No. 793,451. PATENTED JUNE 27, 1905.

R. H. LINDSAY & F. R. BURCH.

BOOKCASE OR DISPLAY RACK.

APPLICATION FILED OCT. 1, 1904.

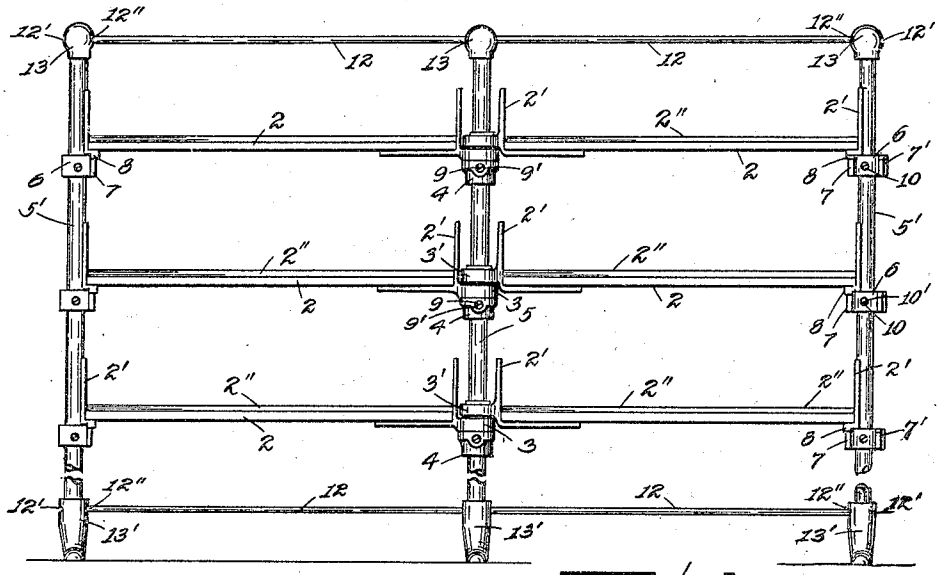


Fig. 1.

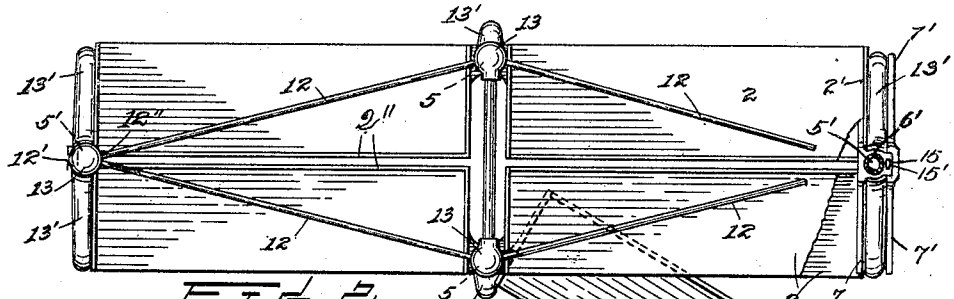


Fig. 2.

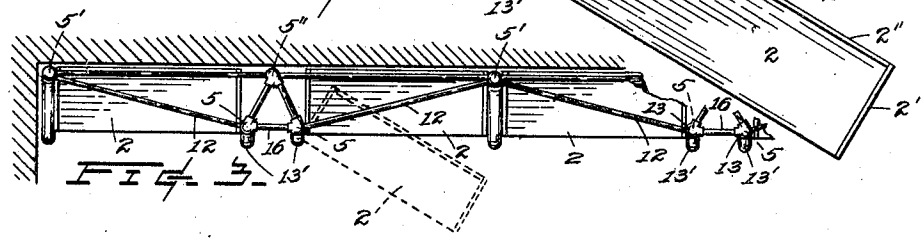


Fig. 3.

