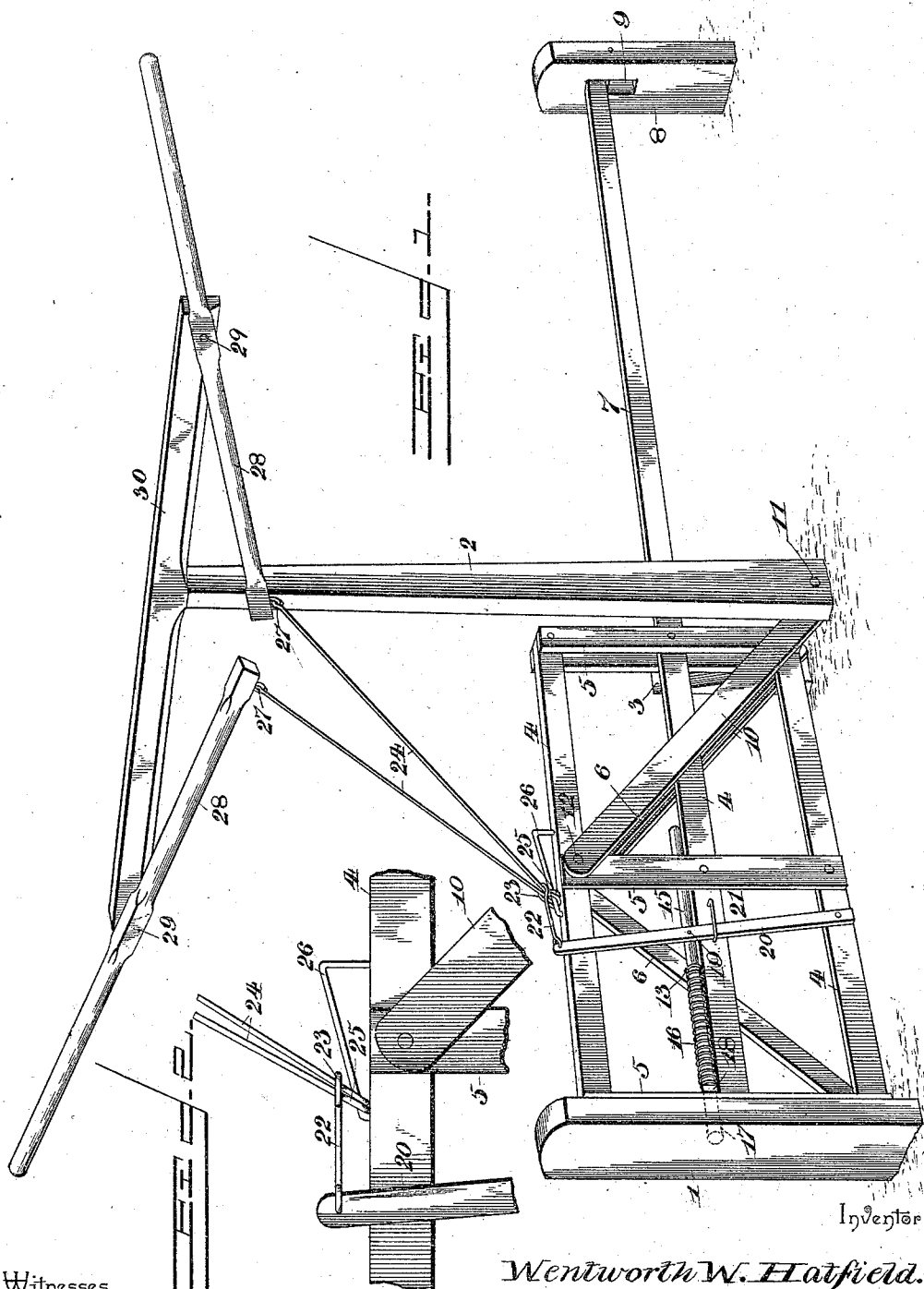


(No Model.)

W. W. HATFIELD.
GATE.

No. 555,808.

Patented Mar. 3, 1896.



Inventor

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By his Attorneys.

Witnesses

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GATE.

SPECIFICATION forming part of Letters Patent No. 555,808, dated March 3, 1896.

Application filed March 11, 1895. Serial No. 541,337. (No model.)

To all whom it may concern:

Be it known that I, WENTWORTH W. HATFIELD, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Illinois, have invented a new and useful Gate, of which the following is a specification.

This invention relates to an improvement in that class of gates wherein the gate is mounted so as to be capable of swinging longitudinally as distinguished from a sidewise movement, and the principal feature of the invention lies in certain hereinafter-specified improvements in the latch mechanism, this part of my gate being so constructed that it will be automatically operated concurrently with and in consequence of that operation which results in the swinging of the gate.

This improved mechanism, generally defined, consists of a vertically-extending lever connected with a horizontally-extending latch-bar, and having at its upper end a loop through which the lower ends of the operating-rods pass, the said rods being connected to the gate at their lower ends by an inclined or diagonally-extending rod.

This mechanism will now be described in detail and finally embodied in the claims.

In the drawings, Figure 1 represents in perspective a gate constructed after the manner of my invention. Fig. 2 is an enlarged side elevation of the latch mechanism.

The reference-numeral 1 indicates the head-post of the gate, or that post with which the latch is connected. 2 indicates a post or standard planted at the opposite end of the gate and extended upwardly for a distance equal to about twice the height of the post 1. This post or standard 2 is adapted to carry the operating-levers of the gate, as will be explained by subsequent description. Located adjacent to the post or standard 2, and alongside the same, is the short standard 3, which is formed with an outwardly-inclined or beveled inner side, and it is between this standard and the standard 2 that the gate is adapted to move.

