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REVERSIBLE LOWER BOOKCASE BASE FRAME

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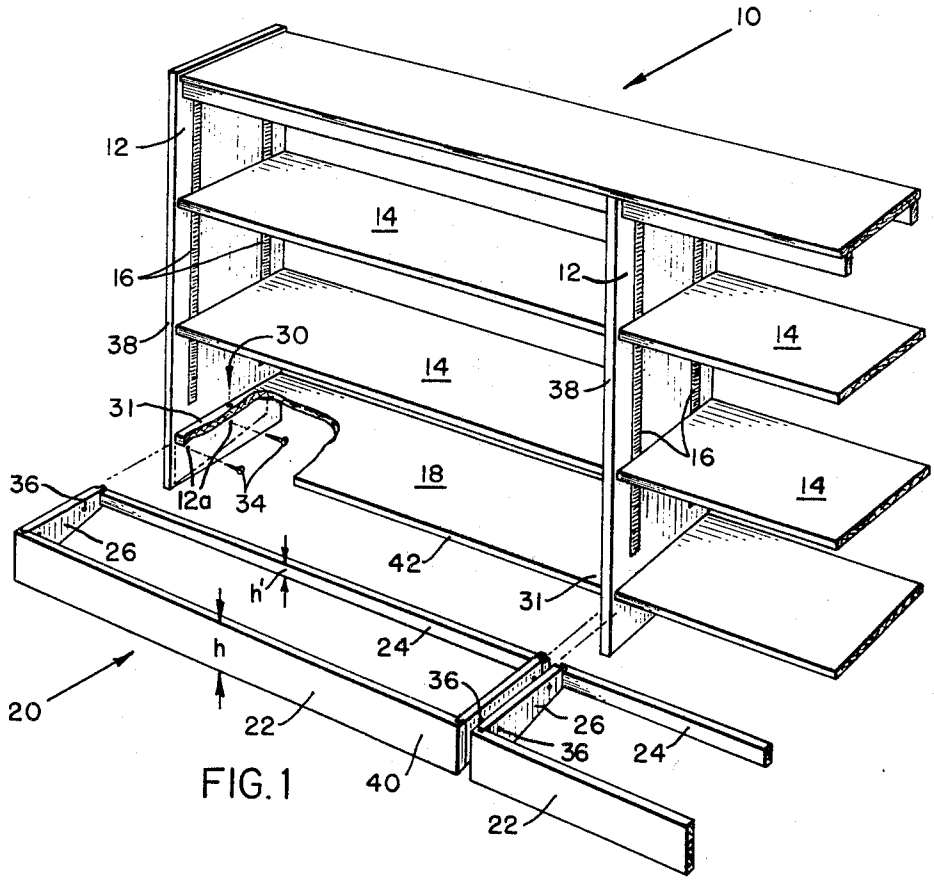


FIG. 1

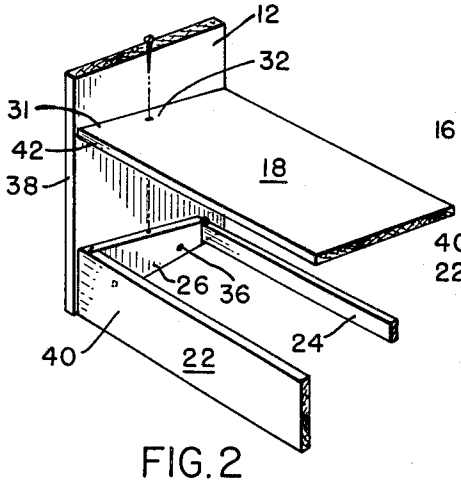


FIG. 2

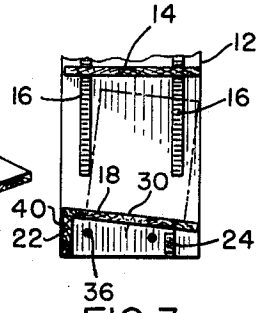


FIG. 3

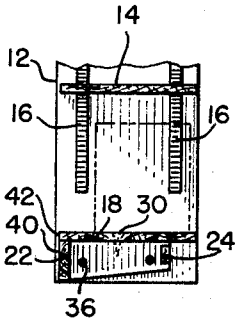


FIG. 4

INVENTORS
WILLIAM C. LOWE, JR.
FRANCIS H. ASBURY
JESSE E. MILLIKEN

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REVERSIBLE LOWER BOOKCASE BASE FRAME

