

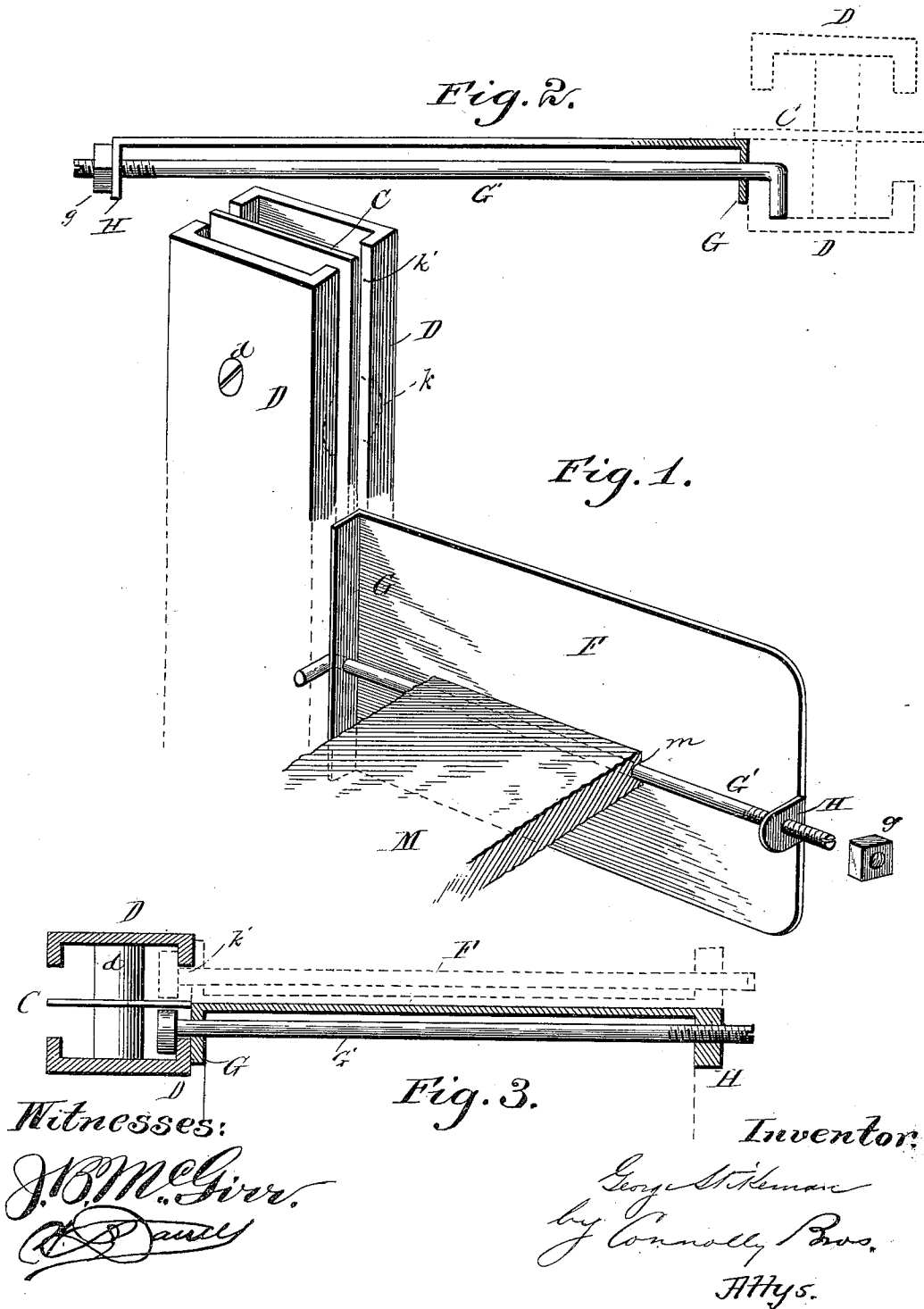
No. 621,172.

Patented Mar. 14, 1899.

G. STIKEMAN.
LIBRARY SHELVING.

(Application filed Oct. 14, 1895.)

(No Model.)



UNITED STATES PATENT OFFICE.

GEORGE STIKEMAN, OF NEW YORK, N. Y.

LIBRARY-SHELVING.

SPECIFICATION forming part of Letters Patent No. 621,172, dated March 14, 1899.

Application filed October 14, 1895. Serial No. 565,539. (No model.)

To all whom it may concern:

Be it known that I, GEORGE STIKEMAN, a citizen of the United States, residing at New York, (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.

This invention has relation to library-shelving, and particularly to that class of shelving which is built up in stacks, the framework consisting of an iron or steel structure and the shelves being either of wood or metal and supported at each end by metallic brackets adjustably secured to the upright beams or columns of the framework.

This invention has for its object the provision of a novel bracket adapted to be adjustably attached to a suitable framework and support the shelves; and it consists in the novel construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view illustrating my invention. Fig. 2 is a plan view, partly in section. Fig. 3 is a horizontal sectional view of a modified form of bracket in position.

The supporting-columns of the structure consist of end columns and intermediate columns. The end columns consist each of a vertical plate C and a channel-iron D, while the central or intermediate columns consist each of a flat vertical plate C and two channel-irons D D. The vertical plates and the channel-irons which compose each column are firmly braced and held at proper distance apart by bolts *d d* and are of any required height, and the several columns of the structure may be connected by tie-rods at suitable points.

