(No Model.) 2 Sheets—Sheet 1.

C. E. FOSTER.

RACK FOR BOOKS.

No. 543,959. Patented Aug. 6, 1895.

Fig. 1.

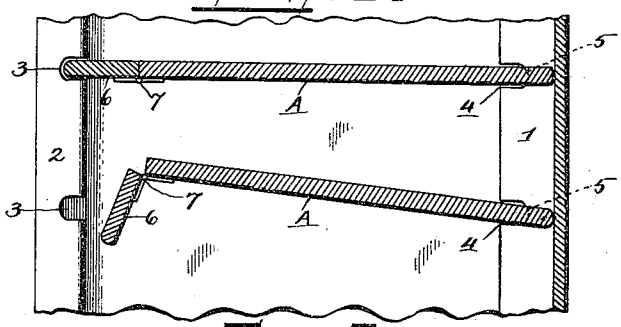


Fig. 3.

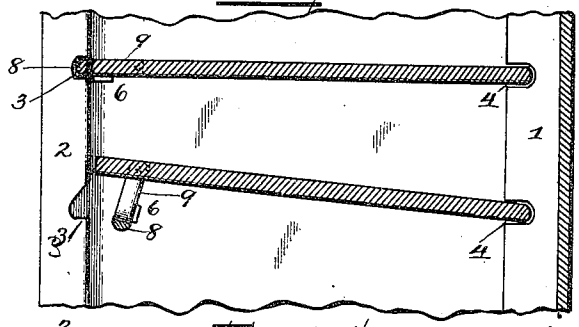


Fig. 4.

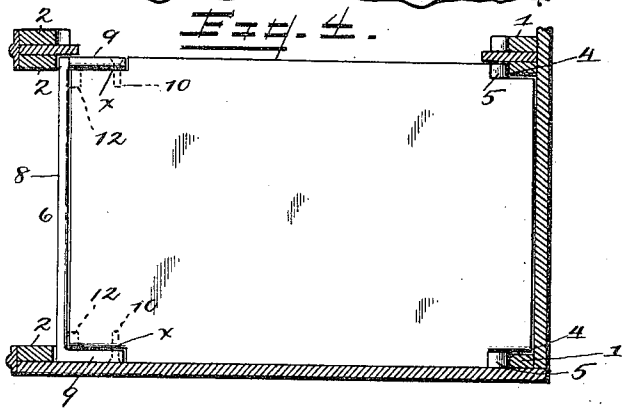
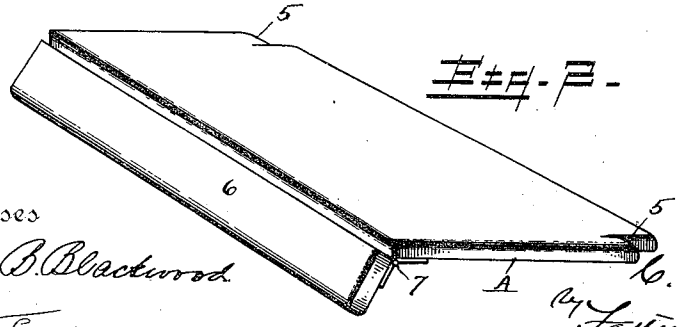


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

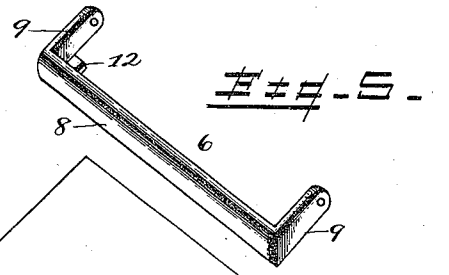


Fig. 6.