William C. Lowe, Jr., Francis H. Asbury, and Jesse E. Milliken, High Point, N.C., assignors to Alma Desk Company, High Point, N.C., a corporation of North Carolina

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U.S. Cl. 108—1 9 Claims

ABSTRACT OF THE DISCLOSURE

A lower adjustable and reversible base frame for a library bookcase having a plurality of substantially horizontal shelves, the frame supporting a lower shelf member in a first position substantially horizontal and parallel to the other bookshelves or in a second position wherein the shelf is rearwardly inclined to support books thereon in a more viewable position.

BACKGROUND, BRIEF SUMMARY AND OBJECTIVES OF THE INVENTION

This invention relates to bookcase shelves for storing and displaying books and like materials and is particularly concerned with an angularly adjustable and reversible base frame that supports the lower shelf, which frame with the carried shelf, may be positioned to retained books in the bookcase in the same conventional manner in which books are held on other adjacent shelves or in a rearwardly inclined position wherein the book titles may be viewed by a reader standing erect without he or she experiencing the inconvenience and strain of bending or stooping to read the book titles of books maintained on a conventional and substantially horizontal lower shelf.

Library books are shelved usually in large bookcases of wood or metal having varying quantities of shelves which utilize all space reasonably available and yet keep the stored books generally accessible to patrons of the library. The precise physical arrangement of the books within the shelves, particularly in regard to symmetry, alignment and exposure, is usually at the discretion of the librarian in charge so long as the books are filed in accordance with a conventional classification system. Accordingly, the individual preferences of librarians will dictate whether or not shelved books are uniformly displayed or are displayed in a manner to make certain physical operations and manipulations more convenient to patrons of the library.

A commonly variable structural feature in a great number of public and private library bookcases is the bottom or lower bookcase shelf primarily because it is oftentimes extremely difficult for a library patron to read conveniently the titles of books positioned on this shelf when these books are supported in the same manner as books held on the other, higher shelves. Consequently, it is oftentimes necessary for the patron to stoop or bend to read the titles of the books positioned along the lower shelf, this being particularly true in the majority of libraries where the aisles are relatively narrow and prevent one from retreating sufficiently from the bookcase to

read the book titles on the lower shelf from an erect or standing position.

In an effort to overcome this undesirable feature, many bookcases are constructed so that the base frame supporting the lowermost shelf is permanently secured at a rearwardly inclined angle with respect to the floor, thus insuring that the books are exposed in a manner that will permit a library patron to view and discern book titles from a standing position. Unfortunately, once the base frame supporting the lowermost shelf of a bookcase is installed, the library is committed to its exclusive use unless a completely new lower base frame member is constructed or the existing member radically altered, either step resulting in a rather significant expenditure simply to eliminate one feature incompatible with the taste of a particular librarian.

The present invention has been developed to overcome the drawbacks of those permanently constructed tilted or inclined lower shelves and includes an adjustable and reversible base frame which supports a shelf member, the assembly being releasably securable to the side support members or standards of the bookcase to retain the shelf in a horizontal and substantially parallel position with the other shelves of the bookcase or to retain that shelf member in a rearwardly inclined position in the event that configuration is desired. Thus, a single supporting base frame for the lower shelf is provided which will give maximum flexibility, provided optimum versatility, and accommodate the particular desires of the individual librarian.

