

H. S. McDowell,

Truss Bridge

No. 98699.

Patented Jan. 11. 1870

Fig. 2.

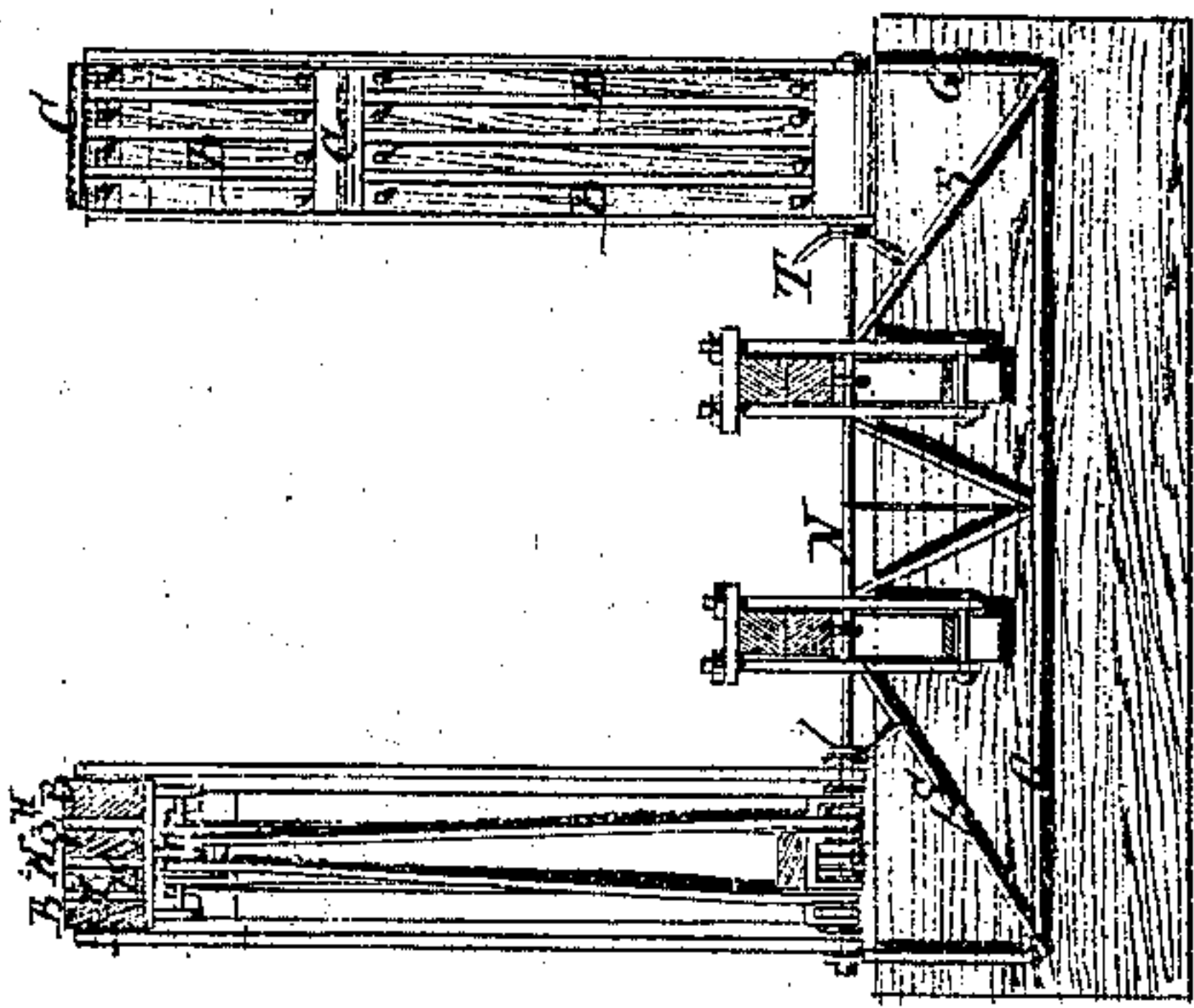
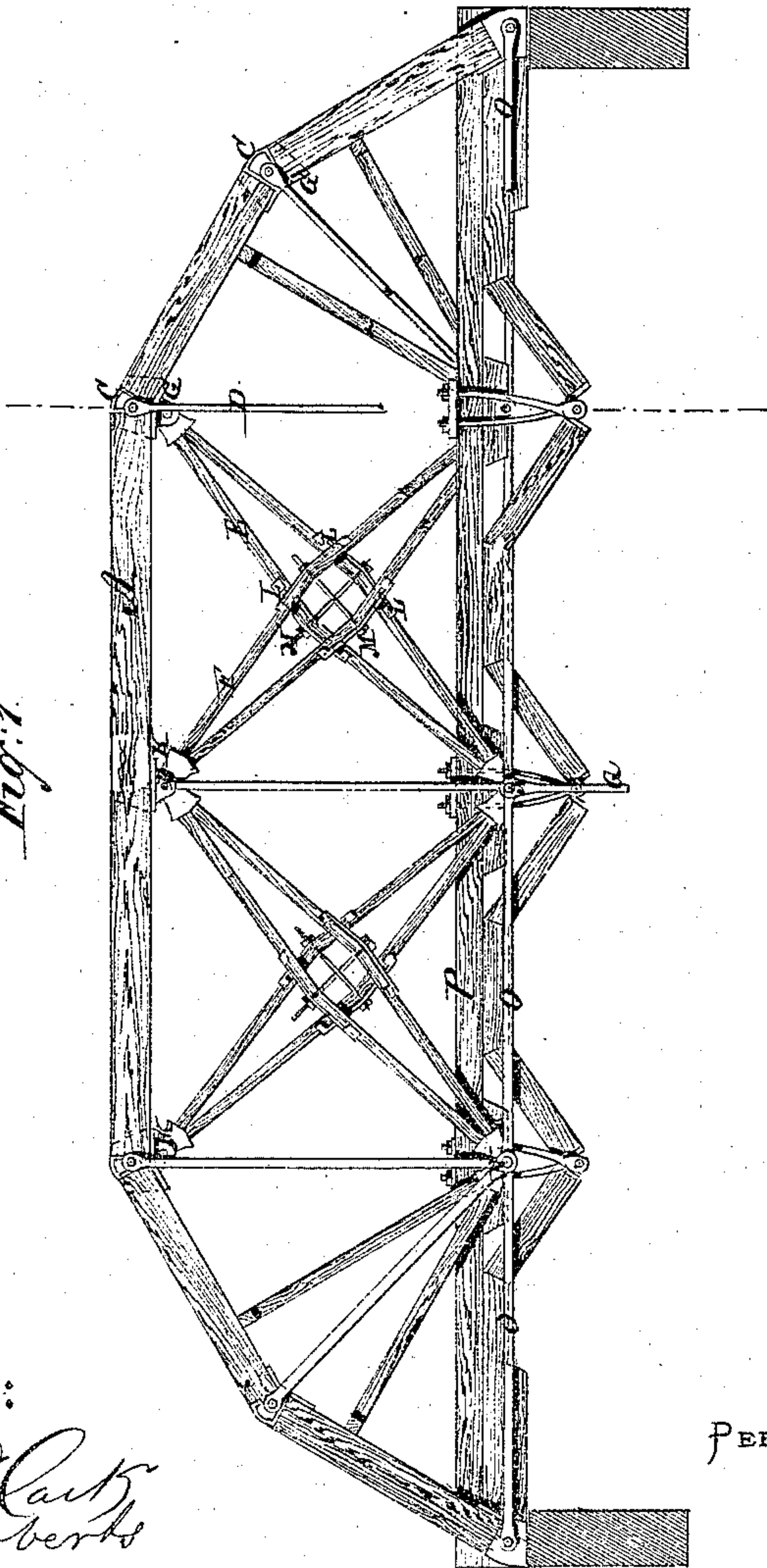