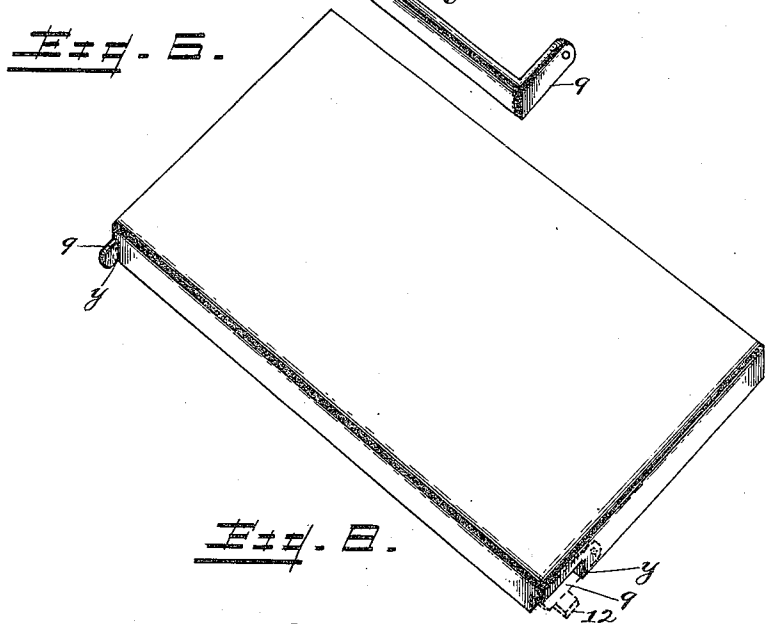


Fig. 8.

Fig. 9.

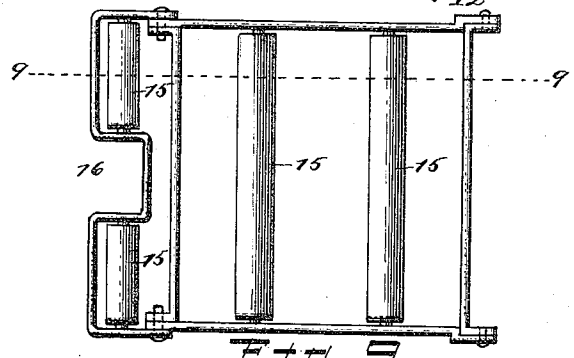
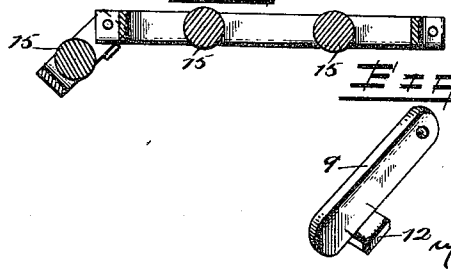


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES E. FOSTER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE FENTON METALLIC MANUFACTURING COMPANY, OF JAMESTOWN, NEW YORK.

RACK FOR BOOKS.

SPECIFICATION forming part of Letters Patent No. 543,959, dated August 6, 1895.

Application filed February 28, 1891. Serial No. 383,165. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. FOSTER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Racks for Books, of which the following is a specification.

My invention relates to that class of shelves for books, &c., and to cases provided with such shelves that are capable of adjustment to set them in different positions, according to the spaces required between the shelves; and my invention consists in constructing the shelves, as fully set forth hereinafter, so that they may be readily applied to and withdrawn from their bearings, and so that they will be securely held in position when in place, and so as to secure other advantages.

In the accompanying drawings, Figure 1 is a sectional elevation of part of a bookcase, showing two shelves, one in the act of being placed in position and embodying my invention. Fig. 2 is a perspective view of the shelf of Fig. 1. Fig. 3 is a sectional elevation of part of the case, showing my invention embodied in a different construction. Fig. 4 is a sectional plan of Fig. 3. Fig. 5 is a detached perspective view of the pivoted section of the shelf, Figs. 3 and 4. Fig. 6 is a perspective view showing my invention in connection with a flanged metal shelf. Fig. 7 is a perspective view of one of the pivoted section-pieces. Fig. 8 is a plan of a roller-shelf embodying my invention. Fig. 9 is a section on the line 9 9, Fig. 8.

The case is made in any suitable manner with supports for the shelves A, and may be divided vertically by partitions to receive series of shelves in line with each other, or each shelf may extend the entire length of the case.

A desirable feature in all bookcases is a ready means of adjusting the shelves to adapt the cases to books of different sizes, and an especially desirable feature is a means of securing the shelves in different positions, permitting each shelf to be put directly in place by a single operator without the use of any appliances and tedious or vexatious adjustments. To these ends I construct the case with a series of bearings at different heights, as, for instance, with side strips 1 2, the former at the back and the latter at the front, with coinciding notches 3 4, the bottom edges of which constitute the bearings, and with each shelf I combine a hinged section, frame, or piece, capable of swinging downward, but occupying a position horizontal with the shelf when swung upward to its full extent, and I so construct those parts that the shelf may be seated at one edge upon the bearings at the front or back, while the hinged part or parts may be swung into position to take their seats upon the opposite bearings as said parts are brought to a horizontal plane.

In the construction shown in Fig. 1 the rear edge of the shelf A takes its bearings in the back notches 4, or the shelf is cut away to form bearings 5 in front of the rear edge, which bearings may be placed in the notches 4 to enable the rear edge of the shelf to extend back close to the back of the bookcase.

