

No. 647,577.

J. L. McCULLOUGH.
SWINGING GATE.

(Application filed Sept. 15, 1899.)

Patented Apr. 17, 1900.

(No Model.)

2 Sheets—Sheet 1.

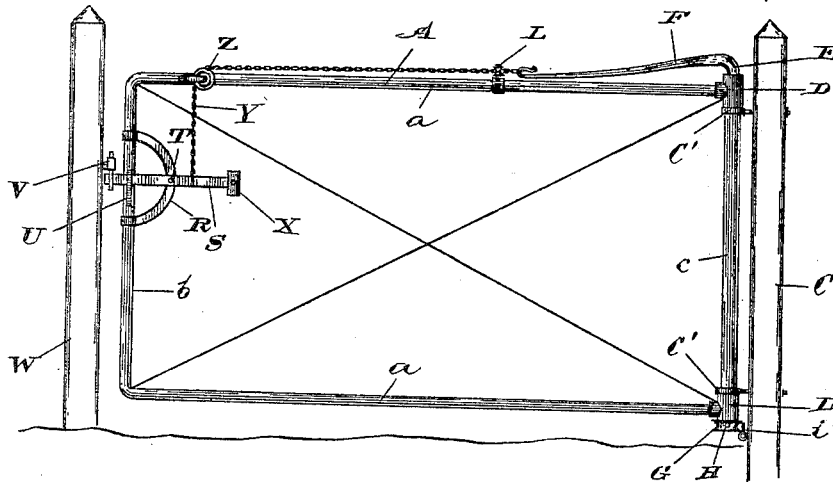


Fig. 1

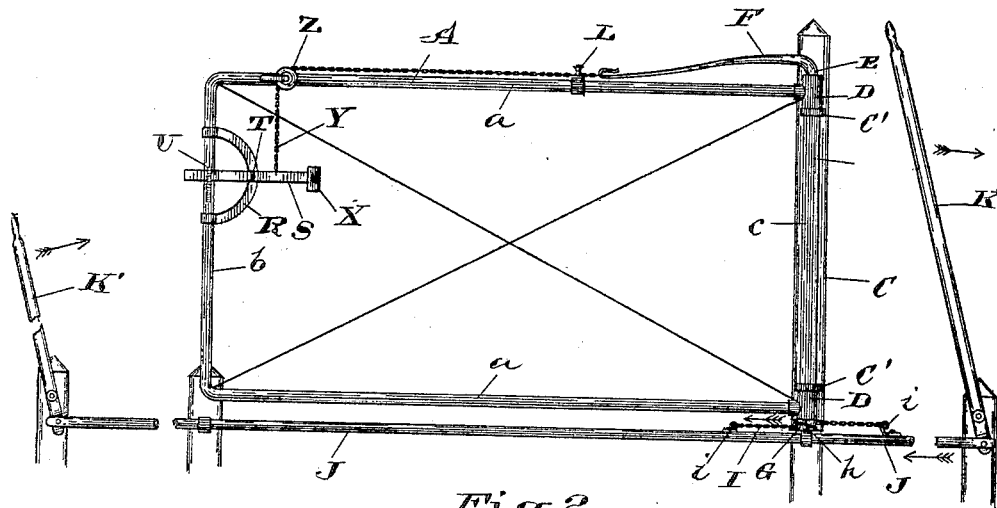


Fig. 2

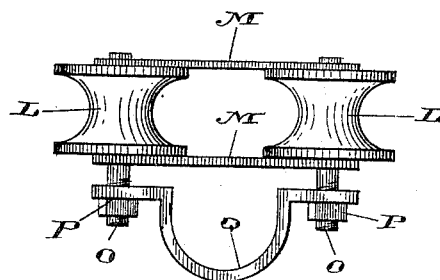


Fig. 3

Witnesses
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2 Sheets—Sheet 2.

