

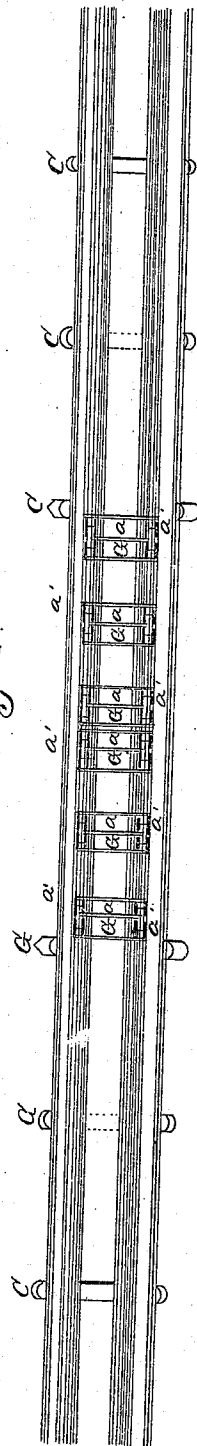
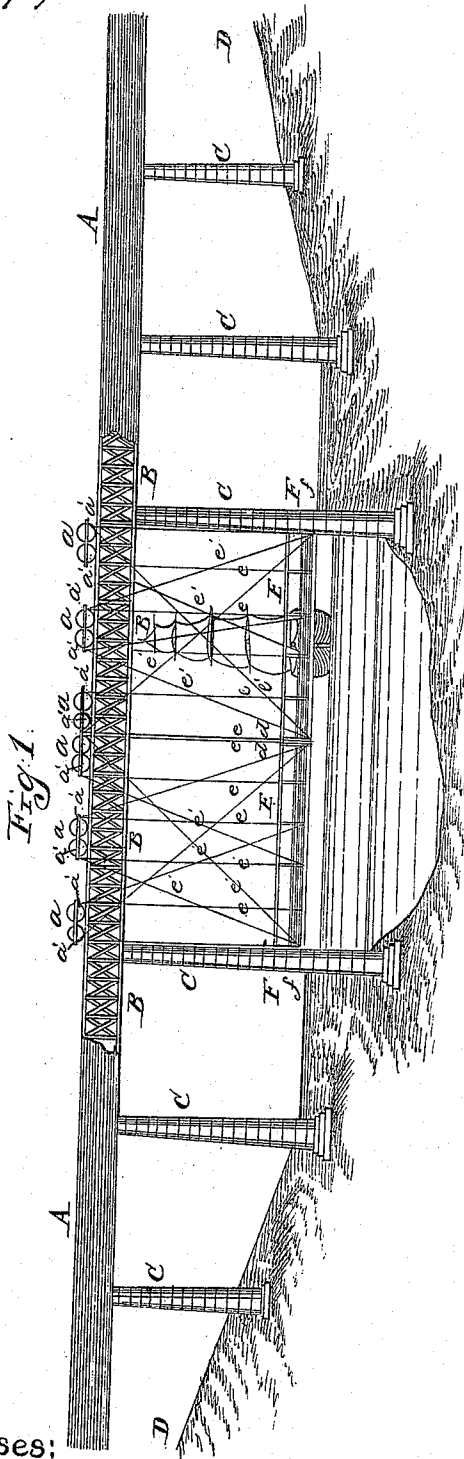
C. K. Marshall

Draw Bridge.

Sheet 1, 2 Sheets.

No. 79,768.

Patented Jul. 7, 1868.



Witnesses:

J. E. F. Holmead
Edmund James

Inventor:

C. K. Marshall
per Holmead & Hollingshead
Atty

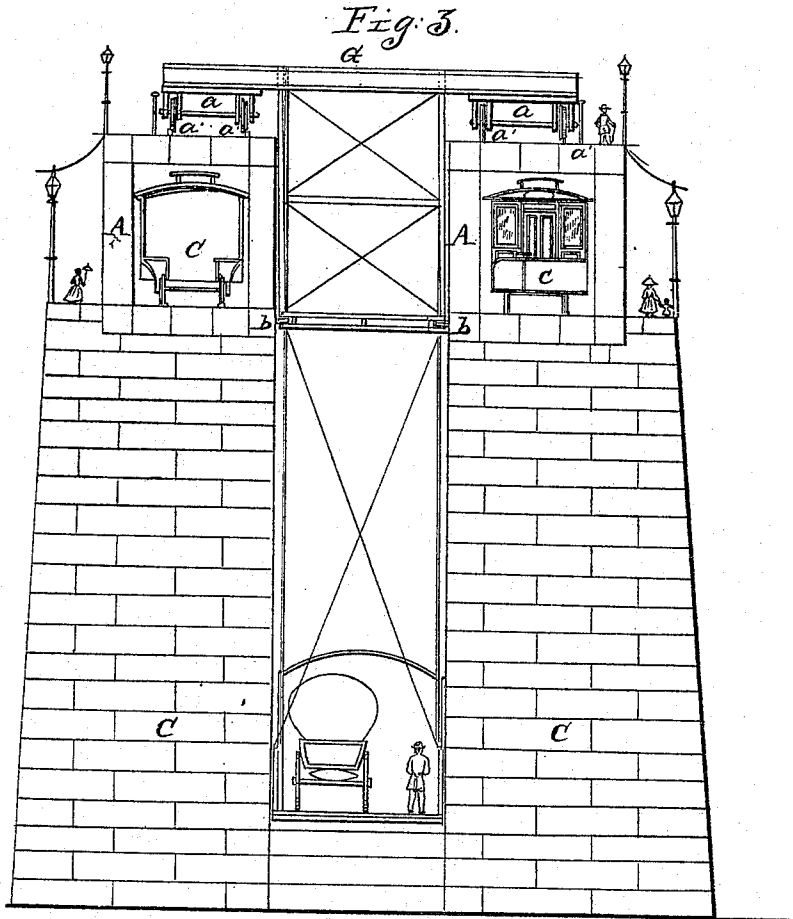
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Sheet 2 of 2.

