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SHELF SUPPORT

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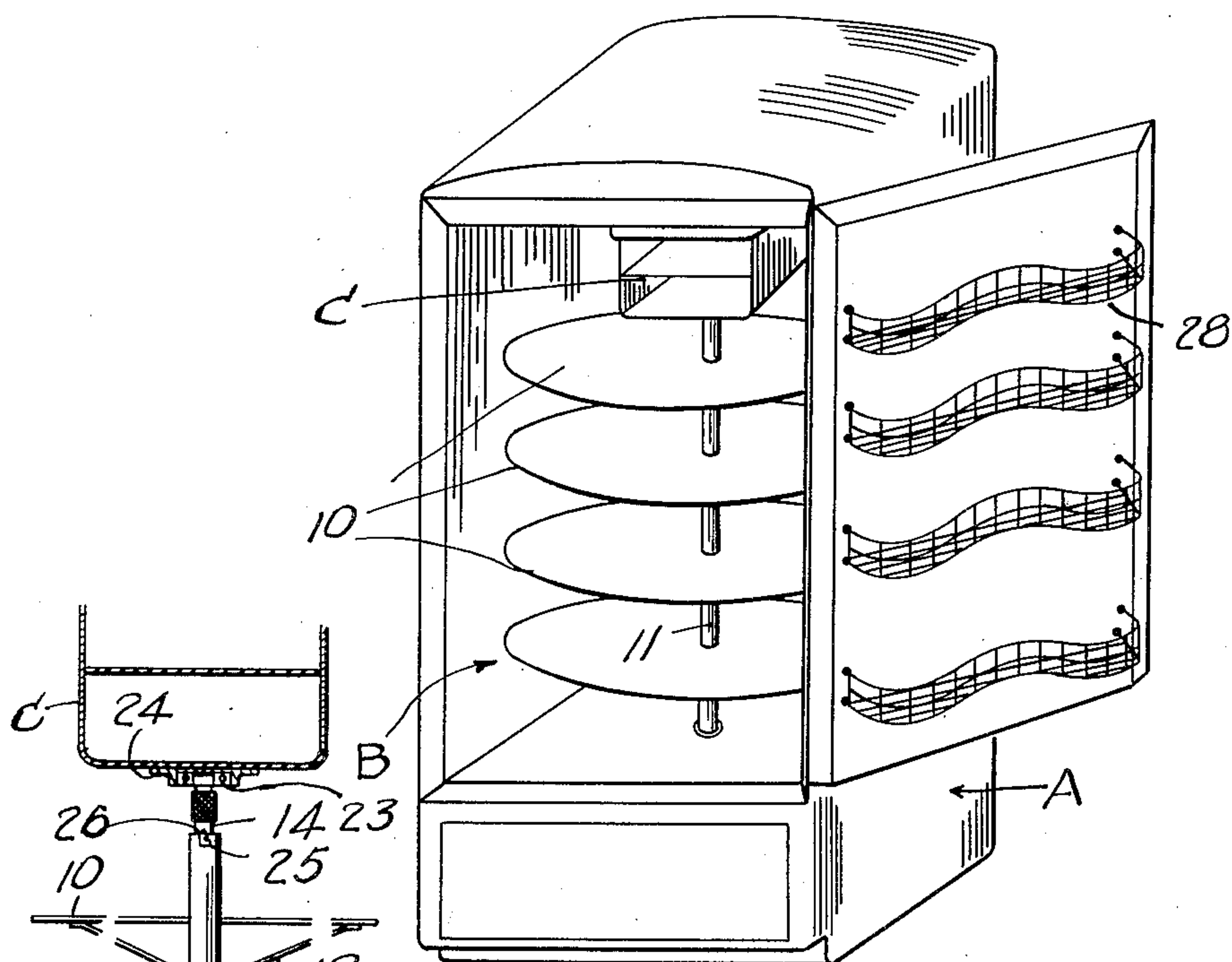


