

(No Model.)

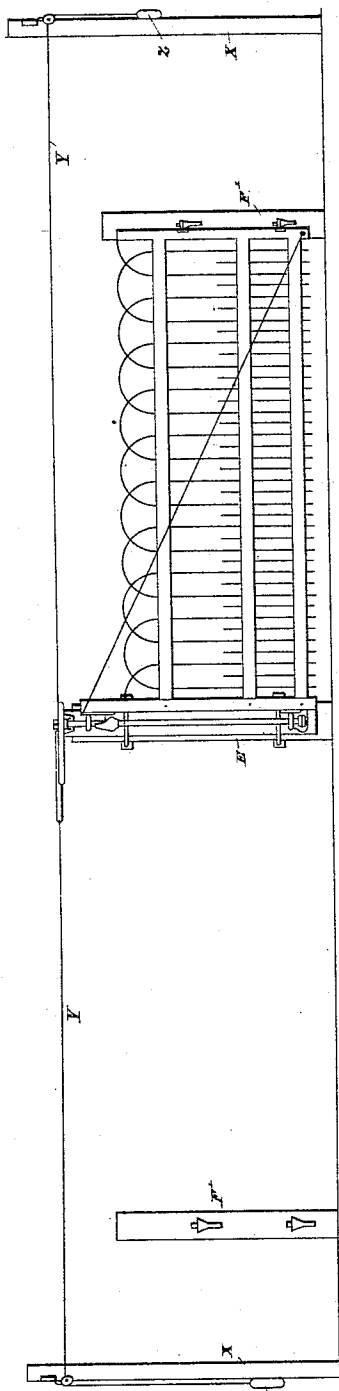
2 Sheets—Sheet 1.

J. M. THOMAS.
DRIVE GATE.

No. 479,319.

Patented July 19, 1892.

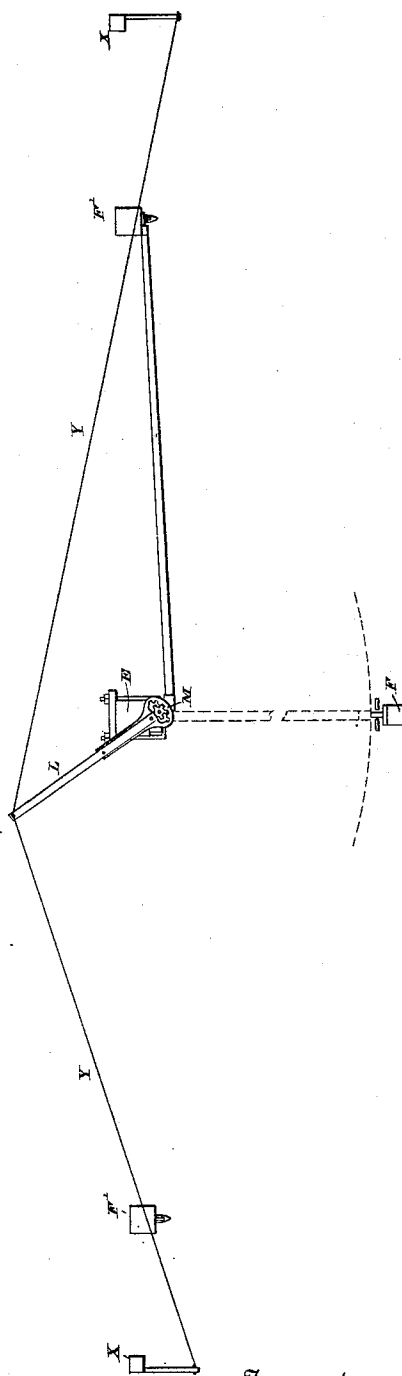
Fig. 1-



Witnesses

Edw. L. Duwall Jr.
Wm. L. Boyden

Fig. 2-



Inventor
James M. Thomas
per Fred W. Baker,
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(No Model.)

