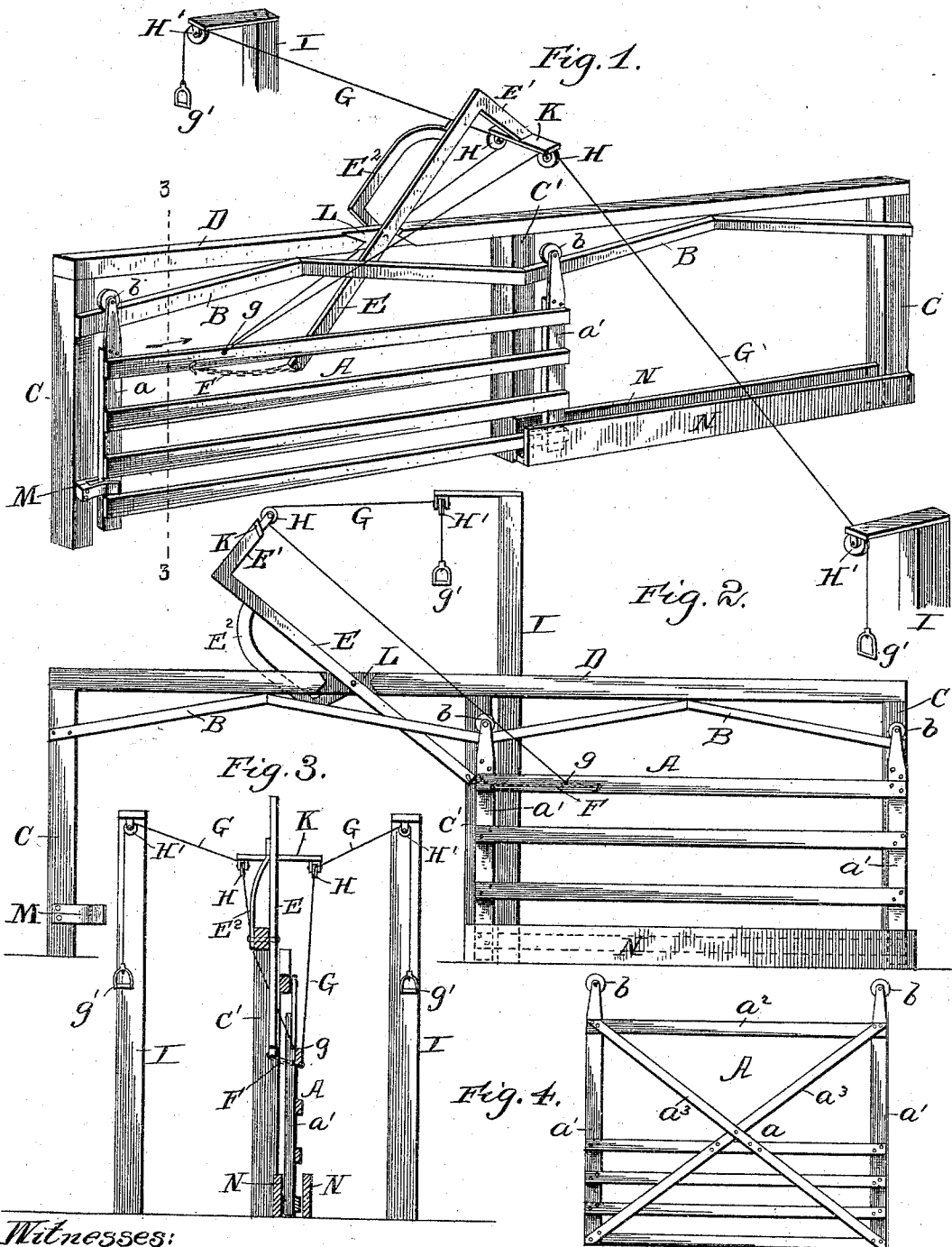


(No Model.)

