

(No Model.)

2 Sheets—Sheet 1.

G. STIKEMAN.
LIBRARY SHELVING.

No. 571,249.

Patented Nov. 10, 1896.

Fig. 1.

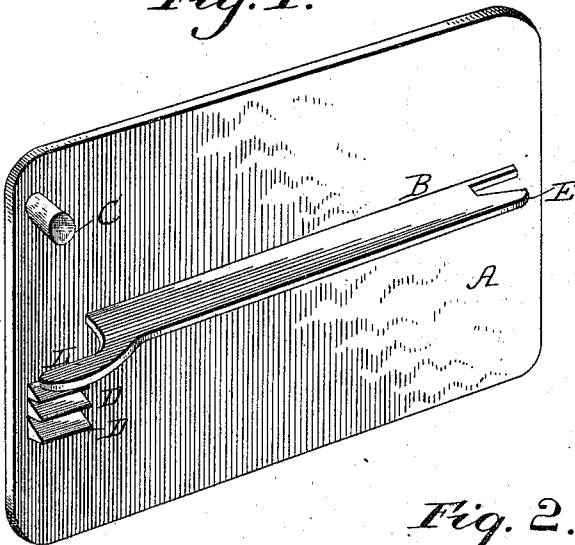


Fig. 3.

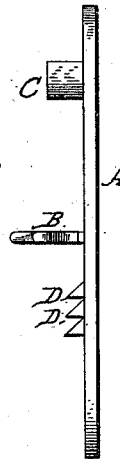


Fig. 2.

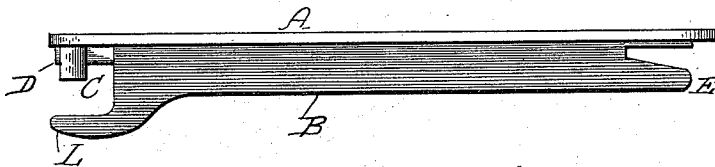
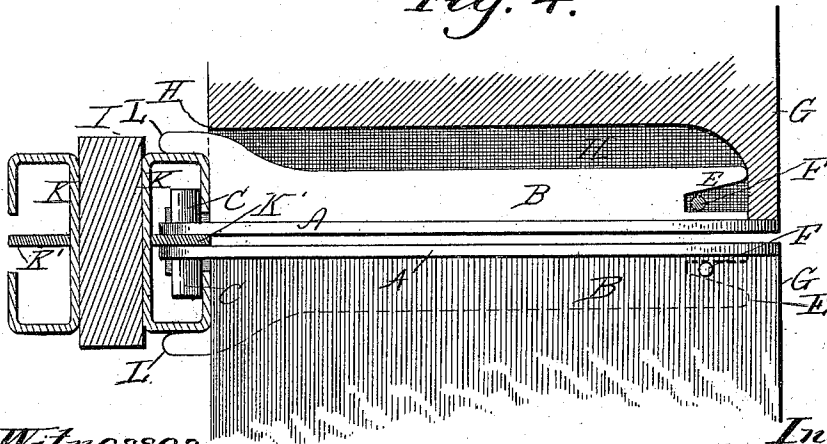


Fig. 4.



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Fig. 6.

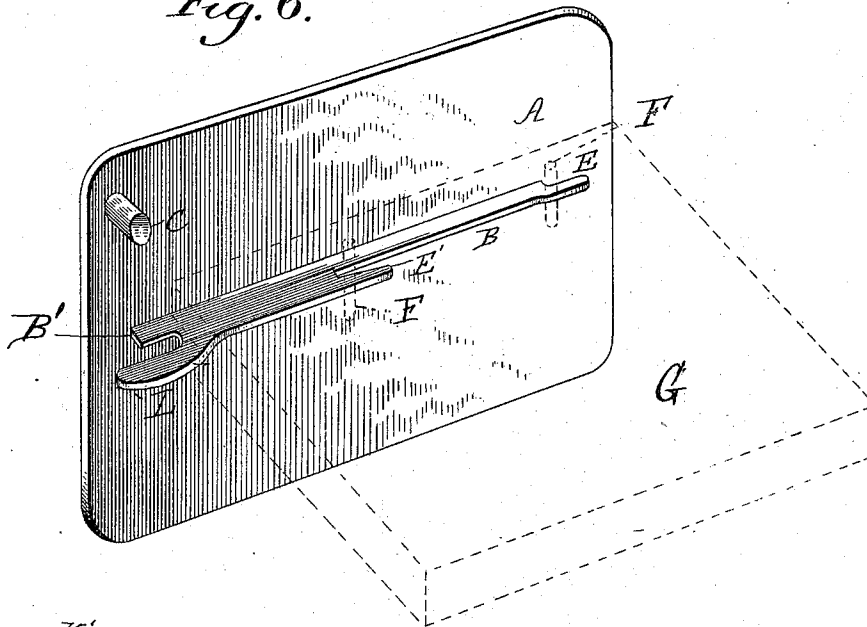


Fig. 5.

