Aug. 30, 1960 R. A. SHIELS 2,950,820

COMBINATION DISPLAY SHELF AND DIVIDER OR SEPARATOR FOR A STACK OF COLUMNAR ARTICLES

Filed Dec. 9, 1957

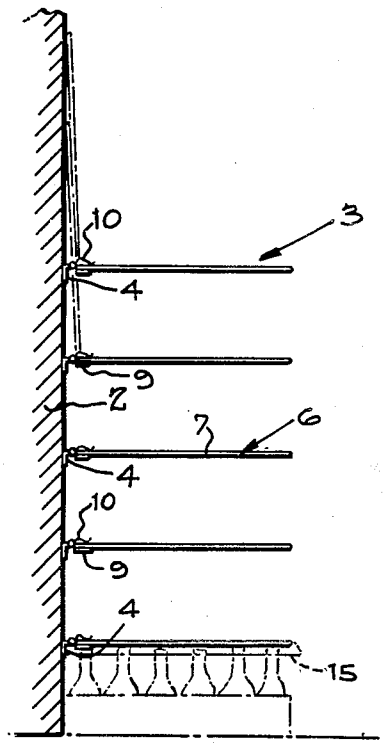


Fig. 1

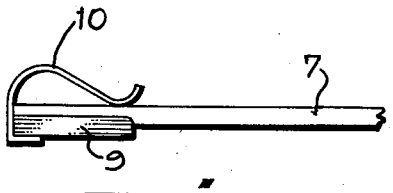


Fig. 3

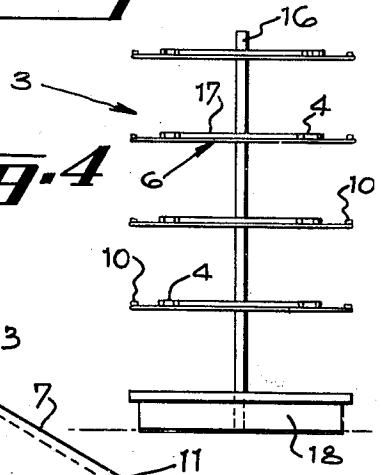


Fig. 4

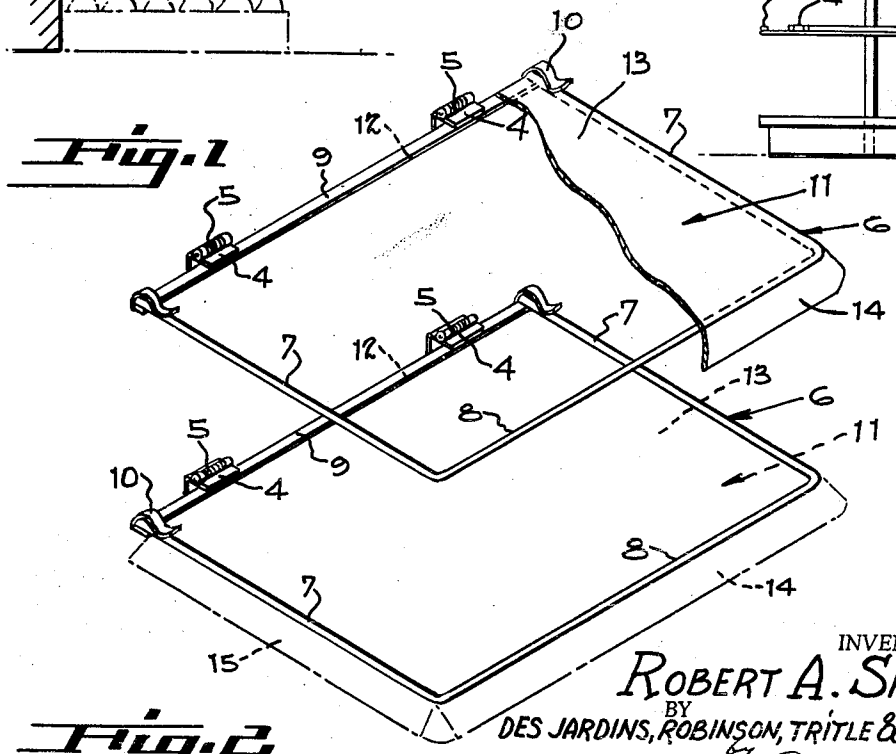


Fig. 2

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United States Patent Office 2,950,820
Patented Aug. 30, 1960

2,950,820

COMBINATION DISPLAY SHELF AND DIVIDER OR SEPARATOR FOR A STACK OF COLUMNAR ARTICLES

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Filed Dec. 9, 1957, Ser. No. 701,421

11 Claims. (Cl. 211—49)

This invention relates to a spring-lift combination display shelf and divider or separator for a stack of columnar articles, such as bottled or canned goods, which are stacked in superimposed layers for display in stores, and it more particularly pertains to a frame construction of a shelf and divider or separator having a readily detachable bottom connected thereto for being easily removed for replacement. The detachable bottom is made from relatively cheap material, such as cardboard, which can be thrown away and replaced by a new one, and can easily printed on for carrying advertising material on both sides.

