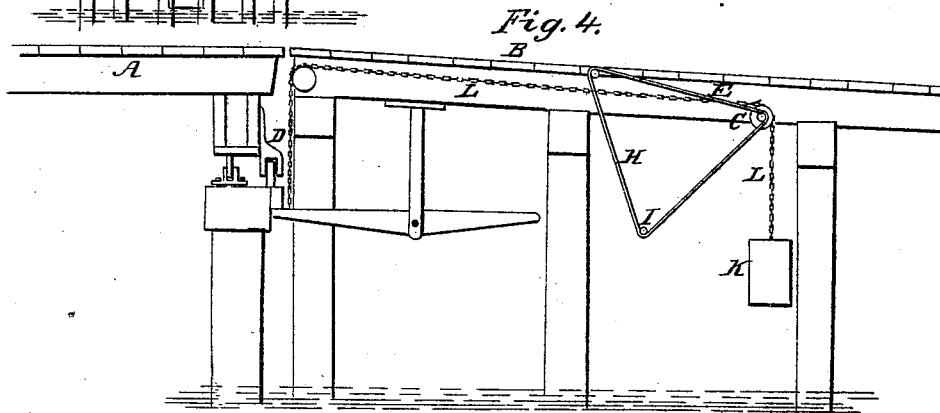
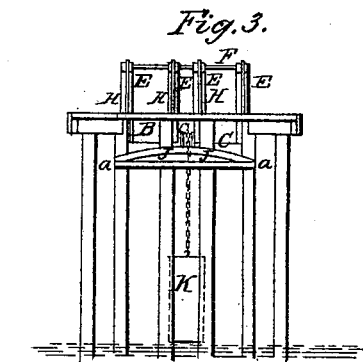
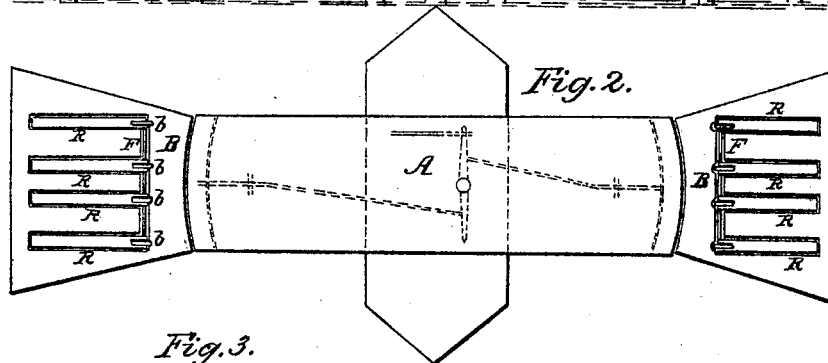
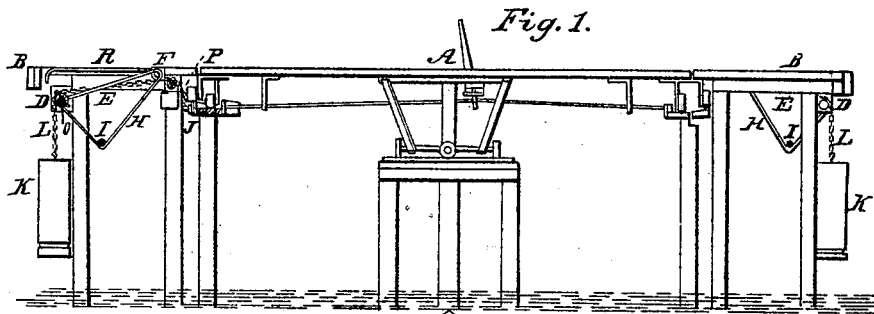


J. D. Sturges.
Draw Bridge.

Nº 107, 119.

Patented Sept. 6, 1870.



Witnesses.
R. Sibley
Heinrich F. Byrns.

Inventor.
James D. Sturges.
by L. L. Coburn
att'y.

United States Patent Office.

JAMES D. STURGES, OF CHICAGO, ILLINOIS.

Letters Patent No. 107,119, dated September 6, 1870.

IMPROVEMENT IN BRIDGE-GATES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JAMES D. STURGES, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful "Improvement in Bridge-Gates," of which the following is a specification, reference being had to the accompanying drawing, and to the letters and figures marked thereon.

The Object and Nature of my Invention.

The first part of my invention relates to the shaft C, extending across the approach to the bridge, and the arms or standards attached to the shaft, arranged in such a manner that, by revolving the shaft, they are thrown up above the roadway, and serve as a stop or gate when the bridge is open.

The second part of my invention relates to the attachments, hereafter fully described, for operating the said shaft, to raise and lower the gate as the bridge is opened and closed.

The third part relates to the open roadway and coverings covering the openings, so that the gate can swing up across the road, and when the gate is down the openings will be closed or covered.

Description of the Drawing.

Figure 1 represents a side elevation of a bridge and gate at each end, with one gate taken in section at the line *x x* in fig. 2;

Figure 2 represents a top or plan view;

Figure 3, an end elevation; and

Figure 4, a longitudinal section, showing an additional lever-attachment.

General Description.

A represents any of the turn-bridges in use.

B, the roadway approaches to the bridge.

C is a strong shaft or roller, placed beneath the approach B, with bearings on which it revolves.

D are those bearings.

E are arms, rigidly attached to the shaft C; and

F is a cross-rail, connecting together the ends of the arms E, and extending across the street.

H are braces, bracing the arms E, as shown, and there is also a cross-piece, I, attached to them, and extending crosswise of the street or approach B. This cross-piece strikes against the under side of the approach B, when the gate swings up and constitutes a stop which prevents it from swinging too far.

J J are pivoted levers, pivoted at *a a*.

K is a weight, sufficiently heavy to turn the gate when the bridge is opened, as hereafter described.

L is a rope or chain, extending from the weight K over the shaft C and pulley O to the levers J. It is so connected with the shaft C as to turn it, as hereafter described, but it simply passes over the pulley O to change its direction, so that it will raise the ends of the levers J.

P is a roller, attached to the end of the bridge in such a position as to operate the levers J when the bridge is closed, and close or swing down the gate.

When the bridge is opened, the pulley or roller P being removed from the levers J, so that they can vibrate, the weight turns the shaft C, and throws the gate up into the position shown in fig. 3. It may be made to extend across the roadway and sidewalks, and prevent people from walking off into the water, as well as teams from being driven off.

When the bridge is closed, the wheel P strikes upon the levers J, and, depressing them, draws on the chain L, turns the shaft C, and throws the gate down into the position shown in fig. 1.

R are covers, covering the openings in the roadway, through which the arms E rise when the bridge is opened.

These covers are hinged to the gate at *b*, and being made wider than the openings they cover, they lay level with the roadway when the gate is down, but are swung up with the gate when it is raised.

My gate is simple and cheap, and can readily be attached to any ordinary turn-bridge.

S is the ordinary rod, used for locking the bridge.

Claims.

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

1. The bridge-gate, consisting of the shaft C, having attached rigidly thereto the arms E, the arms E being made to rise by the revolution of the shaft C, substantially as and for the purpose described and shown.

2. The weight K, chain L, shaft C, and levers J, when arranged and operating substantially as and for the purposes specified and shown.

3. The covers R, when constructed and arranged substantially as and for the purposes set forth and shown.

JAMES D. STURGES.

Witnesses:

LEWIS L. COBURN,
HEINRICH F. BRUNS.