From the foregoing it can be seen that one of the principal objects of the present invention is to provide an adjustable and reversible lower shelf for a library bookcase which can be positioned in a conventional horizontal manner or reversed to assume a rearwardly inclined position in the event such a configuration is desired.

Another object of the present invention is to provide a convertible lower shelf having a uniquely constructed base frame which can be reversed within the side supporting members of the shelf to assume the position desired.

Yet another object of the present invention is to provide a lower adjustable shelf for a library bookcase of the type described of simple and economic construction which will avoid the undesirable inflexibility heretofore presented by the permanency of the lower shelf.

These and other objects of the present invention will become more apparent from a consideration of the following detailed description taken in conjunction with the accompanying drawings wherein like characters of reference designate like parts throughout the several views.

FIGURE DESCRIPTION

FIG. 1 is a perspective, sectional, fragmentary and exploded view of a library bookcase embodying the adjustable and reversible lower base frame and shelf of the present invention.

FIG. 2 is a perspective, fragmentary, exploded, sectional and enlarged view of the construction details of the adjustable and reversible lower base frame and shelf for a library bookcase embodying the present invention.

FIG. 3 is a side elevational, sectional and fragmentary view of the adjustable and reversible lower base frame and shelf for a library bookcase embodying the present invention showing the shelf in the rearwardly inclined and secured position.

FIG. 4 is a side elevational, sectional and fragmentary view of the adjustable and reversible lower base frame and shelf for a library bookcase embodying the present invention showing the shelf in the substantially parallel and horizontal secured position relative to the other adjacent shelves of the bookcase.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings and particularly to FIG. 1, a library bookcase generally designated **10** of conventional construction has a number of vertically extending side support members **12** which support a plurality of substantially horizontal and parallel connecting shelves **14** by conventional height adjustment means **16**. The bookcase **10** accommodates a lower angularly adjustable shelf **18** supported by a base frame generally designated **20** which connects the side members **12** in a manner subsequently to be described and has a forward member **22** and a rearward member **24**, the forward member having a height *h* greater than the height *h'* of the rearward member **24**. The forward and rearward members are connected at their ends by a pair of trapezoidal side members **26** so that a frame like that illustrated in FIG. 1 is formed.

The lower shelf **18** is releasably secured at each end **31**, by conventional means such as screws **30** or the like, to the trapezoidal members **26** such as shown in FIG. 2. As most clearly shown by FIGS. 3 and 4, screws **30** can be received in either of the opposed shelf support surfaces of trapezoidal side members **26**, depending upon the manner by which members **26** are secured to side support members **12**. The screw-receiving apertures **32** within the ends **31** of shelf **18** should be sufficiently large to permit easy passage of the screws to prevent scarring or damaging of the shelf **18** during a position change.

The base frame **20** is secured to the vertically extending side support members **12** by removable screws **34** or bolts, possibly as shown in FIG. 1, which extend through the openings **36** of trapezoidal side members **26** into or through openings **12***a* provided in the support members **12**. Again the screw-receiving apertures **36** should be of sufficient size to allow easy access and removal of the screws or bolts whenever a repositioning of the lower shelf is desired.

The particular construction of the lower shelf and especially the base frame **20** permits selective positioning of the lower bookcase shelf in the manner in FIGS. 3 and 4 whereby the shelf **18** is detached by removing the screws or bolts **30** securing the shelf to side members **26** of base frame **20**, and the base frame is then disconnected from the side support members **12** by removing screws **34** from opening **12***a* of side members **12**. Assuming the lower shelf was placed initially as shown in FIG. 3 in a rearwardly inclined position and it is desired that this shelf be relocated to a conventional, level and parallel location, as shown in FIG. 4, it is only necessary to reverse the base frame **20** by turning it over, end to end, while maintaining forward member **22** to the front of the bookcase, thus placing the trapezoidal side members **26** in an opposite relationship against the side support members **12** than that which was previously maintained. By so reversing the base frame **20**, it is then aligned in the manner shown in FIG. 4. Thus the screws or bolts **34** can be reinserted through the openings **36** and into or through openings **12***a* of the side support members **12** to maintain the base frame and supported shelf **18** in a substantially parallel and level position. Shelf **18** is then rescured to the opposed surface of each side member **26** by screws **30**.