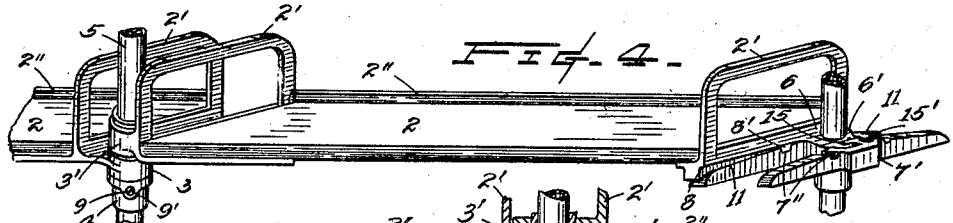


Fig. 4.

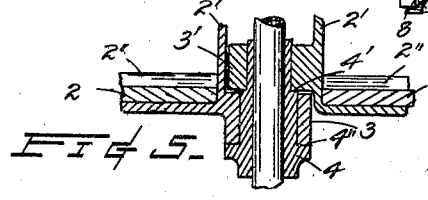


Fig. 5.

WITNESSES:
A. D. Kirk
Jno. W. Wilkins

INVENTORS:
R. H. LINDSAY.
F. R. BURCH.
BY Pierre Barnes
ATTORNEY.

No. 793,451. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

ROBERT H. LINDSAY AND FREDERICK R. BURCH, OF SEATTLE, WASHINGTON.

BOOKCASE OR DISPLAY-RACK.

SPECIFICATION forming part of Letters Patent No. 793,451, dated June 27, 1905.

Application filed October 1, 1904. Serial No. 226,758.

To all whom it may concern:

Be it known that we, ROBERT H. LINDSAY and FREDERICK R. BURCH, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Bookcases or Display-Racks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to bookcases or display-stands.

The principal objects of our invention are to provide a sectional device of this character wherein the shelves or trays are vertically movable to adjust the intervening spaces of each section according to the heights of the books or other articles carried and also to furnish means for swinging the shelves individually outward in order that the tops and backs of the contained articles may be conveniently dusted without disturbing such articles or for the purpose of exhibiting the same from their rear sides. We attain these and other objects by the novel construction and combination of parts described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, showing embodiments of the invention, Figure 1 is a front elevation, and Fig. 2 is a plan view, of the preferred construction. Fig. 3 is a modification thereof adapted for use as a wall-case. Fig. 4 is a fragmentary perspective view of the invention, and Fig. 5 is a vertical cross-sectional view taken through one of the hinge connections shown in the other views.

In the said drawings, 2 represents the shelves, which are severally provided with end walls 2′ and a strip 2″, extending longitudinally thereof along their rear edges and forming abutments to prevent the books being shoved therebeyond. The shelves are arranged horizontally in pairs, which are pivotally connected, as by socket attachments 3 and 3′, to bush-sleeves 4, slidably connected to upright members 5 of the frame. The said bush-sleeves are each formed with annular shoulders 4′ and 4″ to provide bearings for the said sockets and are spaced apart at a slightly greater distance than the axial length of the respective socket 3, so that the upper sockets will be carried upon the shoulders 4′.

Bracket-supports 6 are provided for sustaining the ends of the shelves opposite to the said pivots and, like the bush attachments, are provided with sleeves 6′, slidable upon upright frame members 5′, and are formed or provided with arms 7, extending crosswise of the frame and having their upper edges 11 inclined or sloping downwardly toward their extremities. Strips 8 are provided upon the under side of each of the shelves, at the bracket ends thereof, and are sloped upon their under sides correspondingly to the bracket edges 11 of the arms, so as to give an extended bearing when seated thereon. Lugs 8′ project downwardly from the strips 8 and are positioned to register with slots 7″ of the bracket-arms when the shelves are closed and prevent the accidental opening of the latter. The bush and bracket sleeves are provided with binding or set screws 9 and 10, extending through screw-threaded apertures 9′ and 10′ of these parts and adapted to have their ends make engagement with the respective said frame members, thus affording means for reliably securing the said sustaining attachments at various and predetermined positions for regulating or adjusting the heights of the shelves. The aforesaid upright frame members 5 and 5′ and also the supplemental like member 5″ where required are preferably constructed of hollow metallic tubing and are connected by metal tie rods or braces 12, screwed or otherwise secured to terminal pipe-fittings 13 of the said upright frame members or to the feet members 13′, thereby forming a neat and rigid structure. These sections, each comprising an upright member carrying the pivotal sockets and an upright member carrying the brackets of a single vertical tier of shelves or of two such tiers arranged back to back, as in Fig. 2, with their connecting tie-rods and supplemental upright members, if required for stability, are so arranged as to be capable of being augmented by additional sections attachable to either end, and to facilitate such additions we