C. J. SIMERAL.
GATE.

No. 487,336.

Patented Dec. 6, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

CLARENCE J. SIMERAL, OF MACLEAY, OREGON.

GATE.

SPECIFICATION forming part of Letters Patent No. 487,336, dated December 6, 1892.

Application filed April 21, 1892. Serial No. 430,118. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE J. SIMERAL, a citizen of the United States, residing at Macleay, in the county of Marion and State of Oregon, have invented certain new and useful Improvements in Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to improve the devices for opening and closing gates by persons approaching or leaving the same, such devices including a hand-operated device situated beside the roadway at some distance on either side of the gate.

In the drawings, Figure 1 is a perspective view of a gate embodying my improvements in its closed position. Fig. 2 is an elevation of the same in its open position. Fig. 3 is a vertical section on the line 3 3 of Fig. 1, looking in the direction of the arrow. Fig. 4 is an elevation of the gate as I prefer to construct it.

The gate A may be of any usual or preferred construction; but, as it slides upon an overhead support, which is arranged at such height that vehicles may conveniently pass thereunder, I prefer to make it as shown in Fig. 4—that is, with the paneled portion *a*, which extends upward to about the height of the fence adjacent to the gate, and with the end pieces *a'*, which extend upward considerably above the paneled portion and carry the rollers or wheels *b*, which travel upon the supporting rail or track B. The uprights *a'* are connected by the top cross-piece *a²* and are braced by the cross-bars *a³*. In the other figures of the drawings the uprights *a'* are not shown as being extended to any considerable distance above the paneled portion of the gate. The supporting-rail B is arranged between and carried by the posts C C C', the posts C C being situated a distance apart equal to about twice the length of the gate, and the post C' being arranged midway between the posts C and somewhat out of line therewith, so that the gate and its operating devices can move freely past it. Upon the tops of the posts is supported a plate or cap-piece D, which serves to connect and brace the upper ends of the posts.

The supporting-rail is formed with two double inclines, the apex of each incline being situated midway between the posts C and C', while the lowest portions of the inclines are at the places where the supporting-rail is secured to the posts. As the uprights *a'* are situated at the ends of the gate, it will be seen that the rollers *b* occupy the lowermost positions upon the rail B when the gate is closed and again when it is entirely open, and it will be seen that the gate in moving from either one of these positions rises through the first portion of its course—that is, until the rollers *b* reach the apexes of the rail—after which the gate in its continued onward movement falls as the rollers travel along the downward inclines of the rail or track. From this it results that the gate will complete the latter portion of its movement in either direction by reason of the action of gravity and that it is impossible for the gate to stop in an intermediate position.

E is a lever pivoted to the plate or cap D over the roadway and near the post C'. The lower end of this lever is connected with the gate, preferably near its forward end, and by a chain F or other flexible connection.

G G are cords or other flexible or partly-flexible gate-operating devices secured to the gate between its ends, as at *g*, and extending thence over pulleys H H, carried by the upper end of the lever E, and pulleys H' H', carried by the arms of the posts I, which are situated at the side of the roadway at some distance on either side of the gate. The ends of the cords G depend and are provided with handles *g'*. I prefer to form the lever E with an angular extension E' at its upper end and to mount a cross-bar K upon such extension, the rollers or pulleys H being supported from the ends of the cross-bar or arm K. This construction of the lever E is preferred, because it gives the most advantageous location to the pulleys H.

E² is a brace secured to the lever E at one end and at the other end hung upon the pin or bolt which forms the fulcrum of the lever. It serves to hold the lever in proper position.

The cap or plate D is slotted or recessed, as indicated at L, for the purpose of permitting the movements of the lever E, to be hereinafter described.

M is a V-shaped guide upon one of the posts C, arranged to hold the forward end of the gate when the latter is closed.

N N are boards secured to the middle and rear posts just above the ground, and between which the lower portion of the gate moves. They serve to prevent a swaying or lateral motion of the gate.

