(No Model.)

C. H. BALL.

BRIDGE.

No. 502,165. Patented July 25, 1893.

Fig. 1.

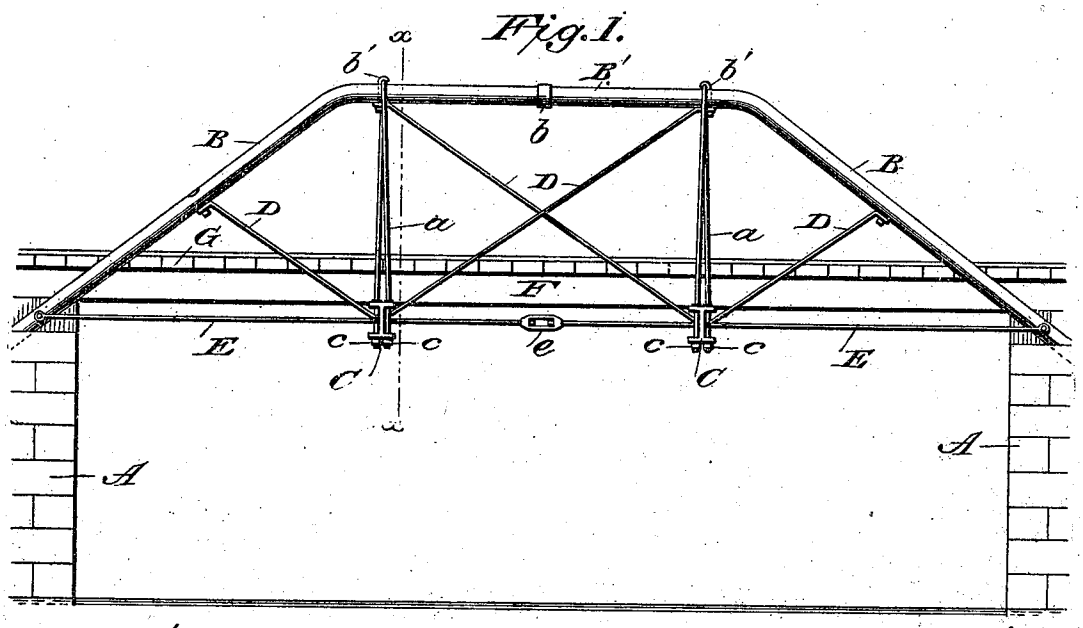
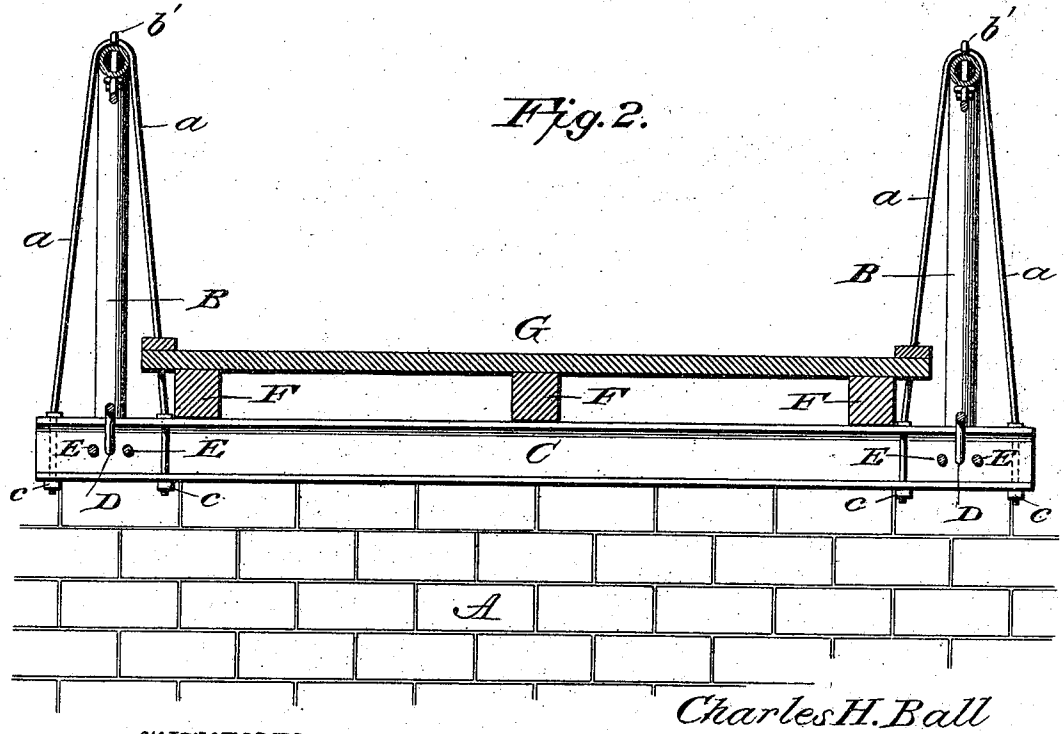


