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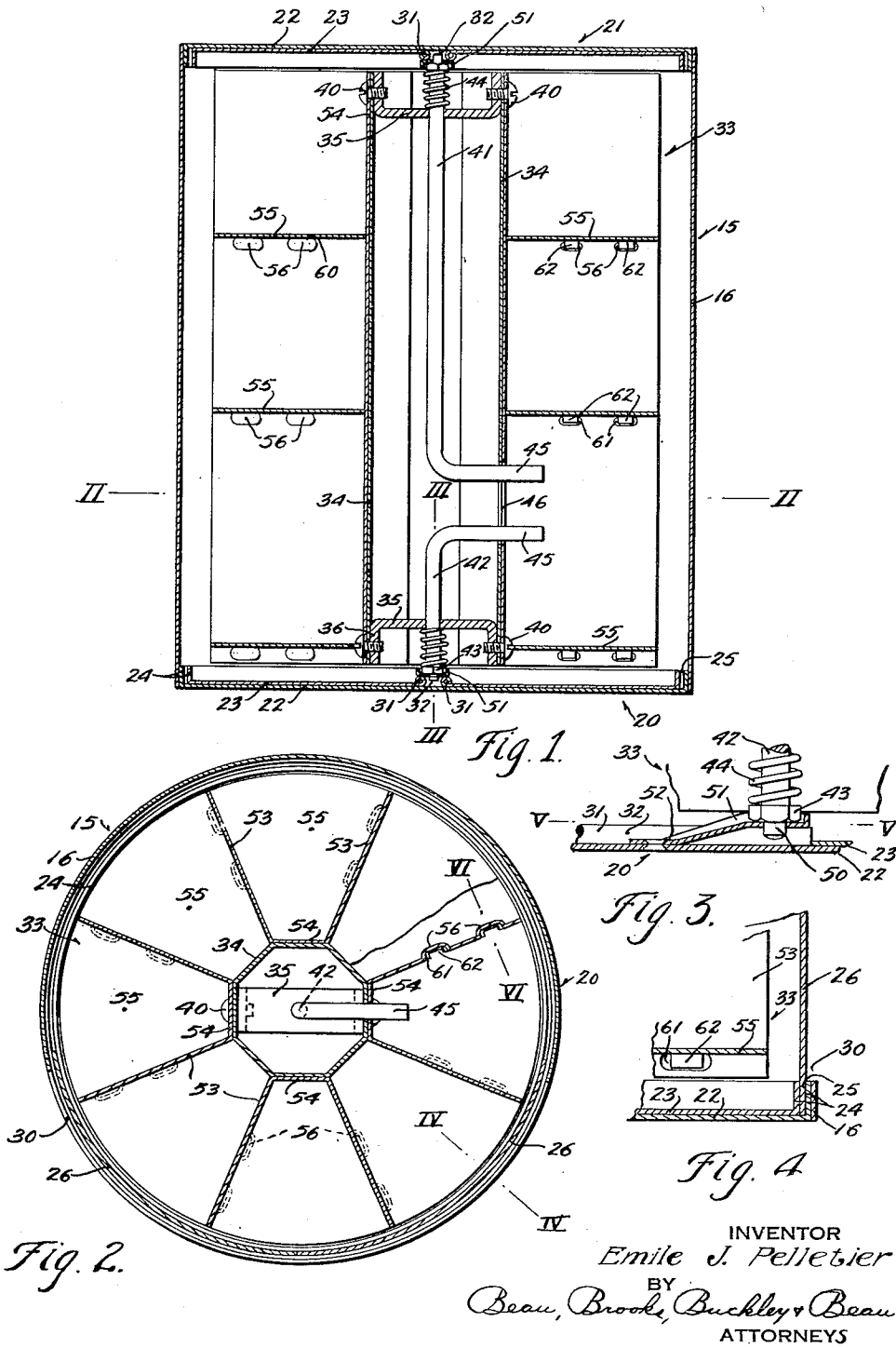
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CABINET HAVING A ROTATABLY MOUNTED SHELF UNIT