FIG 1

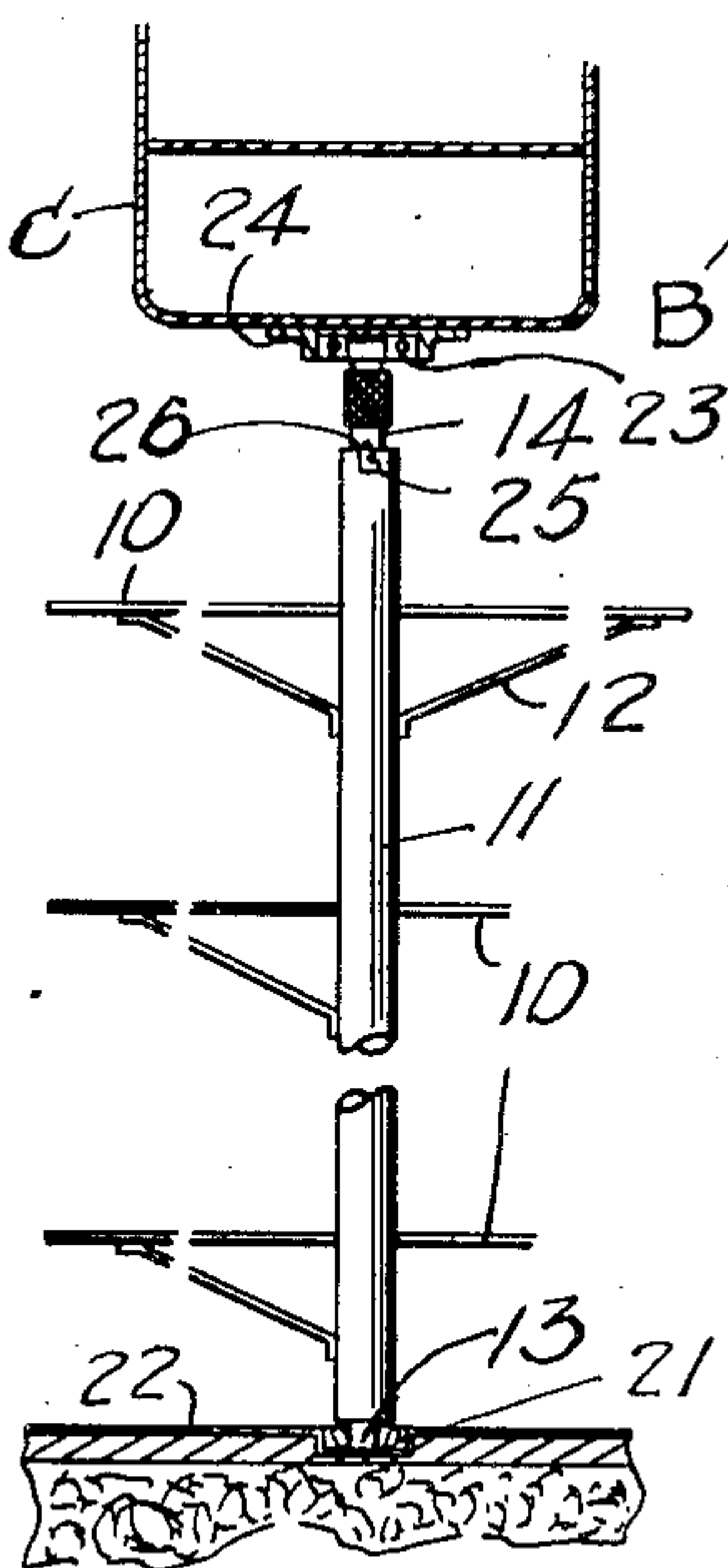


FIG 2

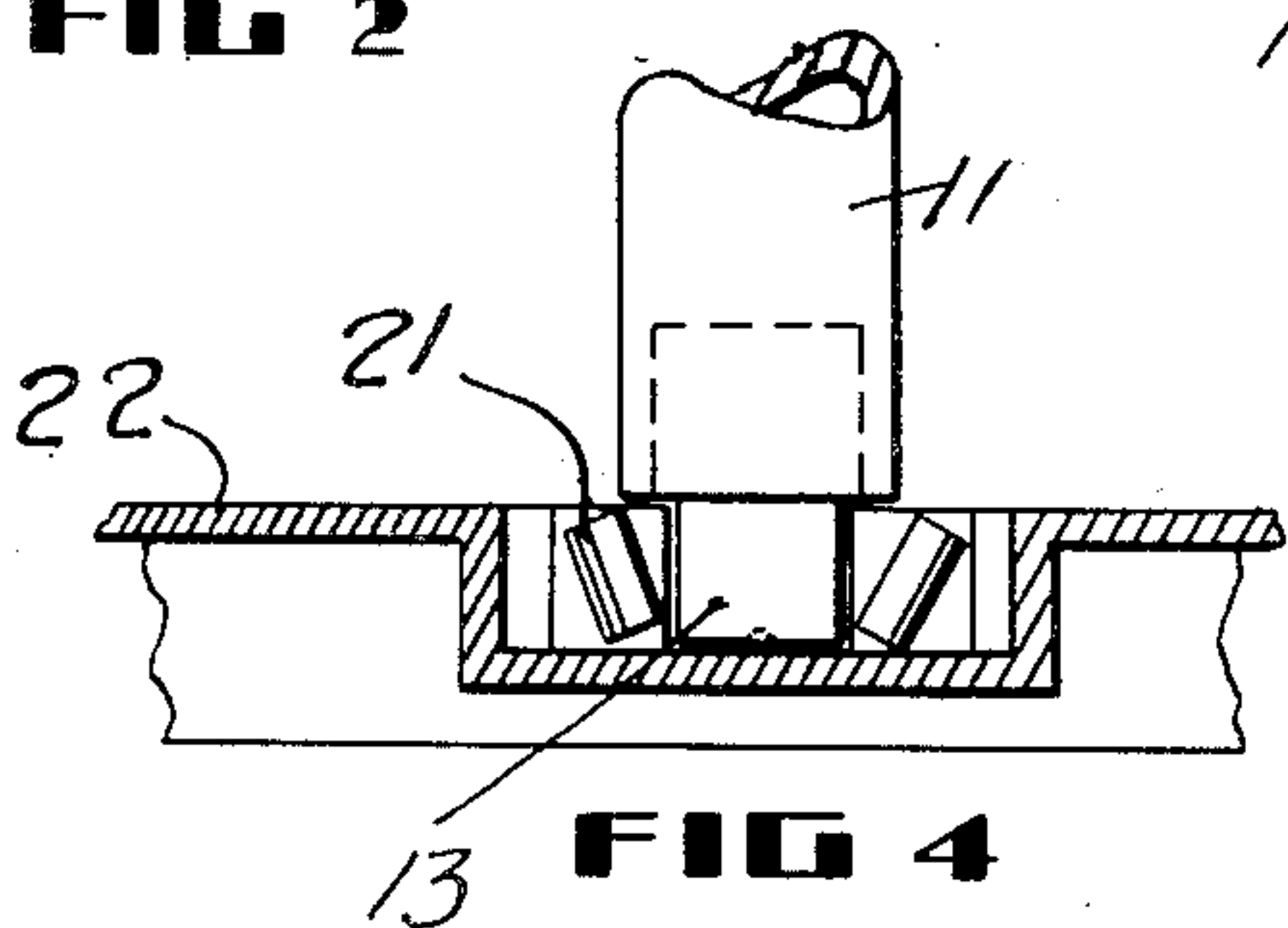


FIG 4

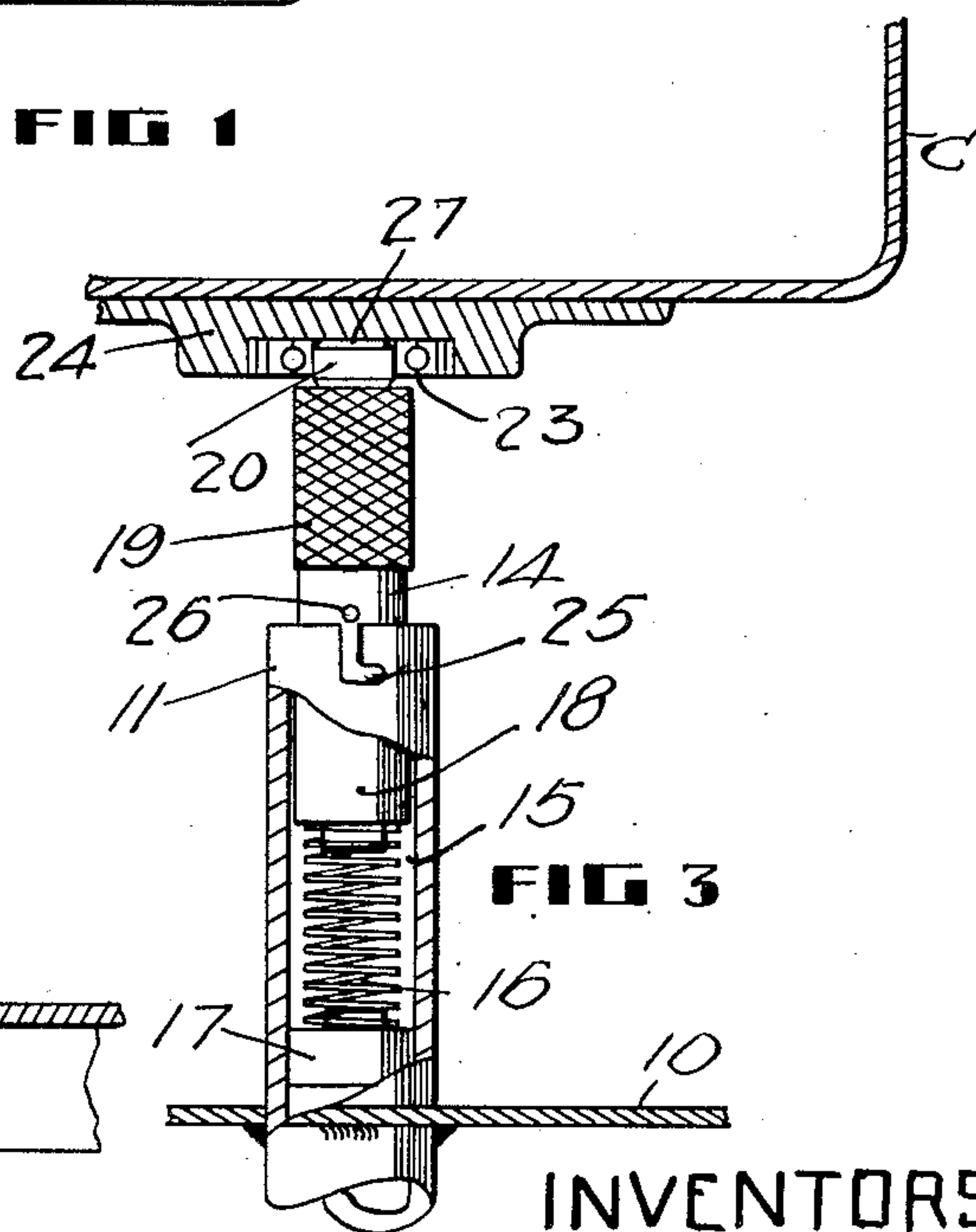


FIG 3

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SHELF SUPPORT

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5 Claims. (Cl. 248—131)

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This invention relates to cabinets with particular reference to refrigerating cabinets.

Disadvantages of this type of cabinet may readily be overcome by a modification of the average cabinet at present in use or by a completely new construction of cabinet, as will be apparent in the present invention.

It is an object of the present invention to provide a cabinet having a series of rotary shelves readily operable such that articles stored thereon may be brought readily to hand by simple rotation of the shelf to position the articles directly adjacent to the accessible opening to the cabinet.

A further object of the invention is to provide a construction of this character wherein the shelves are mounted in a very simple manner for rotation but through which they may be readily removed for cleaning purposes.

