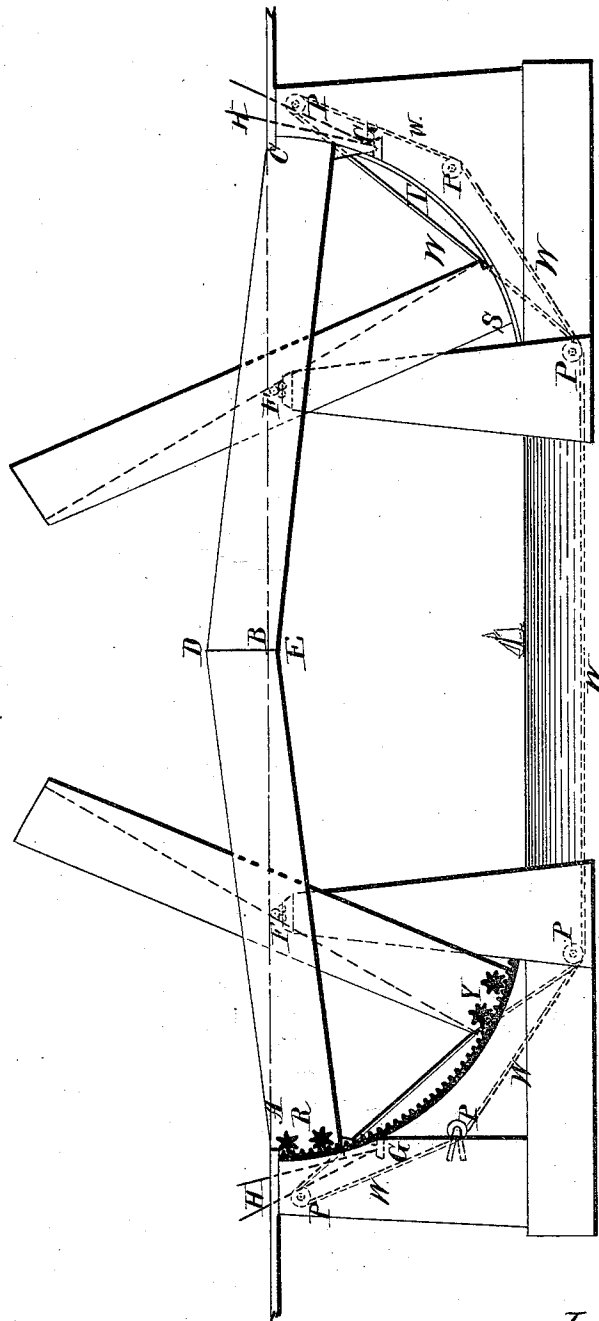


M. B. ADAMS & F. L. KRAUSE.
 BASCULE BRIDGE.

No. 173,253.

Patented Feb. 8, 1876.



Attest:
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UNITED STATES PATENT OFFICE.

MILTON B. ADAMS AND FRANK L. KRAUSE, OF CLEVELAND, OHIO.

IMPROVEMENT IN BASCULE BRIDGES.

Specification forming part of Letters Patent No. **173,253**, dated February 8, 1876; application filed August 14, 1875.

To all whom it may concern:

Be it known that we, MILTON B. ADAMS and FRANK L. KRAUSE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bridges; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to improvements in bascule bridges; and consists, essentially, in forming the roadway of the bridge, or that portion of the same spanning a navigable channel, of two equal sections, pivoted or trunnioned at or near their centers of gravity to the abutments, and adapted, by suitable mechanism, to be raised or lowered both together, or simultaneously, by an application of power at a single point, for the purposes which will more fully and at large appear hereinafter.

In the drawings is represented a side elevation of our invention, showing two trusses or sections meeting and uniting midway over the channel.

Our bridge consists of two frame-trusses, with their axles or trunnions passing either through or outside of its center of gravity horizontally, upon which they tilt vertically, in such a manner as to allow of vessels passing underneath or between them.

As shown in the drawings, the two parts unite midway over the channel, and may there be secured in any suitable manner, if necessary. The axles or trunnions are arranged to rest in two rows of friction-rollers, or any other anti-friction device, resting and secured to the top of the bridge-truss. Circular guides are arranged to direct and give stability to the motion of the lowering or sinking ends of the bridge during the operation of opening and shutting. This operation of opening or shutting the bridge is effected by a cog-and-ratchet arrangement on one of the circular arc-guides, together with a rope-and-pulley arrangement to pass under the river channel-way and move the two trusses simultaneously. Clutches are made to push in and out of the

pier-walls, which hold and support the ends of the bridge-trusses when shut. These clutches may be operated with a lever or other suitable device to allow of the bridge being opened. They are made to turn about on their axes, and rest in recesses of the walls or piers, remaining flush with the wall until the bridge is shut, when they are turned out, so as to rest under each of the lower girders of the bridge at their sinking ends, thus supporting them.

In the drawings, A B C is the roadway, which is so carried through the trusses as to afford a level passage, notwithstanding the double incline of the two trusses composing the bridge. D B E is a miter, joined by the union or junction of the two sections of the bridge where they meet over the channel. F F represent the axle and friction-rollers. R Y S T represent the circular arc-guides and the ratchet for raising or lowering the bridge. P are pulleys, and W the rope, heretofore referred to, for the purpose of operating both sections simultaneously by a single power. G are the clutches for supporting the sinking ends of the trusses upon the pier, and H the levers for operating them.

What we claim is—

1. A bridge composed of two sections, pivoted or trunnioned at or near their centers of gravity, and adapted to be raised or lowered simultaneously by an application of power at a single point.

2. In combination with a bridge consisting of two tilting sections uniting midway over the channel, the pulleys P and rope or cable W, attached to the lowering or sinking ends of both the trusses or sections, for operating or raising them together or simultaneously by the application of power at a single point.

3. In combination with a tilting bridge, the clutches or supports G, placed in the pier or abutment, substantially as and for the purpose shown.

4. The combination, with a vertically-swinging bridge, composed of two pivoted sections uniting midway over the channel, of ratchet-and-pinion arrangement and circular arc-guides R Y S T, rope or cable W, and pulleys P, substantially as and for the purposes described.

5. The roadway H, passing diagonally through the sections of a double-truss bridge, whereby is provided substantially a level passage, notwithstanding the arched or inclined position of said trusses when closed and united over the channel, substantially as shown.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

MILTON B. ADAMS.
FRANK L. KRAUSE.

Witnesses:

JNO. FAWCETT,
FRANK ROCKEFELLER.