Filed June 11, 1946

2 Sheets-Sheet 1



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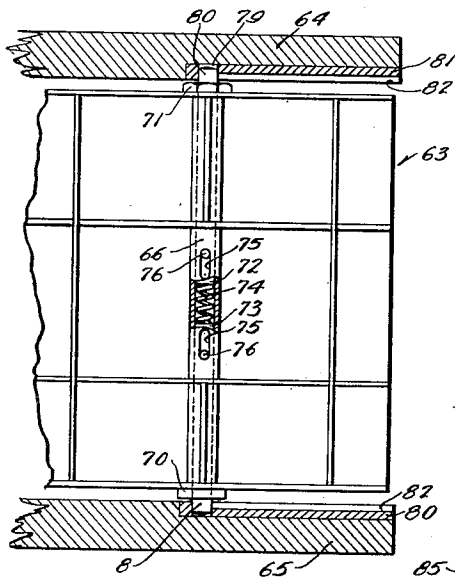


Fig. 7.

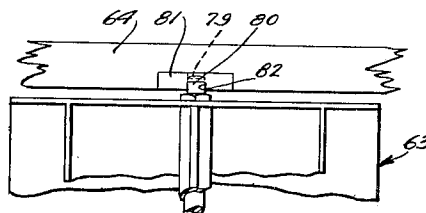
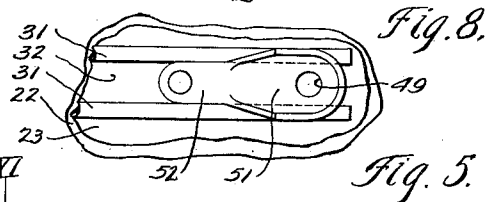


Fig. 5.

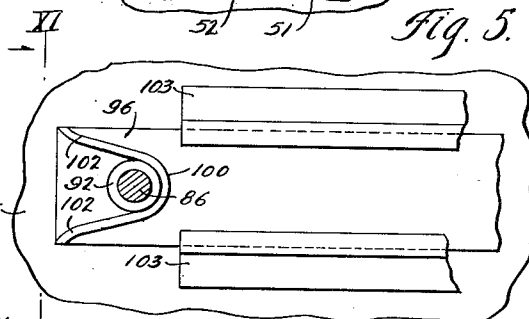


Fig. 10.

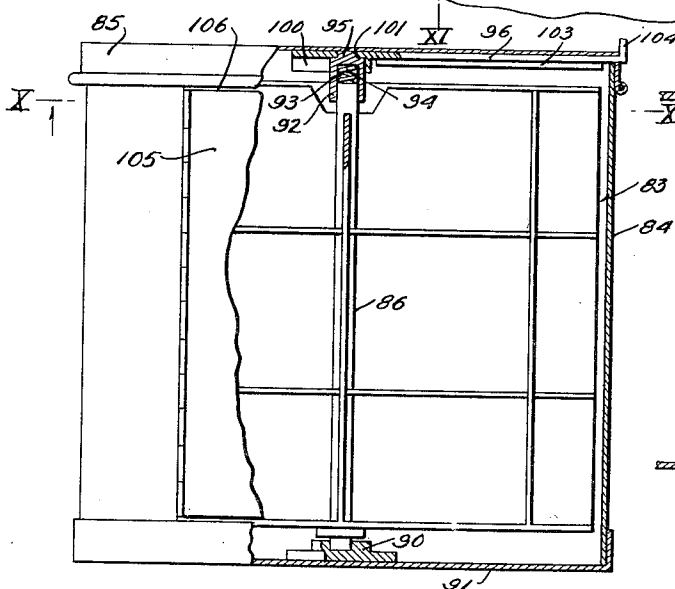


Fig. 9.

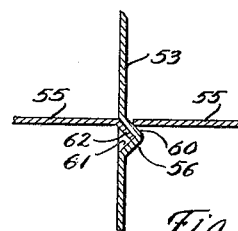


Fig. 6.

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2,529,960

CABINET HAVING A ROTATABLY MOUNTED
SHELF UNIT

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Application June 11, 1946, Serial No. 675,909

7 Claims. (Cl. 312-157)

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My invention relates in general to cabinets and in particular to cabinets having revolving partitioned shelves for kitchen use.

The principal object of my invention has been to provide a cabinet for conveniently holding small cans or containers of various kinds used in and about a kitchen.

Another object has been to provide a device of this kind having a revolving shelf unit suitably partitioned to permit placing of various kinds of spices and the like, whereby great economy of space may be had.

Moreover, my device is so designed as to provide individual shelves mounted between adjacent partitions in such manner that any interfering shelf may be removed to accommodate a tall article.

