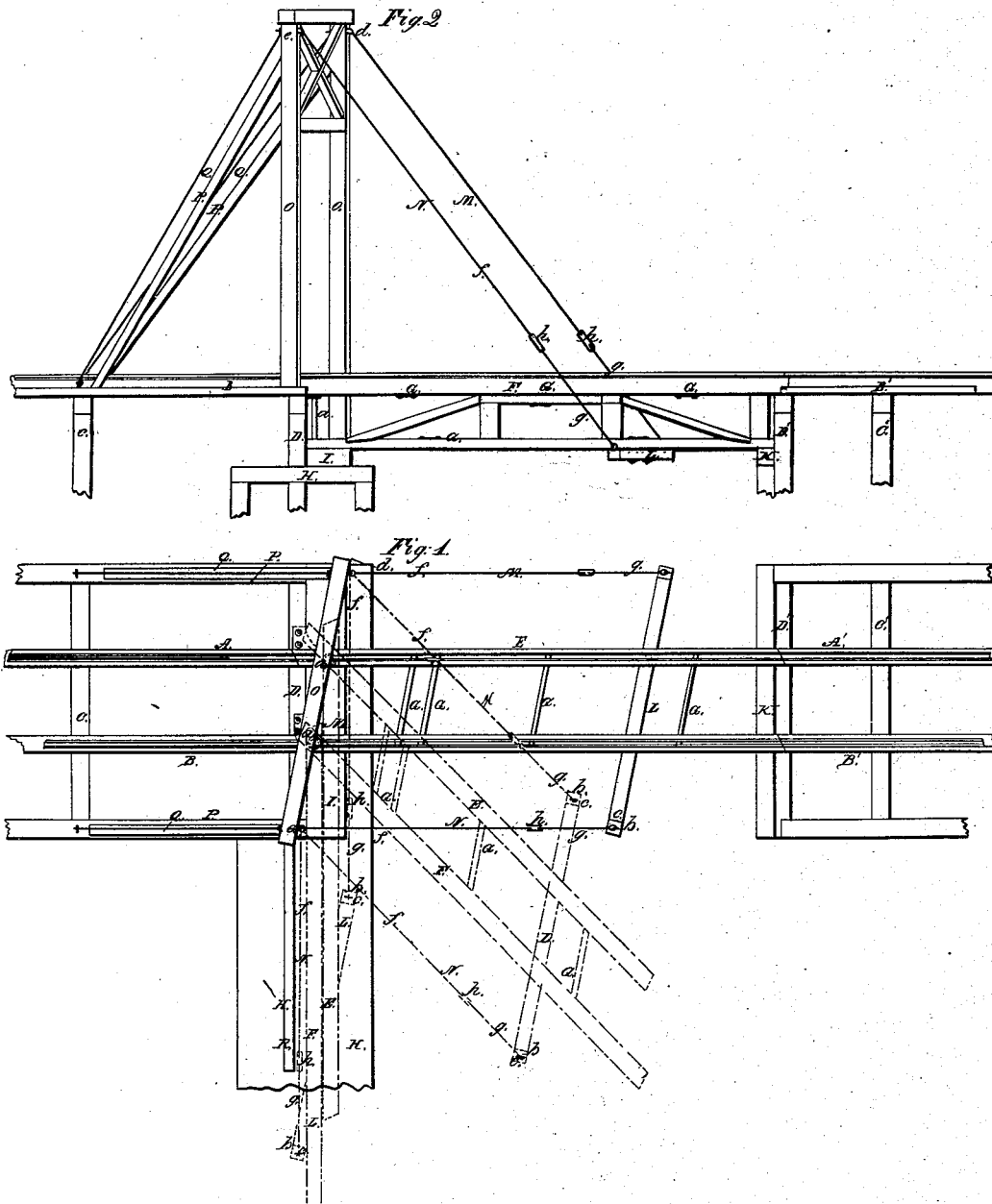


J. Ross.
Bridge.

N^o 5,997.

Patented Jan. 2, 1849.



UNITED STATES PATENT OFFICE.

JOSEPH ROSS, OF IPSWICH, MASSACHUSETTS.

SWINGING BRIDGE.

Specification of Letters Patent No. 5,997, dated January 2, 1849.

