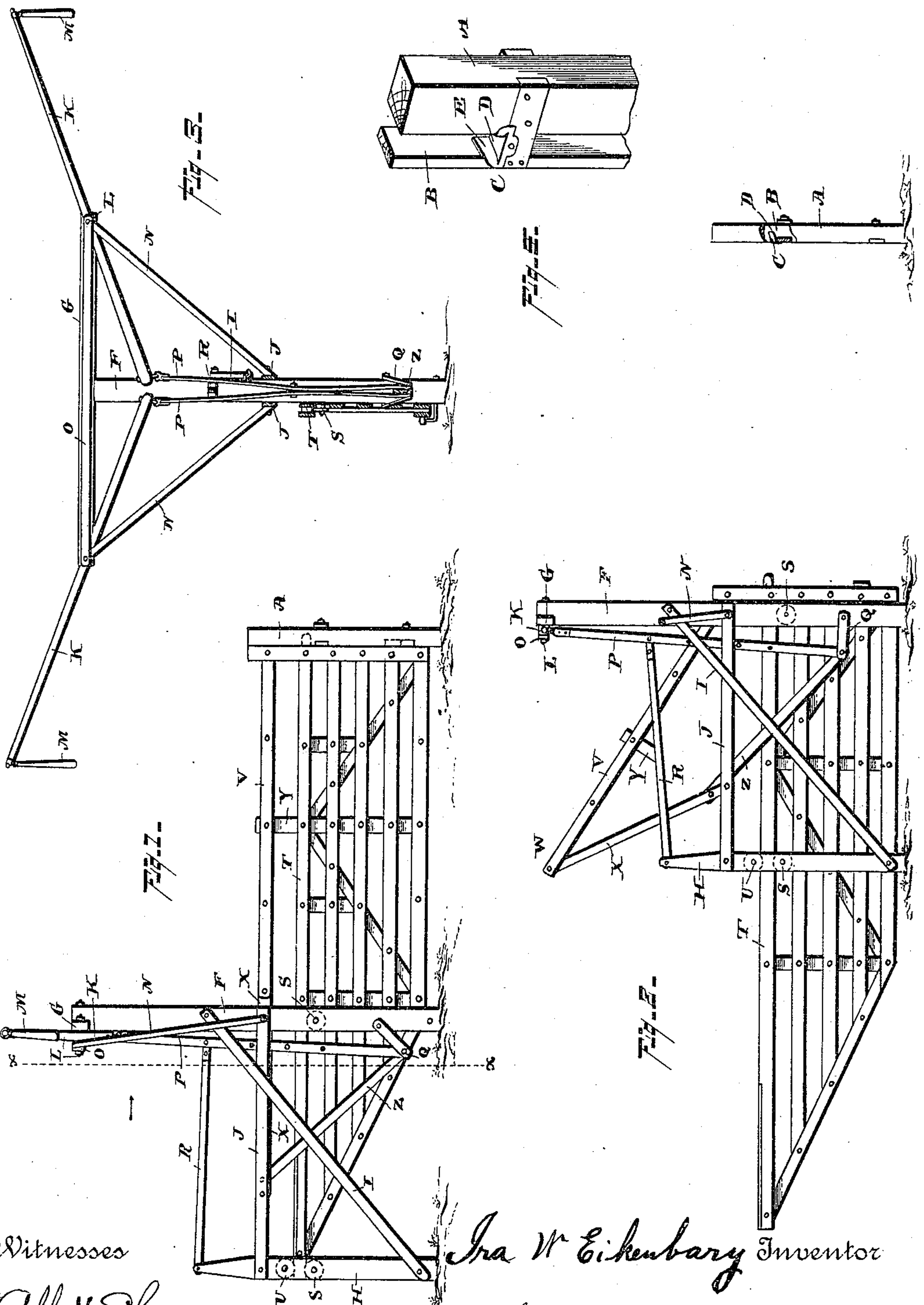


(No Model.)

I. W. EIKENBARY.
AUTOMATIC SLIDING GATE.

No. 426,787.

Patented Apr. 29, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

IRA W. EIKENBARY, OF WARREN, INDIANA.

AUTOMATIC SLIDING GATE.

SPECIFICATION forming part of Letters Patent No. 426,787, dated April 29, 1890.

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To all whom it may concern:

Be it known that I, IRA W. EIKENBARY, a citizen of the United States of America, residing at Warren, in the county of Huntington and State of Indiana, have invented certain new and useful Improvements in Automatic Sliding Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in automatic sliding gates; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, which fully illustrate my invention, Figure 1 is a side elevation showing the gate closed. Fig. 2 is a similar view showing the gate opened. Fig. 3 is a vertical section on the line $x x$ of Fig. 1. Fig. 4 is a detail view of the catch.

In carrying out my invention I set in the ground at one end of the roadway a vertical latch-post A, having a longitudinal slot B, in which, at a proper point of the height thereof, I secure the catch or holder C, which is adapted to receive the projecting end of one of the rails of the gate, in order to prevent the same from moving laterally. This catch or holder C is to be made of malleable iron or cast-iron, as shown in drawings, and is bent to provide the upwardly-inclined bottom D and the inwardly-converging ribs E, as shown most clearly in Fig. 4. This peculiar construction of the holder causes the gate to be guided directly to the proper point, even if it should swerve to one side in operation.

On the side of the roadway opposite the post A, I set in the ground the lever-post F, which is higher than the latch-post A and has a cross-bar G secured to its upper end, the said cross-bar running in the direction of the roadway. At one side of the roadway and a proper distance from the lever-post I erect the brace-post H, which is in the line of the lever and latch posts. This brace-post is connected to the lever-post by an inclined brace I and horizontal braces J. The inclined brace I extends from the bottom of the brace-post to a point near the top of the lever-post, while the horizontal braces extend from a point near the top of the brace-post to a point on the lever-post near and below the upper end of the

inclined brace. By this arrangement of the braces the two posts are most effectually reinforced, and as all the operating mechanism is supported by these posts the advantages of the same are obvious.

