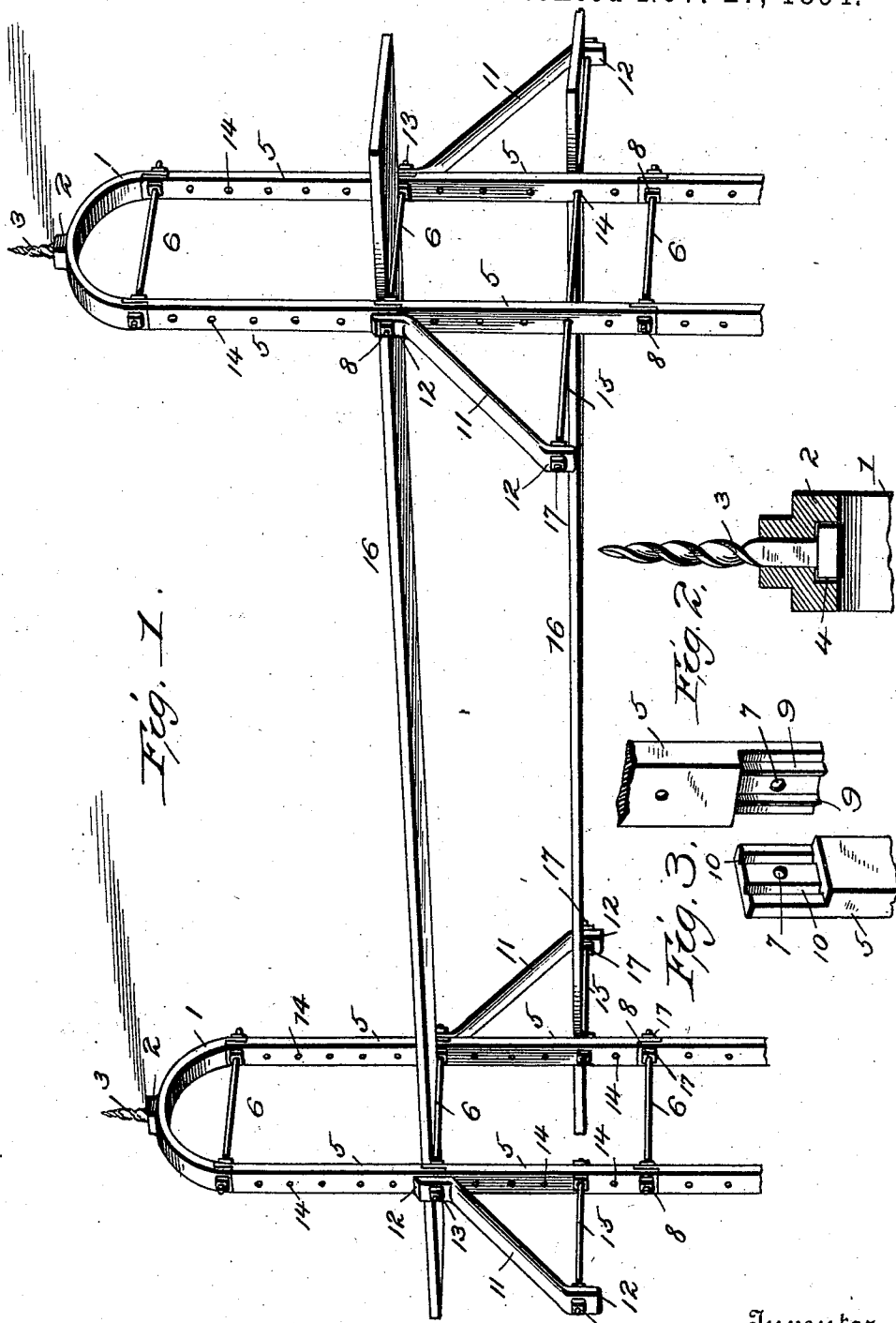


(No Model.)

D. M. HERMAN.
SHELF HANGER.

No. 529,791.

Patented Nov. 27, 1894.



Witnesses
Alfred T. Sage

Inventor
D. M. Herman
by *W. E. Stevenson*
Attorney

UNITED STATES PATENT OFFICE.

DAVID M. HERMAN, OF LEWISBERRY, PENNSYLVANIA.

SHELF-HANGER.

SPECIFICATION forming part of Letters Patent No. 529,791, dated November 27, 1894.

Application filed August 22, 1894. Serial No. 520,990. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. HERMAN, a citizen of the United States, residing at Lewisberry, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Shelf-Hangers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to certain improvements in shelf hangers, my purpose being to provide an over-head or vertical hanger, suitable for cellars, storehouses and all places where a suspended shelf, or series of shelves, are required, which shall be capable of extension both vertically and laterally, and upon one or both sides, the construction being such that the position of the shelves will not be affected by inequality of weight on either side of the center of gravity. It is my purpose also, to provide a structure of the kind which may be readily and quickly extended or contracted, both vertically and laterally, to any desired extent, without requiring any considerable number of parts or involving more than a moderate expense, the structure being so simple that it may be assembled and united without requiring the use of any special tools, or the exercise of mechanical skill.

The invention consists to these ends in the novel features of construction and new combination of parts hereinafter fully described and then particularly pointed out in the claims which follow this specification.

To enable others to fully understand and to make and use my invention I will proceed to describe the same in detail, reference being had for this purpose to the accompanying drawings, in which—

Figure 1 is a perspective view of two shelf hangers constructed in accordance with my invention, showing one shelf in position and the supports for a second, with lateral extensions on both sides. Fig. 2 is a detail section taken through the center of the arched top, showing the manner of fastening the hanger; and Fig. 3 is a detail perspective, showing the construction of one of the joints.