2 Sheets—Sheet 2.

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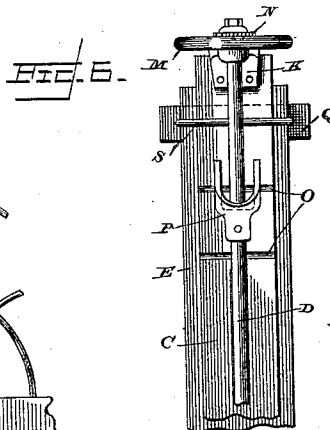
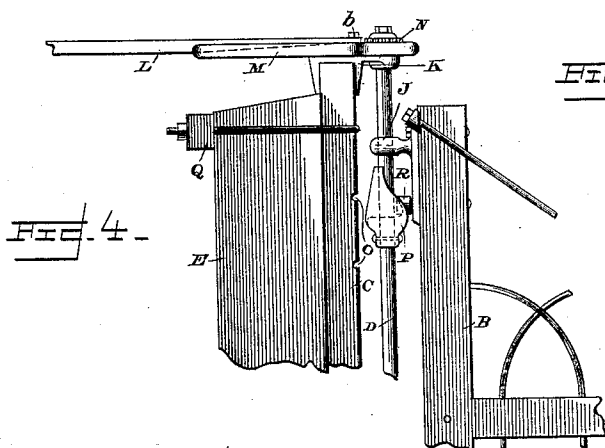
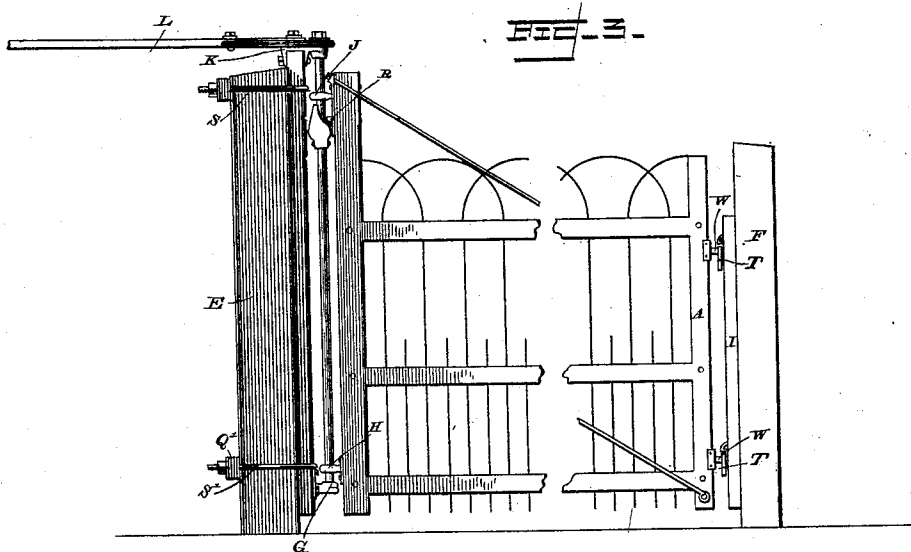


FIG. 5.

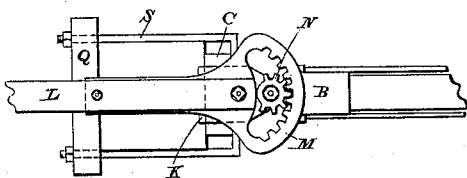
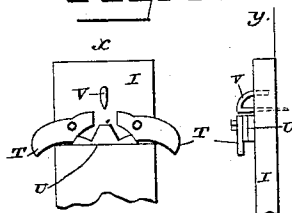


FIG. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES M. THOMAS, OF CHILLICOTHE, OHIO.

DRIVE-GATE.

SPECIFICATION forming part of Letters Patent No. 479,319, dated July 19, 1892.

Application filed January 16, 1892. Serial No. 418,347. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. THOMAS, a citizen of the United States, residing at Chillicothe, in the county of Ross and State of Ohio, have invented a new and useful Drive-Gate, of which the following is a specification.

My invention relates to improvements in drive-gates which are operated from a horse or vehicle.

The objects of my improvement are, first, to provide a gate which shall be supported at both ends when closed or open, and, second, to provide a means of shifting the gate vertically from its front bearings and to open and close the same. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a general view of the gate standing open; Fig. 2, a general plan of the same; Fig. 3, an elevation of the gate, showing the manner of supporting it; Fig. 4, a side elevation of the operating mechanism; Fig. 5, a plan or top view of the operating mechanism; Fig. 6, a front elevation of Fig. 4 with the gate removed to show the shape of the cam; Fig. 7, front (*x*) and side (*y*) views of the catch for retaining and supporting the front end of the gate.

