Sheet 1, 2 Sheets.

D. Hammond.

Truss Bridge.

No. 56,043. Patented Jul. 3, 1866.

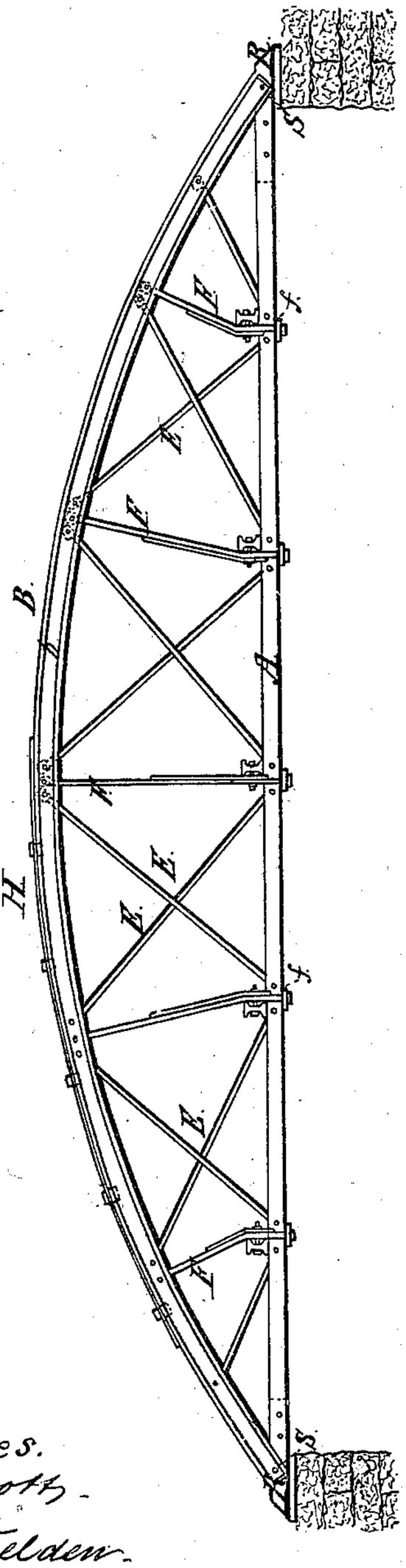

Fig: 2

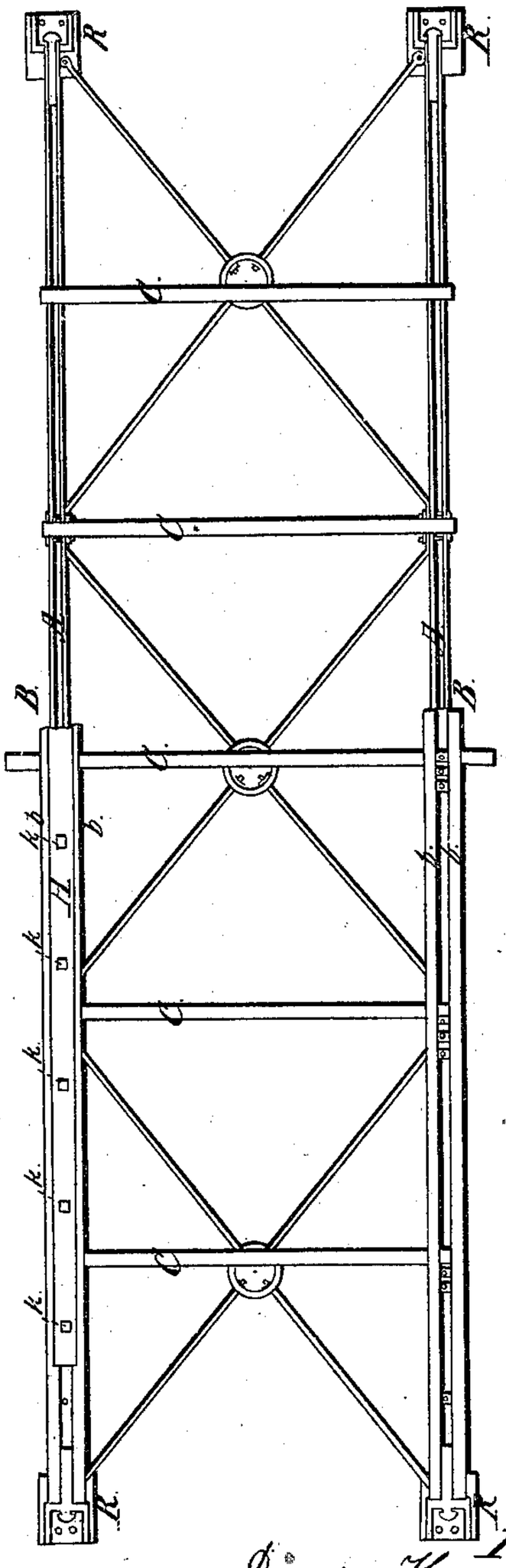

Fig: 1.

Witnesses.
J. abbott.
Geo T Tilden.

Inventor:
