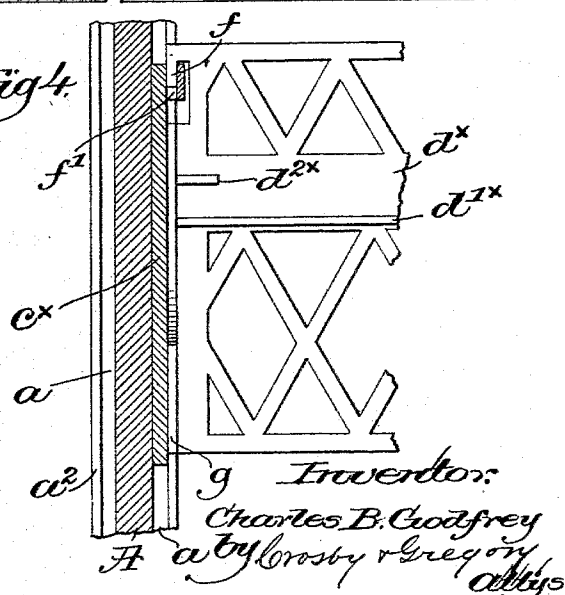
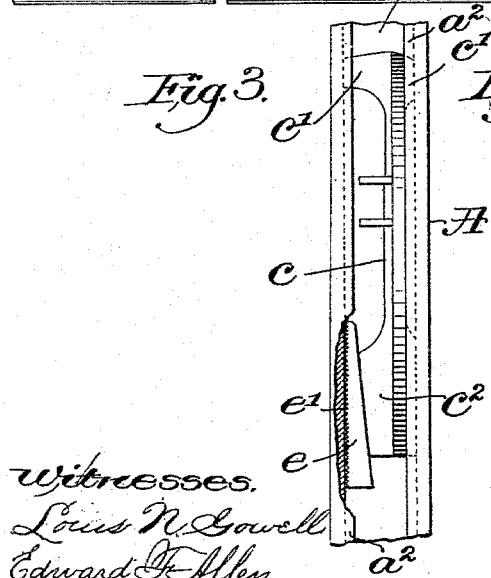
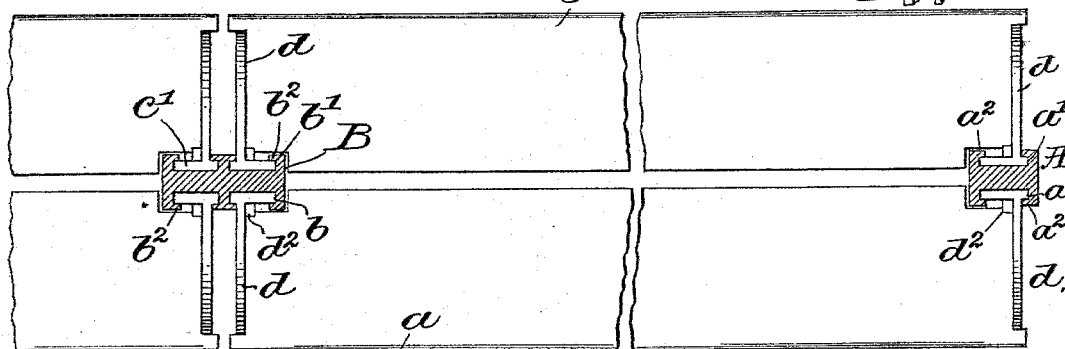
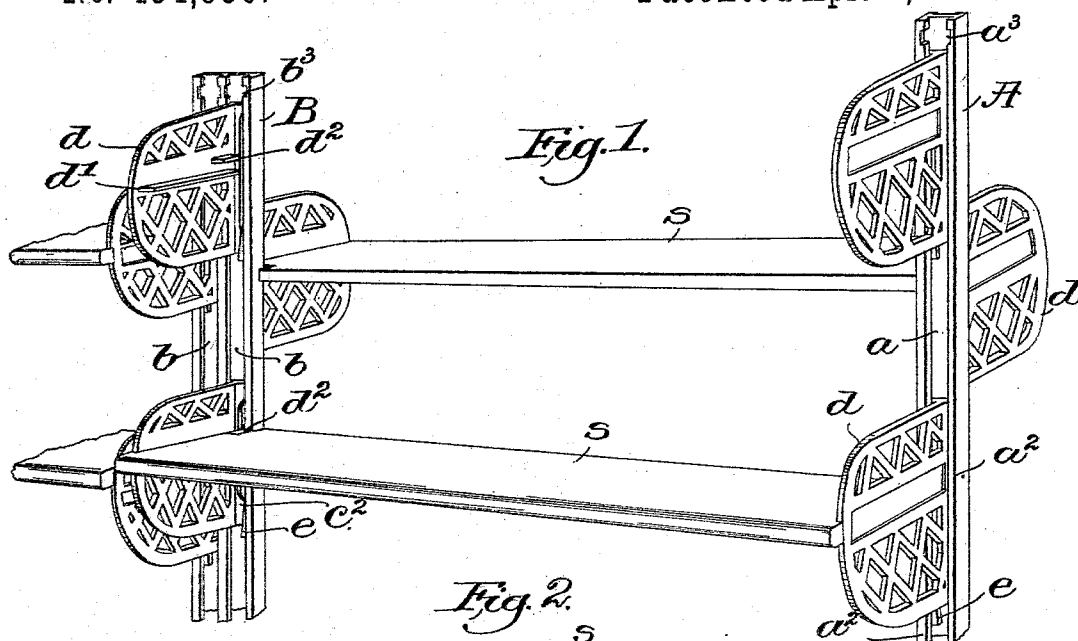


