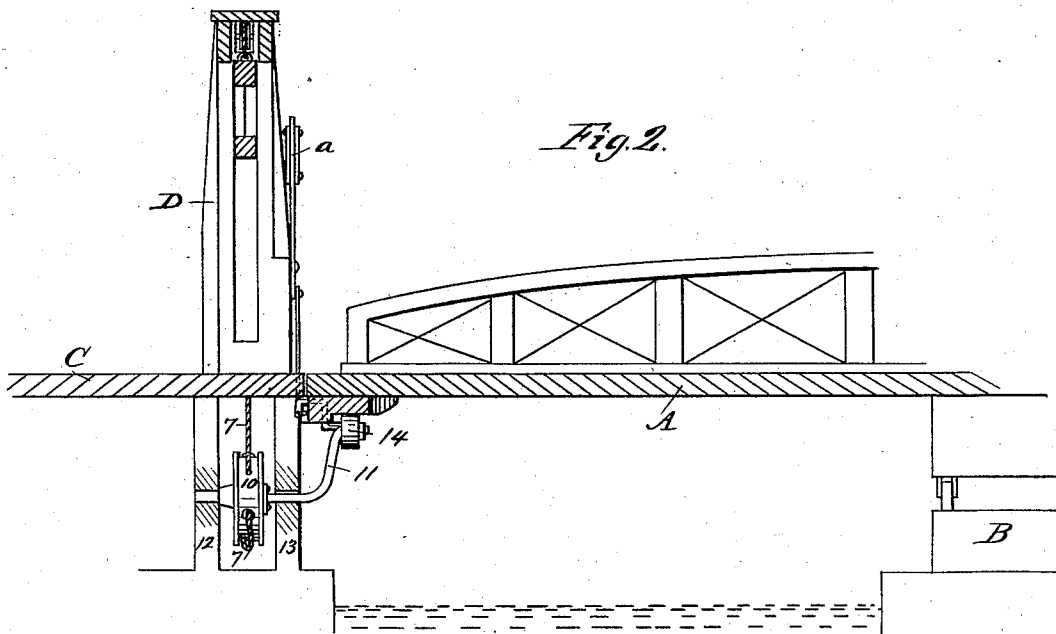
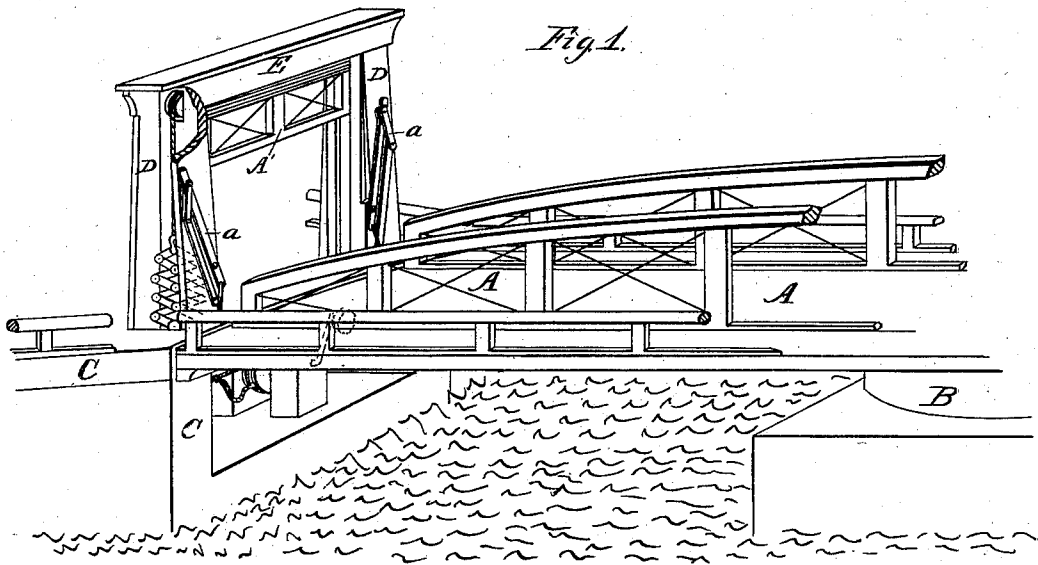


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Guard-Gate for Swing-Bridges.

