No. 616,054. Patented Dec. 13, 1898.

# W. CROSS.

## GATE.

(Application filed Sept. 14, 1898.)

(No Model.)

Fig. 1.

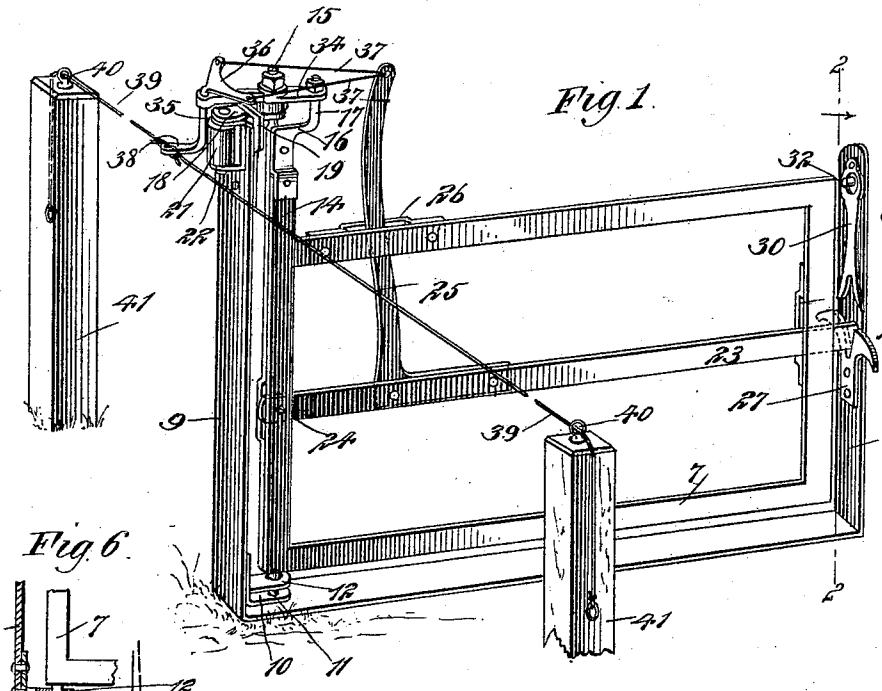


Fig. 2.

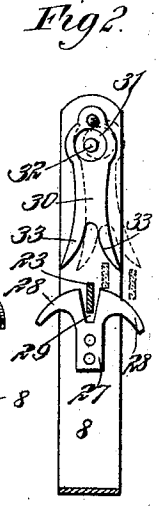


Fig. 6.

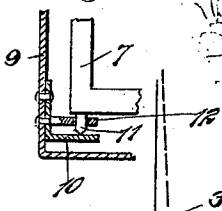


Fig. 3.

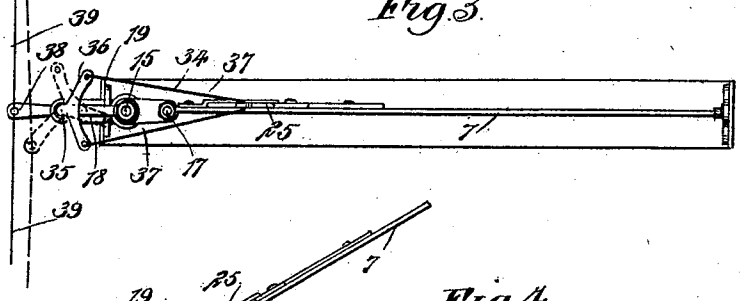


Fig. 4.

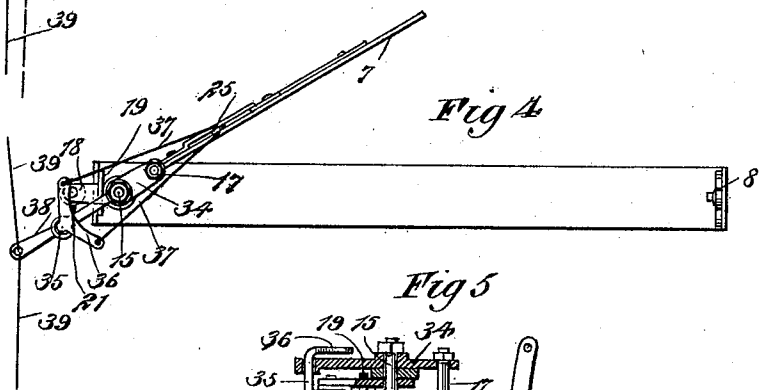
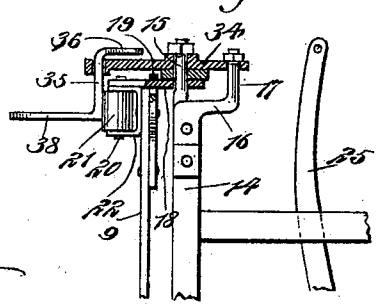


Fig. 5.



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# UNITED STATES PATENT OFFICE.

WASHINGTON CROSS, OF ROSELAND, LOUISIANA.

## GATE.

SPECIFICATION forming part of Letters Patent No. 616,054, dated December 13, 1898.

Application filed September 14, 1898. Serial No. 690,938. (No model.)

*To all whom it may concern:*

Be it known that I, WASHINGTON CROSS, of Roseland, in the parish of Tangipahoa and State of Louisiana, have invented a new and Improved Gate, of which the following is a full, clear, and exact description.

