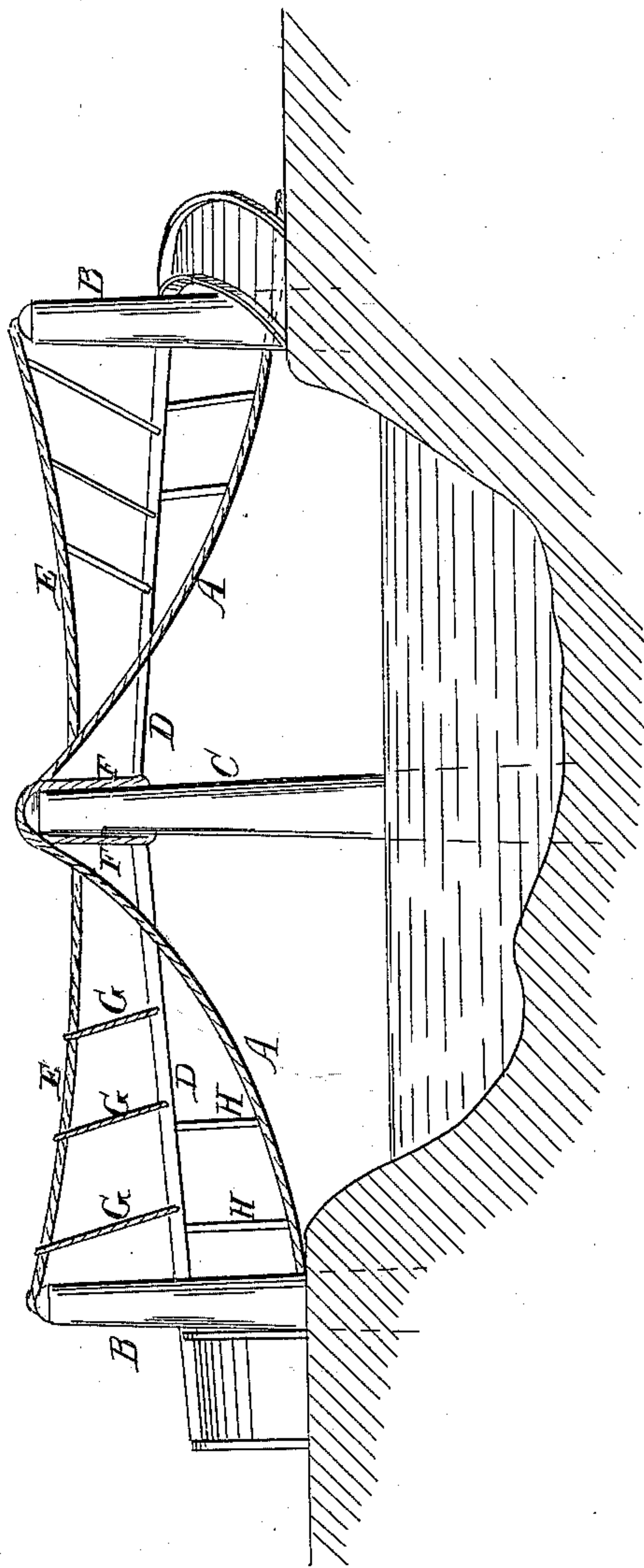


J. Royal,
Suspension Bridge.
No 22,597. *Patented Feb. 8. 1870.*



Witnesses:
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JARVIS ROYAL, OF WHITE ROCK, ILLINOIS.

Letters Patent No. 99,597, dated February 8, 1870.

IMPROVED SUSPENSION-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, JARVIS ROYAL, of White Rock, in the county of Ogle, and State of Illinois, have invented a new and useful Improvement in Suspension-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.

This invention relates to new and useful improvements in suspension-bridges, whereby the construction of that class of bridges is greatly simplified; and

The invention consists in making the suspension-cable in sections, and in the method of fastening the same, and also in the method of forming and supporting the road-bed, as will be hereinafter more fully described.

The accompanying drawing is a side elevation of a bridge constructed according to my invention.

A represents the main or supporting-cable.

B B represent the shore-piers.

C is the intermediate pier, of which intermediate pier there may be any desired number.

D is the road-bed of the bridge.

E represents sub-cables, which are supported by the shore piers at one end, the other end being fastened to the main cables.

The main cables A are secured at the shore-ends of the bridge, at or near the base of the shore piers, as seen in the drawing. Their other ends extend over the intermediate piers and down on the side of the piers, to which they are fastened, as seen at F F.

G represents stays from the cables E, for supporting the road-bed between the piers.

H represents stanchions from the main cable, for supporting the road-bed above the main cable.

By securing the shore ends of the cable, as shown, (near the shore,) I avoid the prolongation of the cable very far beyond the ends of the bridge, and allow the shore end of the road-bed to diverge in either direction above the cable.

My experience has taught me that a supporting-cable may be made in sections, or short pieces extending from pier to pier, or from shore to pier, as represented, and be secured to the piers intermediate between the shores, in a perfectly safe and substantial manner.

By making the cable in this manner, it is much easier manufactured and transported, and much more easily put in place.

Another advantage is, should a piece of the cable fail, only so much of the bridge would be effected as that piece supported.

In this manner a suspension-bridge may be constructed not only much cheaper, but much safer than by the use of the common continuous cable. Other advantages incident to the use of the sectional cable, and the method of dropping and supporting it at the shore ends of the bridge, must be obvious to all who are at all acquainted with the subject.

Having thus described my invention,

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

1. Using the main cable of a suspension-bridge in sections, supported on a central pier, substantially as and for the purposes described.

2. The main cable A, when fastened at one end to the intermediate pier C, and at the other to the bridge-abutment at or near the pier B, as and for the purpose specified.

3. Supporting the shore ends of a suspension-bridge above the main cable, substantially as shown and described.

4. The arrangement of the sub-cables E, in combination with the main cable of a suspension-bridge, substantially as shown and described.

JARVIS ROYAL.

Witnesses:

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