The hinged part or section 6 of the shelf A, in the construction shown in Fig. 1, extends across and practically forms part of the shelf, being connected to the other section by hinges 7, so that it may be turned down to the position shown at the lower part of Fig. 1, in order to introduce the front edge of the section 6 into the bearings 3, after which, by depressing the shelf toward a horizontal position, the section 6 is brought into line with the other section, when the shelf as a whole will extend horizontally between its bearings, as shown in the top shelf, Fig. 1.

It will be seen that the shelf as a whole can be handled by a single person, that the rear bearings of the shelf may be easily placed upon the bearings of the case and the front section readily brought against its bearings after the main body of the shelf is upon its supports, so that the manipulation in placing the shelf in position can be quickly performed, and that one shelf can be put in place even when the space between it and the adjacent shelf already in place is extremely limited. It will further be seen that when the shelf is in place it fills the entire space be-

tween the front and back bearings, so that it is impossible to displace the shelf by longitudinal or forward and back movements.

In the construction shown in Figs. 3, 4, and 5 the section 6, instead of being wide enough to constitute a part of the book support, is in the form of a frame, the front bar 8 of which extends across the front portion of the shelf when the latter is in position, while the side bars 9 9 extend into notches *x* and are pivoted by means of pins 10, or otherwise, and each bar is provided with a lug 12, which bears against the under side of the other section of the shelf, so that the hinged section cannot be turned above a horizontal position. In this construction, as in that shown in Figs. 1 and 2, the hinged section may be turned down, as shown in connection with the bottom shelf, Fig. 3, and may then be swung above the bearings 3 as the shelf assumes a horizontal position. If desired a greater finish may be imparted by rounding, polishing, and plating the forward face of the cross-bar S of the hinged section.

While it is preferable to connect the two arms 9 9 of the hinged sections together, the cross-bar 8 may be dispensed with, so that the arms may swing independently of each other. Such a construction is available when the shelf is made of sheet metal turned down at the edges to form flanges, as shown in Fig. 6, said flanges being cut away at *y* to permit each pivoted arm 9 to project forward, if desired; or instead of thus cutting away the shelf the said arm may be pivoted within the flange and the lip 12 may extend outward sufficiently to afford a bearing for resting upon the bearing of the case, and also to prevent the arm from swinging upward above a horizontal position, as shown in dotted lines, Fig. 6.

The shelf may be a solid wood shelf or a flanged metal shelf or a metallic frame provided with rollers. The latter construction is illustrated in Figs. 8 and 9, in which the main body of the shelf is a metallic frame constructed in any suitable manner and provided with roller-supports 15, while the section 6 is in the form of a frame, substantially as in Figs. 3, 4, and 5, except that it has a front bar with a retracted bend 16 at the center for the introduction of the hand in seizing or replacing the books, and to afford bearings for short rollers 16, that are back of the forward straight portion of the front bar.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. The combination with a notched shelf support, of a shelf the body of which is constructed of two sections, one of which is adapted to rest in the notches at one side of the case, and the other hinged or pivoted to the first, and adapted to rest within the notches at the opposite side of the case and to be turned down to facilitate insertion and removal, substantially as described.

2. The combination with a notched shelf support, of a shelf the body of which is constructed of a main section adapted to rest in the notches at one side of the case, and a supplementary section hinged directly to the main section and adapted to swing downward to rest within the notches at the opposite side of the case flush or even with the main section, substantially as described.

3. A shelf the body of which is constructed of two sections, one of which is pivoted to the other and adapted to swing from a horizontal position, and consisting of two pivoted side arms and a connecting cross bar, substantially as set forth.

4. The combination with the body of a shelf, of a supplementary section pivoted thereto and consisting of side arms and a connecting cross-bar arranged to occupy a position opposite the front edge of the body of the shelf when the latter is horizontal, substantially as described.

5. A shelf the body of which is constructed of two sections, one section comprising the side arms pivoted to the other section and connected to swing downward from a horizontal position, and provided with one or more anti-friction rollers between the said side arms, substantially as described.

6. The combination with the main body or section of a shelf, of a supplementary section connected thereto and adapted to swing downward from a horizontal position, said supplementary section being formed with a recess or retracted bend for the accommodation of the hand, and anti-friction rollers sustained in said supplementary section to opposite sides of such recess, substantially as set forth.

7. A shelf consisting of main and supplementary frames pivoted together, each carrying anti-friction rollers, and adapted when the shelf is in a horizontal position to lie in the same plane and means for preventing the supplementary frame from being swung above the horizontal plane of the other frame, substantially as set forth.

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

CHARLES E. FOSTER.

Witnesses:
W. S. MCARTHUR,
J. S. BARKER.