S. CONKLIN.

TRUSS-BRIDGE.

No. 174,120. Patented Feb. 29, 1876.

Fig. 1

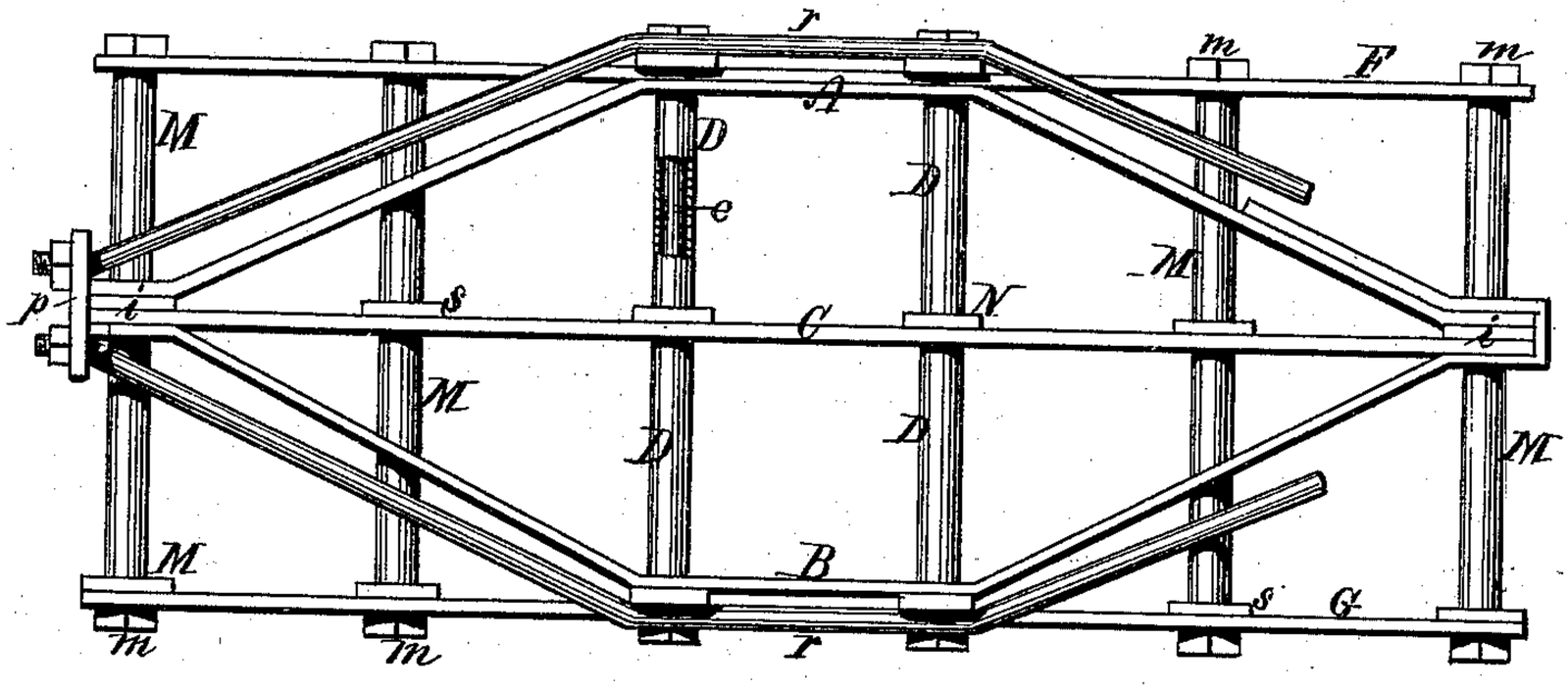
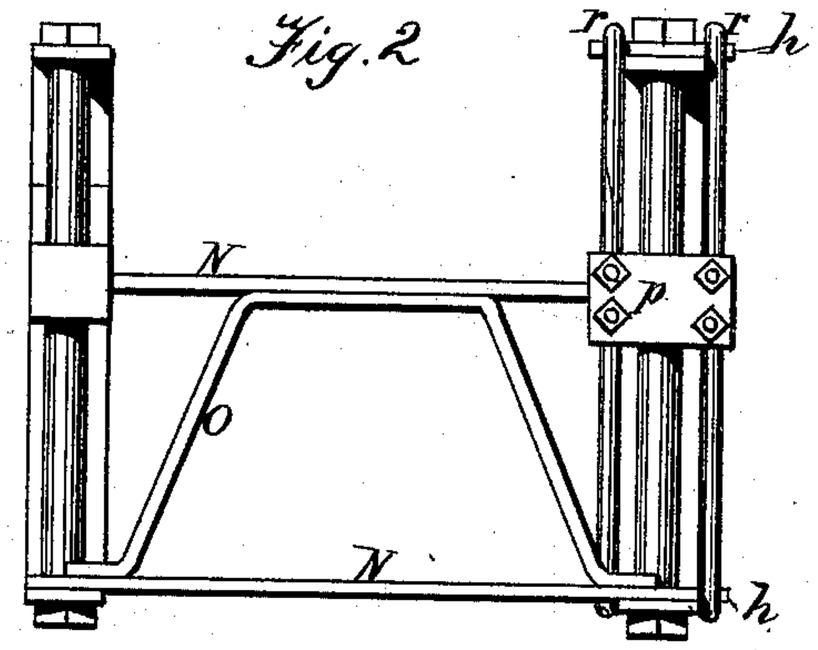