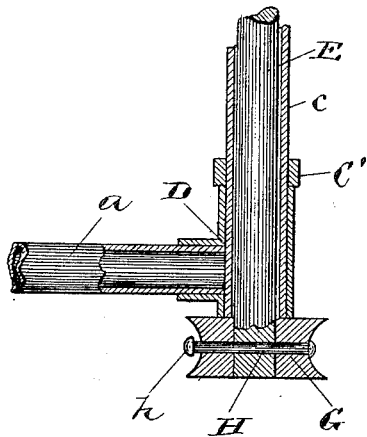


Fig. 3

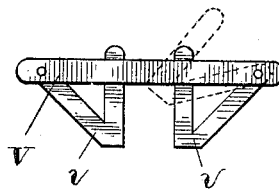


Fig. 5

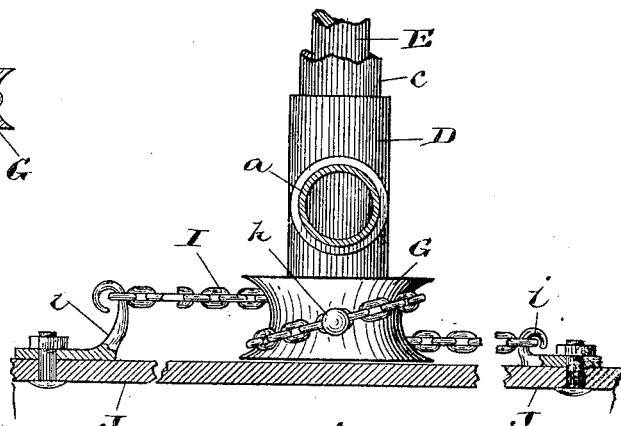


Fig. 7

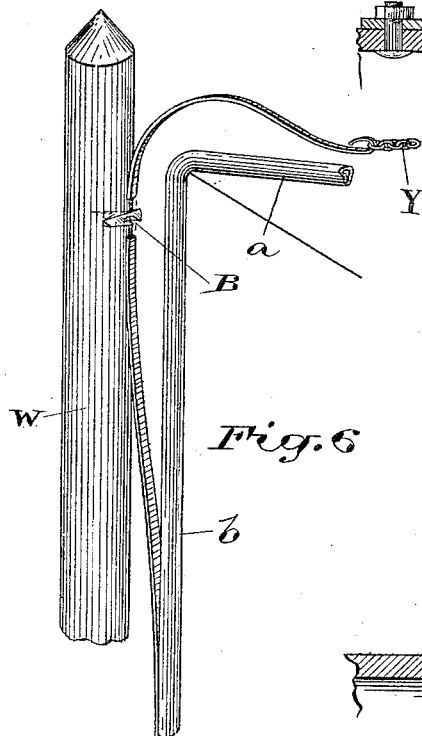


Fig. 6

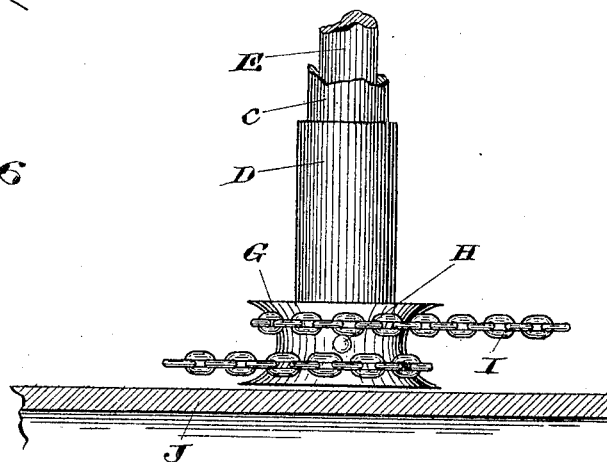


Fig. 8

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN L. McCULLOUGH, OF WHITBY, CANADA.

SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 647,577, dated April 17, 1900.

Application filed September 15, 1899. Serial No. 730,613. (No model.)

To all whom it may concern:

Be it known that I, JOHN LESLIE McCULLOUGH, bookkeeper, of Whitby, in the county of Ontario and Province of Ontario, Canada, have invented certain new and useful Improvements in Swinging Gates; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to certain new and useful improvements in swinging gates, and relates more particularly to that class of swinging gate operated from a distance by means of levers and intermediate connections; and the object of the invention is to so arrange the gate that all the movable parts may be operated simultaneously when the operating-lever has been actuated to either open or close the gate; and the invention consists, essentially, of a gate embracing in its construction a substantially-rectangular frame having at one side a hollow upright journaled in suitable brackets connected to the gate-post and a shaft passing through the upright having rigidly fixed to its lower end a pulley or drum, to which is connected a flexible chain or cable, the ends of which are connected to a movable rod of the operating-levers and terminating at its upper end in a crane, to which is connected the chain or flexible connection for operating the latch, the whole device being hereinafter more fully set forth, and more particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of the gate, showing it closed. Fig. 2 is a similar view showing it open. Fig. 3 is a sectional view through the hollow upright of the frame and the shaft. Fig. 4 is a view of the guide-pulleys and clamp for the latch-operating chain. Fig. 5 is a view of the latch-keeper. Fig. 6 is a perspective view of a modification of the latch and keeper. Figs. 7 and 8 are detail views showing the attachment of the chain to the pulley or drum on the end of the shaft.

