

UNITED STATES PATENT OFFICE.

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GATE.

SPECIFICATION forming part of Letters Patent No. 371,271, dated October 11, 1887.

Application filed May 23, 1887. Serial No. 239,127. (No model.)

To all whom it may concern:

Be it known that I, CANTNELL J. MOORE, a citizen of the United States, residing at Webster, in the county of Keokuk and State of Iowa, have invented a new and useful Improvement in Gates, of which the following is a specification.

My invention relates to an improvement in gates; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a perspective view of a gate embodying my improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a similar view of the same, showing the gate open. Fig. 4 is a detail view to show rollers G³. Fig. 5 is a detail view showing the joint between levers B' Z. Fig. 6 is a detail view showing the grooved track and grooved pulley.

A represents a pair of vertical standards, the upper ends of which incline toward each other, and B represents a pair of similar standards, which are located at a suitable distance from the standards A. The lower ends of the standards A and B are connected in pairs to transverse sills C, which are arranged on opposite sides of the standards and project beyond the same for a suitable distance.

D represents inclined brace-bars, which have their lower ends secured between the projecting ends of the sills C and their upper ends bolted to the outer sides of the standards at a suitable height from the ground. The standards A and B are connected in pairs by means of transverse bars or plates E and E', respectively.

F represents a horizontal guide-bar, which has its extremities secured between the upper ends of the pairs of standards A B by means of bolts G. On the upper side of the guide-bar is secured a circular metallic rod, H, which fits in a longitudinal concave groove therein, and is secured thereto by means of U-shaped keepers I.

K represents a vertical standard, which is located at a suitable distance from the standards A and in line with the space between them.

L represents a horizontal bar, which has its inner end secured to the center of the plate E

and its outer end secured on the upper end of the standard K. A pair of vertical guide-arms, M, project upward from along the sides of the upper end of the standard K.

N represents a pair of vertical ears, which are bolted to opposite sides of the bar L at the center thereof and project upward from the same. Between the upper ends of these ears is fulcrumed a bar, O, by means of a bolt, P, which extends transversely through the said ears and bar. The central portion of the said bar O is provided with a curved offset, O', on its upper side.

R represents a metallic rod similar to the rod H, which is secured on the upper side of the bar O. The front end of the bar O projects beyond and extends between the standards A, and the rear end of the said bar extends between the vertical arms M.

S represents a pair of vertical posts, which are arranged at a suitable distance from opposite sides of the standards A and slightly in rear of the said standards.

T represents a gate, which may be of any suitable construction, and is provided at its front end with a pair of vertical bars, U, and at its rear end with a pair of vertical bars, V, which are similar to the bars U, but not as long as the latter. The bars U project above the horizontal bar F and bear on opposite sides of the same, and between the upper ends of the said bars U is journaled a pulley or wheel, W, which is provided with a concave-grooved periphery adapted to receive the upper side of the track-bar H. The extreme upper ends of the bars U are connected by a block, X.

Y represents a wheel or pulley, which is similar to the wheel W, journaled between the upper portions of the bars V, and bears upon the track-rod R on the upper side of the pivoted bar O. Between the extreme upper ends of the bars V is pivoted the lower end of a lever-arm, Z, by means of a pivotal bolt, A'.

B' represents a lever-arm, which has its upper end fulcrumed on a bolt, C', which extends transversely through the standards A near the upper ends thereof. To the outer end of the lever-arm Z, on opposite sides thereof, is bolted a pair of upwardly-curved plates, D'. The outer end of the lever-arm

B' is pivoted between the upper ends of the said plates by means of a bolt, F'.

G' represents an inclined brace rod, which is secured between the standards V near their upper ends, and also between the standards U at a slight distance below the guide-bar F.

G² represents operating-levers, which are provided on opposite sides at a suitable distance from one end with depending ears H', which are bolted thereto. The said ears are connected to the upper ends of the posts S by means of pivotal bolts I'. The outer ends of the levers G² are pivotally connected to the lever-arm B', near the outer end thereof, and the said levers G² diverge and extend obliquely on opposite sides of the gate. To the free ends of the levers G² are pivotally connected hanging operating rods or handles K'.

The operation of my invention is as follows: In order to move the gate in either direction, to open or close the same, one of the operating-rods K' is first lowered to raise the outer ends of the levers G², and thereby cause the lever-bar Z to draw the rear end of the gate upward on the inclined track on the pivoted bar O and move the upper front end of the gate on the track on the guide-bar F. Sufficient impetus is imparted to the gate to cause its wheel Y to pass over the pivotal center of the bar O, thus causing the latter to incline in the opposite direction from that in which it was formerly arranged, and the gate completes its movement in either direction by its own gravity as the wheel Y runs down the inclined track.

A gate thus constructed is easily opened or closed, is very strong and durable, and can be erected at slight cost.

In order to lock the gate when closed I provide the same with a spring latching-bar, L', which extends throughout the entire length of the gate, has its rear end rigidly secured between the bars V, its central portion secured by the bolt M' between a pair of vertical bars, N', at the center of the gate, and its front end, which projects a suitable distance beyond the front end of the gate, provided with a hook or shoulder, R', that projects downward and is curved or inclined on its faces, and thereby adapted to automatically engage a metallic rod, S', that connects the standards B.

The top and bottom bars of the gate are rounded, as at X⁴, on their outer sides to a point, and are thereby adapted to be guided

between the standards B when the gate is closed.

In order to render the gate easier to operate I provide the levers G² with weights G⁴ at their inner ends, thereby increasing their leverage.

G³ represents anti-friction guide-pulleys which are journaled in blocks between the standards A, and bear against opposite sides of the gate and serve to prevent the gate from blowing against either of the standards when blown laterally by the wind.

Upon reference to Fig. 6 it will be noted that the rod H fits in a groove of bar F and is arranged along the center of the latter, having side portions of bar F on each side of rod H. The arrangement is the same with respect to rod R and bar O. As the wheels W Y are grooved, the grooved portions of the wheels receive the rods H R, and the side edges of the periphery of the wheels bear upon the bars F O on each side of the rods H R, as shown in Fig. 6.

In place of the plates D', I may use an ordinary hinge to unite levers B' Z; but I prefer these plates, as they serve to hold the parts from lateral movement.

Having thus described my invention, I claim—

The combination of the supporting framework of the gate, having the horizontal bars F and L arranged at different elevations, the pivoted track O, arranged above the bar L and having the curved offset at its pivotal point, the gate having the roller W, traveling on bar F, and the roller Y, traveling on the pivoted track O, the bar Z, having one end pivoted to the rear end of the gate, the bar B', pivoted at one end to the rear end of supporting gate-frame and having its outer end pivotally connected to bar Z, the supporting-posts S on opposite sides of the gate-frame, and the levers G², pivoted to said posts S, connected to the bars Z and B' near their pivotally-connected outer ends and extending obliquely out into the roadway on opposite sides of the gate, substantially as described.

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

CANTNELL J. MOORE.

Witnesses:

J. N. ALLEN,
F. P. HEMORE.