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

SOLON CONKLIN, OF KIRKWOOD, NEW YORK.

IMPROVEMENT IN TRUSS-BRIDGES.

Specification forming part of Letters Patent No. **174,120**, dated February 29, 1876; application filed January 29, 1876.

To all whom it may concern:

Be it known that I, SOLON CONKLIN, of Kirkwood, in the county of Broome and State of New York, have invented a new and Improved Truss and Bridge; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, and Fig. 2 is an end elevation.

Similar letters of reference in the accompanying drawings indicate corresponding parts.

The object of this invention is to improve the construction of trusses and bridges so as to combine, to as great a degree as practicable, lightness, beauty, and strength; to which end the invention consists, first, in the new truss, which is hereinafter set forth; and, secondly, in the improved bridge, of which the truss forms an element, substantially as I will now describe.

In the drawings, A represents the upper arc, B the lower arc, and C the common chord, of my improved truss, said arcs and chord being secured together in any suitable manner at the ends of the truss, but preferably by bolting through an intermediate plate, *i*, as shown.

One, two, or more pairs of tubular struts, D, are placed at or near the middle of the truss, on opposite sides of the chord, and the whole structure is secured firmly together by tie rods *e* extending through the tubular struts, and through the chord, and tightened up by means of screw-nuts on their ends. The truss thus constructed when designed for very heavy work may be strengthened by rods or straps *r*, connected at their ends by blocks or plates *p*, and forming re-enforcing arcs, as shown. The main arcs are preferably of flat bar-iron, and the re-enforcing-rods of round iron, but this not essential. Seats *s* may be applied at one or both ends of any or all of the struts, to prevent the chafing of the arcs and chord, if desired.

For a bridge structure horizontal top and bottom plates F G are employed, arranged tangentially to the horizontal portions of the arcs, as shown, and secured in place at the widest part of the truss by the tie-rods *e*. Toward the ends of the truss, where it is contracted, additional pairs of struts M and tie-rods *m* are provided for the purpose of bracing and thoroughly supporting the bridge-frame. The needle-beams N connect the sides of the bridge, and their ends may be substituted for the seat-plates *s*. Inverted U-shaped braces O may be arranged under any or all of the needle-beams, to support the upper floor of the bridge and assist in strengthening the whole structure. When the rods *r* are employed, they may be arranged in pairs on each side of the bridge, passing over or under yokes or cross-heads *h*, as represented in Fig. 2.

The truss is made of any suitable length, and any number may be connected in a bridge or other structure. The use of the truss is not confined to bridges, but it may be employed horizontally for deck-frames or vertically for strengthening trusses in shipbuilding, or for the working-beams of steamboats, or for trestle-work or other use in the structure of railroads, and for other kindred purposes.

Having thus described my invention, I claim as new—

1. The truss consisting substantially of the opposite arcs A B, the common chord C, the tubular struts D D, and the tie-rods *e*, extending through the struts and secured by the terminal screw-nuts, as herein described.

2. The bridge consisting substantially of the two trusses, constructed as herein set forth, and the top and bottom plates F G, tie-rods *m*, needle-beams N, and braces O, with or without the strengthening-rods *r*, as herein described.

SOLON CONKLIN.

Witnesses:

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