To all whom it may concern:

Be it known that I, JOSEPH ROSS, of Ipswich, in the county of Essex and State of Massachusetts, have invented a new and useful or Improved Draw for Railroad Viaducts or Bridges Over Navigable Streams or Rivers; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, exhibits a top view or plan of my improved draw, as applied to a railway viaduct. Fig. 2, a side elevation of the same.

In said figures, A, B, A', B', denote the rail stringers of a bridge, each two of which is arranged and supported on two or more piers C, D, or C', D', or in any other suitable manner, the two piers D, and D', being placed at such a distance apart as may not only be necessary for a draw opening for the passage through the bridge of such vessels as may navigate the waters over which the bridge may be thrown, but also to allow of the correct adaptation and operations of the turning draw as will be hereinafter explained.

The draw is made as follows: Two beams or timbers frames or trusses E, F, are disposed parallel to one another, and between the two sets of rail timbers A, B, A', B', as seen in the drawings. They are connected together by any suitable number of bars G, G, &c., which are disposed parallel to each other, and jointed at their ends to the two beams or trusses E, F, in such manner as will allow of both of the two beams or trusses being simultaneously turned around on their joint pins *a, a*, at one end of each of them, the said joint pins being arranged as seen in the drawings, and for the purpose of allowing the two beams or frames E, F, to be each turned out at right angles to the main bridge and over the side pier or wharf H, as denoted by red lines in Fig. 1. It is intended that each beam or frame shall be so hinged or jointed to the main bridge as to allow of its being moved around like a gate on its hinges and into a position perpendicular with the bridge in order to leave the draw opening clear for the passage of a vessel through it. The rear end of each frame is to be sustained on a suitable pier or foundation I, as well as on the main pier

which supports the adjacent ends of the two rail timbers A, B. So in regard to the front ends of the two beams or frames, they may be similarly supported (when in line with their respective rail timbers) on a shelf or pier B, and the pier D', or only on the latter as occasion may require. Extending underneath the two beams, or trussed frames E, F, and in a direction parallel to a horizontal line passing through the centers or axes of the two turning pins or bolts *a, a*, is a saddle timber L, which should be jointed or connected to the two frames, in a manner similar to that in which each of the parallel bars G, G, &c., are connected to the said frames, the said parallel bars G, G, &c., being respectively arranged parallel to the said saddle timber.

The saddle timber is made to project some distance beyond each of the timbers or frames E, F, and has a square iron collar *b*, and an eye *c*, fitted on each end of it, as seen in the drawings. One end of one of two suspension rods M, N, is hooked through each one of the said eyes *c, c*, the other or upper end of said rod being similarly hooked through one of two eyes of eye bolts *d, e*, inserted in the upper part of a vertical frame O, raised on or near the piers D, I, the said vertical frame being stayed by inclined stay rods Q Q, and struts P, P, R, disposed as seen in the drawings. Each of the sustaining rods M, N, may be composed of two rods *f, g*, united by a screw nut *h*, made with a right and left threaded screw, and screwed on corresponding screws made on the rods *f, g*, the same being for the purpose of lengthening or shortening each of the rods M, N, as occasion may require. The two eyes of the eye bolts at the upper part of the frame O, should be arranged with their centers in a horizontal line made parallel to a horizontal line supposed to pass through the axes of the turning pins of the two frames or beams E, F. This will enable us to make the two suspension rods M, N, of the same length, and admit of their moving around with the draw, composed of the two frames E, F. In Fig. 1, the draw is represented by the blue lines as open at an angle of forty five degrees or thereabouts with the main bridge.

Suitable contrivances should be affixed to the draw for locking it in place either when closed or open. The iron track rails are to

be laid on the rail timbers of the bridge, and also on the upper side of the two beams, or trussed frames E, F, the ends of the rail timbers and the timbers E, F, where they
5 come together being each made with a chamfer or bevel as seen in Fig. 1.

I wish it distinctly understood that I do not confine my invention to the use of but two of the turning frames or timbers E, F,
10 as four or any other suitable number may be used, each being supported and made to operate essentially as above specified. Neither do I confine my invention to any
15 particular mode of making said frames or beams E, F, or the bridge with which they

are connected, as all these things must be varied according to circumstances, but

What I do claim as my invention is—

A draw constructed of two or more parallel turning frames or timbers E, F, and
20 supported, and made to operate with respect to the bridge substantially as above specified.

In testimony whereof I have hereto set my signature this twenty fourth day of April, A. D. 1848.

JOSEPH ROSS.

Witnesses:

R. H. EDDY,
F. GOULD.