

(No Model.)

W. H. MURPHY.
BOW BRIDGE SILL.

No. 459,301.

Patented Sept. 8, 1891.

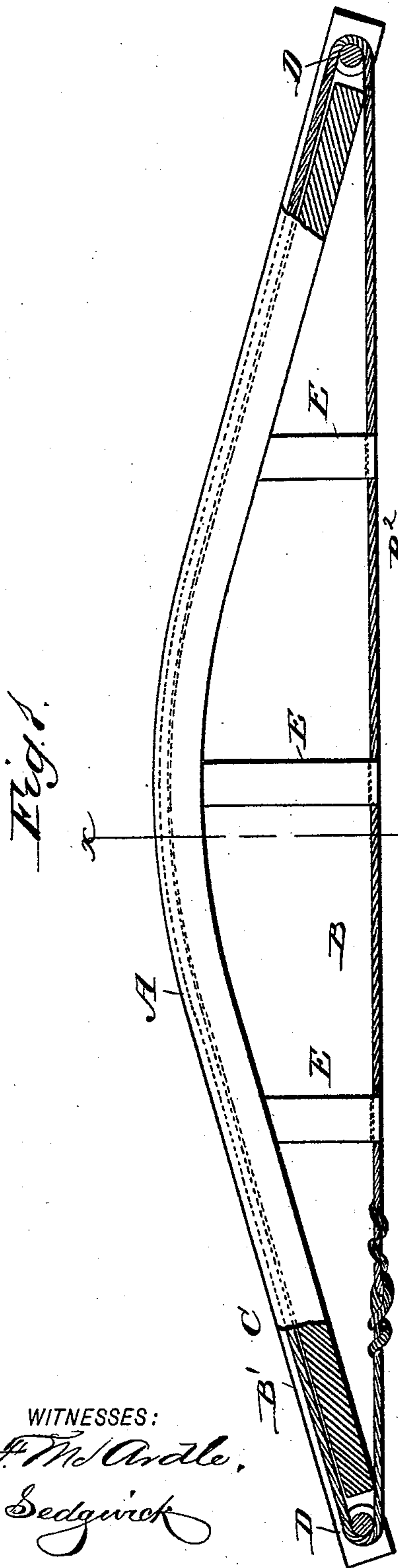


Fig. 2.

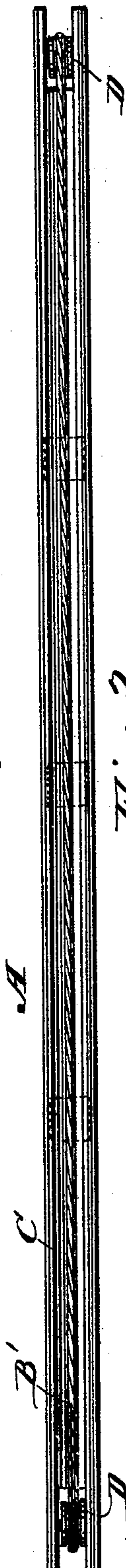
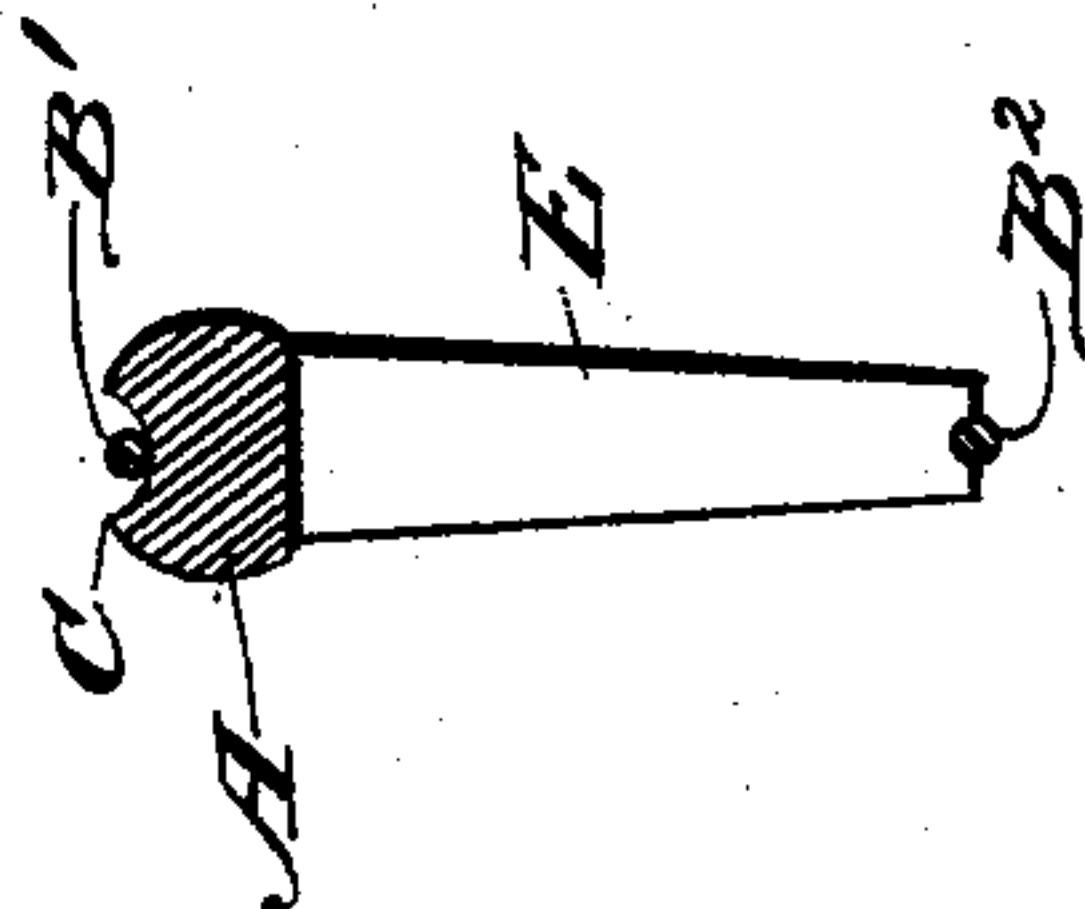