Furthermore, the revolving shelf unit of my device may be quickly removed from the outer casing for convenient cleaning.

The above objects and advantages have been accomplished by the device shown in the accompanying drawings, of which:

Fig. 1 is a side sectional elevation of the preferred form of my invention;

Fig. 2 is a sectional plan view thereof taken on line II-II of Fig. 1;

Fig. 3 is a fragmentary enlarged sectional view taken on line III-III of Fig. 1;

Fig. 4 is an enlarged sectional view taken on line IV-IV of Fig. 2;

Fig. 5 is an enlarged fragmentary plan view taken on line V-V of Fig. 3;

Fig. 6 is an enlarged fragmentary sectional view taken on line VI-VI of Fig. 2;

Fig. 7 is a side elevation of a modified form of device, partly in section;

Fig. 8 is a fragmentary front elevation of the same;

Fig. 9 is a side elevation of another modified form of my invention, partly in section;

Fig. 10 is an enlarged sectional view thereof taken on line X-X of Fig. 9; and

Fig. 11 is a sectional view taken on line XI-XI of Fig. 10.

My device consists essentially of a shelf unit which is mounted for rotation in suitable bearings, and in the drawings I have shown not only various forms of shelf units but also various ways of mounting such units, as will hereinafter be fully described.

Referring now to the form of invention shown in Figs. 1-6, inclusive, the device comprises a casing 15 having an outer shell 16 to which is secured a bottom 20 and a top 21. The top and bottom

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are substantially identical and each is formed with an outer member 22 and an inner member 23, secured together preferably by any suitable means, such as electrical spot welding. Each of the members 22 and 23 is formed with an inwardly extending annular flange 24. These flanges are separated from each other so as to provide an annular space 25 for the slidable support of suitable doors 26, shown in Figs. 2 and 4. These doors serve to close an access opening 30 formed in the shell 16. Each of the inner members 23 of the top and bottom is formed with guides 31 which extend radially from the center outwardly toward the front of the device. These guides are preferably formed by slitting the material of the inner member and rolling the material at each side of the slit upon itself to provide a groove 32 for guiding the pivot member of the shelf unit as it is moved to place, as hereinafter more fully described.

The shelf unit 33 comprises a partition supporting member 34 preferably of octagonal shape, as shown in Fig. 2, and having at each end a pivot member support 35. Each support is preferably provided with an outwardly extending end 36 whereby it may be suitably secured to the supporting member by means of screws 40. The pivot member upon which the shelf unit is mounted comprises an upper part 41 and a lower part 42. Each of these parts has its outer end supported in a suitable aperture formed in the support 35 and each carries a nut 43 at its outer end. A helical spring 44 is mounted upon the outer end of each of the pivot member parts between the nut 43 and the support 35, whereby each pivot member part will be urged outwardly under spring pressure. Each of these pivot member parts has a handle portion 45 extending outwardly preferably at right angles through a slot 46 formed in the partition supporting member 34, whereby outward movement of the parts is limited by engagement of these portions with the ends of the slot, and whereby the pivot member parts may be manually drawn toward each other to release the pivot member from its bearing engagement with the casing. Each of the pivot member parts is provided with a bearing stud 50 which projects beyond the nut 43 carried by the pivot member part. Each of these bearing studs is adapted to engage a bearing member 51 carried by the bottom 20 and by the top 21. Each of the bearing members preferably straddles and rests upon the guides 31 and each is formed with a tab portion 52 of reduced width which passes between the guides and which is secured preferably by rivet-

ing to the assembled members 22 and 23 of the top and bottom. Each of these bearing members is provided with a suitable aperture 49 for bearing support of the stud 50, and the tab portion is inclined downwardly whereby an inclined guide is provided for the bearing stud as the shelf unit is being moved to its operative position.

Attached to the partition supporting member 34 are a plurality of partitions 53. Since the supporting member is preferably octagonal, it provides alternately spaced flat faces disposed at right angles to each other to which the partitions may be conveniently attached, and for this reason, two partitions are united by a member 54 which is secured to the adjacent flat surface of the supporting member by suitable electrical welding or otherwise. In order to accommodate the shelf unit to articles of various height, it is desirable that the shelves 55 be removably supported, and to accomplish this, I provide a series of dents 56 arranged preferably in pairs in the same horizontal plane whereby ledges 60 are formed at one side of the partition and a recess 61 at the opposite side thereof. The dents are formed in the same clockwise direction on all partitions, and each of the shelves is, therefore, formed at one side with a pair of tabs 62 for engagement with the recesses 61, the opposite edge of the shelf resting upon the adjacent tab of the next opposite partition. The tabs and partitions are so proportioned that adjacent shelves lie substantially in the same horizontal plane as illustrated in Fig. 6.