No. 225,535.

Patented Mar. 16, 1880.



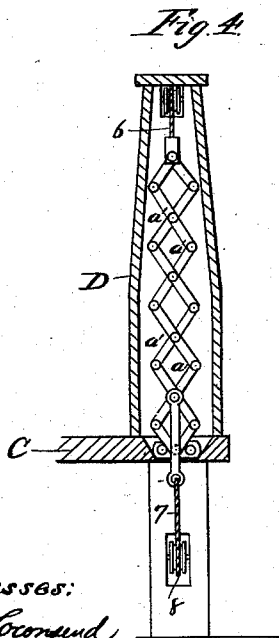
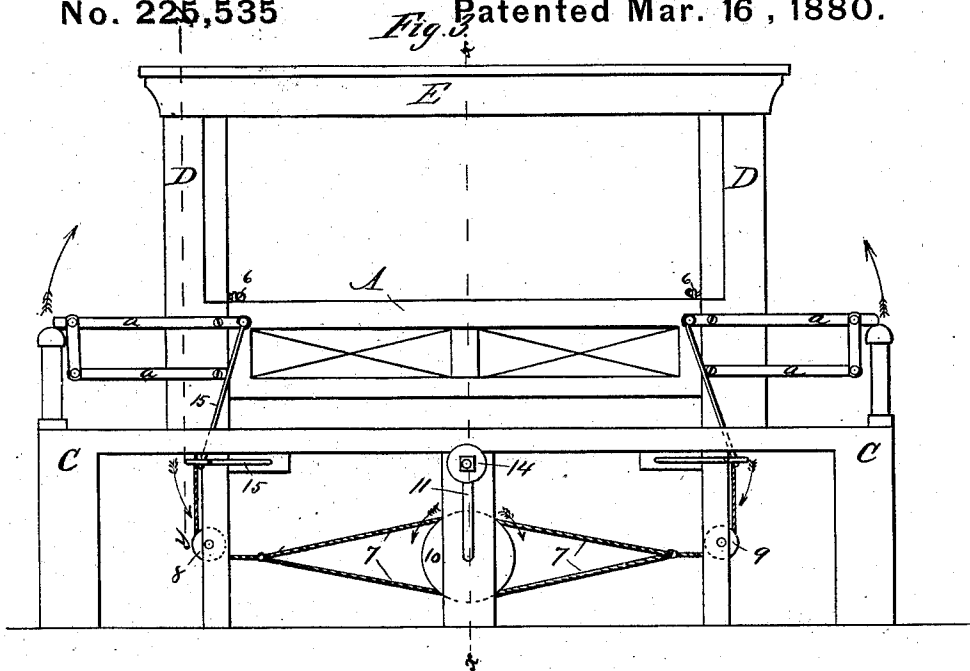
Witnesses:
F. B. Leonard
W. A. Schonfeld.

Inventors:
Frank Roehr
Edward A. Jeyte
per C. B. Coupland & Co
Attorneys

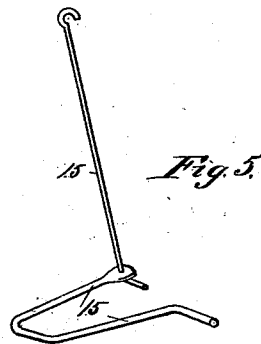
F. ROEHR & E. J. JEYTE.
Guard-Gate for Swing-Bridges.

No. 225,535

Patented Mar. 16, 1880.



Witnesses:
F. B. Townsend,
W. A. Schonfeld.



Inventors:
Frank Roehr,
Edward A. Jeyte,
per G. B. Coupland & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

FRANK ROEHR AND EDWARD A. JEYTE, OF CHICAGO, ILLINOIS.

GUARD-GATE FOR SWING-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 225,535, dated March 16, 1880.

Application filed January 29, 1880.

To all whom it may concern:

Be it known that we, FRANK ROEHR and EDWARD A. JEYTE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Guard-Gates for Swing-Bridges, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which our invention appertains to make and use the same.

