(No Model.)

# W. H. HUBBARD & A. GOODRICH.

## SHELVING.

No. 490,288. Patented Jan. 24, 1893.

Fig. 1.

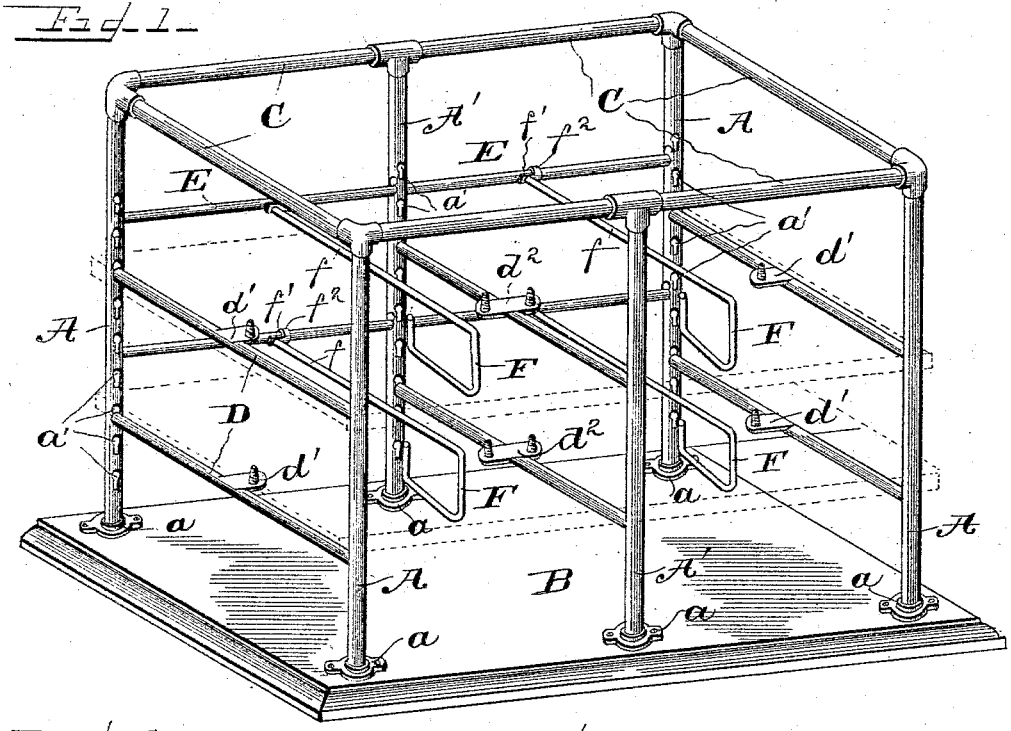



Fig. 7.

Fig. 2.

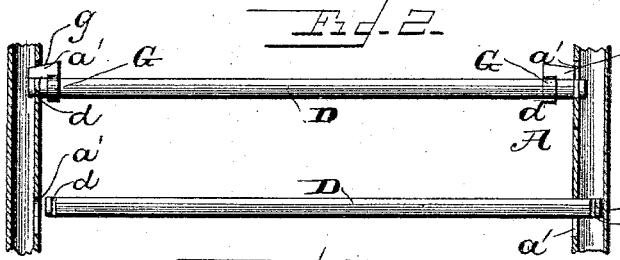



Fig. 6.

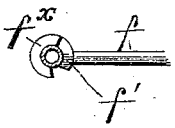



Fig. 3.

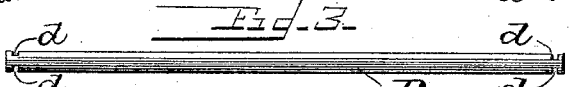



Fig. 4.