A further object of the invention is to provide a cabinet construction including rotary shelves which while readily rotatable will at the same time be sturdy and durable.

A still further object of the invention is to provide a construction of the character referred to wherein the shelves may be carried as a complete unit and readily removed from the cabinet as a complete unit by one simple operation.

A still further object of the invention is to provide a rotary shelving construction for cabinets which may be readily applied to rectangular cabinets of generally standard construction, with little alteration in the cabinet.

With these and other objects in view the invention generally comprises a cabinet having a series of circular shelves with means for mounting said shelves rotatably within the cabinet, said shelves being readily removable in a simple manner. In one form they may be centrally supported and introduced or removed as a complete unit, or in another form individually supported from their peripheries.

The invention will be clearly understood by reference to the following detailed specification taken in conjunction with the accompanying drawings.

Referring to the drawings,

Fig. 1 is a perspective view of a standard rectangular cabinet with the door open to illustrate the application of circular rotary shelves thereto.

Fig. 2 is an elevational detail of the shelving unit and the general manner in which it is mounted between the ice tray compartment and the base of the refrigerating cabinet.

Fig. 3 is an enlarged fragmentary detail of the manner of demountably applying the unit to a cabinet.

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Fig. 4 is an enlarged fragmentary detail partly in section illustrating a practical bearing support for the bottom of the shelving unit.

Referring to the drawings and particularly to Figures 1 and 4, A indicates a refrigerating cabinet of generally standard construction which has been modified to include therewith a series of circular rotary shelves B. In this form of construction each shelf 10 is mounted on a shaft 11 in spaced apart relation in any suitable manner such as by the bracket arms 12.