Referring now to Figs. 7 and 8, I show my shelf unit 63 adapted for use between fixed bearing supports, such as may be provided by the shelf 64 and the top 65 of, for instance, a kitchen cupboard. In this form of device, I provide a sleeve 66 which supports the unit through the medium of the parts 72 and 73 of the pivot member. This sleeve has a fixed flange 70 at its lower end and a clamping nut 71 at its upper end, whereby the unit 63 is attached thereto. Mounted for sliding movement within the sleeve is the upper pivot part 72 and the lower pivot part 73. Space is provided between the ends of the pivot parts, and a spring 74 mounted in this space serves to urge the pivot parts away from each other. The sleeve is provided with two spaced slots 75, in each of which is mounted a pin 76 which is carried by one of the pivot parts and by which the spring may be manually compressed when the pivot member is to be detached from its bearings when removing the unit.

In this form of device, the pivot parts 72 and 73 have their ends extended beyond the collar 70 and nut 71 in bearing stud portions 80, each of which is rotatably supported by a bearing plate 81. Each of these plates extends to the front of the shelf 64 and the top 65 and is provided with a shallow groove 82 for guiding each of the bearing stud portions 80 as the shelf unit is being moved to position, a suitable bearing aperture 79 being formed at the inner end of each of the grooves for the bearing reception of the stud portions 80.

Referring now to Figs. 9-11, inclusive, the form of invention there illustrated is designed to have its shelf unit 83 removed from the casing 84 through the top thereof; and to this end, the casing is provided with a removable top 85, held in place preferably by friction. In this form, the pivot member for supporting the shelf unit comprises a rigid shaft 86 to which the partitions and the shelves are preferably secured. The lower

end of this shaft is mounted in a fixed bearing 90 carried by the bottom 91 of the device. The upper end of the shaft does not extend to the cover but is formed with a shaft extension 92 having a central aperture 93 for the sliding reception of the upper end of the shaft 86 and for the reception of a spring 94 which bears at one end against the shaft 86 and at the other end against the bottom of the extension, whereby the extension is urged upwardly causing the lengthening of the shaft. The extension is formed at its upper end with a bearing stud 95.

So as to be able to assemble this form of the device, I provide a bearing plate 96 having at its forward end a U-shaped self-centering guide 100. A bearing aperture 101 is formed in the plate and arranged concentrically with the guide. This guide is so disposed that as it is moved toward the center of the casing, it engages the shaft extension 92, at which time the stud 95 will register and be engaged with the bearing aperture 101. To further aid in the guide function of the guide 100, its ends 102 are flared outwardly, as clearly shown in Fig. 10. The bearing plate is mounted in suitable guides 103 whereby it is guided in its limited reciprocating movement. An upstanding end 104 is provided on the outer end of the plate whereby it may be moved radially and whereby a stop is provided for limiting the inward movement thereof. This form of invention preferably is provided with a number of hinged doors 105 for closing the access opening 106 of the device.

From the foregoing, it will be obvious that the shelf unit of any form of the invention may be easily removed for cleaning and thereafter easily assembled in position. In the form of invention of Figs. 1-6, inclusive, to remove the unit it is only necessary to open the doors 26 and grasp the handle portions 45, whereby to compress the spring 44 to contract the pivot member parts and thus disengage the bearing studs from their bearing support. When being re-assembled, the guides 31 will direct the bearing studs rearwardly until the studs strike the inclined surface of the tab portions 52 of the bearing members 51. The studs in riding up these inclined portions will cause the springs 44 to be compressed until the stud portions reach the apertures prepared for them, whereupon the springs will force the studs into engagement with the apertures, thus mounting the unit in a freely rotatable manner.

In removing the shelf unit of the form of invention of Figs. 7-8, it is only necessary to grasp the pins 76 and to contract the pivot member by moving the parts 72 and 73 inwardly against the pressure of the spring 74 to disengage the bearing stud portions from the bearings of the bearing plates. When assembling, the studs are engaged with the shallow grooves 82 of the plates and the device is pushed inwardly until the bearings 80 engage the apertures formed for them in the plates.

