Jan. 26, 1937.

C. F. HOFFMAN

2,069,067

ADJUSTABLE SHELF

Filed Dec. 19, 1934

Fig. 1.

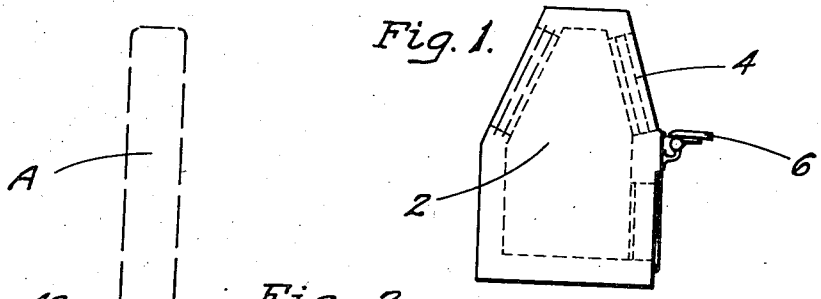


Fig. 2.

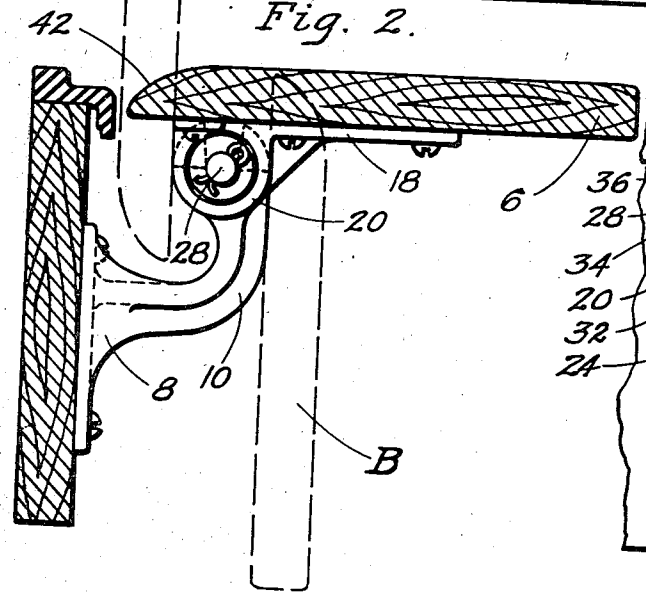


Fig. 3.

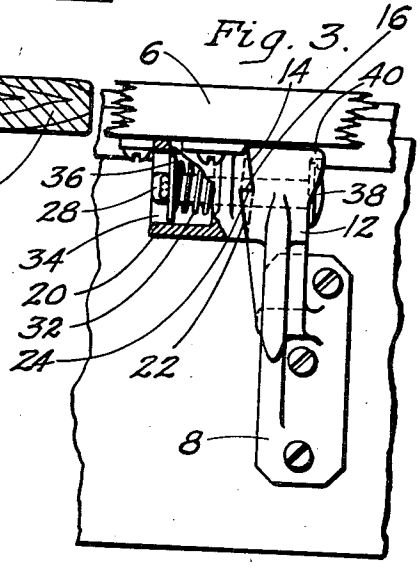


Fig. 4.

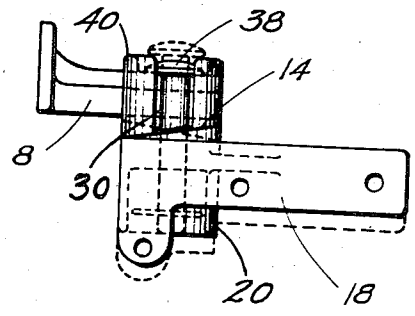
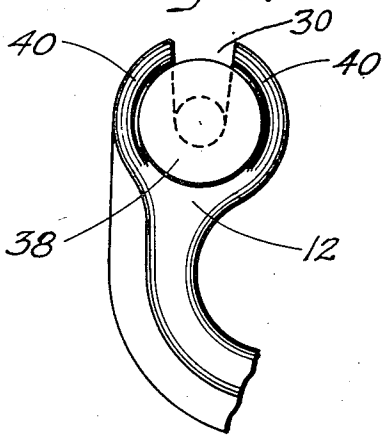


Fig. 5.



INVENTOR

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ADJUSTABLE SHELF

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Application December 19, 1934, Serial No. 758,187

5 Claims. (Cl. 248—240)

My invention relates to adjustable shelves, or the like, and to the application thereof to showcases, refrigerators and similar constructions.

Adjustable shelves have been made heretofore which may be raised or lowered on their supports. However such shelves are usually permanently attached to a support and are movable only from a horizontal position to either a raised or to a lowered position and cannot be moved to both alternative positions or removed from their support without the use of tools.