The reference numeral 1 in said drawings indicates the upper integral portion or arched hanger of my shelf hanger. This part of the structure is preferably arched or curved and is provided at its central point with a boss or thickened part 2 through which is passed a lag-screw 3, its head seating in an angular recess 4 in the under face of the arch. This lag-screw forms the means of attachment and provides a strong and permanent support, capable of sustaining a great weight with entire safety. The ends of the arched hanger are turned downward into substantial parallelism, and are gained, or rabbeted to receive the correspondingly formed ends of the vertical extension pieces 5, which are duplicate bars, the opposite bars being of equal length. At the points of union with the ends of the arched hanger 1, the face of the joint is provided with tongues and grooves on the two contacting surfaces, in order to enable them to have a rigid connection. When the parts are lapped one upon the other a tie-rod 6 of suitable metal is inserted in openings 7, and nuts 8 are turned upon the threaded ends of the rod and screwed up against the outer and inner faces of the overlapping parts forcing them together and holding the tongues, or ribs 9, on one part in the grooves, or channels 10, in the other part, thus forming a joint having great strength and rigidity. The vertical extension pieces 5 may be multiplied as far as required, thus providing support for as many shelves as the distance from the point of suspension to the floor will permit. At each joint a tie-rod 6 is inserted in the manner already described. These rods not only lock the joints and unite the successive extension pieces, but they convert the structure into a frame which is rigid and unyielding throughout while they also serve as supports for the shelves, as seen in Fig. 1.

Upon either one or both sides of the frame composed of the extension pieces 5 and tie-rods 6, I may mount one or more lateral extensions consisting of braces 11, having their extremities 12 formed at an angle to the intermediate portion alternately, so that the brace may be secured to one of the extension-pieces 5 by a bolt 13, or by the threaded end of the tie-rod 6, which is passed through an opening in one end 12 of the brace, and

through one of a series of openings 14 formed in the vertical piece 5. A rod 15 having its end lying in an opening in the other end 12 of the brace and extended horizontally to one of the openings 14 at a suitable point in the structure, serves to connect the brace as a rigid part of the frame and also to support the shelf 16, which extends from the side. Preferably the rod 15 extends through the parallel pieces 5 and projects equally on the opposite side, to connect with a second and similar brace, thus affording support for a second shelf 16. It may, however, terminate at the vertical part of the structure and be secured by nuts 17 turned upon its end on both sides of the vertical piece 5, (as shown at the left hand side of Fig. 1) similar nuts 17 being applied in like manner to the end lying in the end of the brace 11. The laterally extended shelves 16 may be attached at such points and in such numbers as convenience requires. The vertical parts of the frame are provided with these openings 14 at regular intervals, to enable the shelves lying between, as well as those upon one or both sides, of the vertical pieces 5, to be arranged at any height, or to be changed from time to time, should circumstances require it.

The construction described is extremely simple, involves small expense, and requires but few parts, which may be united or detached, with rapidity and ease. Any person can readily assemble the parts of the structure and fasten them together, and with the aid of a step-ladder, or other support, can insert the lag-screws 3 in a beam, or rafter. As the shelves may be arranged at different heights and varying intervals, the user can adjust them to any special requirements and thus economize considerable space. It is a matter of considerable advantage also to be able to attach the lateral extensions of the shelving at any required points, without regard to the location of the intermediate shelves.

Having described my invention and set forth its merits, what I claim is—

1. A shelf hanger consisting of a series of vertical bars having rabbeted ends tongued and grooved upon their contacting faces, an arched hanger having a seat for a central lag-screw, and tie-rods extending from side to side of the structure, their threaded ends lying in openings in the rabbeted, lapped ends and having nuts turned thereon on both

sides of the joints, substantially as and for the purposes described.

2. A shelf-hanger comprising an arched hanger, a series of vertical extension pieces connected thereto and to each other, a series of tie-rods passing through the lapped ends of said pieces and having nuts turned upon their threaded ends on both sides of each joint, a lag-screw lying in a central seat in the arched hanger, and a series of shelves resting upon the tie-rods, substantially as and for the purposes described.

3. A shelf hanger comprising an arched hanger having a seat for a central screw, a series of vertical extension pieces having their tongued and grooved ends lapped upon each other and on the ends of the arched hanger, a tie rod passed through the overlapped ends at each joint and having nuts turned on its threaded portions against opposite faces of the joints, one or more rods lying in openings in the extension pieces between the joints and shelves supported by said rods and tie-rods, substantially as and for the purposes described.

4. The combination with a shelf-hanger consisting of a series of jointed, vertical extension pieces, of inclined braces connected at one end to said pieces, tie-rods lying in openings in the other ends and extending to and through the vertical part of the frame with nuts turned thereon against opposite faces of the ends of the braces and shelves resting on said rods between, and on the sides of the vertical parts, substantially as and for the purposes described.

5. A shelf hanger consisting of a frame composed of vertical pieces lapped one upon the other and provided with openings through the lapped ends and in the intermediate parts, braces having oppositely angular ends provided with openings, their ends being bolted to the outer faces of the vertical pieces, and tie-rods lying in the openings in their other ends and having nuts turned on both sides of the braces, said rods extending to the vertical pieces and forming supports for shelves, substantially as and for the purposes described.

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

DAVID M. HERMAN.

Witnesses:

FRANK K. REEDER,
GEO. R. KREWSON.