(No Model.)

J. G. JOHNSON

DRAW BRIDGE.

No. 343,322. Patented June 8, 1886.

Fig. 1.

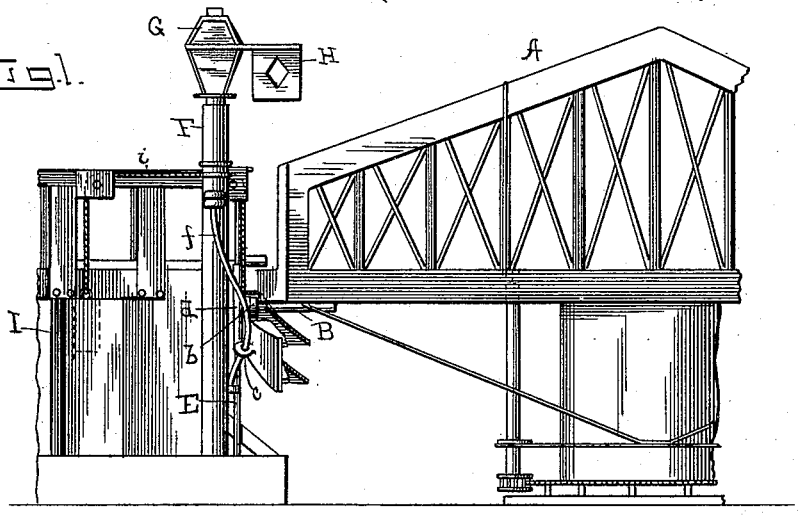


Fig. 2.

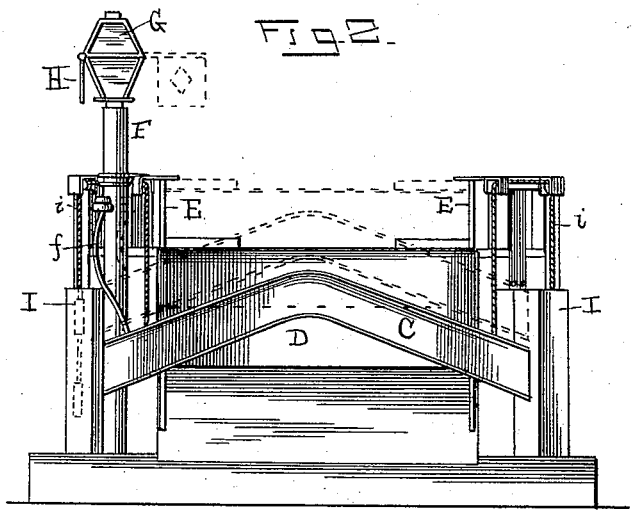
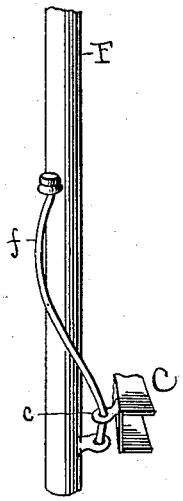


Fig. 3.



Witnesses

A. V. Bishop.
G. P. Kramer.

Inventor

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By his Attorneys

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UNITED STATES PATENT OFFICE.

JAMES G. JOHNSON, OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF ONE-HALF TO GUSTAVE A. KNORN, OF SAME PLACE.

DRAW-BRIDGE.

SPECIFICATION forming part of Letters Patent No. 343,322, dated June 8, 1886.

Application filed February 6, 1886. Serial No. 191,039. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. JOHNSON, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Draw-Bridges; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to draw-bridges; and it consists in the novel features of construction shown and more fully hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a side view of a section of bridge and one-half of the draw, a portion being broken away to show the inclination and curvature of the guide projecting from the gate. Fig. 2 is a front view of the end of the bridge provided with my improvements. Fig. 3 is an enlarged detail view of a portion of the revoluble signal-post having the spiral guide, showing the guide-eye for actuating the same and a portion of its support.

It will be understood that both ends of the draw, and the ends of the bridge adjacent thereto, may be provided with my improvements; but as the devices applied to the one end will be a duplicate of those applied to the other it is only necessary that one end of the draw and a section of the bridge adjacent thereto be shown to carry out and illustrate the application of my invention.

The draw A is pivotally supported in the usual manner, and provided with any well-known means for opening and closing. Projecting from the end of the draw is an arm, B, adapted to engage an incline, C, on the gate D, which latter may be made of any suitable material, preferably sheet metal, and provided with guides *d*, working in vertical supports E to give proper direction to the gate in its vertical movements and hold the same in place against accidental displacement. The incline C is preferably trough-shaped and inclines downwardly from a central point, thus making what may be properly termed a "double incline," the advantage of which will presently appear.

To one side of the bridge, near one end of the gate, is located a revoluble post, F, which is provided on its upper end with a lamp, G, and a flag, H. A spiral guide, *f*, attached to one side of the post, is engaged by a guide-eye, *c*, extending from the incline C of the gate, and in the vertical operation of the latter causes a simultaneous revolution of the post for the purpose of displaying a danger-signal and warning persons on the bridge that the draw is open, and in reversing the operation of the gate and post displaying a danger-signal warning approaching vessels that the draw is closed. In daylight the gate and flag will be sufficient, but at night recourse must be had to the lamp, the operation of which is too well known to need a further description.

To facilitate the operation of the gate, the same is counterbalanced by weights I, working in suitable casings, a rope or chain, *i*, passing over suitable pulleys, being used to connect the weights with the gate. When the draw is closed, the gate is below the roadway of the bridge, and the signal is not displayed to persons on the bridge, but at once becomes a river or pilot signal, the flag being used by day and the lamp by night, and the arm B is at the point of convergence of the double incline C.

When opening the draw, the arm riding the incline elevates the gate and projects it above the roadway of the bridge, and at the same time, by reason of the spiral *f* and its connection with the gate, the post is rotated and the signal displayed. In closing the gate, the reverse operation takes place, the gate and signal being simultaneously returned to their normal position.

To relieve friction between the incline and the arm, the latter has a roller, *b*, on its outer end. Owing to the double incline, it is immaterial which way the draw is opened. Whether to the right or to the left, the operation will be the same.

It must be understood that either the gate or signal may be used separately; but it is preferred to use them in the manner shown and described.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination of the bridge, vertical supports, a gate working on and guided by the supports, a double incline secured to the gate, an apertured projection extending from the incline, a revoluble signal-post, a spiral connecting therewith and passing through the apertured projection, a counterpoise for the gate, and the draw provided with an arm engaging the incline, substantially as described, and for the purpose specified.

2. The combination, with a revoluble post and a spiral secured to its side, of a vertically-moving gate and a connection uniting the gate with the spiral, whereby the post is rotated simultaneously with the movement of the gate, substantially as described.

3. The combination of the bridge, a revoluble post having a spiral, a vertically-movable gate having an incline, a connection uniting the spiral and the gate, and a draw with an arm projecting therefrom engaging the incline of the gate to actuate the same and simultaneously rotate the post, substantially as described, and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. JOHNSON.

Witnesses:

FRANK REISCH,

ABNER G. MURRAY.