The brackets, which constitute the subject-matter of this application and which are secured to the vertical columns and support the shelves, each consists of a vertical plate F, having at its inner edge a vertical flange G, which when the bracket is in position abuts or bears against the outer surface of the flange of the channel-iron D, and the rod G', which passes through a lug H, formed on or attached

to the plate F, and is bent or headed on its inner end so as to bear against the inner side of the channel-iron D and, conjointly with the flange G, clamp and rigidly secure the bracket in any position to which it may be adjusted. The rod G' extends horizontally to the outer edge of the bracket, or at least sufficiently far to accomplish the purpose for which it is intended and render its use and operation convenient and effective. The rod G' is screw-threaded on its outer end and is preferably drawn lengthwise, so as to clamp the flange of the channel-iron D by a nut *g*, screwed onto its outer end and bearing against the lug H. When the bracket is in position and the rod G' drawn or tightened, its inner bent or headed end presses against the inner surface of the flange of the channel-iron D, while at the same time the flange G of the bracket is forced against the outer surface of the flange of the channel-iron and the bracket thus rigidly secured in place.

When the rod G' instead of being bent laterally at its inner end, as shown in Fig. 1, is formed with a square or rounded head, as shown in Fig. 3, the nut *g* may be dispensed with and the lug H or the flange G formed with a threaded opening, serving as a screw-bearing for the rod G'.

When the rod G' is simply bent or provided with a lateral projection on its inner end, as shown in Fig. 1, it is inserted in a space back of the flange of the channel-iron D by being turned so as to bring the bent portion of the rod to a vertical position, and to enable the rod to be turned and afterward partially rotated, so as to interlock the bent end with the channel-iron, the outer end of the rod G' is formed with a notch for the reception of a screw-driver or is squared for the reception of a wrench.

When the rod G' instead of being simply bent, as shown in Fig. 1, is headed, as shown in Fig. 3, it is inserted in the column by being dropped in from the open top of the latter or by being inserted in enlargement *k* of the slot *k'* of the column, and after being brought to its proper position is tightened up by means of a screw-driver or wrench.

The shelves M M, which the bracket supports, may be either flat boards or made of rolled or cast metal. The shelves are sup-

ported by the bracket by being made simply to rest upon the rods G'. Instead of having the shelves so arranged that their under surfaces rest directly on the rod G' the ends of the shelves may be grooved or channeled horizontally at *m*, so as to embrace the rods G', and instead of grooving or channeling the ends of the shelves they may be formed with rabbets, which will allow the under surfaces of the shelves to fall slightly below the rods G' or to be flush with the lower sides of the rods.

Having described my invention, I claim as new and desire to secure by Letters Patent—

1. A bracket for library-shelving composed of a vertical plate with a vertical flange at its rear edge and a threaded bar extending from the front edge of the bracket through said vertical flange and having a head adapted to embrace a vertical column, substantially as described.

2. A bracket for library-shelving consisting of a vertical plate having a flange at its rear edge, a lug at or near its front edge and a threaded rod or bolt extending through said lug and flange and having a head outside said flange, substantially as described.

3. In library-shelving, the combination of a vertical column having a vertical flange with a bracket composed of a leaf or plate, having a vertical flange at its rear edge and a lug at its front edge and a threaded bar passing through the lug and flange and having a head outside said flange which contacts with said column and draws the bracket against the same, substantially as described.

4. The within-described bracket for library-shelving, provided at its inner end with a vertical flange and an adjusting-screw extended from the front end of said bracket rearwardly through the said vertical flange, and provided at the back of said flange with a clamping-head to embrace a supporting-standard, substantially as described.

5. The within-described bracket for library-shelving, the same provided at or near its front end with a lug, and at or near its rear end with a vertical flange, and a screw extending

through both said lug and flange, and provided at the back of the latter with a clamping-head, substantially as described.

6. A bracket for library-shelving comprising a flat plate having a lateral perforated projection at its inner edge and an adjusting-screw mounted thereon below the upper edge of the plate and having a head adapted to embrace a vertical column, said bracket being formed with an unobstructed space or opening from its inner to its outer edge on the axial line of the adjusting-screw and having at its outer edge a lateral projection pierced in alinement with the adjusting-screw so that the latter may be operated from the front edge of the bracket.

7. The combination with a channeled supporting column or standard and with a bracket adapted to support one end of a shelf and having a vertical laterally-extending flange at its inner end, of a clamping-head having a threaded shank passing through said flange, out of alinement with the side wall of the bracket and capable of being operated from the front of the bracket and a suitable guiding lug or ear located at the front edge of the bracket and adapted to embrace or abut against the outer edge of the shelf, said lug being formed with an opening to guide and support the rod by which the clamping-head is operated.

8. The combination with an upright having an undercut groove of a bracket provided with an adjusting draft-screw having a clamping-head on its inner end adapted to engage with the overhanging flange on the upright said clamping-head having sufficient lateral extent to prevent its withdrawal from the groove of the upright when turned to a horizontal position but thin enough in cross-section to permit its insertion or removal from the groove when turned to a vertical position, substantially as described.

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

GEORGE STIKEMAN.

Witnesses:

THOMAS A. CONNOLLY,
ANTHONY A. CONNOLLY.