

M. Kirsch,
Draw Bridge.

No. 109520.

Patented Nov. 22. 1870.

Fig 1

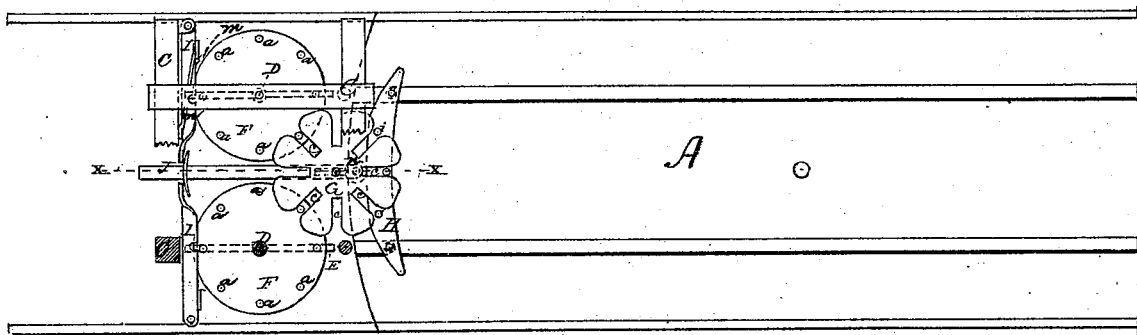


Fig 2

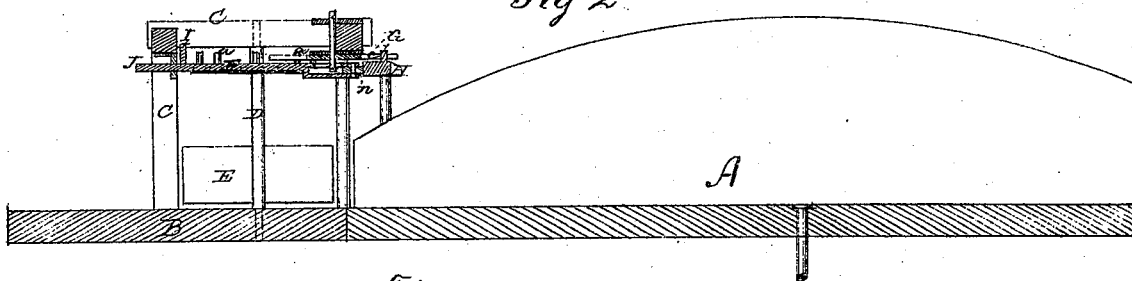
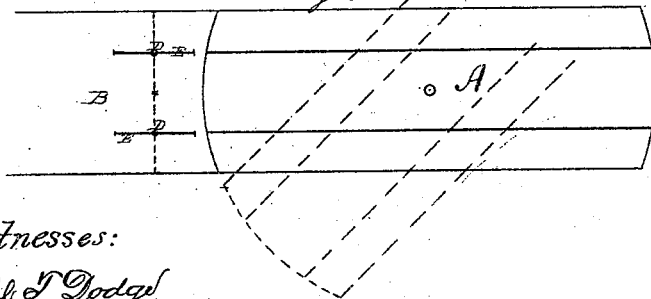


Fig 3



Witnesses:

Phil. T. Dodge
Robt. E. Brewster

Inventor:

Michael Kirsch
by Dodge & Munn
his attys.

United States Patent Office.

MICHEL KIRSCH, OF CHICAGO, ILLINOIS.

Letters Patent No. 109,520, dated November 22, 1870

IMPROVEMENT IN BRIDGE-GATES.

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

To all whom it may concern:

Be it known that I, MICHEL KIRSCH, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Bridge-Gates, of which the following is a specification, reference being had to the accompanying drawing.

My invention consists in a novel manner of constructing and arranging on each abutment two pivoted turning gates, connected with mechanism on an overhead frame-work, which mechanism is operated by pins on an upright frame on the bridge.

Figure 1 is a top plan view of one end of a swinging bridge, with my gates arranged in connection therewith;

Figure 2, a vertical section of the same, on the line $x x$; and

Figure 3, a plan view, in outline, of the bridge and gates at one end.

A is the bridge, which is constructed in the usual manner, and turns upon a pivot.

B is the abutment, against the face of which the bridge closes.

C is a strong upright frame-work to support the gates and their operating mechanism, of sufficient height to allow the teams and passengers to pass through under it in going on and off the bridge.

D D are two upright shafts, bearing at their lower ends in the abutment, and supported at their upper ends in the frame-work C so that they are free to turn.

E E are the two gates, attached one to each of the shafts D, so that, by turning the shafts, the two gates may be either brought in line so as to close the approach to the bridge, or parallel with each other, as shown in fig. 3, so as to leave the passage unobstructed.

The shafts D are located on opposite sides of the roadway, midway between the middle and the outside of the approach or passage, so that the shafts pass through the middle of the gates, and thereby permit the gates to be closed either end outward.

F F are circular disks attached to the upper ends of the gate-shafts D, and provided with pins a equidistant from each other.

G is a wheel or disk formed with radial slots, c , extending from the periphery inward, and so pivoted to the frame C that the slots c engage the pins a of the disks F, so that, as the wheel is turned, it communicates motion to the disks F, and through them and the shafts D to the gates E. The wheel G is located in line with the center of the bridge, and so that it projects in front of the frame C.

H is an upright frame, erected on the end of the bridge, with pins i on its top, which, as the bridge is swung open and shut, enter the slots c of wheel G,

and thereby operate said wheel, and through the intermediate mechanism the gates E.

I I are two locking arms, which are pivoted to the frame C, one behind each of the disks F.

Each of these arms is provided with a notch, l , to engage over the pins a of the disks, to prevent the same from turning, and thus lock the gates at the proper times.

A spring, m , is also placed behind each of the arms I, to keep them thrown forward in contact with the pins a .

J is a horizontal sliding bar attached to frame C, which is provided at its front end with a roller, n , projecting beyond the frame C, and at its back end with arms which bear against the ends of arms I, so that, by shoving back said bar, both locking arms are released.

The front of the frame H is so beveled off at its ends that, when the bridge is closed, before the pins i are brought into play, the frame strikes the roller, and, pushing back the bar J, releases the arms I and leaves the gates free to turn.

As soon as the arms I are released, the pins i enter the slotted wheel G and open the gates. When the bridge is again opened, the pins i set the mechanism in motion and close the gates; and as soon as the frame H clears the roller, the arms I spring forward and lock the parts.

In this manner I construct a cheap and simple automatic gate, which cannot fail to open and close at the proper times, and the operating mechanism of which is so located that it cannot be injured or disarranged by passing teams or boats.

I am aware that pivoted gates have heretofore been used in connection with swinging bridges; also that a patent was granted to J. Wermerskirchen for a means of operating such gates, the mechanism being located in a vault underneath the street or abutment, and therefore I do not claim such; but

Having fully described my invention,

What I claim is—

1. The combination of the rotating gates E, having the disks F attached thereto, with the slotted wheel G and the pins i , attached to the swinging bridge, said operating mechanism being arranged in a suitable frame overhead, substantially as described.

2. The locking bars I, in combination with the sliding bar J and the frame or bar H, arranged to operate in connection with the disks F, substantially as described.

MICHEL KIRSCH.

Witnesses:

PET. KIRSCH,
WM. H. LOTZ.