shelves varied to meet the requirements for storage of various sized containers. Depending upon the particular requirements of the cabinet **10**, the shelves may be fixed or may be adjustably mounted in a customary manner, which it is intended the showing in the drawings will diagrammatically illustrate. Each shelf will preferably be provided with a simple guard **37**, which, if desired, may be of wire or glass to minimize obstruction to viewing of shelf contents while retaining articles thereon. The guards **37** may either be adjustably mounted or mounted on the respective shelves for movement therewith, as is typically shown in FIGURES 4, 5, and 6.

Reference is now made to FIGURES 2 and 3 wherein the details of mounting of the rear intermediate shelving unit **20** and the forward intermediate shelving unit **21** are shown. The rear intermediate shelving unit **20** has a hinge assembly **38** secured to the side panel **29** thereof. The opposite end of the hinge assembly **38** is secured to the interior of the side panel **12**. The hinge assembly **38** is elongated and serves to support the rear intermediate shelving unit **20** for swinging movement between a stored position within its respective compartment immediately in front of the rear shelving unit **19**, as is shown in FIGURE 2, to a projected position forwardly of the cabinet **10** in general in which position both the rear shelving **33** and the front shelving **34** thereof are readily accessible, as is more particularly shown in FIGURE 3.

The forward intermediate shelving unit **21** is mounted for swinging movement by means of a hinge assembly **39** which is secured to the side panel **30** thereof. The opposite end of the hinge assembly **39** is secured to the forward part of the divider **15**, as is shown in FIGURES 2 and 3. The hinge assembly **39** is similar to the hinge assembly **38**, but normally will be of a shorter length to provide clearance for forward shelving unit **22** while leaving adequate swinging clearance for shelf unit **21**. The hinge assembly **39** will, in other words, be of a length to facilitate storage of the forward intermediate shelving unit **21** within the respective cabinet compartment immediately forward of the rear intermediate shelving unit **20** and in a recessed position for clearing the forward shelving unit **22**. The forward intermediate shelving unit **21** is swingable to a projected position generally forward of the cabinet **10**, as is shown in FIGURE 3, in which position both the rear shelving **33** and the front shelving **34** are readily accessible.

The doors **18** will be provided with suitable door pulls or handles **40** to facilitate the opening thereof, as is shown in FIGURE 1. The drawers **17** will also be provided with drawer pulls **41** to facilitate the opening thereof.

Reference is now made to FIGURE 7 wherein the specific details of a hinge assembly, such as the hinge assemblies **38**, **39**, are illustrated. The illustrated hinge assembly corresponds to the hinge assembly **39** and will be so designated. The hinge assembly **39** includes an upper bracket **42** which is formed of a vertical flange **43** having an upper horizontally projecting ear **44** connected thereto. The flange **43** is secured to the divider **15** by screws **45** passing through the flange, and the ear **44** has a vertical bore **46** therethrough. An elongated hinge arm **47** is associated with the bracket **42** for swinging movement. The hinge arm **47** is angular in cross section and includes a vertical flange **48** and a horizontal flange **49**. The flanges **48** and **49** are secured to the upper edge of the side panel **30** by means of screws **50**. The flange **48** is illustrated as seating in a rabbet **51** in

the side panel **30** so as to be flush with the surface thereof, although the rabbet may be eliminated if so desired.

The end of the flange **49**, FIGURE 7, to be connected to the bracket **42** is preferably rounded as at **52**. The flange **48** is terminated adjacent this rounded end to provide clearance for the bracket **42**. A fitting **53** is secured to the underside of the flange **49** at the rounded end thereof and a threaded bore **54** is formed in the fitting **53** and the flange **49**. A hinge pin **55** in the form of a headed screw is passed through the bore **46** of bracket **42** and is threaded into the bore **54**. This hinge pin **55** may be in the form of a shouldered screw if desired, and it is intended that the drawing be considered as diagrammatically illustrating same.

The lower part, FIGURE 7, of the hinge assembly **39** is the same as the upper part and includes a bracket **56**, a hinge arm **57** and a hinge pin **58**. The bracket **56** and the hinge pin **58** are identical to the bracket **42** and the hinge pin **55**, respectively. On the other hand, while the construction of the hinge arm **57** is identical with that of the hinge arm **47**, the two normally are in rights and lefts and hence not interchangeable.

Although in the primarily illustrated form of the invention, as shown in FIGURES 1, 2 and 3, there are illustrated six sets of shelves, it is to be noted that in accordance with the present invention the number of sets of shelves may be varied. For example, the number of sets of shelves may be as few as three in which event no shelves would be mounted on the door and in addition to a rear shelving unit, such as the shelving unit **19**, there would be a double shelving unit, such as one of the shelving units **20**, or **21**. An arrangement of a set of four shelves is shown in FIGURE 8, and an arrangement of a set of five shelves is shown in FIGURE 9. In the event sets of shelves in excess of six is desired, additional intermediate shelving units of appropriate size and hinging for ready access will be added. These are typical variations of the shelving and its is intended that the drawings be considered as diagrammatically illustrating same.