provide screw-threaded apertures, as 12′, for the reception of the tie-rod ends in the several said pipe-fittings and arranged oppositely to those already utilized, as 12″, and also provide means for securing removable supplemental bracket-arms 7′ to the said supports 6, while the stepped bush-sleeves 4 will obviously serve to carry the ends of one or two shelves of adjoining sections.

An advantageous manner of detachably connecting the bracket-arms 7′ to their respective supports is by forming in each of the latter a T-shaped slot 15 for receiving a transversely-projecting offset 15′ of a supplemental arm of corresponding shape, and these slots each may terminate either in a closed bottom wall or be inclined to make a reduced opening below.

Where the shelving is to be used against the wall and where it is customary to extend the tiers of shelves to a greater height than in isolated positions, we prefer to dispose the frame members 5 in couples, as shown in Fig. 3, and at some distance apart and connect them by longitudinal pieces 16, one above the other and at such intervals apart as to provide rungs or ladder-steps, whereby a person may ascend to conveniently reach the books placed upon even the uppermost of the shelves.

The advantages accruing from the invention reside, first, in the fact that by the use of the hinged shelves the tops and backs of contained books may be dusted without molesting the books by simply swinging out the proper shelf; secondly, the shelves are capable of being raised or lowered to suit special requirements; third, the skeleton construction of the frame affords no harbor for the accumulation of dirt, microbes, or the like, and, fourth, the construction is inexpensive and pleasing to the eye and of such nature that it can be readily assembled or taken apart or additions put thereon to increase the capacity according to the demand.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with the frame including two upright members and a shelf, of vertically-movable means for pivotally securing one end of the shelf to one of said members and vertically-movable means provided upon the other of said members for supporting the other end of the shelf when in its closed position.

2. The combination with a frame composed of upright tubular members and the connecting tie-rods, of the shelves which are respectively pivoted at one end to bush-sleeves slidable vertically upon one of the said upright frame members, brackets slidable vertically upon the other of said upright frame members and adapted to support the free ends of the several shelves when in their closed positions, and means to secure the said bush-sleeves and the said brackets in their adjusted positions.

3. The combination with the frame, of the outwardly-swinging shelves therefor, means carried by the frame for sustaining the free ends of the several shelves when in their closed positions, and registering devices for locking said free ends to said sustaining means when in such closed positions.

4. The combination with a frame-section, the swinging shelves therefor, and means for sustaining the free ends of said shelves when closed, of means formed or provided upon an end of said frame-section whereby another frame-section may be detachably secured thereto, said section end acting to sustain the adjacent ends of the shelves provided in the last-named frame-section.

5. In a case of the character described, the combination with upright frame members arranged in pairs intermediate of tiers of shelves, of horizontal members disposed one above the other and connecting each of said pairs of frame members whereby a ladder is formed thereat.

6. A case of the character described, comprising upright frame members, socket-sleeves adjustably secured to certain of said members, brackets adjustably secured to other of said members, said brackets being provided with outwardly and downwardly sloping arms, shelves pivotally connected to the said sleeves and provided at their other ends with downwardly-projecting strips having their bottom faces inclined corresponding to the slope of the said arms.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT H. LINDSAY.
FREDERICK R. BURCH.

Witnesses:
PIERRE BARNES,
A. T. KIRK.