The combination display shelf and divider or separator is such that it may be a complete independent unit comprising a plurality of shelves mounted on a back support fitted to a base or to a building wall, or the shelves may be directly attached to a building wall.

Heretofore, the display shelf has been of relatively heavy and substantial material with a solid or slatted bottom. Whether solid or slatted, the bottom is a permanent part of the shelf and needs to be cleaned or painted after becoming dirty and worn. This requires much labor and repair, and, even then, it is difficult to keep the shelves neat and tidy at all times since they need to be repeatedly cleansed and refreshed. Moreover, with a slatted bottom, the slats need to be spaced at predetermined intervals so that they will rest on the tops of the stacked articles.

Accordingly one of the main objects of this invention is a combination display shelf and divider which is simple in construction and efficient in operation.

Another object of the invention is a combination display shelf and divider having a readily replaceable bottom.

Another object of the invention is a display shelf and divider having a readily replaceable bottom which is of relatively cheap material so that it can be discarded when soiled by use and replaced with a new one.

Another object of the invention is a display shelf and divider having a bottom upon which advertising material may be printed.

Still another object of the invention is a display shelf and divider which is of compressible material to provide a cushion between the layers of the stack.

Further objects, and objects relating to details of construction and economies of operation, will readily appear from the detailed description to follow. In one instance, the objects of the invention have been accomplished by the device and means set forth in the following specification. The invention is clearly defined and pointed out in the appended claims. Structures constituting preferred embodiments of the invention is illustrated in the accompanying drawings, forming a part of this specification, in which:

Fig. 1 is a building side wall equipped with a series of display shelves and dividers embodying the invention.

Fig. 2 is an enlarged perspective view of a pair of the display shelves or dividers.

Fig. 3 is an enlarged view of an end portion of one of the display shelves or dividers.

Fig. 4 is a front elevation view of a portion of a back support to which a shelf or shelves may be fitted as a unit.

The invention generally described comprises a combination display shelf or divider which is pivoted to a back support, such as a building wall or the back of a rack, in position to be pulled down into place from a normally retracted position to which it is biased. A series of shelves are mounted on the back support, vertically spaced-apart, for layers or rows of columnar articles to be interposed therebetween, each shelf being biased to a retracted position from which it is pulled down to a horizontal position over the top of a horizontal layer of columnar objects which are being stacked in a layer below the shelf. A stack is built up to any desired height with a combination shelf or divider between adjacent layers of the stack. A shelf is pulled down from its retracted position over the bottom layer of the stack, and a subsequent layer of columnar articles is then placed on the combination shelf or divider to be supported by the underlayer of the stack, and so on until a stack of any desired height is built up. The columnar articles, or cartons thereof, are removed from the top of the stack as sold, and, when all the articles from the top layer are removed, the display shelf or divider will automatically swing back from the top of the stack to its biased retracted position, thereby uncovering the next layer of stacked articles below the retracted empty shelf. The display shelf and divider is subjected to severe wear and needs to be frequently cleaned for being kept neat and tidy. To overcome this, the shelf is provided with a bottom which is readily detachably connected to the frame part of the shelf and divider, and it is made of disposable material so as to be easily replaced with a new one. Moreover, it is of a material upon which advertising material can be printed, and is compressible so as to provide a cushion between the layers of the stack. Only the bottom of the shelf is interposed between the layers of the stack.

Referring specifically to the drawings in which like numerals designate like parts, numeral 2 is a back support, typified by a building side wall, to which a series of display shelves and dividers 3 may be pivoted by hinges 4 in vertically spaced-apart relation. The hinges are provided with springs 5 torsioned to bias the shelves to elevated retracted position when they are empty. The springs are conventional ones comprising two leaf parts pivoted together by a pin. The torsion spring is disposed about the pin with its opposite ends in fitted relation to a leaf of the hinge.

Each of the shelves 3 comprises a rectangular frame member made of any suitable material, such as wire. It is advantageously made of a U-shaped wire part 6 with legs 7 extending from the base 8. The free ends of the legs are welded to a cross-piece 9 extending parallel to base 8. The cross-piece 9 is preferably flat for attachment of one leaf of the hinges 4. The other leaf of the hinge is attached to the back support 2.

Spring fingers or clips 10, about two in number, are secured to the rear corners of the frame to have a spring socket between the free ends of the springs and the top side of legs 7, said sockets opening toward the front side of the shelf which is base 8 of the U-shaped member.