(No Model.)

C. B. GODFREY.
BOOKCASE.

No. 494,950.

Patented Apr. 4, 1893.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES B. GODFREY, OF MILFORD, MASSACHUSETTS, ASSIGNOR TO THE
LIBRARY BUREAU, OF MASSACHUSETTS.

BOOKCASE.

SPECIFICATION forming part of Letters Patent No. 494,950, dated April 4, 1893.

Application filed November 25, 1892. Serial No. 453,153. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. GODFREY, of Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Book-Stacks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Shelving for libraries and stores has been made wherein the shelves are adapted to be held at different heights, the heights being definitely fixed previous to the erection of the shelving, so that intermediate position of the shelves cannot be had. It is often desirable to adjust a single shelf up or down for a small fraction of an inch without disturbing or rearranging all the shelves above it, and in all constructions of shelving or stacks for books known to me this fine adjustment is impossible.

This invention has for its object the production of a book-stack having uprights or standards adapted to support movable brackets thereon at any desired height, the brackets being entirely independent of one another and being provided with shelf supporting devices, the construction being simple but strong and capable of rapid and easy adjustment.

In accordance therewith my invention consists in the combination in a book stack, of upright standards or supports, provided on their outer sides with longitudinal grooves having inturned flanges or lips, with shelf supporting brackets provided each with a shelf projection or flange, laterally extended and opposite lugs on the upper ends of and to retain said brackets in the grooves, and a removable bracket locking wedge normally retained in the groove of the standard, substantially as will be described.

Other features of my invention will be hereinafter described in the application and particularly pointed out in the following claims.

Figure 1 of the drawings shows in perspective a portion of a book-stack embodying my invention, one of the shelves being removed. Fig. 2 is a horizontal section of the same. Fig. 3 is a front elevation enlarged of one of the brackets, its locking device and a portion of the upright or standard. Fig. 4 is a modification to be described.

I have herein shown the book-stack as composed of uprights or standards A, B, the former representing the end standards, being grooved on their outer sides, as at a , a' , the said grooves being undercut at their sides to form overhanging lips or flanges a^2 , best shown in Figs. 2 and 3, for a purpose to be described, the standards or supports B being placed in the interior of the stack and are preferably provided with two grooves b , b' , on their outer sides, see Fig. 2, the said grooves being also undercut to leave overhanging lips or flanges b^2 . These standards or supports extend from the floor up to the ceiling, if desired, or are as high as may be necessary, and are properly supported or braced, the latter forming no part of my invention. Co-operating with these standards I have herein shown shelf supporting brackets comprising a base-piece c having laterally extended ears or lugs c' at the upper portion and an inclined portion c^2 at its lower end, for a purpose to be described, the brackets being preferably made of metal and cut away between the lugs or ears c' and portion c^2 , as best shown in Fig. 3, to reduce the weight. The base-piece rests in the longitudinal groove of the standard or support and is held therein by the lugs or ears c' , extended between the bottom of the groove and the lips or flanges a^2 or b^2 , as the case may be. A bracket arm d extends outwardly at right angles from the base-piece, forming one of the end supports for the books when placed on the shelf, the inner side of said arm having a projection or flange d' thereon to sustain the shelf, and above said projection or flange at its inner end adjacent to the base I have shown a lug d^2 , the lug and flange being separated by a distance a little less than the thickness of the shelving, the top of the shelf being slightly cut-away to receive the projection d^2 , so that its upper side will be flush with the top of the shelf. I provide each upright, preferably at or near its top with cut-away portions a^3 , b^3 , of such width that the lugs or ears c' of the bracket base may be passed therebetween into the grooves, so that when the bracket is dropped below said cut-away portions they will be retained in the grooves.