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United States Patent Office.

C. K. MARSHALL, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 79,768, dated July 7, 1868.

IMPROVED DRAW-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, C. K. MARSHALL, of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a new and useful Improved Draw-Bridge; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making part of this specification, in which—

Figure 1 is a side elevation,

Figure 2 is a plan view, and

Figure 3 is an enlarged transverse section.

The nature of my invention consists in the combination of a movable car, or cars, platform or platforms, suspended by rods, chains, or their equivalents, and (properly braced to prevent lateral motion,) thus forming travelling-trucks, which run upon rails laid on the top of tubes of metal, or upon trusses of iron or wood, which tubes or trusses are supported upon pillars, and which serve also as viaducts, either through the tubes, or on or between the trusses, and thus by this combination the means of crossing streams are afforded to the traffic and travel, either at a low level, coincident with the heavy business, or at the elevated point for railroad-cars, or other methods of transit, and for passengers either in wagons, carriages, or as pedestrians; the tubes or trusses being elevated at such a height above the stream, that the vessels used in commerce can readily pass under, and thus the navigation of the stream will not be interrupted, and the platforms or cars suspended, are so admirably arranged and worked by machinery, that there will be no delay to the navigation, and when these cars are closed, it offers a continuous bridge below the main viaduct above.

These cars or platforms are covered to afford protection from the weather while passengers are upon them, and are in fact suspended wherries moved by stationary engines; and in situations where the navigation is steady, these wherries will move across, and their moving will be the normal condition. In other places, where the crossing is greater and navigation less, they can be located and form a continuous viaduct, to be moved only when vessels are to pass, by which arrangement the business of a community can be readily facilitated by the accommodating circumstances of my invention. Outside of the tubes or trusses, I provide on each side for a foot-passenger track. And as in some situations the upper bridge will be much above the level of the surface of the ground, in such cases I descend by long slopes erected upon light piers, which slopes are for the wheeled vehicles, and by winding-stairs which can be conveniently located to suit the concomitant circumstances. In places where the "approaches" are elevated, I provide for a connection of these to the bridge on either side by any usual structure for spanning long openings, and from which branches may be led off to various roads or streets, connecting with the main avenue.

Where the traffic is heavy, and the communities to be accommodated are very extensive, requiring long spans and heavy cars, or platforms, or "wherries," I run up the piers above the tubes or trusses, and form towers in which I locate the engines and machinery for operating the cars or platforms by endless chains. When tubes are used in addition to the two footways, one on each side, I provide also two footways above, on the top of the tubes, thus giving ample facilities for the pedestrians in crowded cities.

In the drawing, A A are the tubes; B B, the trusses, either of which can be used; C C C, the piers; D D, the opposite sides of the stream; E E, the travelling-cars or platforms, suspended by rods *e*, and braced by diagonal rods *e'*; F F, the landings on each side, having movable brows *f f*, to reach from the cars to the landing; G, the girder; *a a a*, &c., are the trucks; *a' a' a'*, the large wheels of trucks; *b b*, friction-rollers on the frame of the travelling-cars, which travel against rods on the insides of the tubes, to prevent swinging from the action of high winds; *c c*, railroad-cars; *d d*, the centre where the cars meet; *e e*, the suspension-rods, which are made fast to the girders G G; *e' e'*, the diagonal braces.

I am aware that movable platforms have been used with timber trusses, and moved on trucks which operate upon bracketed supports, but I do not know of any such combinations as these proposed, viz, to support the tracks upon the top of a tube or truss, by spanning the opening between with a girder of any form sufficient to

support the suspended weight, and also to stiffen the cars laterally by friction-rollers on the sides of the frame which bear upon the supporting structure.

Having thus fully described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States, is—

The construction and arrangement of the travelling-trucks *a a*, with suspended platforms *E E*, when the same is supported, braced, and guided, as herein described, and combined with the tubular bridges *A A*, the whole supported on piers, in the manner and for the purpose herein described.

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

C. K. MARSHALL.

Witnesses:

JOHN D. BLOOR,

EDWIN JAMES.