Similar letters refer to similar parts throughout the several views.

The gate is supported at the front end by the pins W W, rigidly attached to the front stile of the gate A and resting on the supporting catch-plates U U between the upper ends of the drop-catches T T, and at the rear end by the roller R, which is firmly secured to the rear post B of the gate and rests on cam P, made fast to hinge-rod D.

The gate is secured to the rod D by means of the hinges H and J, which are fastened to rear post B of gate and are free to move vertically on rod D. The rod D is attached to hinge-plank C by socket G and cap K, which are rigidly attached to hinge-plank C. Hinge-plank C is attached to post E by means of rods S and S' and bars Q and Q'. The hinge-plank C, being narrower than post E, can be adjusted edgewise to place gate in vertical position; also a wedge may be placed be-

tween hinge-plank C and post E at either the top or bottom of C to adjust the gate horizontally in case post E is not vertical. Hinge-plank C is provided with several grooves O, so that it may be attached to posts of various heights. To the upper end of rod D is affixed pinion N, which engages with rim-gear M, which is pivoted to cap K at point *b* and is operated by lever L. The lever L is moved by ropes Y Y, which pass over pulleys suspended from posts X X, which are placed in positions convenient to operator. Ropes Y Y are held taut by weights Z Z. Force applied to Y at point Z will draw lever L toward the operator, and by means of rim-gear M and pinion N will rotate rod D, and with it cam P, which is so constructed that it first, through roller R, imparts a horizontal motion to the gate, crowding pin W against drop-latch T farthest from operator. Cam P continuing to turn, and horizontal motion being arrested by drop-latch T, roller R will mount cam P and the entire gate will be raised vertically till it clears latch T, the pin W passing up on the side of stop V opposite the operator. Now the lowest point of the cam being on the side of the rod D facing the post E at the side of the roadway, and the roller R being at the top of the cam and the front end of the gate free, the roller R, sustaining the entire weight of the gate, rolls down the cam, and in so doing opens the gate away from the operator till it is caught by a suitable catch on post F. A pull on the other rope Y will bring lever L back to its original position and close the gate behind the operator by same action as in opening. The pins W strike slightly below the top of latch-plate U, the momentum of the gate being sufficient to carry them up the slight incline, depress the drop-latch T, and pass on till stopped by drop-latch T farthest from operator.

Drop-latch T first depressed will rise to the position shown in Fig. 7, the lower end of drop-latches T T being heavier than the upper.

If in closing the gate operator should hold rope Y till gate has reached its closed position, the pins W will strike stops V above the latches, and operator then releasing rope Y the gate will drop vertically to its supports.

The latches T T and latch-plates U U are attached to a plank I, which by use of spikes or screws may readily be adjusted on post F.

I claim—

- 5 1. In a swinging gate, the combination, with the main upright, of an adjustable hinge-plank secured thereto provided with a cap-plate at its upper end, a cogged rim pivoted to said cap-plate, a cogged pinion meshing
10 therewith, secured rigidly to the upper end of the hinge-rod, a hinge-rod journaled on the hinge-plank, a roller-cam, constructed substantially as described, supported on said rod, a swinging gate provided with a roller near
15 its upper inner end, adapted to run upon the roller-cam, and means for opening and closing said gate and holding it in a closed and supported position, substantially as described.
2. In a swinging gate, the combination of

the main upright E, the adjustable hinge- 20 plank C, attached thereto, carrying at its upper end the cap-plate K, the cogged rim M, pivoted to the cap-plate, the hinge-rod D, suitably journaled to the adjustable hinge- 25 plank C, roller-cam P, constructed substantially as described, supported on said hinge-rod, the gate suitably secured to said hinge-rod, roller R, carried by the gate, the pins W, secured at the front ends of said gate, the 30 supports U for the front end of the gate, secured to a suitable upright, latches T T, and stop V, together with means for opening and closing said gate, substantially as described.

JAMES M. THOMAS.

Witnesses:

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