(No Model.)

C. B. GODFREY.

ADJUSTABLE SHELVING.

No. 478,509. Patented July 5, 1892.

Fig. 1.

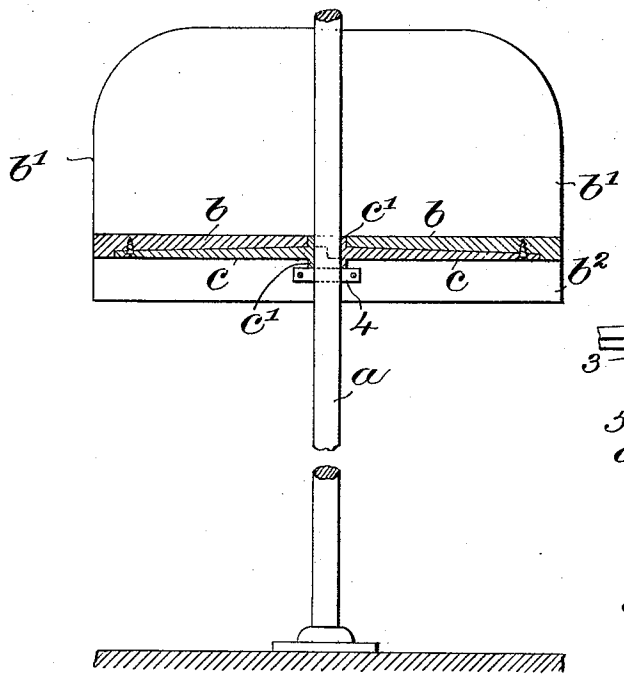

Fig. 2.

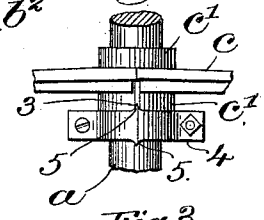

Fig. 3.

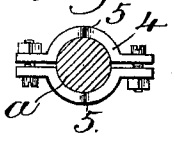

Fig. 4.

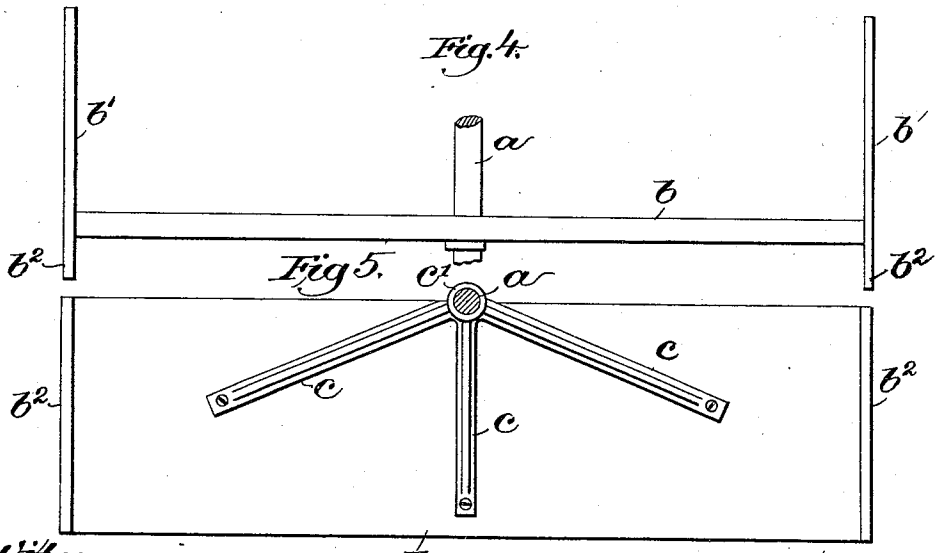

Fig 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

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

ADJUSTABLE SHELVING.

SPECIFICATION forming part of Letters Patent No. 478,509, dated July 5, 1892.

Application filed December 7, 1891. Serial No. 414,285. (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 Adjustable Shelving, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to construct an adjustable shelf for libraries and elsewhere, which may be easily secured to a fixed support and removed when desired without injury, which occupies but little space compared with the shelf-room obtained, is light and durable, and may be cheaply manufactured.

In accordance with this invention the shelves, made of any suitable material, are provided at one side midway their length with a ring which encircles a fixed vertical rod or standard, and means are provided for sustaining said ring on said rod or standard at any desired point and also for preventing its rotation thereon.

The shelves may be made of wood and secured to brackets provided with the rings to encircle the rods or standards, and when so made the under sides of the shelves will preferably be grooved to receive the arms of said brackets.

The shelves may be provided with end supports extended above the tops and below the under sides of the shelves to prevent books from being tipped over or pushed off the ends of the shelves.

The shelves may be arranged one above the other and adjusted independently, and when the fixed rod is so located as to afford sufficient space on all sides of it the shelves may be placed back to back.

