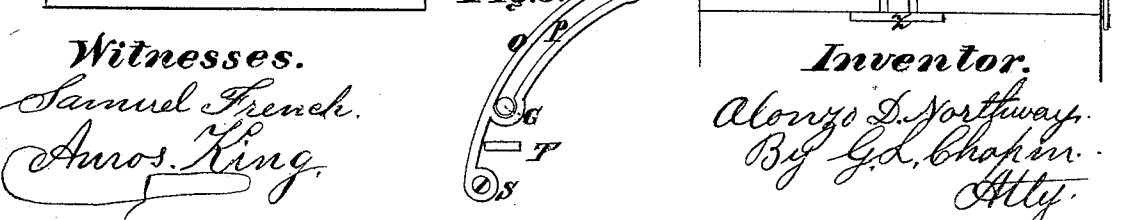
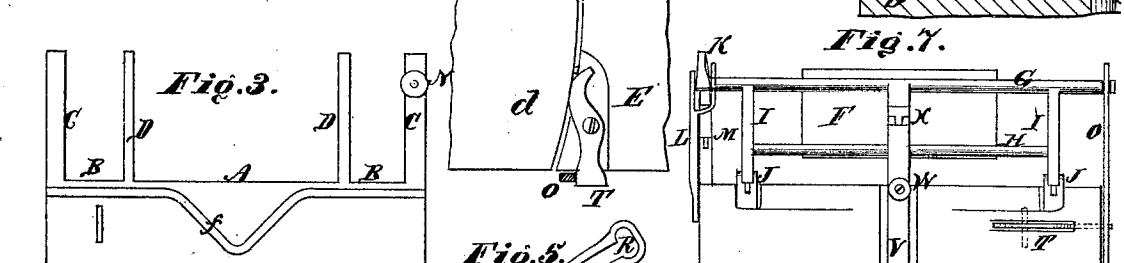
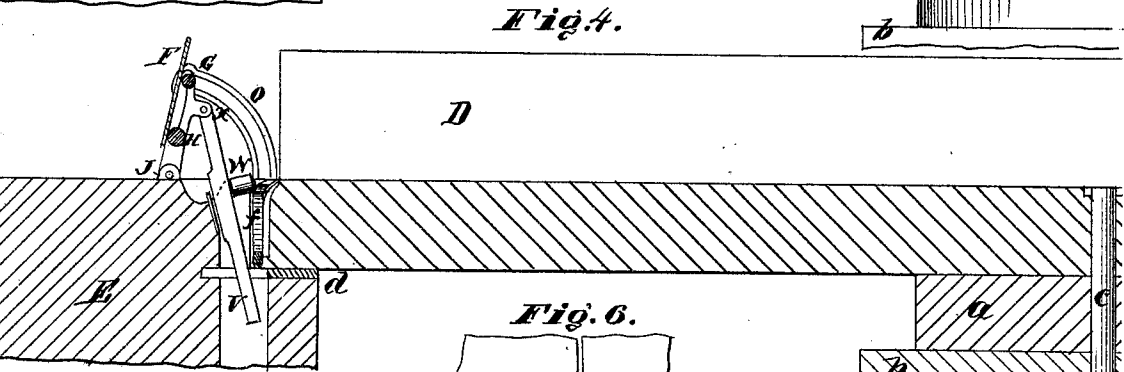
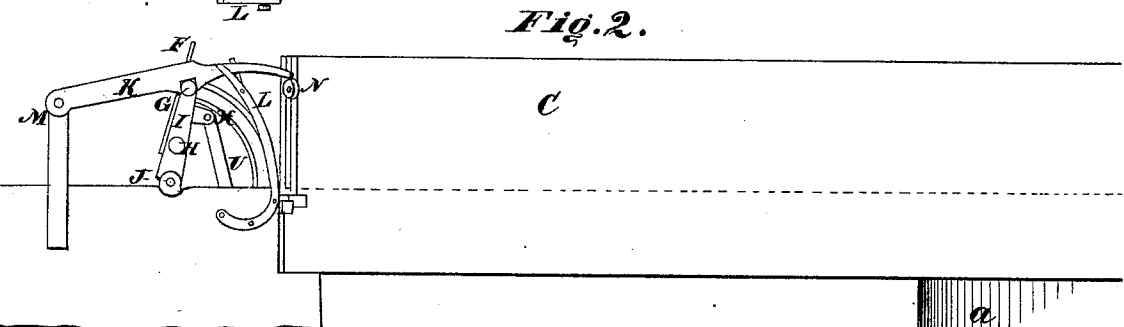
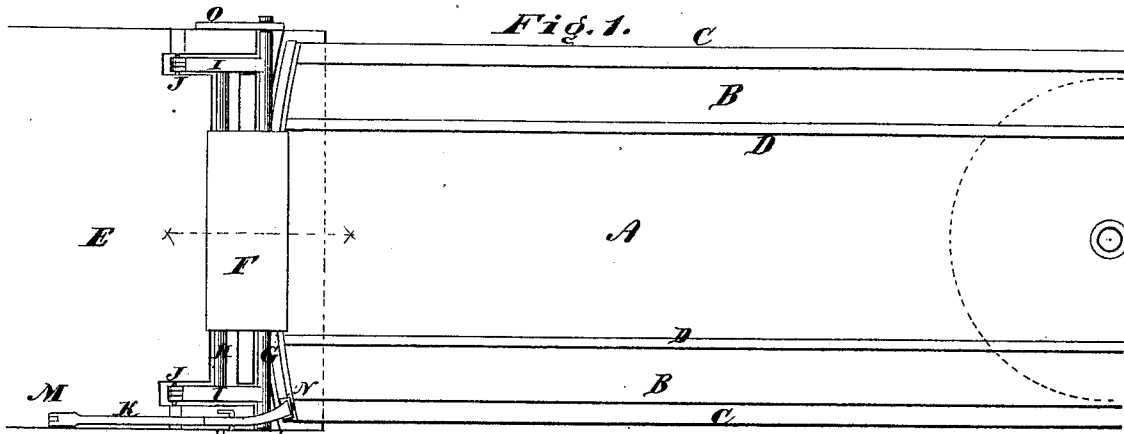