When the lower shelf **18** and base frame **20** are secured in either of their two possible positions, the side support members **12**, the base frame forward member **22** and the shelf **18** all have planar surfaces or edges **38**, **40** and **42** which lie substantially in a common plane. This plane actually constitutes the leading edge or display front of the bookcase. Placing the base frame forwardly so that the forward member **22** is substantially flush with side support members **12** avoids a recess at the lower front of the bookcase which might otherwise collect debris and provides an attractive front for the unit.

While the shelf construction described is best adapted for use as the lowermost shelf in library and institutional bookcases because of the visual inaccessibility normally experienced with the placement of books on a conventional and substantially horizontal lower shelf by patrons of the library, it will be obvious to those skiled in the art of bookshelf design that similar constructions can be used on a number of the shelves in the same bookcase structure. The shelves can be angularly supported between the standards to the degree necessary to provide the patron with a direct undistorted view of the titles of books held on these particular shelves. Additionally, a frame could be constructed for those shelves located near the top of the bookcase so that the shelf could alternatively be sloped forwardly and contain a small retaining lip along the shelf's forward edge to permit the library patron to view easily the titles of the books positioned on these uppermost shelves. It is equally apparent that many modifications may be made in the construction of the base frame, particularly in the lower shelf structure and the various securing means without departing from the real spirit and purpose of this invention. Such changes, including the use of equivalents to those components herein illustrated, are contemplated.

What is claimed is:

1. An adjustable shelf for a bookcase having vertically extending side support members and substantially horizontal and parallel connecting shelves comprising: a base frame releasably secured to the side members and having a first shelf support surface, on one side of said base frame, substantially horizontal and parallel with other bookcase shelves when said frame is in a first secured position and having a second shelf support surface, on the opposite side of said base frame, sloping rearwardly when said frame is in a second secured position; and a self member carried by either of said first and second shelf support surfaces maintaining supported books consistent with books contained by the other bookcase shelves when said frame is in the first secured position and maintaining supporting books in an inclined position when said frame is in the second secured position.

2. The adjustable shelf as claimed in claim **1**, said frame being releasably mounted in the first secured position or the second secured position by reversing the frame member, end for end, to present alternate end portions of the frame to the respective side support members.

3. The adjustable shelf as claimed in claim **1**, said frame having a forward member and a rearward member, said forward member having a height greater than the height of said rearward member.

4. The adjustable shelf as claimed in claim **1**, said frame having a forward member and a rearward member and trapezoidal side members connecting said forward and rearward members.

5. The adjustable shelf as claimed in claim **1**, said frame having a forward member and a rearward member, said forward member having a height greater than the height of said rearward member, and trapezoidal side members connecting said forward and rearward members.

6. The adjustable shelf as claimed in claim **2**, said frame having a forward member and a rearward member, said forward member having a height greater than the height of said rearward member, and trapezoidal

side members connecting said forward and rearward members.

7. The adjustable shelf as claimed in claim 6 further comprising removable means releasably connecting said trapezoidal members to the side support members.

8. The adjustable shelf as claimed in claim 7 further comprising removable means releasably securing said shelf member to said frame upper surface.

9. The adjustable shelf as claimed in claim 8, said shelf member, the side support members and said forward member having a surface lying substantially in a common plane defining the display front of the bookcase.

References Cited

UNITED STATES PATENTS

1,427,249	8/1922	Weston	108—1
1,876,172	9/1932	Ruddy	108—6
3,010,585	11/1961	Slikkers	108—1
3,044,631	7/1962	Greenman, et al.	108—1
3,115,254	12/1963	Dowdall	211—134

BOBBY R. GAY, Primary Examiner

G. O. FINCH, Assistant Examiner