Showcases having sliding or swinging doors are often provided with a shelf located below the door in position to enable a clerk to place articles on the shelf while using one hand to close the door. However such shelves have not been made adjustable or readily removable and therefore the clerk cannot stand close to the showcase so that it is difficult to reach those articles in the front of the case or to clean the same when a shelf is employed. Furthermore when the space behind the counter is narrow the shelf may occupy space needed to allow the passage back and forth of extra clerks employed during rush periods.

In accordance with my invention these difficulties and disadvantages in constructions of the prior art are overcome and an adjustable shelf or the like is provided which normally is held in a horizontal position but which may be either raised or lowered and which can be removed without the use of tools. When applied to showcases this construction renders it possible for the clerk to raise the shelf permitting him to stand close to the case and reach to the front thereof and at the same time the convenient shelf adjacent the door is provided. Furthermore when it is desired to clean the showcase or to provide additional room at the rear thereof the shelf may be lowered or removed as desired.

One of the objects of my invention is to provide an adjustable shelf or the like which normally is held in a horizontal position but which may be readily raised or lowered as desired without the use of tools.

Another object of my invention is to provide an adjustable shelf, or the like which can be removed from its support without the use of tools.

A further object of my invention is to provide a showcase having an adjustable shelf thereon, which can be readily raised, lowered or removed as desired.

These and other objects and features of my invention will appear from the following description thereof in which reference is made to the accompanying figures of the drawing illustrating a typical embodiment of my invention.

In the drawing:

Fig. 1 is a diagrammatic illustration of a showcase having an adjustable shelf thereon embodying my invention.

Fig. 2 is an enlarged elevation of a preferred form of supporting means for the adjustable shelf.

Fig. 3 is an elevation of the construction illustrated in Fig. 2 as seen from the right.

Fig. 4 is a plan view of the form of supporting means illustrated in Figs. 2 and 3, and

Fig. 5 is an end view of the pivot means employed in the construction illustrated in Figs. 1 and 4.

In that form of my invention chosen for illustration in the drawing I provide a showcase 2 of the type employed in grocery and meat stores having a door 4 at the rear thereof beneath which is located an adjustable shelf 6.

The shelf preferably is supported by a bracket member 8 which may be secured to or formed integral with the showcase as desired. The bracket is provided with an arm 10 which extends outwardly and upwardly from the showcase and has a head 12 formed with a bearing surface 14 and with an abutment 16 thereon. The shelf 6 is secured to a shelf supporting member 18 provided with a portion 20 having a bearing surface 22 thereon formed to cooperate with the bearing surface 14 on the bracket member. An abutment 24 is also formed on the member 18 and positioned to engage abutment 16 on the bracket when the shelf is in its normal horizontal position. The shelf may thus be used to support packages, knives, or other articles and is conveniently located to enable the clerk to rest things thereon when opening or closing the doors of the showcase.

The shelf supporting member is pivotally mounted on the bracket 8 by pivot means 28 which as shown is in the form of a bolt carried by the shelf supporting member and lying in an open-sided recess 30 in the head 12 of the bracket member. A spring 32 is located in a recess 34 in the shelf supporting member and arranged with one end thereof bearing against the bottom of the recess 34 whereas the other end of the spring bears against a washer 36 carried by the pivot means 28 and held against removal therefrom by a cotter pin or the like. The spring is normally under compression so that it urges the pivot means to the left as seen in Fig. 3 causing the bearing surfaces 22 and 14 on the shelf supporting member and bracket respectively to be constantly urged itno engagement.

The head 12 of the bracket member may be provided with any suitable retaining means preventing removal of the bolt 28 from the open-sided recess 30. The bolt which constitutes the pivot means in the construction illustrated is provided with an enlarged head 38 held by spring 32 beneath the overhanging projections 40 so that the pivot means is securely held in place.

The bearing surfaces are inclined with respect to the axis of the bolt or pivot means 28 in such a way that upward tilting of the shelf causes the supporting member to be moved axially of the pivot means carrying the pivot means therewith and increasing the tension on spring 30. With this construction the shelf may easily be raised to the dotted line position A of Fig. 2 by lifting the front edge thereof to permit the clerk to stand close to the showcase. The rear edge 42 of the shelf is located closely adjacent the showcase and since it extends rearwardly of the pivot means it will move downwardly about the head of the bracket into the space between the head and the showcase provided by the outwardly and upwardly extending arm 10. During this movement of the shelf the bearing face 22 on the shelf supporting member moves over the bearing face 14 on the bracket and when as illustrated these faces are inclined the shelf supporting member is moved longitudinally of the pivot means against the action of the spring 32 as it is raised to its tilted position. Upon release of the shelf the spring 32 tends to expand and moves the shelf back to its normal horizontal position due to the inclined surfaces of the faces 14 and 22. While this construction is preferred it will be apparent that the faces 14 and 22 may be located substantially vertical to the axis of the pivot means if desired in which case the shelf will remain in its raised position due to the frictional contact between said faces.