In the form of invention of Fig. 9, it is only necessary to remove the cover 85 after which the shelf unit may be lifted out of the casing. When assembling this form, the unit is first placed within the casing with the lower end of its shaft engaging the bearing 90. The cover is then placed in position and the stud 95 brought into registration with bearing 101 by movement of the plate and through the use of self-centering guide 100. The plate is finally moved to the inner limit of its travel where it will support the upper end of the unit in its working position.

While I have shown and described my de-

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vice for use as a kitchen accessory, I do not wish to limit the device to this specific use, since it is obvious that it may be used in many places where it is desired to conveniently arrange a number of containers, as for instance, in a beauty parlor where dyes and cosmetics of various kinds are used. Furthermore, it is obvious that some modifications of the details herein shown and described may be made without departing from the spirit of the invention or the scope of the appended claims, and I do not wish to be limited to the details herein shown and described.

What is claimed is:

1. A cabinet comprising an outer casing having a top and a bottom, an axially expansible pivot member rotatably supported in suitable bearings carried by said top and said bottom, said top and said bottom each being formed with a guideway extending from the perimeter thereof toward and terminating at the bearing carried thereby for guiding the ends of said pivot member into registering positions with said bearings, means for detaching said pivot member ends from said bearings, and shelf means supported by said pivot member.

2. A cabinet comprising an outer casing having a top and a bottom, an axially contractible pivot member mounted within said casing and having a normal length substantially equal to the distance between said top and said bottom, a guideway carried by said top and said bottom and extending from the perimeter of the casing to the center thereof for guiding the ends of said pivot member toward their bearing positions, a bearing for each end of said pivot member carried by said top and said bottom and disposed at the inner ends of said guideways, each of said bearings having an apertured portion for the reception of one end of said pivot member and being formed with an inclined surface extending downwardly and forwardly from said apertured portion, the inclined surfaces of said bearings being oppositely arranged, whereby when the pivot member is moved through the guideway its ends will ride upon the inclined surfaces and cause the member to be contracted longitudinally and its ends to be brought into engagement with the apertured portions of the bearings, and a sleeve unit supported by said pivot.

3. As an article of manufacture, a revolving shelf unit comprising a multipart pivot member extensible under spring pressure to a predetermined length, bearing means in fixed spaced relation for rotatably supporting the ends of said pivot member when extended, each of said bearing means having a bearing aperture and a guideway extending from the perimeter of the casing to and terminating at said bearing aperture, and spaced shelves supported by said pivot member.

4. A cabinet comprising an annular casing having an access opening, a top and a bottom for said casing, said top and said bottom being each

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formed of two superimposed disk members having spaced annular flanges, doors slidably mounted in the space between said flanges to close the opening in said casing, a shelf unit rotatably mounted in said casing, a pivot member for carrying said unit, bearings for said pivot member carried by said top and said bottom, and radially arranged and spaced guide portions formed from the material of the inner disk member and extending from the periphery of the casing toward the center thereof to provide guideways for the ends of said pivot member.

5. A cabinet comprising an outer casing having a top and a bottom, an axially expansible pivot member rotatably supported in suitable bearings carried by said top and said bottom, said top and said bottom each being formed with a guideway extending from the perimeter thereof toward and terminating at the bearing carried thereby for guiding the ends of said pivot member into registering positions with said bearings, means for detaching said pivot member ends from said bearings, a sleeve surrounding said pivot member and supported thereby, and shelf means mounted upon said sleeve.

6. A cabinet comprising an outer casing having a top and a bottom, an axially expansible pivot member rotatably supported in suitable bearings carried by said top and said bottom, said top and said bottom each being formed with bearing guide means leading from a point off center to facilitate registration of the ends of said pivot member with said bearings, means for detaching said pivot ends from said bearing, and shelf means supported by said pivot member.

7. As an article of manufacture, a revolving shelf unit comprising a multipart pivot member extensible under spring pressure to a predetermined length, bearing means in fixed spaced relation for rotatably supporting the ends of said pivot member when extended, each of said bearing means having a bearing aperture and bearing guide means leading from a point off center to facilitate registration of said pivot member with the bearings, and spaced shelves supported by said pivot member.

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