David Hammond.

Sheets, 2 Sheets.

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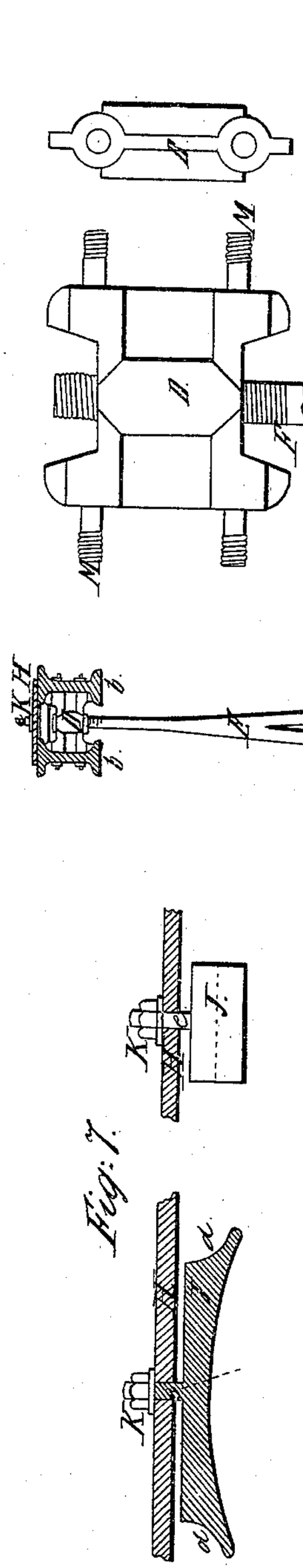

Fig: 1.

Fig: 2.

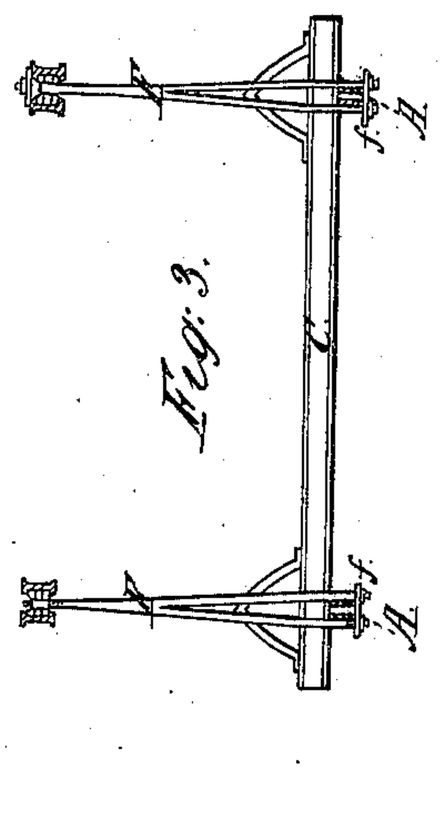

Fig: 3.

Fig: 4.

Fig: 5.

Fig: 6.