# ALONZO D. NORTHWAY.

## Improvement in Gates for Swinging Bridges.

No. 121,892.

Patented Dec. 12, 1871.



**Witnesses.**  
*Samuel French.*  
*Anros. King.*

**Inventor.**  
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*Atty.*

# UNITED STATES PATENT OFFICE.

ALONZO D. NORTHWAY, OF KENOSHA, WISCONSIN.

## IMPROVEMENT IN GATES FOR SWING-BRIDGES.

Specification forming part of Letters Patent No. 121,892, dated December 12, 1871.

*To all whom it may concern:*

Be it known that I, ALONZO D. NORTHWAY, of Kenosha, in the county of Kenosha and State of Wisconsin, have invented an Improved Gate for Swing-Bridges, of which the following is a specification:

The present invention relates to an improved gate for closing the roadway at the ends of swing-bridges to prevent accidents; and its nature consists in a peculiarly-arranged gate, which is jointed to the roadway so as to lie flat down when the bridge is shut and to swing upright when the bridge is open, the gate being properly brought to these positions by the opening and closing of the bridge, as the whole is hereinafter fully described and shown.

In the drawing, Figure 1 is a plan or top view of my improved gate as when in position for teams and passengers to pass over the bridge; Fig. 2, an elevation of one-half of the bridge with the gate raised up; Fig. 3, an end elevation of the bridge, showing the cam for operating the gate; Fig. 4, a central sectional elevation of half of the bridge; Fig. 5, an elevation of one of the locks which holds the gate in an upright position; Fig. 6, a broken plan view of the roadway adjoining the bridge, showing the lever by means of which the lock at Fig. 5 is operated; Fig. 7, an elevation of the roadway looking outwardly from the gate, showing, also, the gate and its attachments.

In the drawing only one-half of the bridge is shown, with one gate, but as the other part of the bridge is to be a duplicate of the part shown, there can be no difficulty in understanding from the following description the construction and operation of the gate.

A represents the carriage-way, and B the foot-way of the bridge, which are protected by railings C D in the usual manner. *b* is the pier, and *a* the turn-table on which the bridge swings, the bank or roadway being shown at E, for all of which no novelty is claimed. The gate consists of two standards, I, which are jointed to the roadway, and support horizontal rods or bars G H, to which a suitable metal plate, F, is attached. This plate forms that part of the gate which closes the roadway, and when the bridge is shut it laps onto the end of the bridge, so as to have a firm support to sustain any load liable to come thereon. To the said bars G H is jointed a drop-

lever, V, at X, which supports an anti-friction roller, W. The arrangement of this lever is such that when the cam-track *f*, Figs. 2, 3, and 4, raises the roller W up, the gate will be set upright, as shown at Figs. 2, 4, and 7, the lever being carried longitudinally upward; and such that when the gate is to be shut down that the end of the bridge will strike against the lower end of the lever V and force it back toward the roadway, carrying the upper end toward the bridge, so that it will fall down by its own gravity. The fulcrum against which the lever V bears during this operation is shown at *m*, Fig. 4.

The means for holding the gate in an upright position when the bridge is open consists of locks K O, the lock K being considered a modification of O, which consists of a slotted piece of iron in which the end of bar G slides and locks in a notch, R, as shown at Fig. 5, when the gate is elevated; said slotted piece being pivoted to the side of the roadway E.

The means for throwing the lock O back so as to loosen the catch or notch R from the bar G consists of a horizontal lever, T, pivoted to the roadway E, and operated by the end of the bridge when being shut. This operation allows the bar G to slide down in the slot P to a stop at the bottom of slot, so that the gate will lie flat down, as shown at Fig. 1. The lock K consists of a bar of iron pivoted to a standard, M, and provided with a notch on its under side for catching onto the end of bar G, and with a projecting end, which is operated upon by a roller, N, pivoted to the bridge, so that as the bridge is closing the lock K will be raised up and allow the gate to fall flat down. The means for preventing the lock from falling too low consists of a forked standard, L, fixed to the roadway.

By the means above described the bridge will raise and lower the gate automatically when turned in either direction, yet operate the gate so slowly that there is no liability of injuring passengers or teams.

What I claim is—

The combination of the gate F G H I jointed to the roadway, the locks K O, cam *f*, roller W, lever T, and roller N, as set forth.

ALONZO D. NORTHWAY.

Witnesses:

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