Fig. 3.



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WILLIAM H. MURPHY, OF MORGANTOWN, INDIANA.

BOW-BRIDGE SILL.

SPECIFICATION forming part of Letters Patent No. 459,301, dated September 8, 1891.

Application filed December 29, 1890. Serial No. 376,135. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY MURPHY, of Morgantown, in the county of Morgan and State of Indiana, have invented a new and Improved Bow-Bridge Sill, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved bow-bridge sill which is simple and durable in construction and arranged to easily sustain a heavy load without yielding of the parts.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement, with parts in section. Fig. 2 is a plan view of the same, and Fig. 3 is a transverse section of the same on the line $x x$ of Fig. 1.

The improved bow-bridge sill consists, principally, of two parts, the beam or tube A and the cable B, preferably made of steel; but other suitable material may be employed. As shown in the drawings, the beam A is provided on its top with a groove C, in which is laid the upper part B' of the cable B, the lower part B² of the said cable extending from one end of the beam to the other, so as to form the base of the sill.

In order to decrease the friction of the cable at the ends of the beam A, the latter is provided with two pulleys D, over which passes the said cable, as is plainly illustrated in Figs. 1 and 2. A number of struts E are provided, which extend from the under side of the beam or tube A and straddle the lower part B² of the cable B. In case a tube is employed, the upper part B' of the cable is passed through the tube and over the pulleys D to form with the lower part B² the base, as

above mentioned. The struts E serve to keep the lower part B² of the cable B from contact with the beam A, so that any weight applied on the beam A and tending to straighten or level the said beam has the tendency to lengthen the cable, and as the latter is made of steel or other suitable strong material it cannot very well lengthen, so that the transverse or breaking strain is transferred to the cable, and the beam only supports the weight as a crushing strain.

It will be understood from the foregoing that the cable gives support to the beam or tube A, so that the latter is not likely to straighten out under a weight unless the cable lengthens, so that the cable sustains the breaking strain, while the beam is only subjected to crushing strain, as above described. It is further understood that any desired number of such constructed sills may be placed alongside of each other in building bridges or for other purposes. It will further be seen that the sill can be very easily and cheaply constructed. It is also understood that in constructing the sill the beam A is originally straight; but when the ends of the cable at the base part B² are drawn together and fastened the beam assumes a bent shape, as illustrated.

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

A bow-bridge sill comprising a beam or tube, a cable for bending the beam or tube, the upper part of the said cable passing over the bent part of the beam and the lower part stretching from one end of the beam to the other to form the base of the sill, and struts placed between the base part of the said cable and the under side of the said beam or tube, substantially as shown and described.

WILLIAM H. MURPHY.

Witnesses:

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