Figure 1 shows in vertical section two shelves embodying this invention arranged back to back on a fixed rod or standard; Fig. 2, a detail showing the clamping device and rings of two shelves and a portion of the arms of two brackets; Fig. 3, a detail of the clamping device; Figs. 4 and 5, front and under side views, respectively, of one of the shelves represented in Fig. 1.

The fixed rod or standard a is usually made cylindrical.

The shelves b, two of which are represented in Fig. 1, are shown as arranged back to back. These shelves, preferably of wood, may be of any desired length and width. At their ends the shelves will preferably be provided with book-supports (shown as plates) attached to the ends of the shelves in suitable manner and having portions b' extended above the upper sides of the shelves and portions b^2 extended below the under sides of the shelves, the length of the depending portions b^2 being more or less, as desired. The upwardly-extended portions b' act not only to prevent the books from being pushed off the shelves, but also aid in preventing the books from tipping over. The depending portions b^2 co-operate with the upper ends on a shelf below and prevent the books from being tipped over.

Prior to my invention I am not aware that a series of adjustable shelves have been provided at their ends with book-supports extended both above and below the shelves and made adjustable vertically together with the shelves, said shelves being independently rotatable and adjustable vertically on a standard.

The shelf b is grooved upon its under side, as shown, to receive the arms c of a bracket, said arms being formed integral with a ring c', which is adapted to encircle the rod or standard a. The under side of the ring c' has notches 3 at opposite sides, and an independent auxiliary clamping ring or device 4 is provided, which embraces the rod or standard a and has projections, as 5, which enter the notches 3 in the ring, said clamping device acting to sustain the shelf by being firmly and securely clamped to the rod and also acting to prevent the shelf from turning.

By providing the shelf with grooves to receive the arms c considerable space is saved, as well as injury to the covers and bindings of the books prevented in instances where the shelves are used for such purpose, as no obstructions are presented against which the books will strike when hastily placed on the shelf.

As it will be obvious, several shelves may be secured to the rod or standard *a*, one above the other and at any desired distance apart.

As books vary materially in height, the novel feature herein disclosed of providing an adjustment for the shelves, whereby they may be independently moved to a greater or less extent, is important.

The rings *c'* are cut away on one side, as best shown in Fig. 1, thereby removing about one-quarter of the material of the ring, and when it is desired to place two shelves back to back one of the rings is cut away upon its upper side and the other upon its under side, so that they may be placed one upon the other, as shown, and present a flat surface. When the rings are so made and positioned, neither one will present an obstruction to the shelf-room of the other.

It will be seen that the shelf above described may be easily and securely fastened to a fixed standard at any desired point, thereby securing the greatest economy of space; also that the shelves are light and durable and may be cheaply manufactured, and may be put up ready for use and removed without injury and when made of metal will be fire-proof.

The particular shape of the book-supports attached to the ends of the shelves is immaterial so long as they extend above and below the shelves and are attached to and made adjustable therewith, and in practice they may be made of wood or of metal.

I claim—

1. A fixed vertical rod or standard, combined with a vertically-adjustable shelf having attached to it a bracket provided with an eye or hub to embrace the rod or standard and notched on its under side, and a clamping-ring adjustable longitudinally on said rod or standard, and projections on said ring to co-operate with the notched hub to prevent rotation of and positively fix the bracket and shelf in any desired adjusted position upon the rod or standard, substantially as described.

2. A vertically-adjustable shelf grooved at its under side, a bracket having several arms secured to the under side of said shelf at one side and midway its length, the arms entering the grooves, a ring on said bracket encircling a fixed rod or standard, a clamping-ring on which the bracket-ring rests for maintaining the shelf at any desired point, and a projection on one ring to enter a recess in the other to prevent rotation of said shelf, substantially as described.

3. A shelf having a ring at one side thereof midway its length and cut away upon its under side to form a shoulder extended diametrically across the ring, combined with a second shelf having a ring at one side thereof midway its length and cut away upon its upper side to leave a shoulder extended diametrically across the same, and a clamping device to contact with one of said rings, the shoulders of said rings abutting one against the other to prevent independent rotation of the two shelves, substantially as described.

4. A fixed vertical rod or standard, combined with a series of independent rotatable and vertically-adjustable shelves, each shelf having a support attached to its end and extended above and below it to co-operate with books on the said shelf and with the tops of books on the next lower shelf, a bracket attached to each shelf and provided with an eye or hub to embrace the rod or standard and notched on its under side, a clamping-ring for each shelf adjustable longitudinally on said rod or standard, and projections on the ring to co-operate with the notched hub to prevent rotation of and positively fix the bracket and shelf in adjusted position upon the rod or standard, 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:
AUGUSTA E. DEAN,
FREDERICK L. EMERY.