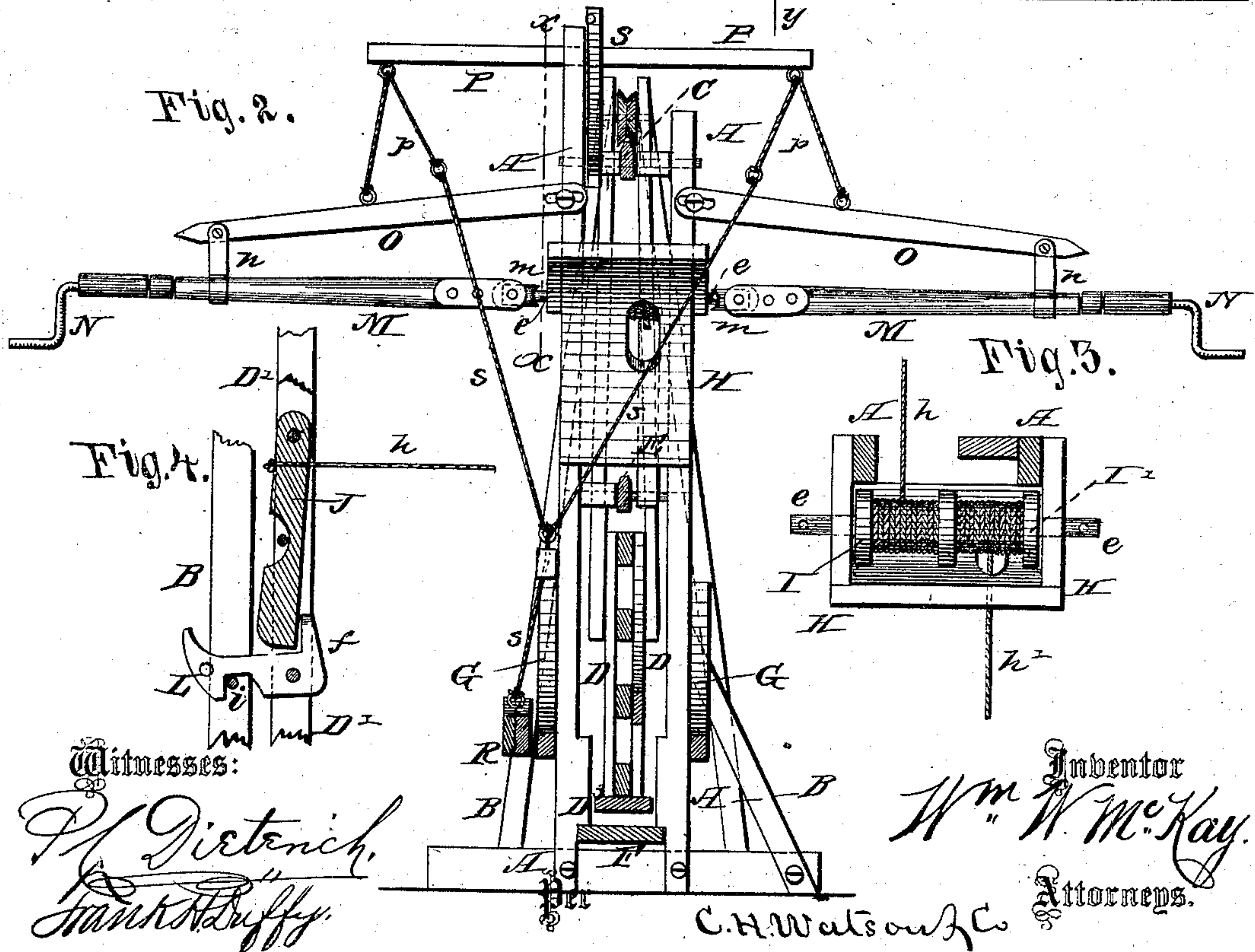
