No. 804,451. PATENTED NOV. 14, 1905.

A. CARLSON.

JOIST HANGER.

APPLICATION FILED MAR. 29, 1905.

Fig. 1.

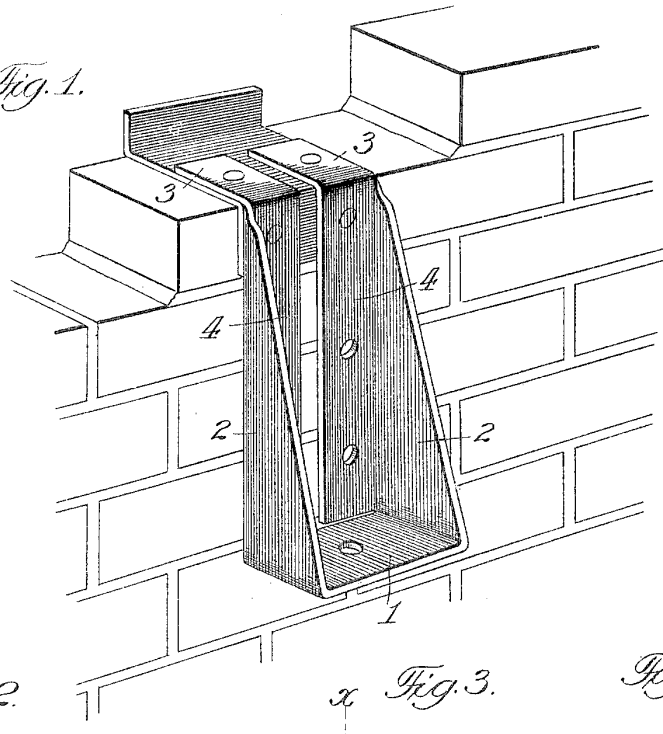


Fig. 2.

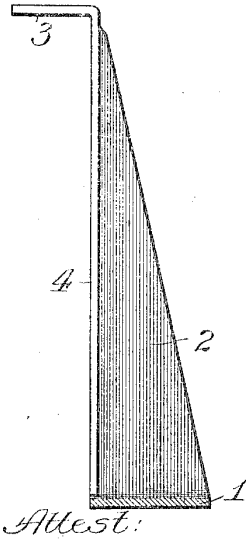


Fig. 3.

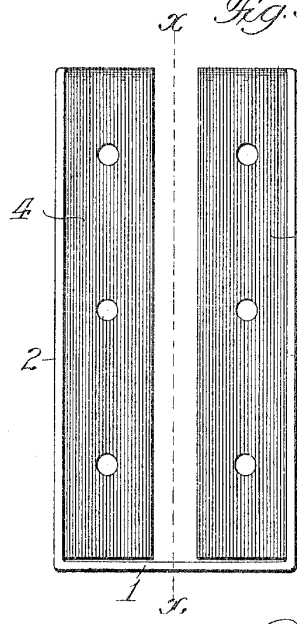
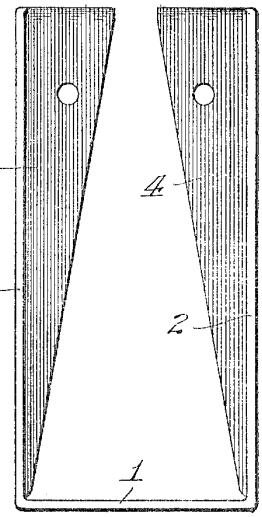


Fig. 4.



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Simpson Strong-Tie Company Inc. EX1021
Simpson Strong-Tie Co. v. Columbia Insurance Co.
U.S. Patent No. 11,649,626

UNITED STATES PATENT OFFICE.

ALFRED CARLSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO LUCIEN L. GERVAIS, OF CHICAGO, ILLINOIS.

JOIST-HANGER.

No. 804,451. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed March 29, 1905. Serial No. 252,682.

To all whom it may concern:

Be it known that I, ALFRED CARLSON, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Joist-Hangers, of which the following is a specification.

This invention relates to hangers adapted to support the ends of the floor-joists of buildings, and has for its object to provide a simple and efficient structural formation of the hanger parts whereby a maximum degree of strength with a minimum weight of metal is provided in the hanger, as will hereinafter more fully appear and be more particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a joist-hanger embodying the present invention. Fig. 2 is a vertical sectional elevation of the same at line $x\,x$, Fig. 3. Fig. 3 is a front elevation. Fig. 4 is a front elevation of a modified form of the hanger.

Similar numerals of reference indicate like parts in the several views.

As represented in the drawings, the joist-hanger is formed of wrought metal bent upon itself in various planes to constitute a lower horizontal web or seat 1, counterpart triangular intermediate side webs or wings 2 at right angles to the horizontal web 1, and upper horizontal webs or bearing-flanges 3, as usual in the present type of joist-hangers now in general use.

The material part of the present improvement consists in providing the vertical side wings or webs 2 with vertical flanges 4 along their rear edges, which flanges extend toward each other, as shown, and at their upper ends constitute direct angular extensions of the horizontal bearing webs or flanges 3. As so formed a hanger structure is provided having a maximum degree of strength combined with minimum degree of lightness in that the strain upon the parts in actual use is in direct vertical lines, with an entire avoidance of the oblique torsional strains usual to the ordinary hanger construction and requiring a shearing stress to overcome the support afforded by the present hanger construction.

It is within the scope of the present invention to make the vertical rear flanges 4 of a rectangular form, as shown in Figs. 1 and 3, or of a triangular form, as shown in Fig. 4, and as the judgment of the constructor may deem best to meet particular circumstances.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

A wrought-metal joist-hanger, comprising a lower horizontal seat or web, triangular side webs integral with the lower seat or web aforesaid and formed with vertical rear flanges extending toward each other, and upper horizontal bearing-webs integral with and constituting direct angular extensions of said vertical flanges, substantially as set forth.

Signed at Chicago, Illinois, this 20th day of March, 1905.

ALFRED CARLSON.

Witnesses:
ROBERT BURNS,
M. H. HOLMES.