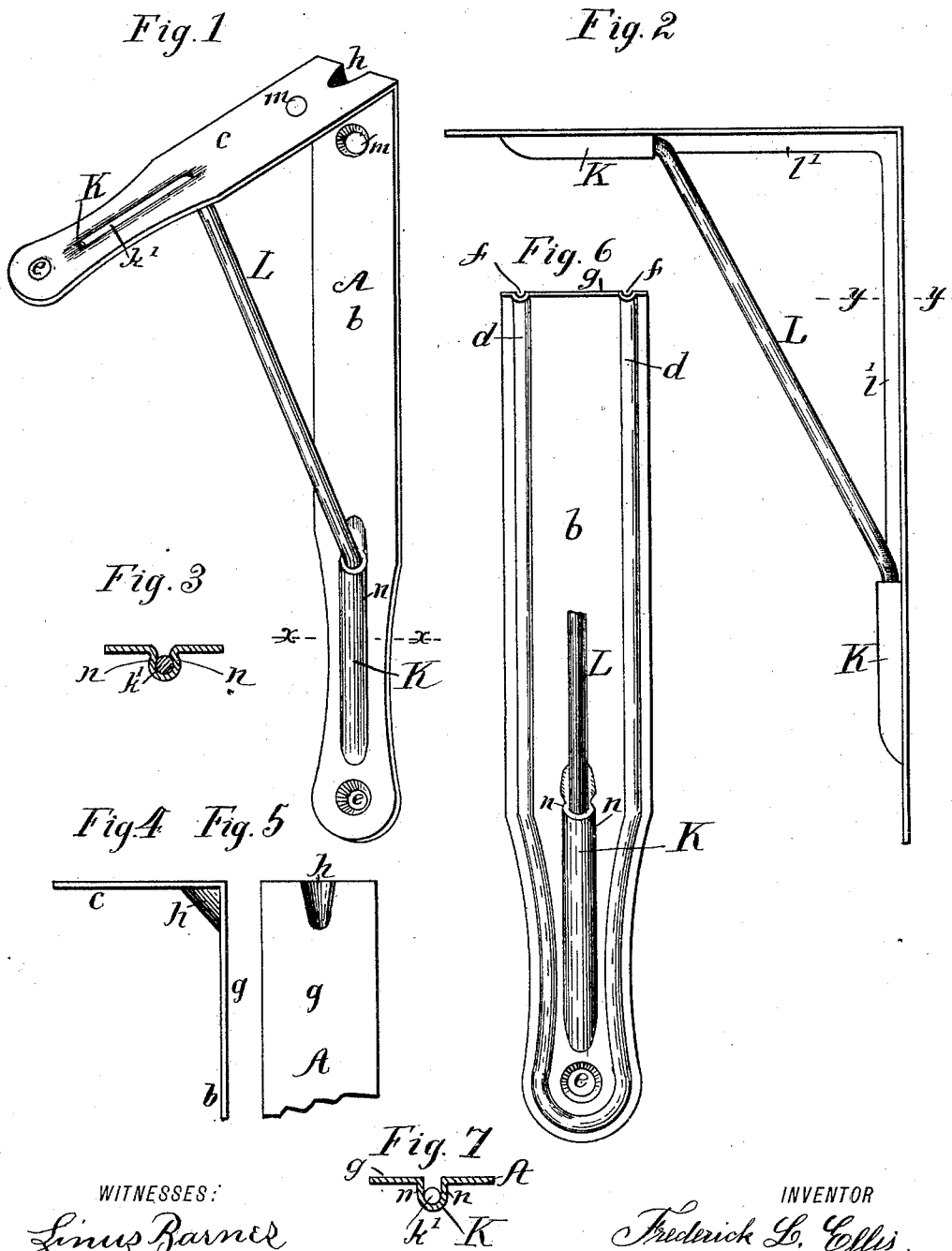


(No Model.)

F. L. ELLIS.
SHELF BRACKET.

No. 476,994.

Patented June 14, 1892.



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FREDERICK L. ELLIS, OF MILLDALE, CONNECTICUT.

SHELF-BRACKET.

SPECIFICATION forming part of Letters Patent No. 476,994, dated June 14, 1892.

Application filed October 10, 1891. Serial No. 408,348. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK L. ELLIS, a citizen of the United States, residing at Milldale, in the township of Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Shelf-Brackets, of which the following is a specification.

My invention relates to shelf-brackets, and has for its object to provide a light, cheap, and strong sheet-metal bracket, the cast brackets now ordinarily used being objectionable on account of their expense and clumsy proportions.

My invention consists in the novel construction and arrangement of the parts of the bracket and the mode of securing the diagonal strengthening-brace in position, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of my improved bracket; and Fig. 2 is a side elevation of the same, but showing a slight modification of the construction. Fig. 3 is a cross-sectional view on the line xx in Fig. 1. Figs. 4 and 5 are side and rear face views of the angle of the bracket, showing the mode of strengthening the corner thereof. Fig. 6 is a face view of a beaded bracket; and Fig. 7 is a cross-sectional view of the bracket on the line xx in Fig. 1, representing the metal sheath of the brace before being closed upon the wire. Said Fig. 7 may also represent a cross-section on the line yy in Fig. 2.

