

C.H. Parker,

Suspension Bridge.

No. 98,620.

Patented Jan. 4, 1870.

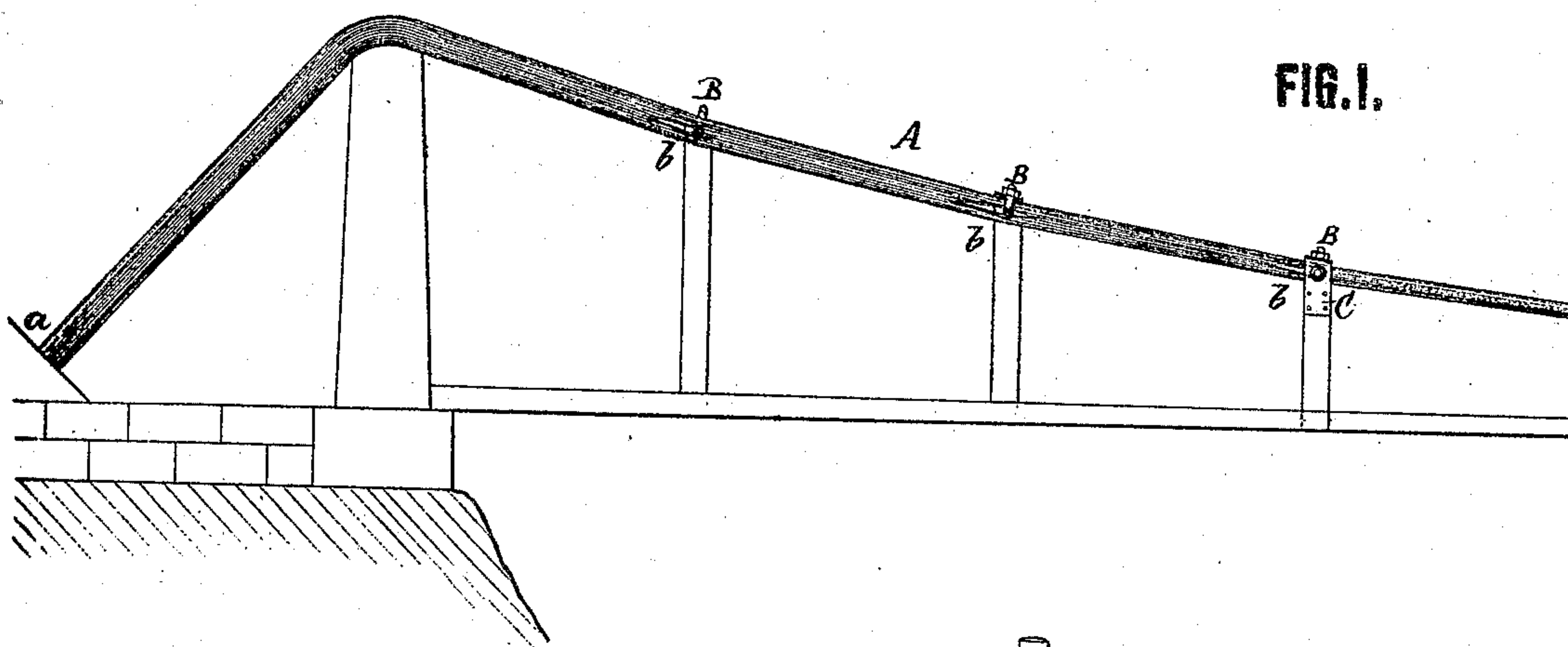


FIG. 1.