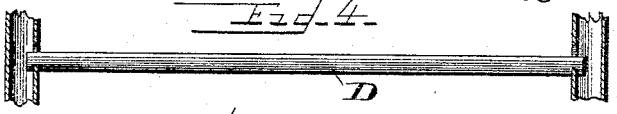
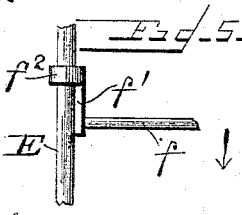



Fig. 5.

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# UNITED STATES PATENT OFFICE.

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## SHELVING.

SPECIFICATION forming part of Letters Patent No. 490,288, dated January 24, 1893.

Application filed June 11, 1891. Serial No. 395,843. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM H. HUBBARD and ABRAM GOODRICH, citizens of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Shelving; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention is an improvement in shelving and consists in the novel features of construction and combination of parts hereinafter fully described.

In the accompanying drawings we have illustrated one form in which we have contemplated embodying our invention and the same is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 is a perspective view of a book case embodying our invention. Figs. 2 and 3, are details of parts of the same. Fig. 4, is a detail of a slight modification. Fig. 5 is a detail view showing method of securing the sliding adjustable partition in position. Figs. 6 and 7 show modifications of parts referred to hereinafter.

In the drawings A A are the vertical corner standards of the case which are tubular and engage suitable sockets *a* secured to a base or platform B. We prefer to form these sockets with a screw threaded aperture adapted to be engaged by a screw portion of the standards A, and provided with laterally extending wings or flanges secured to the base B by means of screws or other devices. The top portions of the standards A are united by a rectangular framework C which consists preferably of hollow metal tubing suitably united together and to said standards by means of screw threaded T couplings in a well known way, the T couplings having their horizontal arms disposed at right angles to each other to form the corners of the frames. We may also provide the shelving with any number of pairs of intermediate standards A′ A′ if desired to strengthen the frame at its central portion, as shown in Fig. 1 and these intermediate standards will be fitted in sockets *a* at their lower ends and have their upper extremities secured to the rectangular frame C by T couplings as shown in the drawings. The shelving can thus be made in any length desired. When used in stores it may be made to extend the whole length of the apartment without a break and may be located at one side or in the center of the same.

By constructing the frame of hollow tubing we secure several very advantageous results. The shelving can be cheaply made and quickly, and easily put together by screw-threading the ends of the several sections of tubing and coupling them together by suitable couplings, and when completed the frame will be very strong and at the same time light and we secure further advantageous results which will be fully described hereinafter.

The corner standards and intermediate standards, which we shall term the supporting standards of the case, are provided on their inner faces with a series of key-hole slots *a′* as clearly shown in the drawings, and we prefer to locate these slots at regular intervals along the entire length of said standards.

The shelf supports D consist of slender rods, preferably circular in cross sections, either solid or tubular which have notches *d d* cut on each side of the same adjacent to either end, the distance of the slots of one end to the slots of the opposite end being equal to the distance from one of the rear standards to its corresponding front standard. The rods D are longer than the distance between the two standards and in order to place one in position one end of the same is placed in the larger or circular portion of the key-hole slot and pushed into the tubular portion of the standard as indicated at *x*, Fig. 2, the other end then can be brought easily into line with the opposite key-hole slot and by moving the rod longitudinally the rod can be placed in position with the notches *d d* engaging the narrow portions of that key-hole slots.

We prefer to provide the rods D D with perforated eye *d′* as shown in Fig. 1, by means of which they may be secured to the shelf which they support, by a screw or nail passing through said eye and into said shelf. The standards A′ A′ are provided with like supporting rods D and the central rods D may be provided with a double eye $d^2$ as shown in Fig. 1 or a single eye as found most desirable. It is obvious however that the rods D D may be used without the eyes *d′* $d^2$ if desired.