Like letters of reference refer to like parts throughout the specification and drawings.

The gate A consists of a substantially rectangular-shaped frame embracing in its construction two opposite horizontal sides *a a* and an upright end *b*, integrally formed of a continuous piece of tubular iron bent to the requisite shape and a hollow upright end *c*,

secured to the ends of the sides *a a* by T-couplings D. The space between the sides and ends of the frame may be filled in with cross-wires or wire-netting of any suitable pattern.

Passing through the upright *c* is a shaft E, the upper end of which terminates in a crane F and to the lower end of which is rigidly secured a pulley or drum G by means of a pin H, which passes through the pulley or drum and shaft and terminates in an enlarged head *h*, to which is connected the middle link of the operating-chain I. The ends of the operating-chain I are connected, by means of hooks *i*, to a movable rod J, operated by the levers K K'.

L L represent two guide-pulleys connected together by coupling-plates M M, to which are riveted the ends of the hollow axles O O of the guide-pulleys L L, the inner ends of the axles being screw-threaded to receive the clamping-nuts P P of the bracket Q.

R represents a semicircular plate connected to the upright end *b* of the gate-frame, and S represents a latch the middle part of which is pivoted to the quadrant R by means of a pin T. The latch S is held by a guide-strap U, connected to the upright end *b* to limit the upward movement of the latch and to prevent it from moving laterally from the end *b*.

V represents the keeper, connected to the gate-post W. The keeper V consists of two pivoted members *v v*, each having an inclined side adapted to be engaged by the latch when the gate is closing and a vertical side to hold the latch when the gate has reached a closed position. The upper end of the latch S engages the keeper V, while the opposite end of the latch is provided with a weight X. Connected to the latch S contiguous to the weight X is one end of a chain or cable Y, which passes around a pulley Z, pivoted to the gate-frame vertically above the latch S and between the guide-pulleys L L, clamped to the side *a* contiguous to the end of the crane F, the opposite end of the chain being connected to the end of the crane F.

C represents the gate-post to which is pivotally connected the upright *c* by means of brackets C' C', and W represents a gate-post to which is connected the keeper V.

The use of the invention is as follows: By

drawing the lever K outwardly from the gate-post the rod J is moved to unwind from the drum G the end of the chain connected to it adjacent to the lever K to rotate the drum G and shaft E. The commencement of the rotation of the shaft E draws the chain Y to lift the weighted end of the latch S and disengage the opposite end of the latch from the keeper V, the continued rotation of the shaft E causing the gate to swing into the open position. (Shown in Fig. 2 of the drawings.) By moving the lever K' toward the gate-post C the rod J is moved to unwind the end of the chain I adjacent to the lever K' from the drum G and rotate the shaft E in the reverse direction to that previously described, which rotation of the shaft closes the gate into the position shown in Fig. 1. By drawing the lever K' away from the gate-post the gate can be opened, as above described, and by moving the lever K toward the gate-post the gate can be again closed.

From the foregoing description it will be understood that to open or close the gate it is merely necessary to draw on the levers until the desired result is accomplished.

In Fig. 6 is shown a modification of a latch and keeper, the latch in this instance consisting of a spring, one end of which is fastened

to the upright end *b* and the opposite end of which is fastened to one end of the chain Y, the keeper in this instance consisting of a spike provided with a head having inclined sides and recesses B to retain the latch.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A double swinging gate embracing in its construction a substantially-rectangular gate-frame, having a hollow upright at its end journaled in suitable brackets connected to the gate-post, a shaft passing through the hollow upright terminating at its upper end in a crane, and having its lower end provided with a drum, a chain connected at its middle to the drum, a movable rod connected to the ends of the chain, levers connected to the ends of the rod, a latch pivoted to the gate-frame, a connection between the latch and crane whereby it can be operated, and a keeper connected to the gate-post to temporarily hold the latch, substantially as specified.

Toronto, Canada, August 21, A. D. 1899.

J. L. McCULLOUGH.

In presence of—

M. A. WESTWOOD,
C. H. RICHES.