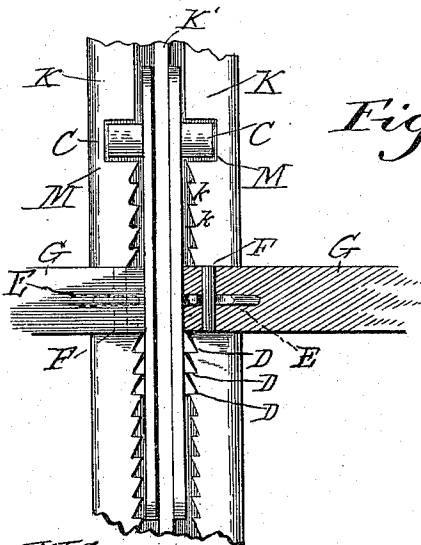
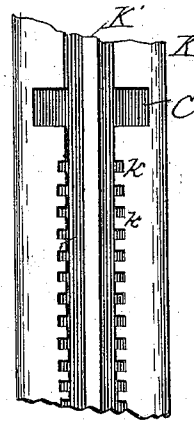


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE STIKEMAN, OF BROOKLYN, NEW YORK.

LIBRARY-SHELVING.

SPECIFICATION forming part of Letters Patent No. 571,249, dated November 10, 1896.

Application filed July 16, 1896. Serial No. 599,431. (No model.)

To all whom it may concern:

Be it known that I, GEORGE STIKEMAN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Library-Shelving; and I 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.

My invention has relation to library-shelving, and relates in particular to that class of library-shelving wherein the shelves are supported upon brackets which are attached to and adjustable upon vertical standards which constitute a portion of the framework of the shelving structure or stack.

My invention consists in the provision of a novel shelf-bracket and a novel supporting-standard to which the bracket is adapted to be attached, the bracket and standard being so constructed and arranged that the bracket may be easily and speedily adjusted to any desired position on the standard by merely making a slight change of its position relatively to its normal position on the standard, and then moving it up or down to the desired point and releasing it, whereupon the bracket will automatically clamp upon the standard and remain fixed at the point to which it has been adjusted.

Referring to the accompanying drawings, Figure 1 is a perspective view of a shelf-bracket constructed according to my invention. Fig. 2 is a top view, and Fig. 3 a front end elevation of the same. Fig. 4 is a horizontal sectional view taken through one of the vertical standards of a stack with two brackets in position thereon; Fig. 5, an elevation, partly in section, of a portion of the standard shown in Fig. 4 with two brackets in position thereon supporting the adjacent ends of two shelves; Fig. 6, a perspective view of a modified form of bracket, and Fig. 7 an elevation of a modified form of standard adapted for use in connection with the modification shown in Fig. 6.

A designates the vertical plate or body of the bracket, which may be of any desired ornamental configuration, and B the shelf-supporting ledge or flange on the side of plate A. Near the rear edge of the plate A is a lug C, and below the lug C a number of teeth D D

are formed on the side of the plate A. The flange or ledge B has a hook E on its outer edge, the inner margin of the hook being slightly tapered or inclined from front to rear, and said hook E serves to receive a pin F on the shelf G, as seen in Figs. 4 and 5, the shelf being formed with a kerf H, that receives the ledge or flange B of the bracket.

The shelf G is arranged in position by sliding it in between two brackets similar to that shown in Fig. 1, the kerfs in the ends of the shelves receiving the ledges or flanges of the brackets, and as the shelves are slid back toward the rear edges of the brackets the pins F enter the hooks E in the flanges and the inclined edges of the hooks draw the brackets tightly against the shelf.

In the modified form of bracket shown in Fig. 6 a plurality of hooks E and E' are provided, and the shelf used in connection with this bracket is provided with a plurality of pins to engage with the hooks, one pin being set nearer the edge of the shelf than the other. The flange B of the bracket is in this modified form cut away between the hooks, so as to permit the pin to engage with the rearward hook.

The standard which I employ in connection with my improved bracket is shown in cross-section in Fig. 4 and consists of a vertical beam or bar I, rectangular in cross-section and having secured to it on each side a channel-bar K. These channel-bars are formed each of a flat plate of metal bent twice at right angles, as shown, the two edges of the bar being thus brought into the same plane at such distance apart as to leave a space sufficiently wide for the accommodation of two shelf-brackets. The edges of the bar are provided with ratchet-teeth *k k*, which may be conveniently formed by rolling or punching the teeth on the edges of the flat bar before bending the same.

If desired, a flat vertical rib or plate K' may be secured centrally in the space within the channel bar or beam K, so that the back of the inner edges of the brackets will bear against the said plate K'; but this plate may under ordinary conditions be dispensed with, as will presently be explained.

Upon the inner end of the ledge or flange B is formed a hook L of such size and shape

that when the bracket is in position this hook will closely embrace the channel bar or beam K and serve to keep the plate A in close contact with the serrated edge of the channel-bar.