Fig: 7.

Witnesses.
J. Abbott.
Geo T Telden.

Inventor
David Hammond

UNITED STATES PATENT OFFICE.

DAVID HAMMOND, OF CANTON, OHIO.

IMPROVEMENT IN BRIDGES.

Specification forming part of Letters Patent No. **56,043,** dated July 3, 1866.

To all whom it may concern:

Be it known that I, DAVID HAMMOND, of Canton, in the county of Stark and State of Ohio, have invented a new and valuable Improvement in Wrought-Iron Trussed Girders for Bridges or other Structures; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a horizontal plan of girder applied to a bridge. Fig. 2 is a side elevation. Fig. 3 is a vertical cross-section at middle of bridge. Fig. 4 is a cross-section, showing application of double-T iron, clamping-pieces, covering-piece, and securing-clamp. Fig. 5 is the details of double-bolted clamping-piece. Fig. 6 is the details of single-bolted clamping-piece, and Fig. 7 is the details for securing-clamp for covering-piece.

The nature of my invention consists in the novel construction of a wrought-iron arch of double-T iron and novel clamping-pieces, and also in the combination of a covering-piece which excludes moisture, and also serves to prevent any lateral motion of the arch, and, by being firmly secured thereto, serves to materially strengthen the arch, with said arch and securing-clamps of novel construction, whereby I obtain an arch of great strength and simplicity with a comparatively small weight and cost of construction.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and application.

The arch B is composed of two continuous pieces of double-T iron, *b b*, which are set up parallel to each other and at a distance from each other equal to the lengths of the clamping-pieces D or P. These clamping-pieces are of a novel construction, being either double-bolted, as shown in Fig. 4 and in detail in Fig. 5, or single-bolted, as shown in detail in Fig. 6, and in their application in Figs. 1 and 2. They are made of cast or wrought iron, having bolts M M at their sides, which bolts pass through the double-T iron and are secured by nuts on the outside, thus firmly connecting the two pieces of the arch to each other. In the center of these clamping-pieces D or P, I bore a hole, N, through which pass the supporting-rods F F and brace-rods E E, the single-bolted clamping-pieces, by their peculiar construction, being allowed to rotate so as to accommodate themselves to the directions of the braces.

The ends of the arch are connected by the chords *a a* and bolts *s s*, which bolts pass through the ends of the arch, the ends of the chord, and cast-iron blocks which are put in to fill the space in the double-T iron and to keep the two pieces of the chord apart, thus firmly securing the ends of the arch and the chords to each other.

The suspension-rods F pass through the clamping-pieces D or P, and are secured by nuts on their lower ends. They pass on each side of the chord-pieces *a a*, as shown in Fig. 4, and pass through the supporting-piece *f f*, and are secured by nuts on the lower side of the supporting-piece, forming a stirrup for the support of the chords.

The string-pieces C C are placed on the top of the chords *a a*, and are bolted to the suspension-rods F F, thus forming a firm connection for the two girders.

The covering-piece H is placed on the top of the arch, and is secured thereto by the securing-pieces J J, of a novel construction. These securing-pieces, as shown in detail in Fig. 7, have their edges or sides *d d* so formed as to fit the lower part of the upper T of the double-T iron of which the arch is composed, and have a bolt, *e*, on their upper side, which passes through the covering-piece H, and is secured by a nut, K, on its upper side, thus firmly securing the covering-piece to the arch.

I do not claim in girders the use of the shoes R, the chords *a a*, the suspension-rods F, the string-pieces C C, nor the braces E E, as these have been heretofore used and patented; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The peculiar combination of the double-T irons *b b* and clamping-pieces D or P with bolts M M and hole N, substantially in the manner and for the purpose herein set forth.

2. The peculiar combination of the covering-piece H, the double-T irons *b b*, and the securing-pieces J J, with bolt *e* and nut K thereon, substantially in the manner and for the purpose herein set forth.

DAVID HAMMOND.

Witnesses:

J. ABBOTT,

GEO. T. TILDEN.