The operating-levers K K are fulcrumed on the transverse pins L, which are secured to the ends of the cross-bar G and extend in opposite directions along the line of the roadway, and are provided at their outer ends with the depending handles M, as shown. In order to prevent the pins L from being bent and to enable them more effectually to withstand the strain put upon them, I provide the braces N, which are secured at their lower ends to the sides of the lever-post and at the upper ends on said pins. The said pins are also connected by a link or connecting-rod O, which, besides serving to strengthen these pins, serves to prevent the inner ends of the operating-levers from lateral movement, and consequently keeps them in proper position for the easy and successful operation of the gate. The inner ends of the levers K are arranged near together and are connected by flexible joints with the upper ends of the depending pitmen P, the lower ends of the said pitmen being pivotally connected with the outer ends of the crank-arms Q, which are pivoted to and extend from the lever-post near the lower end of the same. These pitmen are secured together at an intermediate point of their length, as shown in Fig. 3, so as to secure a simultaneous movement of both operating-levers. A vibrating arm or lever R is pivoted at one end to the upper end of the brace-post and at its other end to and between the pitmen P, near the upper ends of the same. The arm or vibrating lever R is made thicker at one end by means of two short pieces. The thick end goes between the pitmen P, which forms a spring, as when the gate is open the inner ends of the levers will be up and the pitmen P will be pressed together at the top. The other ends of the levers will not be below a level with top of lever-post, which will permit a carriage or load of hay to pass through the gateway without interfering with the lever. If the pitmen or springs become weak, the bolt that holds them together is removed and fitted in

a higher opening. By adjusting the bolt at the intermediate point of pitmen P, before described, the gate can be made to close itself by the lifting up on the handle at the amount of from two to six pounds. This vibrating arm or lever acts as governor to secure a steady even movement of the pitmen, and when in its lowered position it lies parallel with the horizontal braces J and has the appearance of one of the rails of the gate.

The gate is composed of vertical bars and horizontal rails secured together and braced in the usual manner, and it is supported on rollers S, which are mounted on the sides of the lever and brace posts. The top rail T of the gate is double or made in two branches, one of the branches resting on and engaging said rollers, and in order that the greater weight of the front end of the gate may not cause the rear end of the same to swing upward I provide a roller U on the side of the brace-post, which bears against the upper edge of the top rail T. The top rail on which the roller runs is faced with iron, which is intended to break off ice and sleet, as the roller will break it off from iron much better than from wood.

The front vertical bar of the gate is extended somewhat above the gate, and to this extended bar I pivot the end of the front member V of a toggle-lever W, the rear member X of said lever being pivoted at its front end to the rear end of the member V, and having its rear end bifurcated and pivoted to the horizontal braces J J. The member V is provided at or near its center with a short bar Y, which rests upon the top rail of the gate when the same is closed, and thereby causes the said member to have the appearance of being part of the gate.

The member V is connected by a lifting-bar Z with the crank-arms Q and the pitmen P, the lower end of the said lifting-bar Z being pivoted to the common pivot of the pitmen and the crank-arms, and the upper end of the same being pivoted within the bifurcation of the member X between the end of the same and its pivotal connection with the member V.

The construction and arrangement of the several parts of my improved gate being thus made known, the operation of the same will, it is thought, be understood. When the gate is closed, it extends across the road, so as to prevent travel through the gateway. A person approaching the gate on horseback or in a vehicle can open the gate without alighting by drawing downward on the end of the operating-lever. The gate will thus be caused to slide or roll open and the team permitted to pass through, after which the driver

pushes upward on the end of the second operating-lever, and thereby closes the gate. When the outer end of the operating-lever is drawn downward, the inner end of the same will of course be raised, and the pitmen P thereby drawn upward. The upward movement of the pitmen is applied directly to the lifting-bar and through it transmitted to the toggle-lever W. As the lifting-bar is raised it acts directly on the rear member of the toggle-lever, as will be readily understood, and causes it to swing upward on its pivotal connection with the braces J J. The front member of the toggle-lever is thus made to fold toward the rear member and draw on the gate by reason of its pivotal connection with the front end of the same, causing it to slide or roll open. Of course when the outer end of the operating-lever is pushed upward the several parts will be given a reverse movement and the gate will be closed.

It will be observed that my device is composed of few parts, which are simple in their construction and compact in their arrangement. By my arrangement of operating devices a powerful leverage is obtained, so that a slight pull on the operating-lever will be sufficient to open the gate. The operating mechanism is so arranged that it does not detract from the appearance of the gate, and yet is convenient of access when it is desired to repair or replace a broken or worn-out part.

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

The combination of the latch-post, the lever-post, the brace-post, the gate sliding on rollers mounted on the brace-post and the lever-post, the cross-bar at the upper end of the lever-post, the operating-levers fulcrumed on the said cross-bar, the crank-arms near the lower end of the lever-post, the pitmen connecting the said crank-arms with the operating-levers, the braces extending between the brace and the lever posts, the toggle-lever pivoted to the said braces and to the front end of the gate, the front member of said toggle-lever being provided with a block Y, the lifting-bar extending between the pitmen and the rear member of the toggle-lever, and the vibratory bar having its rear end pivoted to the upper end of the brace-post and its front end pivoted to the pitman, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

IRA W. EIKENBARY.

Witnesses:

HENRY K. GRAVES,
ISAAC E. EIKENBARY.