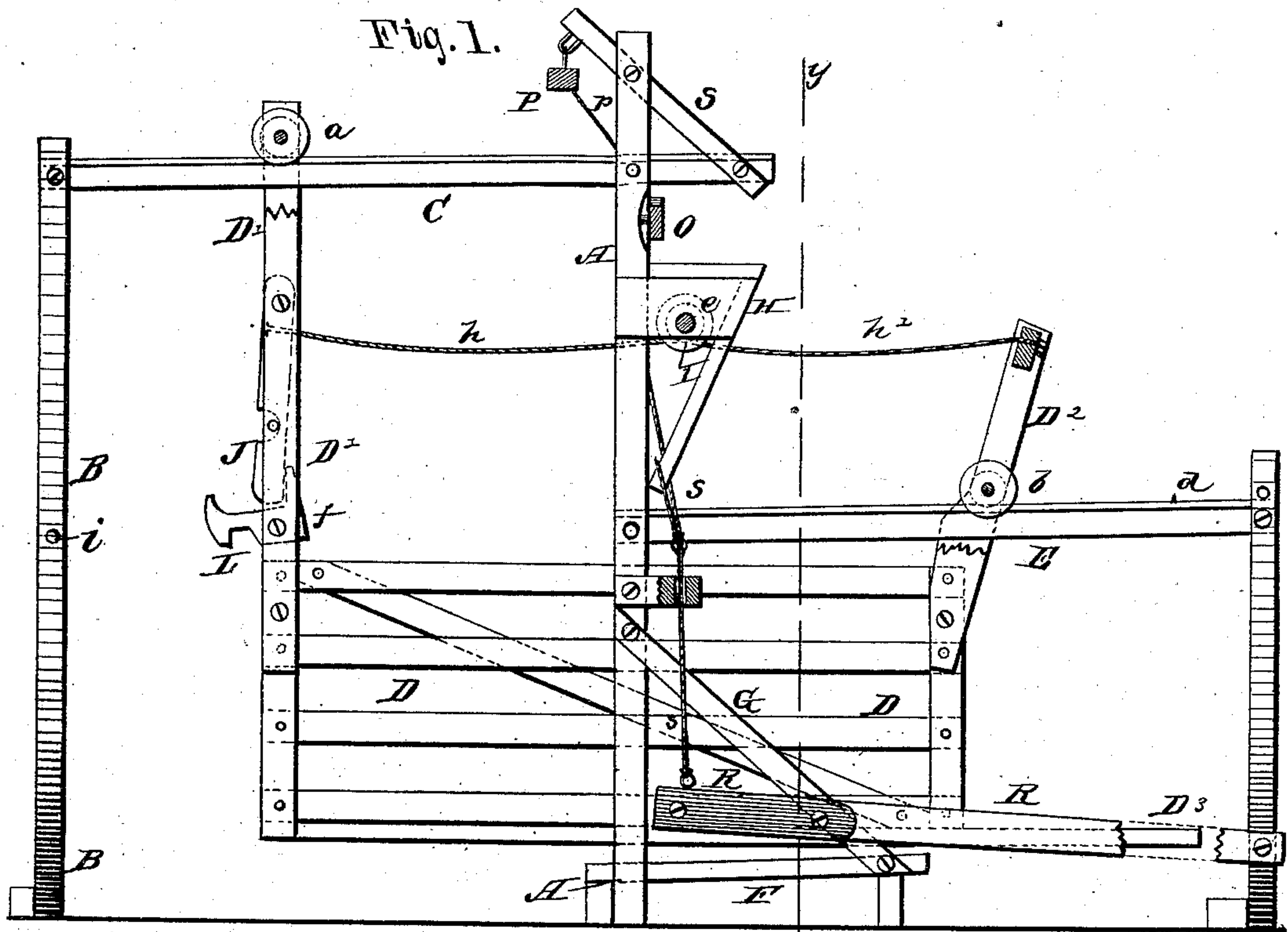