When the gate is closed, the parts occupy the positions shown in Fig. 1, the upper end of the lever E being inclined to the right and the handles g' of the operating-cords being elevated. If now a person approach the gate and pull upon one of the handles g' , the result will be that the gate moves to the right, raising up the inclines of the rail B as it does so. As the upper portion of the lever E is heavier than its lower portion, this lever will remain in the inclined position to which it is swung until it is forcibly moved therefrom. It therefore follows that as the gate is being opened no movement is imparted to the lever E until after the gate has passed its mid-position and commenced to move down the inclined portions of the rail or track B. As the gate is completing the latter portion of its movement, the cord or chain F draws upon the lever and rocks it into the position shown in Fig. 2. This movement causes the handles g' , which had moved down as the gate is moving, to be drawn upward again and the parts of the opening device to assume such a position that a downward pull upon either handle g' will cause the gate to be closed.

In closing the gate the movements of the various parts are similar, but in the reverse direction to those just described in opening the gate. Upon pulling down upon the handles g' to close the gate the first movement is to slide the gate to its mid-position, which is done without changing the position of the lever E and its connected parts. These are not moved until the gate has completed half its movement and is upon the downward incline of the track or rail, when the flexible connection F between the gate and the lever will draw the lever E over from the position shown in Fig. 2 to that shown in Fig. 1.

There are several advantages which I claim to be incident to my invention and which I will now point out. It will be observed that both the operating-handles g' are raised or in position to be operated by a person upon either side of the gate, who may be going in either direction, and whether the gate be opened or closed, so that the gate can be operated under all circumstances by a simple downward pull on either of the handles. By making the track or rail B with the two double-inclined portions and connecting the gate with the lever E a complete movement of the lever E is insured, as the gate cannot stop in an intermediate position.

It will be evident that my invention is not

limited to the various details of construction shown and described, as various changes will suggest themselves to those skilled in the art in the embodiment of my invention without departing from its essential features. Thus the double-inclined track B could be arranged below instead of above the gate, as indicated in dotted lines in Fig. 2; also, the shape and construction of the lever E, which forms the shifting-support for the pulleys H, might be changed and this lever might have a rigid instead of a flexible connection with the gate, though I prefer the latter, as shown.

What I claim is—

1. The combination, with the gate, of the cord connected thereto and extending to the side of the gate, where it is provided with a handle, a pulley around which the cord passes, a vibrating support for the pulley, and a connection between the gate and the said pulley-support, whereby as the gate is moved in one direction the pulley is moved in the opposite direction, substantially as set forth.

2. The combination, with the gate, of the operating-cords G, the pulleys around which the cords pass, a lever mounted upon a stationary support situated at one side of the gate and supporting the pulleys H, and a connection between the gate and lever, whereby the latter is vibrated as the gate is opened and closed, substantially as set forth.

3. The combination, with the gate, of the operating-cords G, the pulleys around which the cords pass, the lever which carries the pulleys, and a flexible connection between the gate and the lever, substantially as set forth.

4. The combination, with the gate, of the operating-cords G, the lever E, connected with the gate and provided with the angular extension E' at its upper end, the cross-bar K, and the pulleys H, around which the cords pass, supported at the ends of the cross-bar K, substantially as set forth.

5. The combination, with the gate, of the double-inclined track upon which the gate moves in the direction of its length, the operating-cords, the pulleys H, around which the cords turn, and a lever mounted upon a stationary support at one side of the gate, connected with the gate, and carrying the said pulleys, substantially as set forth.

6. The combination, with the gate, of the double-inclined track B, upon which the gate slides, the operating-cords G, the pulleys H, around which the cords turn, the lever E, which supports the pulleys, and the flexible connection between the gate and the lever, substantially as set forth.

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

CLARENCE J. SIMERAL.

Witnesses:

EDGAR HARTLEY,
E. O. EOFF.