As so far described the brackets are en-

tirely free to slide in the grooves of the standards or supports and it is necessary to provide means whereby the brackets may be locked securely in position to support the shelving, each shelf, as herein shown, being supported by two brackets.

I have herein shown a most convenient and simple form of locking device, the same consisting of a wedge-shaped piece *e* resting in the groove below one of the inturned flanges and between the side of the groove and portion *c*² of the bracket base, so that when the bracket has been adjusted to the desired height the locking wedge is firmly pushed upward, and the more the weight upon the bracket the greater the wedge action which would be exerted. To change the position of the bracket it is only necessary to remove the pressure on the wedge from above, when the latter can be moved without difficulty. To insure a quicker and surer hold upon the grooved wall the outer side of the wedge may be serrated, as at *e'*, see Fig. 3.

In Fig. 1 a very good idea may be had of the great adjustability of my book stack herein described, for by the means herein shown and described each shelf is absolutely independent of every other shelf and may be raised or lowered, as desired, without reference to any other shelf in the stack, no matter what the size of the latter. As is well known unless the shelves are firmly secured to the supporting brackets by screws, or otherwise, pressure or weight upon the front edge of the shelf is very apt to tilt the same with its contents, and I obviate this tendency entirely by the employment of the lugs *d*² which bear upon the inner end of the shelves *s* as they rest on the flanges *d'*, thus absolutely preventing any tipping forward of the shelf, and rendering unnecessary the attachment of shelf and bracket as is now common.

In Fig. 4 I have shown a modified form of bracket in which the base piece *c*^x and the arm *d*^x are made separable, a hook *f* on the upper end of the arm engaging an eye *f'* at the upper end of the base *c*^x, and the base is provided with ears to retain it in the grooves of the standards, as herein before described, and the arm *d*^x at its lower end has a transverse projection *g*, which fits in between the inturned lips or flanges of the groove to aid in holding the arm vertical, and the base is locked in position by a wedge, as herein described. The arm *d*^x is provided with a shelf supporting flange *d''*^x and a retaining lug *d*^{2x}, as shown. The intermediate standards or supports as B, have two grooves, so that they may support two series of shelves on each

side, as shown in Figs. 1 and 2, and the shelves are preferably cut away adjacent to the brackets in order that the front edges may project slightly beyond the same. As any weight upon the shelves tends to draw the brackets forward from the standards and also downward it is only necessary to provide lugs or ears *c'* at the upper end of the base piece of the bracket to prevent outward movement of said brackets and to prevent downward movement thereof by the locking device, as described.

The height and length of the book stack, herein described, are only limited by the dimensions of the room in which it is used, and the same is of comparatively little weight while possessing great strength and rigidity, and allows a free circulation of air and light in and about the objects placed on the shelves at all times.

I claim—

1. In a book stack, upright standards or supports provided on their outer sides with longitudinal grooves having inturned flanges or lips, combined with shelf supporting brackets provided each with a shelf projection or flange, laterally extended and opposite lugs on the upper ends of and to retain said brackets in the grooves, and a removable bracket locking wedge normally retained in the groove of the standard, substantially as described.

2. In a book stack, upright standards or supports provided with longitudinal undercut grooves on their outer sides, combined with separable shelf-supporting brackets having laterally extended lugs to enter and be retained in said grooves, an inclined side portion, and a locking wedge to enter between said side portion and the wall of the groove, substantially as described.

3. A separable bracket for book stacks, consisting of a base piece having laterally extended retaining ears at its upper end and an inclined side portion at its lower end to cooperate with a wedge, and the arm extended at right angles therefrom having a shelf sustaining flange and a retaining lug thereon, and a hook and eye connection between said base piece and end support, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES B. GODFREY.

Witnesses:

JOHN C. EDWARDS,
FREDERICK L. EMERY.