Fig. 2.



WITNESSES

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SPECIFICATION forming part of Letters Patent No. 502,165, dated July 25, 1893.

Application filed April 20, 1893. Serial No. 471,136. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BALL, a citizen of the United States of America, residing at East Windsor, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Bridges; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a truss bridge of improved construction; and it consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of the improved bridge, and Fig. 2 is a sectional view through the line *x*—*x* of Fig. 1.

A A designate the piers or abutments upon which the ends of the chords B rest and are anchored in any suitable manner. The chords are preferably made up of tubes connected to each other by sleeves *b*, and they are so arranged that they extend upwardly at an acute angle from the abutments and are bent to provide a central horizontal portion B′. From the horizontal portions of the chords depend rods *a a*, which are made of a single bar looped over the chords and secured thereto by bolts *b′* which pass through the chords and are secured in place by nuts. The lower ends of the rods are spread and passed through the flanges of the I-rails or cross-ties C, which are apertured for the purpose, and the rods or supports are screw-threaded at their lower ends to receive nuts *c c*.

D D designate diagonal rods or braces which are attached at one end to the inclined portions of the chords B, pass through the cross-ties C on a line with the chords and extend therefrom to the bolts *b′*.

E E designate tension bars which are held in engagement with the lower ends of the chords by means of staples or bolts which connect with eyes in said tension bars. These tension bars pass through perforations in the cross-ties C and are attached to each other by turn-buckles *e*. The longitudinal beams F F of the bridge rest upon the cross-ties C C, and the floor boards, G, are secured to said beams in the usual manner.

A bridge constructed as hereinbefore described can be readily made and set up, and the chords being tubular are light and have great strength, and each chord being made of two pieces permits the parts to be shaped or patterned after each other so as to have uniform bends or angles.

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

1. In a bridge, the combination of the tubular chords having inclined end portions and a horizontal central portion, looped bars connected to the central portion of the chords and to cross-ties, diagonal brace-rods D extending from the inclined portions of the chords through the cross-ties to the horizontal portion of the chords, and tension bars attached to the lower ends of the chords and extending through the cross-ties and connected to each other by turn-buckles, substantially as shown.

2. A bridge constructed substantially as shown and comprising chords having inclined end portions and horizontal central portions, looped bars connecting the horizontal portion of the chords with the flanges of cross-ties, diagonal brace-rods passed through the cross-ties on a line with the chords, said brace-rods extending from the inclined portions of the chords to the central portion, tension bars E having turn-buckles *e*, longitudinal beams F F adapted to rest upon the abutments and upon the cross-ties, and a floor secured to the longitudinal beams, the parts being organized substantially as shown.

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

CHARLES H. BALL.

Witnesses:
EDGAR E. JORDAN,
H. P. HATHWAY.