When the shelving is extended for use as a book-case the lateral faces of the rear standards A A′ A are also provided with supplemental slots to receive the rods E to which are secured the adjustable temporary partitions F. When the device is used for a book case, and books are removed from a shelf, one of these movable partitions is brought up into contact with the end book of those remaining and will prevent the remaining books from toppling over, as will be readily understood. These movable partitions may be used for other purposes, wherever they are found desirable to divide the shelving into sections, either permanently or temporarily. Each of the movable partitions consists in this instance of a piece of thin rod, or thick wire bent into a substantially rectangular shape, and having its upper portion projecting a distance about equal to the width of a shelf. The rear end of this arm *f* of the movable partition is provided with a curved arm *f′* secured to the same and extending at right angles thereto, which curved piece is provided with a collar $f^2$ of sufficient size to engage and slide on the rod E, or instead of a collar $f^2$ we may employ a curved portion or hook $f^\times$, as shown in Fig. 6. When the movable partition is moved along the rod E keeping the arm *f* at right angles to said rod it will slide easily, and may thus be moved up against the book if the device is employed as a book case. The pressure of the book leaning on the support tends to move the outer or front arm *f* at an angle to the rod E as indicated in Fig. 5 and thereby causes the curved arm *f* and collar $f^2$ to grip the rod and prevent any movement of the partition. When used as a temporary or permanent partition where the shelving is employed for other purposes it may be moved into the required position and when once placed it will remain stationary until it is adjusted to another position.

By employing the hook construction shown in Fig. 6, the partition may be instantly removed from engagement with the rod E. The hook portion $f^\times$ may also be made of flexible or spring material so that it can be readily pressed on to the rod E and remain in engagement therewith and yet may be quickly removed without removing the rod E from its supports.

While we prefer to employ key-hole slots and notch the supporting rods D D on either side we may if found desirable use a circular or semicircular slot or aperture and employ a rod D having a notch only on one side and adapted to engage the lower edge of said slot or aperture as shown in Figs. 4 and 7.

In Fig. 2 we have shown the rod D provided with a sliding collar G to which is attached a wedge portion *g*. When the rod has been placed in engagement with the key-hole slot, the collar G will be pushed toward the standard and the wedge will enter the upper part of the slot thus preventing the rod from rising and forming a lock for holding the rod in engagement with the support. We may employ these wedges in connection with any of the forms of slots and rods shown and we prefer to give the wedge portion a shape conforming to the upper edge of the slot in order that it may operate more efficiently and securely to lock the rods against accidental disengagement.

What we claim and desire to secure by Letters Patent is:

1. The combination with the hollow supporting standards, having their adjacent walls provided with apertures or slots, of the supporting rods having notched portions adapted to engage said slots or apertures, said rods being of greater length than the distance between the apertured walls of two adjacent standards but of less length than the distance between the outer walls of said standards, whereby said rods can have one end passed into one standard beyond their normal seat to permit the other end to be inserted in an aperture in the other standard, substantially as described.

2. The combination with the supporting standards and shelf supporting rods, of a horizontal guide rod engaging said standards and a movable partition having an arm extending along the said guide rod and engaging said guide rod on the side adjacent thereto and on the opposite side at a different point longitudinally of said rod, substantially as described.

3. The combination with the supporting standards, and shelf supporting rods, of a horizontal guide rod engaging said standards, a movable partition, an arm connected therewith engaging the side of the said guide rod adjacent to the partition and a hook or collar connected with the opposite end of said arm for engaging the opposite side of the guide rod, substantially as described.

4. The combination with the hollow supporting standards, provided with slots or apertures of the supporting rods, of greater length than the distance between said standards having notched portions to engage said slots or apertures, and the sliding collars engaging said rods and provided with wedged portions, substantially as described.

5. The combination with the supporting standards and the guide rod, of the movable partition, an arm extending at right angles to the general direction of the partition and adapted to engage the said guide rod and a spring hook at the opposite end of said arm, whereby the movable partition may be quickly attached and detached from the guide rod, substantially as described.

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

WM. H. HUBBARD.
ABRAM GOODRICH.

Witnesses:
C. A. WEEKS,
G. B. LONGSTREET.