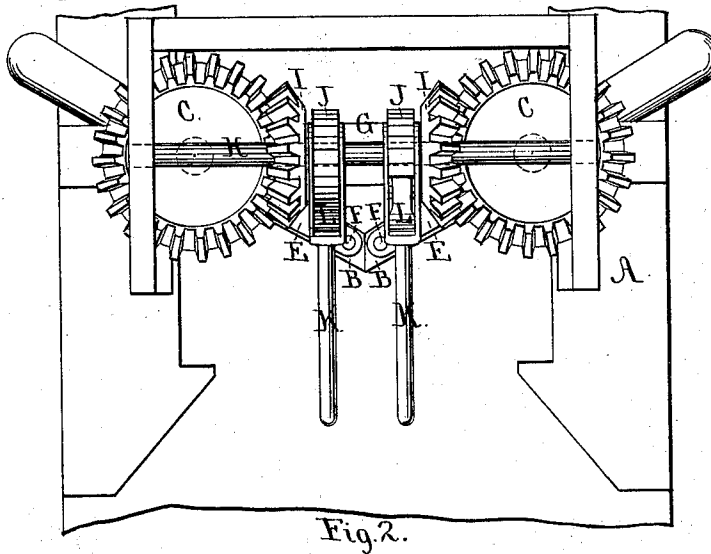
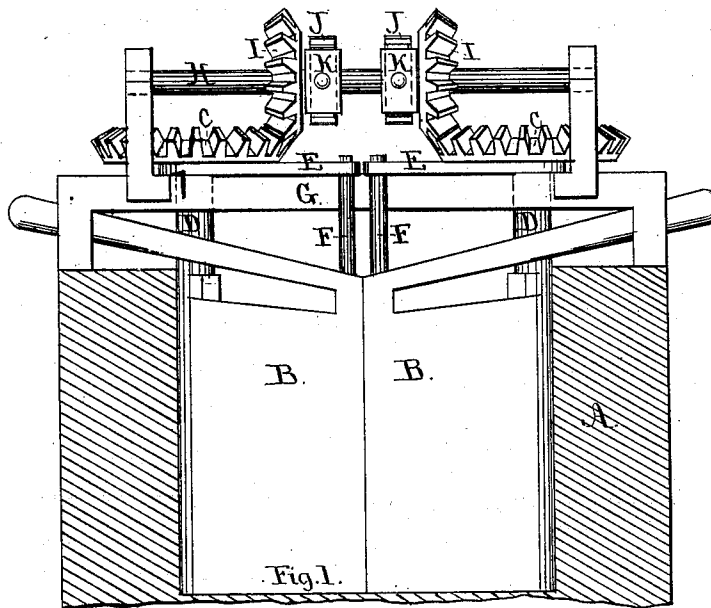


J. E. RENK.
Canal-Lock Gate.

No. 165,178.

Patented July 6, 1875.



Witnesses

William H. Low

Sanford R. Haskell

Inventor.

Joseph E. Renk

UNITED STATES PATENT OFFICE.

JOSEPH E. RENK, OF ALBANY, NEW YORK.

IMPROVEMENT IN CANAL-LOCK GATES.

Specification forming part of Letters Patent No. **165,178**, dated July 6, 1875; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, JOSEPH E. RENK, of the city and county of Albany, and State of New York, have invented a new and useful Improvement on Canal-Lock Gates, of which the following is a specification:

My invention consists in operating the gates by means of the mechanism herein shown and described, whereby I effect the simultaneous movement of the two parts of the gate during the operation of opening and closing.

In the accompanying drawing, which forms a part of this specification, Figure 1 is a front elevation of one pair of the gates, and Fig. 2 a plan view of the same.

As shown in the drawing, A represents the stone-work of the lock for receiving the gates, built in the usual form. B B are the gates, constructed in the ordinary manner. C C are bevel-gear wheels secured to the heads of the posts D D, which form the pivots upon which the gates turn. E E are arms attached to the wheels C C, and extending to near the joint formed by the two parts of the gate, where they receive the studs F F, secured to the gates, for the purpose of relieving the posts D D of a portion of the strain that would otherwise be thrown upon them by the wheels C C in opening or closing the gates. G is a frame-work erected above the gates, for the purpose of supporting the posts D D, and forming the bearings for the horizontal shaft H. I I are bevel-pinions secured to the shaft H, and gearing into the wheels C C. J J are ratchet-wheels, also secured to the shaft H, and arranged in such manner that the angles of the teeth of one wheel will stand in a reversed direction in relation to the teeth of the other wheel. K K are forked levers, provided with the pawls L L, for engaging in the teeth of the ratchet-wheels J J.

The opening of the gates is effected by throwing the pawl of the proper lever for opening them into contact with its ratchet-wheel, and by applying sufficient power thereto, the force of which is transmitted through the pinions I I and wheels C C to the two parts of the gates B B, causing them to open simultaneously. The closing is effected by disengaging the pawl of the lever used for opening from its ratchet-wheel, and throwing the other pawl into contact with its ratchet-wheel, and imparting motion to the shaft H in a reversed direction.

By operating the gates in the manner herein described the opening and closing of them can be effected in one-half of the time required for operating them separately in the manner generally adopted.

Instead of attaching the two ratchet-wheels J J to the shaft H, and operating them by two separate levers, as herein shown and described, a single toothed wheel, operated by means of a lever carrying a double pawl, may be substituted therefor, and arranged to turn the shaft in either direction, the construction of such a lever and double pawl being so well known and understood by all mechanics as to render a description thereof unnecessary. Preferably I construct these parts as herein shown and described.

I claim as my invention—

The gates B, in combination with the wheels C, pinions I, shaft H, ratchet-wheels J, levers K, and pawls L, when arranged to operate in the manner and for the purpose herein specified.

JOSEPH E. RENK.

Witnesses:

WILLIAM H. LOW,
SANFORD R. HASKELL.