Fig. 1.



Witnesses:

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United States Patent Office.

H. S. McDOWELL, OF COLUMBUS, TEXAS.

Letters Patent No. 98,699, dated January 11, 1870.

IMPROVED BRIDGE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, H. S. McDOWELL, of Columbus, in the county of Colorado, and State of Texas, have invented a new and useful Improvement in Bridges; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to provide certain improvements in the construction of bridges, whereby the parts thereof, of wood, may be readily removed for the substitution of others, when decayed or broken, without interfering with the use of the bridge or weakening it.

The invention also has for its object to provide certain improved arrangements of the parts, calculated to simplify the construction and increase the efficiency of the same.

Figure 1 represents a longitudinal sectional elevation of a span constructed according to my improvements; and

Figure 2 represents an end view, partly in section.

I make the top chords A in sections, composed of any preferred number of thin bars B of wood, set edgewise, and fitted at the ends against the joint castings C, from which the rods D, and main and counter-braces F and E are suspended.

These castings have under flanges G, wherever the lower edges of the bars B rest.

They also have flanges H projecting between the bars, so as to separate them at the sides.

The braces are connected to the said castings by bolts I, passing through ears K, projecting downward from the under sides; and the suspending-rods D are connected by the same or similar bolts, passing through the widened parts of the said castings, near the top, in the cases where the said upper chords are bent at the joints. These bars are so fitted to the castings, that when the bolts which hold them to the castings are removed, they may be removed, each separately, and new ones put in their places. They are bolted

laterally, by rods running across from one chord to the other, in a way common to other bridges.

The main-braces F and counter-braces E, I propose to make in two parts, having joints at the centre, connected by metal straps or clips L, so that they may be separated by straining-bolts M, as shown in the drawings, whereby they are greatly stiffened.

For the main braces, I propose to use two sets, side by side, but sufficiently separated for the counter-braces of only one set to pass between them.

At the lower ends of these braces and the suspending-rods D, I suspend the transverse rods or axles N, to which the lower chords O are also connected, and in which the longitudinal track-stringers P rest, in a way to dispense with the metal floor-timbers commonly used.

These transverse rods I propose to strengthen between the ends by the bent bars Q, suspended from each end, and the braces S.

This construction of the upper chords, which are intended to rise from the abutments, so as to take the strain wholly or mostly at the ends, very greatly relieves the lower chords, and enables me to make them lighter and cheaper.

It will be seen that the braces may be removed separately with great facility.

T represents straps or plates of metal connected to the transverse rods, with projecting points for the connection of the diagonal rods uniting the lower chords.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. A bridge, provided with bars B, castings C, rods D, duplicate jointed braces E F, bolts M, plates L, and chords A O, all arranged as shown and described.

2. The combination, with the axle-rods N, of the bent bars Q and braces S, substantially as specified.

H. S. McDOWELL.

Witnesses:

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