

T. C. CLARKE.

Improvement in Iron Truss Bridges.

No. 132,803.

Patented Nov. 5, 1872.

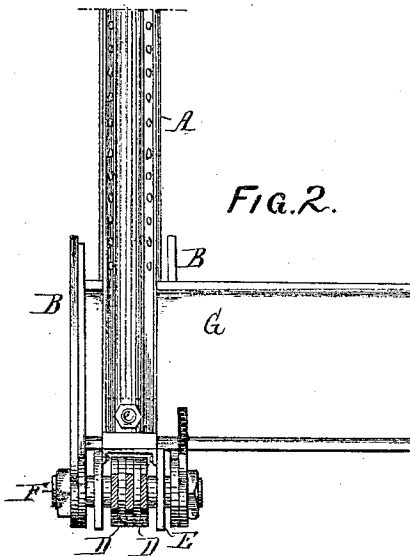


FIG. 2.

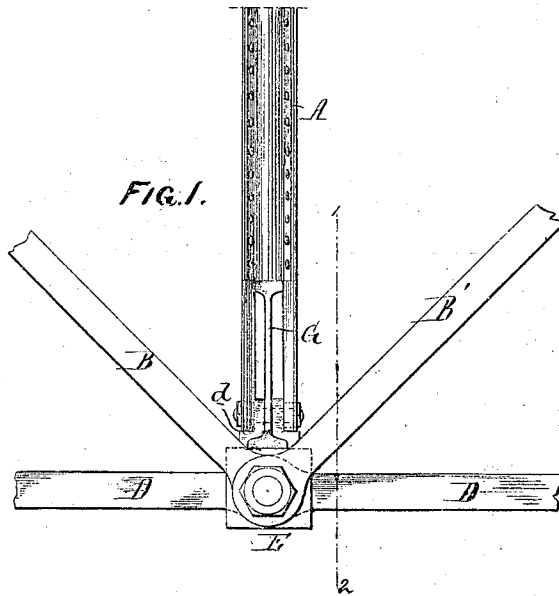


FIG. 1.

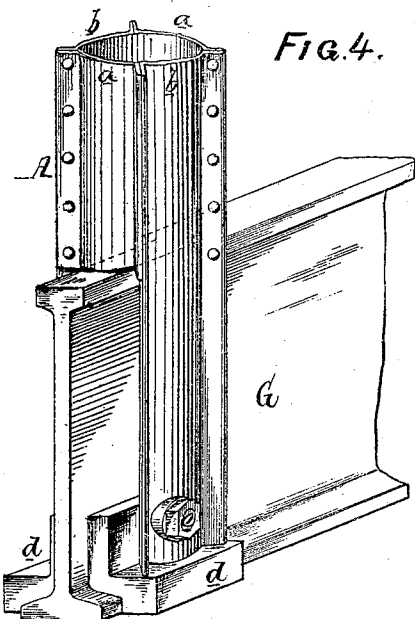


FIG. 4.

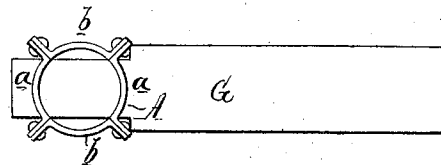


FIG. 3.

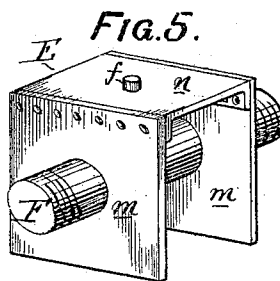


FIG. 5.

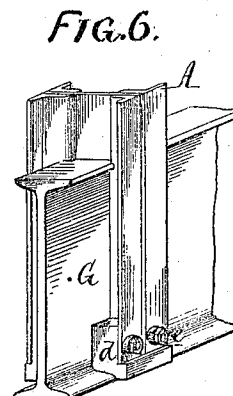


FIG. 6.

Witnesses.

Henry Smith
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Thomas C. Clarke
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UNITED STATES PATENT OFFICE.

THOMAS C. CLARKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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IMPROVEMENT IN IRON-TRUSS BRIDGES.

Specification forming part of Letters Patent No. 132,803, dated November 5, 1872.

To all whom it may concern:

Be it known that I, THOMAS CURTIS CLARKE, of Philadelphia, Pennsylvania, have invented certain Improvements in Truss-Frame Bridges, of which the following is a specification:

My invention consists of a truss-frame bridge in which the floor-beams, posts, and braces are connected and supported as fully described hereafter, the object of my invention being to insure economy and simplicity in the construction of iron bridges.

In the accompanying drawing, Figure 1 is a side view of sufficient of a truss-frame bridge to illustrate my invention; Fig. 2, a transverse section of Fig. 1 on the line 1 2; Fig. 3, a sectional plan on the line 3 4, Fig. 2; Fig. 4, a perspective view, illustrating the mode of connecting the post to the floor-beam; Fig. 5, a perspective view of the bearer; and Fig. 6 illustrates a modification of my invention.

A represents the lower portion of the vertical post of a truss-frame bridge; B and B', the diagonal and counter-diagonal stays; D D, the lower chord-links; E, the bearer, and F the pin which connects the diagonals and chord-links to the bearer, and G part of one of the floor-beams. It is the common practice in bridges of this class to suspend the floor-beams from the pin F by bolts—a plan which has been considered by many engineers to be more or less precarious, especially as the nuts of the bolts, on the integrity of which the safety of the structure depends, are exposed, and may be easily tampered with by evil-disposed persons. I obviate this evil in the manner which I will now proceed to describe: The post is, in the present instance, made of wrought-iron, in accordance with the invention of S. J. Reeves, patented June 17, 1862, and is composed of four flanged bars, *a a* and *b b*, as best observed in the perspective view, Fig. 4, and at the lower end of the post the opposite bars *a a* are cut away for the admission of the ends of the floor-beam G, which is of the well-known character known as a Phœ-

nix beam. The bars *b b* of the post are continued downward, and are arranged to bear on blocks *d d* fitted to the lower flange, and to the web of the beam, a horizontal bolt, *e*, passing through the whole, as shown in Fig. 4. The flange of the beam and the blocks *d d* rest on the bearer E, Fig. 5, which is maintained in position by a simple steady-pin, *f*, this bearer being composed, in the present instance, of two plain plates, *m m*, of wrought-iron, riveted to the flanges of a strip, *n*, of channel-iron. The pin F passes through the said plates and through the eyes of the diagonals B and B', and through those of the lower chord-links D D. It will now be seen that the floor-beam as well as the post is supported by the pin which connects together the diagonals and lower chord-links.

The simplicity of my invention and the economical results attained will be readily understood by those familiar with structures of this class.

It is not essential in carrying out my invention that the post should be of the precise character illustrated in the drawing; the post may, for instance, be constructed as shown in Fig. 6, the web being removed at the lower end of the posts, so that the latter fit over and embrace the floor-beam; in fact, a post of any form may be used, providing it is prepared at the lower end for combination with the beam, substantially in the manner shown.

I claim as my invention—

The combination, with the bearer E, pin F, and diagonals and links, of the beam G and pivot A, the side bars of which rest on blocks *d* supported directly by the bearer, the whole being connected as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS C. CLARKE.

Witnesses:

WM. A. STEEL,
HARRY SMITH.