A bottom 11 of cardboard, corrugated paper, or similar material is fitted to the top side of the frame member by having its rear edge 12 slipped into the spring sockets and yieldably gripped by the spring fingers or clips 10. This bottom 11 has a main rectangular portion 13 of substantially the same area as the shelf frame. The front edge of the bottom is bent downwardly and outwardly into an overhanging flange 14, and the end edges are likewise bent downwardly and outwardly into overhanging flanges 15. The adjacent corners of the flanges

14 and 15 are overlapped and fastened by any suitable means, such as adhesive. The bottom of the shelf is not only readily removable from the frame, but it is of compressible character to function as a cushion between the layers of the stack and cause them to be held snugly in place.

The bottom of the shelf is of the construction shown in Figs. 1 to 3 of my application Serial No. 625,043 which is incorporated in full as part of the present disclosure. The separator or divider thereof is adapted for the bottom of the frame on which it seats.

The shelves may be individually fastened in place to a building wall, or they may be fastened to a vertical post 16 to which cross-pieces 17 are fixed in vertically spaced apart relation. A shelf is fastened to each of the cross-pieces 17, and the post can then be fastened to the building wall. Or the bottom end of the post 16 may be fitted to the floor or to a base 18 mounted on the floor. Said base 18 may be a pedestal on which the bottom layer of the stack is placed. The base may be of a construction for supporting thereon the bottom layer of the stack.

Advertising matter may be printed on the detachable bottom of the shelf, both on its main body part and on the flanged edges as well as on both sides. The bottom member is of disposable material, such as cardboard, corrugated paper, or the like which can be easily printed on. While the bottom is preferably used with its flanged edges extending downwardly, it is reversible and can be inverted with the flanged edges extending upwardly, thereby allowing further use if one side be fresh and clean and the opposite side be soiled.

It is the detachable bottom which is interposed between the layers of the stack and is subjected to wear. The surrounding frame part is merely a holder for the bottom, and is not subjected to such wear that would result from being inserted between the layers. Therefore, it can be of very light weight.

I am aware that there may be various changes in details of construction without departing from the spirit of the invention, and, therefore, I claim the invention broadly as indicated by the appended claims.

Having thus described my invention, what I claim is new and useful and desire to secure by U.S. Letters Patent is:

1. A combination display shelf and divider for stacked columnar articles comprising a pivoted frame member having arms spaced apart to provide an intervening longitudinal open space of greater length than an underlying tier of stacked articles, a cross piece to which the ends of the arms are connected and forming one side of the space, and a readily detachable bottom spanning the space between the spaced apart arms of the frame member for interposition between layers of a stack, said bottom being engaged by said interposed layers of said stack.

2. The combination display shelf and divider of claim 1 in which the bottom has a main area not less than the area of the intervening space spanning the intervening opening space of the frame member and a flanged edge overhanging said frame member.

3. The combination display shelf and divider of claim 1 in which the frame member is provided with spring socket into which one edge of the bottom is inserted for being yieldably gripped.

4. The combination display shelf and divider of claim 1 in which the frame member is provided with means for pivoting said frame to a back support, and means associated with the pivot means for biasing the frame to elevated retracted position adjacent the back support.

5. A combination display shelf and divider unit for stacked columnar articles comprising a back support, a series of combination display shelves and dividers pivotally connected to the back support in vertically spaced-apart relation, means for biasing the shelves and dividers to elevated retracted position adjacent the back support, and a readily detachable bottom for each of the pivoted shelves, each of said bottoms being adapted to be interposed between adjacent layers of said stacked articles and being engaged by said adjacent layers.

6. The combination display shelf and divider of claim 5 in which the shelves are each frame members and the bottoms span the frame members for being interposed between the stack layers.

7. The combination display shelf and divider of claim 6 in which the bottoms are detachably secured to the frame members by spring clips.

8. The combination display shelf and divider of claim 7 in which the spring clips are on the rear ends of the frame members to premit the bottoms being inserted in and withdrawn from the clips.

9. In combination with a stack of columnar articles stacked in superimposed rows or tiers, a combination display shelf and divider for the rows or tiers of the stack comprising a frame member provided with opposite sides and ends surrounding an open space of an area greater than the area of the top of an underlying row or tier of stacked articles, a readily detachable bottom spanning the open space of the frame member and seated on the surrounding sides and ends of said frame member, said bottom being engaged by said superimposed rows of stacked articles, and means for pivotally mounting the frame member in position between adjacent tiers of the stack.

10. The combination of claim 9 in which the readily detachable bottom has a flange edge overhanging the opposite ends and one of the sides of the frame member.

11. The combination of claim 10 including means for biasing the frame member to swing back position.

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