The object of this invention is to provide a safety gate or gates for use in connection with swing-bridges, and the gates are so constructed and arranged as to be automatically operated by the opening and closing of the bridge, the exact arrangement and operation of which will be hereinafter more fully explained in detail.

In carrying out our improvement and putting the same into practical operation we make use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows the bridge closed and the gates open; Fig. 2, a longitudinal section in the plane $x x$, Fig. 3. Fig. 3 shows the safety-gates in proper position for cutting off the line of travel when the bridge is open; Fig. 4, a vertical sectional detail in the plane $y y$, Fig. 3, showing the system of lazy-tongs; and Fig. 5, a detail view of the device operating the side gates.

In referring to the drawings, A represents the bridge proper, and B the pivotal center thereto, and C the bridge approach or abutment. The upright posts D and the connecting cross-piece E form the frame-work for carrying the main central gate, A', and the small or side gates, $a a$, the main or central gate closing the driveway and the side gates closing the foot passage-way.

The system of lazy-tongs a' have a vertical movement, and are placed on the sides of the posts D facing the sidewalk, and are concealed from view by a suitable cap or covering.

The operating connection between the lazy-tongs and the main gate A' is formed by means of the cable or chain 6, one end of which is attached to the upper end of the lazy-tongs and the other end to the main gate.

To the lower ends of the system of lazy-tongs is attached the cable or chain 7, traveling on and under the sheaves 8 and 9. The horizontal part of the cable 7 is arranged as shown in

Fig. 3, and made to pass both over and under the pulley 10. This cable is secured to the pulley 10 in a stationary position, both above and below the pulley, thereby admitting of the alternate action of these parts as the bridge is opened or closed from either direction.

The lever-arm 11 forms the connection between the bridge and the actuating mechanism controlling the main gate A'. The lower part of this lever-arm has bearings in posts 12 and 13, placed underneath the bridge-approach. The stationary pulley 10 is located upon the lower part of this lever-arm immediately between the posts 12 and 13, as shown in Fig. 2 of the drawings. On the upper end of this lever-arm is placed the loose pulley 14, which has a frictional contact with the under side of the bridge, this lever-arm having a rocking or oscillating movement, and when the bridge is opened or closed this lever-arm is made to incline either to the right or left, as the case may be, and when the bridge is opened and the main gate closed the lever-arm assumes a vertical position, as shown in Fig. 3 of the drawings.

The device 15, as shown in Fig. 5 of the drawings, forms the connection between the bridge and the side gates, $a a$, the under side of the bridge having a bearing on the horizontal end of the device, which, when the bridge is closed, retains the gates $a a$ in an upright position, and when the bridge is opened the gates $a a$ gradually assume a horizontal position, the outer ends resting upon the side railing guarding the bridge-approach, as shown in Fig. 3 of the drawings.

The main gate and the system of lazy-tongs will be provided with proper counterpoise-weights, insuring a positive action of these parts. The ends of the main gate have bearings in vertical grooves in the posts D, by means of which the gate is retained in place as it moves up or down. When the pressure of the bridge is released from the lever-arm the main gate descends by force of gravity, and when the bridge is closed the lever-arm is inclined to one side or the other, thereby raising the gate through the medium of the operating mechanism hereinbefore described.

This safety-gate may be set back on the bridge-approach any distance desired, all the

change required being the lengthening out of the levers having frictional contact with the bridge.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a safety bridge-gate, the combination, with the main central gate, A', having a vertical action, of the posts D, the cable or chain 6, and the system of lazy-tongs a', connected to both ends of the main gate, substantially as herein described.

2. The combination, with the system of lazy-tongs a', moving in a vertical plane, of the

cable or chain 7, the pulley 10, and the lever-arm 11, substantially as and for the purpose herein described.

3. The combination, with the bridge A, of the friction-pulley 14, the lever-arm 11, pulley 10, cable or chain 7, lazy-tongs a', cable 6, and the main central gate, A', all combined, arranged, and operating in the manner and for the purpose herein set forth.

FRANK ROEHR.

EDWARD A. JEYTE.

Witnesses:

L. B. COUPLAND,

JAMES N. YOUNG.