The channel-bars K K have notches M M at suitable intervals on their intumed edges, so as to allow of the introduction therethrough of the lug C of the brackets, and these lugs bear against the inside surface of the intumed edges of the channel-bars, the position of the lugs when the brackets are in place on the channel-bars being clearly shown in Fig. 4 of the drawings.

The bracket and standard, being constructed in the above-described manner, are operated as follows:

The brackets are placed in position on the channel-bars by holding the body or plate A in a vertical position, but slightly tilted, and then passing the lug C through the notch M. The bracket is then moved up or down until the desired position on the channel-bar is reached, and then it is turned downwardly until the ledge or flange is horizontal, the teeth D D being thereby caused to engage with the ratchet-teeth or serrated edges of the channel-bar, while the hook L embraces the outer side of the channel-bar and prevents the teeth on the bracket from becoming disengaged from the teeth on the edge of the bar by preventing any lateral movement of the bracket at the rear.

The shelves may be secured to the brackets after the latter have been put in position on the channel-bars, or the brackets and shelves may be secured together before the brackets are placed in position on the channel-bars, and this is the preferable mode of operation, the fixing in position of the brackets and their adjustment being effected in exactly the same manner in both cases.

It is to be understood that the double channel-bars, that is, channel-bars which have two intumed edges, are employed only for the inner standards of the stack, the end standards being provided with a channel-bar having but a single intumed edge.

It is also to be understood that the brackets are in pairs, that is, the lugs and ledges on the bracket at one end of a shelf face the lugs and ledges of the bracket at the other end thereof.

In the modification shown in Figs. 6 and 7 of the drawings the teeth on the channel-bar are square instead of being inclined, and the teeth D D on the bracket are entirely dispensed with and a prolongation B' of the ledge or flange B within the hook L serves to enter the space between two of the square teeth on the edge of the channel-bar and sustain the bracket.

While I have shown in Figs. 1, 2, 3, and 5 of the drawings a plurality of the teeth D D on the inner face of the bracket, I wish it to be understood that a single tooth may be found to be sufficiently strong to support the

shelf, and, indeed, the clamping action which ensues from the engagement of the lug C with the inside of the channel-bar and the inner hook end of the ledge or flange with the outside of the same would under ordinary circumstances, if the shelf was not subjected to jar or shock, be sufficient to maintain the brackets in position on the channel-bars.

As before stated the rib or beam K' within the channel-bar may be dispensed with, as it merely serves to prevent the rear edge of the bracket from moving laterally; but this function is also served by the hook L on the bracket, so that where the vertical rib or beam K' is employed the hook L may be dispensed with, and vice versa.

The bracket, it will be noticed, engages with the channel-bar automatically when it has been adjusted to the proper position, the weight of the shelf and of the articles which may be placed thereon tending to cause the lug C on the inside of the channel-bar and the end of the ledge or flange B on the outside of the same to grip the channel-bar, and thus serve to hold the bracket in fixed position, the teeth D on the bracket (shown in Fig. 1) and the prolongation B' of the shelf or ledge B, (shown in Fig. 6,) which, as before described, engage with the teeth on the edge of the channel-bar, being an additional means of sustaining the bracket, and they are employed to guard against the accidental displacement of the shelf by a jar or blow.

The fact that my improved bracket is composed of parts which are immovable relatively to one another, the bracket-ledge, lug, and teeth being preferably integral, constitutes an important feature of my invention, as the necessity of employing movable parts which are liable to get out of order is thereby dispensed with and the shelf may be adjusted to any required position and will be firmly held at the required point without the use of tools or wrenches of any character, and in fact without touching the bracket at all.

Having described my invention, I claim—

1. A bracket for library-shelving consisting of a vertical plate or body part, a lug adapted to engage the inner surface of a grooved or channeled vertical standard a tooth adapted to engage the intumed edge of said standard and an immovable laterally-extending projection adapted to engage the outer surface of the standard substantially as described.

2. A bracket for library-shelving consisting of a vertical plate, a laterally-extending stationary lug on said plate adapted to bear on the inner surface of a channel or groove in a vertical standard and a lateral ledge or flange located below said lug and adapted to support a shelf and to bear against the outer surface of the standard and terminating in a hook adapted to embrace the outer side of the standard substantially as described.

3. A bracket for library-shelving having a

stationary lug adapted to bear against the inner surface of a groove or channel in a vertical support, a lateral ledge or flange adapted to support a shelf, and a tooth or teeth adapted to engage with teeth on the channel-bar substantially as described.

4. A bracket for library-shelving having a lateral flange or ledge and a lateral hook, in combination with a shelf having a kerf in its end to receive said flange or ledge and a pin to engage said hook substantially as described.

5. In library-shelving the combination with a vertical grooved standard having teeth or serrations of a bracket consisting of a verti-

cal plate or body part having a lug adapted to enter the groove of said standard, a lateral shelf-supporting ledge or flange, located below said lug and terminating in a hook adapted to embrace the outer side of the standard and a tooth or teeth located on the side of the bracket and adapted to engage the teeth on the vertical standard substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE STIKEMAN.

Witnesses:

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