In the shelving arrangement of FIGURE 8 wherein four sets of shelves are provided, which permits a thinner cabinet unit where available space is limited, one of the intermediate shelving units will be omitted from the general arrangement of FIGURE 2. For example, only one hinged intermediate shelving unit corresponding to the shelving unit **21** will be provided although the shelves thereof need not be the same width. In the shelving arrangement of FIGURE 9, the shelving unit carried by the door **18** in FIGURE 2, is omitted.

When the number of shelves in the assembly is varied, it is not alway necessary to vary the depth of the cabinet **10** unless it is so desired. The variations in space requirements may be taken care of by varying the widths of the shelves or the clearance between them.

At this time, it is pointed out that the shelving arrangement is not limited to any specific cabinet design. The double cabinet unit **10** is only a typical cabinet arrangement for the shelving and may be varied as desired within the spirit and scope of the invention as described and illustrated. While directional terms such as "vertical," "underside," "lower," "upper," et cetera, have been used for convenience of describing the new cabinet assembly in the position shown in the drawings, it is to be understood that such wording is not to be considered as limiting on the invention, but rather to facilitate a clear understanding of how the invention may be conventionally applied to the handling of drugs in a drug store or the like.

Other modes of applying the principle of our invention may be employed instead of those explained, change being made as regards the cabinet and combinations herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.



We therefore particularly point out and distinctly claim as our invention:

1. A cabinet construction comprising a cabinet frame including a pair of oppositely spaced side walls and a rear wall extending therebetween to form a compartment having an opening therein opposite said rear wall, a first shelving unit, a first rigid hinge arm having one end thereof rigidly connected to said first shelving unit, means pivotally connecting the other end of said first hinge arm to one of said side walls for swinging movement of said first shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereto, a second shelving unit, a second rigid hinge arm having one end thereof rigidly connected to said second shelving unit, and means pivotally connected the other end of said second hinge arm to the other of said side walls for swinging movement of said second shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereto, said first shelving unit being located between said second shelving unit and said rear wall with both of said shelving units in their stored positions, and in such stored positions the pivotal connections of said other ends of the respective hinge arms to said respective side walls being located forwardly of the respective shelving unit to which they are connected and spaced different distances inwardly from the opening to said compartment.

2. The cabinet construction of claim 1 which further includes a rear shelving unit secured to said rear wall and located immediately behind said first shelving unit with the latter in a stored position.

3. The cabinet construction of claim 1 which further comprises a door hingedly connected to said cabinet frame for swinging movement relative thereto to open and close the opening to said compartment, and a forward shelving unit secured to said door for swinging movement therewith between a stored position within said compartment when said door is closed and an accessible position when said door is open.

4. The cabinet construction of claim 1 wherein at least one of said first and second shelving units is a double shelving unit and includes front and rear sets of shelves secured to opposite sides of a vertical divider of said one shelving unit.

5. The cabinet construction of claim 1 wherein said shelving units include a horizontal shelf member projecting outwardly from a vertical wall, and upstanding guard means spaced from said vertical wall and secured to an outer portion of said horizontal shelf member to retain objects on said shelf member.

6. A cabinet construction comprising a cabinet frame including a pair of oppositely spaced side walls and a rear wall extending therebetween to form a compartment having an opening therein opposite said rear wall, a first shelving unit, a first rigid hinge arm having one end thereof rigidly connected to said first shelving unit, means pivotally connecting the other end of said first hinge arm to one of said side walls for swinging movement of said first shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereto, a second shelving unit, a second rigid hinge arm having one end thereof rigidly connected to said second shelving unit, and means pivotally connecting the other end of said second hinge arm to the other of said side walls for swinging movement of said second shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereto, said first shelving unit being located between said second shelving unit and said rear wall with both of said shelving units in a stored position, said first hinge arm being longer than said second hinge arm and both of said hinge arms extending forwardly from their respective shelving units alongside

the respective side walls to which they are connected with both of said units in their stored positions, the pivotal connection of said first shelving unit to said one side wall being located inwardly from the opening to said compartment a greater distance than the pivotal connection of said second hinge arm to said other side wall.

7. A cabinet construction comprising a cabinet frame including a pair of oppositely spaced side walls and a rear wall extending therebetween to form a compartment having an opening therein opposite said rear wall, a first shelving unit, a first rigid hinge arm having one end thereof rigidly connected to said first shelving unit, means pivotally connecting the other end of said first hinge arm to one of said side walls for swinging movement of said first shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereto, a second shelving unit, a second rigid hinge arm having one end thereof rigidly connected to said second shelving unit, and means pivotally connecting the other end of said second hinge arm to the other of said side walls for swinging movement of said second shelving unit between a stored position within said compartment and a projected position substantially through said opening and out of said compartment for access thereof, said first



shelving unit being located between said second shelving unit and said rear wall with both of said shelving units in their stored positions, and in such stored positions the pivotal connections of said other ends of the respective hinge arms to said respective side walls being located forwardly of the respective shelving unit to which they are connected and spaced different distances from the opening to said compartment, at least one of said pivotal connections being inwardly of the opening of said compartment.

8. The structure of claim 7 in which the one rigid hinge arm of which the pivotal connection is disposed inwardly of said compartment opening comprises an elongated element at one side of the shelving unit to which it is connected and being disposed substantially normal to the general plane of said shelving unit.

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