The gate is constructed, preferably, of a wooden framework, and consists essentially of the horizontal slats 4, joined by the vertical beams 5 and having braces 6, which may be increased in number or entirely dispensed

with, as the exigencies of the occasion may require. The middle slat 4 is extended rearwardly to form the guide-rod 7, which is integral with the slat and which is extended rearwardly for a distance equal to about the length of the gate.

8 indicates a post provided with a slot 9 at its upper end. This slot is closed at each end and is adapted for the reception of the rod 7, said rod being slidably arranged therein. By these means the gate is guided in its longitudinal movement and prevented from moving sidewise.

10 indicates two supporting-rods, which are duplicates in construction and which have their lower ends respectively and pivotally connected to the standards 2 and 3 by means of the rod or spindle 11, which is passed horizontally from one standard to the other, the supporting-rods 10 being located between said standards. The length of the rods 10 is such that they will be capable of reaching the middle upper portion of the gate when it is in a closed position; and it is to this part of the gate that the said rods are pivotally connected by means of the spindle 12, which is passed through the rods and through the gate. The rods 10 are arranged one on either side of the gate and so that the gate will be capable of swinging between them. Thus it will be seen that the gate may swing on the supporting-rods 10 without any of the parts binding against each other, all of which will be fully described hereinafter.

Movable longitudinally and horizontally in an eye 13 and upon the middle slat 4 is the latch-bar 15, which is provided with a retractile spring 16, whereby it is given a tendency to project into the opening 17 of the head-post 1, its movements in such direction being limited by the projections 18 formed on the latch-bar. Pivotally connected to the latch-bar 15, by means of the pin 19, is the vertically-extending lever 20, which extends the entire width of the gate and which is fulcrumed thereto at its lower end, its movements being limited by the guide 21 fixed to the middle slat of the series 4. The upper and free end of the lever 20 is provided with a wire or rod 22, which is pivotally connected thereto and which has one of its ends extended rearwardly and formed with a loop or eye 23.

Through this eye or loop the operating-rods 24 pass at their lower ends, such lower ends being formed with eyes 25 therein, which receive the bar 26. This bar 26 is the diagonal or inclined bar of prior mention, and is secured to the upper middle portion of the gate by bending its ends downwardly and passing them thereinto, leaving the middle portion of the bar above the gate and inclined upwardly and rearwardly from its front side.

The operating-rods 24 are passed upwardly and rearwardly to the vicinity of the upper end of the standard 2, where they are provided with eyes 27, by which a pivotal connection is effected with the respective operating-levers 28. These levers are two in number, one for each of the rods 24, and are fulcrumed to the respective outer ends of the cross-bar 30 by means of the spindles 29. The arrangement of the levers 28 is such that their outer ends will project beyond the cross-bar 30 and in a position which will make it possible for them to be readily grasped by a person desiring to operate the gate. Thus it will be seen that by drawing down on the outer ends of the levers 28 the rods 24 will be moved along the inclined portion of the bar 26, drawing with them the lever 20. This will move the latch-bar 15 rearwardly and cause it to become disengaged from the opening 17 of the head-post. When this operation takes place the eyes 25 will have reached the rear extremity of the inclined bar 26, whereupon the actual swinging of the gate will commence. This operation consists of an endwise and arc-shaped movement continuing until the rear end of the gate engages the beam 8, and until the guide-rod 7 has passed completely through the slot 9 thereof. The gate is now open, so as to permit the passage of such persons as may desire to go through it.

The gate is operated to open and close by swinging the outer portion of either one of the operating-levers downward, and this will cause the gate to slide, its momentum will carry it past the center, and gravity will complete the operation. The inclined bar 26 also assists in attaining this end, since it allows the operating-rods 24 a slight longitudinal movement on the gate, or rather effects a sliding connection therewith, which permits the rods to slide past the center of gravity should it still be retained after the first movement of the operating-lever.

When a person has opened the gate and

passed through the same, the lever on the opposite side thereof will permit him to close the gate again, and this closing operation will be a mere reversal of the opening operation. In practice it will be desirable in some cases to furnish the operating-levers 28 with counterbalancing-weights designed to balance the gate and make the operation thereof easier. In this case the weights should be made of less gravity than that of the gate, thus insuring the falling of the gate into a closed or opened position, as the conditions of its operation may necessitate.

Having described the invention, I claim—

1. In a longitudinally-swinging gate, the combination of a suitably-supported operating-lever, a gate proper, a bar having its ends bent downward and passed into the upper edge of the gate and having its middle portion extending longitudinally of and arranged above the gate, a latch mounted on the gate, an operating-rod connected with said lever, and having its lower end slidingly connected with the said bar and also connected with the latch and adapted to operate the same, and a supporting-rod pivotally mounted off the gate proper, and similarly connected to the gate, substantially as described.

2. In a longitudinally-swinging gate, the combination of a suitably-supported operating-lever, an operating-rod pivotally connected thereto, a gate proper, a bar having its ends bent downwardly and passed into the gate and having its middle portion located above the upper side thereof, to which middle portion of the bar the lower end of the operating-rod is slidingly connected, a vertically-extending lever fulcrumed to the gate proper and at its lower end and provided with a loop or eye connected to the lower end of the operating-rod, a spring-pressed latch-bar located horizontally on the gate proper and connected to the vertical lever, and a supporting rod or rods pivotally mounted off the gate proper and similarly connected to the gate, substantially as described.

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

WENTWORTH W. HATFIELD.

Witnesses:

G. W. MCNEESE,

his
GEORGE X M. GRIPP.
mark