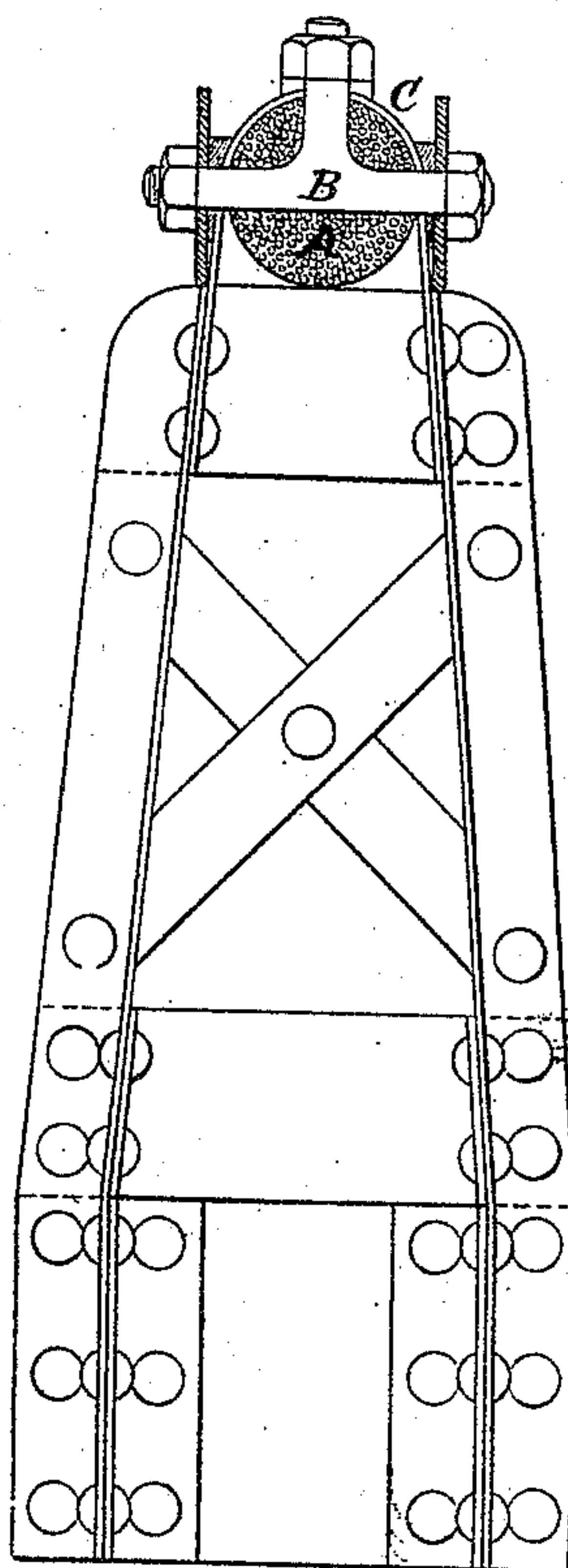


FIG. 2.

Charles H. Parker
by his Atty.
C. H. Parker

WITNESSES.

Wm. Bailey
Amos W. Lake

United States Patent Office.

CHARLES H. PARKER, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 98,620, dated January 4, 1870.

IMPROVEMENT IN BRIDGES.

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

To whom it may concern :

Be it known that I, CHARLES H. PARKER, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in the Construction of Bridges; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a bridge embodying my invention.

Figure 2 is a transverse section, representing, on a larger scale, the parts shown in fig. 1.

The present invention relates to the construction of cantilever-bridges.

The object I have in view is to avail myself, at the same time, both of the great value of wire, as used in suspension-bridges, and of the full value of the decreasing section in the top or tension-member of a cantilever-bridge, (due to the decrease of strains toward the centre of the bridge.)

To this end, I form the top, or tension-member, of wire, which is coated or covered in a suitable manner, as is usual in the suspension-system; and, in order to obtain the decreasing section, I carry back, from suitable points on the bridge, which are usually the points of connection between the chord and the web, such wires as are not needed, returning them to the point of fastening at the anchorage, and continuing the chord with a decreased number of wires, reducing the section of the chord as it departs from the anchorage, and thus realizing the object I have in view.

It will be seen, therefore, that the main features of my invention consist, first, in a cantilever-bridge, in which the tension-member is composed of wire; and secondly, in the use of the wire in the particular manner above stated.

The construction and arrangement of the devices, by which these results may be accomplished, can be varied greatly, but I much prefer the use of those herein specified.

The top or tension-member of the bridge is shown at A, composed of a suitable number of wires, all of which are fastened at the point of anchorage *a*.

In order to effect the gradual reduction in the section of the chord, as specified, I have devised the following mode of fastening at each point of connection, *b*, of the top member with the web, or that portion of the cantilever between the top and bottom members.

I employ, at each of these points of connection, a cross, B, shown clearly in fig. 2, which is bound into and securely retained by the wires forming the chord.

Starting from the point of anchorage, I am enabled to reduce the section of the chord, by passing by each cross with such a number of wires as is required to give sufficient section in the succeeding panel or bay, while the wires, in excess of this number, are passed around one of the arms of the cross, and returned to the point of fastening at the anchorage. Thus, the number of wires required to form the last panel, at the centre of the bridge, is passed around the last cross, and thence is continuous to the point of anchorage, and the wires in each preceding panel or bay are also continuous to the same point, but more in number as the strains increase toward the point of support upon the shore.

As before stated, the whole chord is to be wound or covered, as is usual in the suspension-system; and, at the points of connection, I employ a covering or holding-plate, C, which surrounds the wire, and through which the arms of the cross pass.

Nuts, on the ends of the cross, hold the parts firmly together, while the plate is bolted, or otherwise suitably secured to the post, as seen in fig. 2.

Any other suitable fastening may be made to these plates, and the diagonal rods of the web may be made to take hold of the ends of the cross, as shown in fig. 2.

As I have above stated, it is manifest that a variety of devices, other than those herein shown, may be employed to effect the same results, and I do not, therefore, limit my claim to the precise details specified; but

What I claim, and desire to secure by Letters Patent, is—

1. A cantilever-bridge, in which the tension-member is constructed of wire, substantially as set forth.
2. The use of wire in the cantilever-bridge, in the manner and for the purposes specified.
3. The cross B, or its equivalent, when used in the manner and for the purposes set forth.
4. The holding-plate, or its equivalent, for surrounding the chord, and receiving the arms of the cross, at the points of junction of the chord with the web, substantially as shown and described.
5. The combination of the wire rope, the holding-plate, and the cross, when used in the manner and for the purposes set forth.

In testimony whereof, I have signed my name to this specification, before two subscribing witnesses.

CHAS. H. PARKER.

Witnesses:

WM. A. BLODGETT,
CADWALLADER CURRY.