Referring to the drawings, A designates a plain strip of sheet metal, which is bent into the form of a right angle to provide the vertical and horizontal arms b and c of the bracket. When it is desired to give the strip more stiffness than would result from its plain flat form, as shown in Fig. 1, it may be provided with a rib or bead d around its entire edge, whereby a portion of the strip is arranged perpendicular to its face throughout its length, and thereby suitably disposed to resist bending strains, as shown in Fig. 6. Such a bead is also highly ornamental and is preferably carried around the screw-perforations e at the ends of the bracket, as shown, concentric with the perforations and the edge of the metal at its ends. The bead is prefer-

ably raised on the front side of the bracket, forming a corresponding corrugation f on the rear or flat side g . The corner of the bracket is strengthened by forming a diagonal groove h therein, struck inward, as shown.

The principal element of strength in a bracket is the diagonal brace extending across between the vertical and horizontal arms thereof. In a sheet-metal bracket the problem is presented of securely fastening this brace in position, so that it may be adapted to resist the strain to which the bracket is ordinarily subjected.

To this end my invention further consists in the following novel arrangement of the brace and mode of fastening it to the arms of the bracket.

From the rear side of the vertical part b of the bracket, near its end, a longitudinal trough-shaped loop, sheath, or socket K is struck up by means of suitable dies, and a similar socket is struck or stamped from the horizontal part or arm c downward, also near the end thereof. At the ends nearest to the angle of the bracket the said sockets are open on the outer or front side of the strip A—that is, the metal is cut through and severed from the strip at that point, as shown, but the opposite ends of the socket are preferably left closed. The depth of each socket from the outer or front side of the strip to the bottom of the depression is somewhat greater than its width for the purpose hereinafter explained.

L designates a wire brace or rod of such length that it is adapted to extend across between the inner ends of the sockets K, with its ends k' received in the said troughs or cavities of the sockets, the ends of the wire being correspondingly bent parallel with the arms of the bracket.

It will be seen that with the sockets formed and shaped as described the wire or rod may readily be inserted through the arms and laid in place in the sockets. After the wire is placed in position I next close the sides n of the sockets firmly and tightly against the wire, the base of the sides being forced in over that side of the wire adjacent to the mouth of the trough, as fully shown in Fig. 3. This operation may be performed by powerful and suitable dies, and when the sockets are thus

clamped or closed upon the wire or rod it cannot get out of place and will be as securely fastened as if integrally connected with the arms of the bracket, thereby providing an extremely strong construction. Around wire rod is preferable for this purpose; but wire of any desired shape may be used or it may be ornamented, as required.

Suitable screw-perforations *m* for fastening the bracket to the wall or its shelf are provided adjacent to the angle of the bracket and at the ends of the arms thereof. The said sockets *K* preferably extend to a point near the said perforations at the end of the arm, as shown.

When desired, the sockets may be extended to the angle of the bracket to provide a strengthening-rib *l'*, as shown in Fig. 2, the said rib being broken through for the reception of the wire brace. The portions of the rib exterior to the brace then form the sockets, while those portions interior thereto—that is, toward the angle of the bracket—are left without being further closed up or shaped, thus retaining the cross-sectional area shown in Fig. 7. This construction provides a bracket of extreme simplicity and great strength and which may be very cheaply made and is ornamental and as durable as a cast bracket.

I claim as my invention—

1. As a new article of manufacture, a shelf-bracket formed of a sheet-metal strip having longitudinal loops or sockets near the ends of its arms stamped from the sheet metal on the side interior to the angle and with a wire or

rod brace extended across between the arms of the bracket and having its ends inserted in the said loops or sockets, the metal of the sockets being closed or firmly clamped upon the brace to secure it in position, substantially as specified.

2. As a new article of manufacture, a shelf-bracket formed of a sheet-metal strip bent to form a rectangle, having a diagonal hollow rib stamped inwardly at its corner and longitudinal hollow ribs stamped from the sheet metal on the side interior to the angle and provided with longitudinal loops or sockets near the ends of its arms, stamped from the sheet metal on the side interior to the angle, and with a wire brace or rod extended across between the arms of the bracket and having its ends inserted in the said loops or sockets, the metal of the sockets being closed or firmly clamped upon the brace to secure it in position, substantially as specified.

3. As a new article of manufacture, a shelf-bracket formed of a sheet-metal strip, having a bead or hollow rib around its edge stamped from the sheet metal and provided with longitudinal loops or sockets near the ends of its arms, stamped from the sheet metal on the side interior to the angle, and with a wire or rod brace having its ends inserted in the said loops or sockets, the metal of the sockets being closed or firmly clamped upon the brace to secure it in position, substantially as specified.

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