The lower end of the shaft 11 is provided with a pintle or the like 13 while the upper end is provided with a depressible plunger element 14 housed within the upper hollow interior 15 on the shaft and suitably outwardly pressed by a coil spring 16 extending between a suitable mounting, in the form of a plug 17 within the interior of the shaft 11, and the lower end 18 of the plunger. The upper portion of the plunger may be suitably knurled as at 19 and provided with a bearing head 20. The pintle 13 on the lower end of the shaft 11 is designed to enter a suitable thrust bearing 21 disposed centrally within the base 22 of the refrigerating compartment, while the bearing head 20 is designed to fit within a suitable bearing such as ball bearing or roller bearing element 23 which is carried within a suitable fitting 24 disposed on the base of the ice tray compartment cabinet of the refrigerator, the bearing element 23 being aligned with the bearing 21.

The shaft 11 and connected trays 10 are thus rotatably mounted within the refrigerating cabinet and may be inserted and removed as a unit very readily. In this connection it will be noted that the upper end of shaft 11 is provided with a bayonet slot 25 designed to cooperate with the projecting pin 26 on the plunger 14 so that to remove the series of shelves from the refrigerating cabinet it is only necessary to grasp the knurled portion 19, depress it and lock it in the depressed position by way of the pin and bayonet slot connection 26 and 25, whereupon the whole unit may be removed, since through this action the bearing head 20 is disengaged from the bearing 23 and the lower end of the shaft may then readily be removed from the bearing 21.

To return the unit B including the shaft 11 and connected trays 10, it is only necessary to introduce the unit to the cabinet, insert the pintle 13 in the bearing 21, and then release the plunger from locked position in the bayonet slot 25 to again cause the bearing head 20 to enter into the bearing 23. In this instance the upper edge of the bearing head 20 may be bevelled as at 27 to

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facilitate entry of the head into bearing 23. On the other hand, the adjacent peripheral edge might likewise be slightly bevelled for this purpose.

Likewise the shelves or trays 10 are readily rotated to locate clear spaces on them for introducing articles thereto. Furthermore, the unit described may readily be used to convert the average standard cabinet, in a simple manner, to one including rotary trays, since the insertion of the bearing fixtures requires but little alteration, whereas in the case of wiring and accessory fixtures sufficient space is provided for this between the rounded edge of the rotary trays and the back corners of the cabinet. Such a cabinet likewise may include suitable racks 28 on the doors suitably curved to coincide with the curvature of the rotary trays or shelves 10.

The shaft may be mounted in a manner similar to that described in Figures 1 to 4 by providing a suitable thrust bearing within the base of the cabinet similar to that as illustrated in Figure 4 and providing a simple bearing receiving structure 40 which may conveniently be positioned on the base of the tray compartment of the refrigerator, employing a similar mounting and dismounting structure on the shaft including a plunger 41 and associated cooperating parts such as previously described in connection with Figures 2 and 3. Of course, other means may be employed for mounting and dismounting the shaft.

What we claim as our invention is:

1. A column, at least one shelf mounted thereon, an outwardly spring pressed plunger at one of the free ends of said column, a freely accessible hand grip formed on said plunger for manually depressing it, the free ends of said column being adapted for rotatable mounting between prepositioned bearings.

2. A column, at least one shelf mounted thereon, an outwardly spring pressed plunger at one of the free ends, a freely accessible hand grip formed on said plunger by knurling a portion thereof for manually depressing the said plunger, the free ends of said column being designed for rotatable mounting between prepositioned bearings.

3. A column, at least one shelf mounted thereon, an outwardly spring pressed plunger at one

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of the free ends of said column, a freely accessible hand grip formed on said plunger for manually depressing it and locking means for retaining said spring pressed plunger in a depressed position, the free ends of said column being adapted for rotatable mounting between prepositioned bearings.

4. A column, at least one shelf mounted thereon, an outwardly spring pressed plunger at one of the free ends of said column, a freely accessible hand grip formed on said plunger by knurling a portion thereof for manually depressing said plunger, locking means for retaining said spring pressed plunger in a depressed position, the free ends of said column being adapted for rotatable mounting between prepositioned bearings.

5. A column with at least one shelf mounted thereon as claimed in claim 4 in which said spring pressed plunger is reciprocable in an axial bore formed in one end of said column and said locking means includes a slot in said bore, said slot having a notch and a pin projecting from said plunger adapted to ride in said slot, said pin being manually operable into said notch in said slot to lock said plunger in a depressed position.

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