When it is desired to lower the shelf in order to clean the case or to provide additional space at the rear of the case it is only necessary to grasp the shelf and move the same together with the shelf supporting members, axially of the pivot means to disengage the abutments 24 on the shelf supporting members from the abutments 16 on the heads of the brackets. The shelf may then be lowered or allowed to fall to the vertical position shown in dotted lines at B in Fig. 2 in which it will remain until the shelf is again raised to permit the abutment 24 to move longitudinally into engagement with the abutment 16 on the bracket under the action of the spring 32. Thereafter the shelf will remain in its normal horizontal position. The shelf is therefore readily movable to the horizontal position from either its raised or lowered positions without the adjustment of any parts of the device.

When it is desired to remove the shelf from the bracket the clerk presses the end of the pivot means in the recess 34 of the shelf supporting means against the action of spring 32 so as to depress the spring and move the head 38 of the pivot means out of engagement with the retaining means 40 on the head 12 of the bracket member. The shelf may then be raised or moved so as to lift the pivot means out of the open-sided recess in the head of the bracket member. In actual operation it is usually easier to depress the spring and remove the pivot means from the bracket at one end of the shelf before removing the other pivot means from its bracket and the parts are therefore constructed to permit such movement of the parts. When it is desired to replace the shelf it is only necessary to again depress the spring 32 moving the pivot means 28 and the head 38 thereof far enough away from the shelf supporting member to permit the projecting portion of the pivot means to be placed in the open-sided recess 30 in the head 12 of the bracket member. Thereafter the spring 32 is released so that the head 38 is urged into engagement with the retaining means on the head 12 to secure the pivot means and shelf supporting member in place. The shelf may then be moved to any of its various positions as before. From the foregoing description of that form of my invention illustrated it will be apparent that no tools are required to apply, remove or adjust the position of the shelf and that it is easily and conveniently manipulated to permit cleaning of the case or to enable the clerk to reach into the same without inconvenience.

While I have illustrated and described a preferred form of adjustable shelf supporting means embodying my invention it will be apparent that the various elements of the construction may be changed or modified in form and arrangement as desired to adapt the device for any particular use or installation. It should therefore be understood that the form of my invention herein shown and described has been chosen for purposes of illustration and is not intended to limit the scope of the invention.

I claim:

1. An adjustable bracket for a shelf or the like comprising a bracket member and a shelf supporting member, pivot means carried by one member and lying in an open sided recess in the other member, means on said other member retaining said pivot means in said recess and spring means yieldably retaining said pivot means in engagement with said retaining means.

2. An adjustable bracket for a shelf or the like comprising a bracket member for attachment to a support having an abutment thereon, a movable shelf supporting member having a cooperating abutment thereon positioned to engage the abutment on said bracket member when the supporting member is in a horizontal position, a pivot means carried by one member lying in an open-sided recess in the other member and spring means preventing removal of said pivot means from said other member.

3. An adjustable bracket for a shelf or the like comprising a bracket member having an abutment thereon, a movable shelf supporting member having a cooperating abutment thereon positioned to engage the abutment on said bracket member when the supporting member is in a horizontal position, a pivot means carried by one member and lying in an open-sided recess in the other member, retaining means on said other member, a projection on said pivot means for engaging said retaining means and a spring cooperating with said retaining means and projection to retain said pivot means in said recess.

4. An adjustable support for a shelf or the like comprising a bracket having a bearing face with an abutment formed thereon facing in one direction, a shelf supporting member pivotally connected to said bracket having a bearing face for engaging that on said bracket formed with a cooperating abutment facing in the opposite direction and so located as to engage the abutment on said bracket when said supporting member is in a horizontal position to prevent downward tilting thereof, pivot means carried by said supporting member and lying in an upwardly facing open-sided recess in the bracket, retaining means

holding said pivot means in said open-sided recess and a spring urging said pivot means into engagement with said retaining means.

5. An adjustable bracket for a shelf or the like comprising a bracket member, a shelf supporting member, pivot means carried by one member and engaging the other, retaining means on said other member preventing removal of the pivot means therefrom, and a spring urging said pivot means into engagement with said retaining means, said pivot means being movable with respect to both said members against the action of said spring to disengage said retaining means and permit removal of said shelf supporting member from said bracket.

CYRUS F. HOFFMAN.