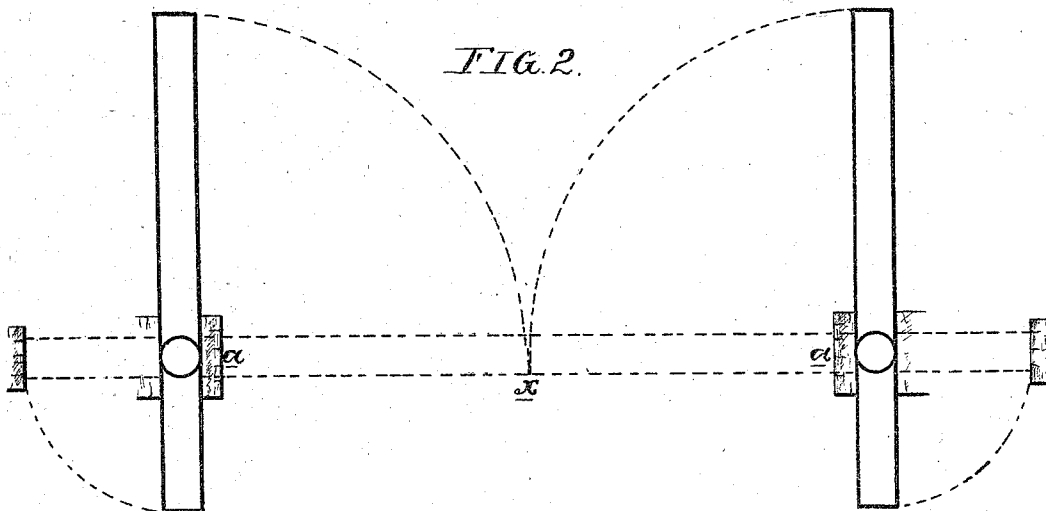
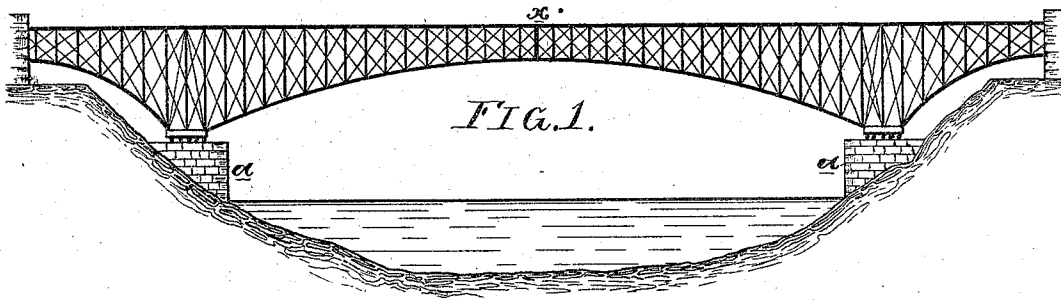


T. C. CLARKE.
Constructing Bridges.

No. 140,888.

Patented July 15, 1873.



Witnesses, *Harry Smith*
Thomas M. Shain

Thomas C. Clarke
By his Atty^s.
Housman and Son

UNITED STATES PATENT OFFICE.

THOMAS C. CLARKE, OF PHILADELPHIA, ASSIGNOR TO HIMSELF, DAVID REEVES, ADOLPHUS BONZANO, AND JOHN GRIFFEN, OF PHOENIX-VILLE, PENNSYLVANIA.

IMPROVEMENT IN CONSTRUCTING BRIDGES.

Specification forming part of Letters Patent No. **140,888**, dated July 15, 1873; application filed July 2, 1873.

To all whom it may concern:

Be it known that I, THOMAS C. CLARKE, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in the Erection of Bridges, of which the following is a specification:

The object of my invention is to erect fixed-span bridges over rivers too deep or too rapid to admit of the use of false work or staging, or in cases where the exigencies of navigation forbid the temporary blocking of the channel. This object I attain by building the bridge in two halves, one half on one shore and the other half on the opposite bank of the river, each half resting on a turn-table, so that both may be swung round and meet at the center, where they are permanently secured together, after which the rollers used for turning the bridges are removed to make room for other rollers; which will permit the longitudinal expansion and contraction of the bridge, the shore ends of which are properly anchored to the abutments.

In the accompanying drawing, Figure 1 represents a side elevation of an arched girder (although a parallel girder is equally well adapted to carry out my invention) one thousand feet long, consisting of three spans, the central one of which is six hundred and fifty feet long, and is designed to cross the Niagara river at Lewistown, the river at this point being of a character which will not permit the use of false works or pontoons.

On each bank of the river is built a substantial pier, *a*, for a turn-table; and on this pier, and on suitable staging connected therewith and arranged on the shore, I build one half of the arched girder, forming a cantilever, which rests on the turn-table supported by the pier.

The same method of procedure is pursued at the opposite shore of the river. After counterbalancing the short arms of both cantilevers with suitable weights they are swung round until they meet at *x*, where they are permanently secured. I then remove the rollers, which were arranged to allow the table to be turned on the pier, and introduce beneath the table transverse rollers, which will permit the longitudinal expansion of the bridge. I finally remove the balance-weights, and anchor the shore ends of the cantilevers by a system of bars capable of resisting vertical and transverse, but permitting horizontal, motion of the bridge.

It has not been deemed necessary either to illustrate or describe the structure in detail, for the reason that different modes of constructing the bridge may be employed without departing from my invention.

I claim—

The mode described of erecting bridges—that is to say, building on each shore of the river to be spanned one half of the bridge, swinging the two halves round on turn-tables and permanently securing them where they meet, then introducing beneath the turn-tables rollers which will permit longitudinal expansion and contraction of the bridge, and anchoring the shore ends of the bridge, all as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS C. CLARKE.

Witnesses:

WM. A. STEEL,
HARRY SMITH.