W. W. McKAY.
Gate.

No. 215,531.

Patented May 20, 1879.



UNITED STATES PATENT OFFICE.

WILLIAM W. MCKAY, OF FRANKVILLE, IOWA.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **215,531**, dated May 20, 1879; application filed January 2, 1879.

To all whom it may concern:

Be it known that I, WILLIAM W. MCKAY, of Frankville, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Gates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a gate, with the devices for operating the same, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a vertical section on line *x x*, Fig. 2. Fig. 2 is a similar view on line *y y*, Fig. 1. Figs. 3 and 4 are detail views of parts of my invention.

A A represent two upright parallel posts, suitably fastened and braced, between which the gate moves. B B are two upright posts, separated at the bottom, but coming close together at the top, against which the gate is to close. The posts A A and B B are of sufficient height so that a rail, C, secured between their upper ends, will be high enough up from the ground to allow any vehicle or loaded wagon to pass underneath the same.

D represents the gate, which is provided at its forward end with upright bars $D^1 D^1$, extending up on each side and above the rail C. Between the upper ends of these bars D^1 is mounted a grooved roller, *a*, which rides on the rail C and forms the front support of the gate.

To the rear end of the gate D is secured a slotted arm, D^2 , within which is mounted a roller, *b*, and this roller rides on a rail, E, to form the rear or inner support for the gate. This rail E is secured at one end between the parallel posts A A, and at the other end to the next adjoining fence-post; and said rail E is inclined or set at an angle, so as to raise the gate as it is moved back in opening to clear snow or other obstructions, and also to prevent the gate tending to open should the latch not secure it properly.

A small pin, *d*, in the rail E holds the gate open when the rear roller, *b*, is forced above it.

The bottom of the gate is provided with a horizontal board, D^3 , which projects beyond the inner end of the gate, and moves over a sill, F, between inclined guides G G. These inclined guides or braces act as a wind-guide to bring the front or latch end of the gate to the right place in closing.

To the upright parallel posts A A is attached a suitable frame, H, which forms a cover or shelter for two drums, I I', secured upon one shaft, *e*, having its bearings in the sides of the frame H. To the drum I' is attached a cord or chain, *h'*, which is wound around the same, and its other end is fastened to the upper end of the slotted arm D^2 at the inner end of the gate.

A similar cord or chain, *h*, is attached to and wound around the drum I, the other end of said cord or chain being attached to a swinging lever, J, pivoted between the upright bars $D^1 D^1$ at the front end of the gate. The lower end of this lever J bears against an upwardly-projecting arm or lug, *f*, at the inner end of the latch L, which is pivoted between the upright bars $D^1 D^1$.

The latch L catches on a pin, *i*, in the inclined posts B B to hold the gate closed. Each end of the shaft *e*, on which the drums I I' are attached, is, by a knuckle or universal joint, *m*, connected with a lever or rod, M, having a crank, N, at its outer end for turning the rod, and thereby rotating the shaft and its drums for opening and closing the gate. Each lever or rod M is supported in a stirrup or clevis, *n*, attached to the outer end of a lever, O, the inner end of which is pivoted to the post A. The pivoted levers O O are, by rods, wires, cords, or chains *p p*, connected to the ends of a single balancing-beam, P, hung centrally to an arm or bar, S, attached to the upper end of one of the posts A. The ends of the beam P are then, by rods, wires, cords, or chains *s s*, connected to a weighted beam or lever, R, which is pivoted at one end to one of the fence-posts, and the weighted end of said beam or lever R keeps the balancing-beam P, levers O, and rods M in position. The screws or pins which pivot the levers O to their places pass through elongated slots in the levers, whereby said levers can be turned freely in any direction.

To open the gate from either side the crank N is rotated, revolving the lever or rod M, and by means of the knuckle or universal joint *m* this motion is communicated to the shaft *e* and its drums, the cord or chain *h* pulling on the lever J, to raise the latch L and then move the gate inward. The gate is closed in like manner the cord or chain *h'* then pulling the gate, the weighted lever R and balancing-beam P returning the crank-levers M to their former position.

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

1. The combination of the crank-levers M, stirrups *n*, loosely-pivoted levers O, balancing-lever P, and weighted lever R with the connections *p s*, substantially as and for the purposes herein set forth.

2. The latch L, with arm *f*, and the swinging lever J, in combination with the gate-operating mechanism, as set forth.

3. The cranks N, lever M, and joint *m*, in combination with the gate D, rollers *a b*, rail C, and incline-rail E, with pin *d*, substantially as and for the purpose set forth.

4. The latch L, with arm *f*, and swinging lever J, in combination with the slotted arm D², roller *b*, and rail E, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM W. MCKAY.

Witnesses:

J. D. MCKAY,
WM. RANKIN.