This invention relates to a gate of that class mounted to swing on a vertical axis and provided with latch mechanism and with devices by which to operate the latch mechanism and immediately thereafter swing the gate.

This specification is the disclosure of one form of my invention, while the claims define the actual scope of the invention.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the invention. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a plan view of the invention, showing the gate closed. Fig. 4 is a plan view showing the gate partly open, a portion of the gate being broken away. Fig. 5 is an enlarged sectional elevation showing the upper hinge of the gate and parts adjacent thereto, and Fig. 6 is an enlarged sectional elevation showing the lower hinge or bearing of the gate.

The gate 7 is mounted between two posts 8 and 9, the gate being hinged to the post 9 and having latch mechanism to hold it at the post 8. At the lower end of the post 9 is secured a horizontal bracket 10, on which bears the pin 11 at the lower inner corner of the gate, such pin forming the bearing or hinge at the said corner. Projecting from the post 9 and above the bracket 10 is a second bracket 12, through which the pin 11 passes and in which the pin is held to turn. These devices mount the gate to swing with little friction. The upper inner corner of the gate is provided with an extenson 14, terminating in a spindle 15 and having rigidly attached thereto a bracket 16, which in turn terminates in a spindle 17, the spindles 15 and 17 being arranged approximately in the same horizontal plane, and the spindle 15 being mounted loosely in an arm 18, which is embraced by a yoke 19, attached rigidly to the upper end of the post 9, such yoke permitting the arm 18 to swing horizontally within the yoke, the arm being pivoted on the spindle 20 of an antifriction-roller 21, such spindle 20 being in turn held by a U-shaped bracket 22, bolted to the post 9 and on the rear face thereof. It will thus be seen that the gate is mounted on a step-pin at its lower corner and in a swinging arm at its upper corner. The purpose of this arrangement is to permit the gate to cant when out of line with the posts 8 and 9, thus causing the gate to swing open of its own weight and without being pushed by the operator.

The latch 23 of the gate is pivoted at the point 24 and has a perpendicular operating-arm 25, rigidly attached thereto and which extends outwardly at its upper end and is guided midway of its extremities by a plate 26. The front end of the latch 23 extends beyond the free end of the gate and coacts with a keeper 27, which comprises inclined approaches 28, between which is situated the notch 29 for the latch. Pivoted to the upper portion of the post 8 and hanging pendent and in proximity to the keeper 27 is a controlling-arm 30, which has at its upper portion a round orifice 31, through which projects a pin 32, rigid on the post 8, and by which the movement of the controlling-arm is limited. The lower end of the arm 30 is forked, the members 33 of the fork being diverged outwardly. As the gate swings to closed position the latch 23, moving in the plane indicated by the dotted lines in Fig. 2, strikes against one of the members 33 of the fork of the arm 30 and the movement of the gate is stopped, so that the latch 23 simply drops into the notch 29, and the gate is thus made secure. When the latch 23 is elevated in the act of opening the gate, the latch pushes the arm 30 to the position shown by dotted lines in Fig. 2, and thus the latch may be withdrawn. It will therefore be seen that the controlling-arm 30 serves in the act of closing the gate to insure the engagement of the latch 23 with the keeper 27 and to prevent the gate from swinging past the keeper, and in the act of opening the gate the arm 30 permits the latch to be raised and moved laterally to disengage the keeper 27.

For the purpose of operating the gate I provide an operating-lever 34, which is ful-

crumed on the spindle 15 and which has one end loosely engaged with the spindle 17. The other end of the lever 34 projects directly beyond the roller 21 and carries loosely the spindle portion 35 of a bell-crank lever 36. To the arms of the bell-crank lever 36 cords 37 are respectively connected, such cords being led to the upper end of the latch-operating arm 25. The lower end of the spindle 35 is adapted to bear against the roller 21, which thus relieves the friction that would otherwise exist and causes the bell-crank lever to turn without jamming in its bearing in the operating-lever 34. The lower end of the spindle 35 is provided with a crank 38, whereto are attached oppositely-running cords 39. These cords are rove through fair leaders 40, mounted, respectively, on posts 41, which are disposed on opposite sides of the gate. These means serve to hold the cords 39 in position to be readily grasped by persons approaching or receding from the gate, so that the gate may be opened and closed with entire convenience.

A person approaching the gate and desiring to open the same should draw on the adjacent cord 39, which will turn the spindle 35 of the bell-crank lever 36, causing said bell-crank lever to turn and first draw back the operating-arm 25 of the latch 23. The latch having thus been released, permits the gate to be swung on its bearings, which movement is effected owing to the turning of the bell-crank lever 36 and the lateral action of the cords 39 against the gate. The instant that the gate is moved out of line with the posts 8 and 9 the gate will cant in the direction in which it is to be opened, which canting is permitted by the swinging arm 18. When the gate is canted, it swings into open position by its own gravity. The gate is closed by drawing upon the opposite cord 39, which returns the bell-crank lever 36 to its normal position, (see the full lines in Fig. 3,) and consequently throws the gate back into closed position.

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

1. The combination with a gate proper, of a step-bearing for the bottom thereof, a spindle attached to the top of the gate, a swinging arm in which the spindle is loosely mounted, a yoke serving to limit the movement of the swinging arm, an operating-lever fulcrumed on the spindle that is mounted in the swinging arm and having one end in connection with the gate, and means in connection with the other end of the operating-lever to throw the same.

2. The combination with a gate proper, of a spindle attached thereto, bearings in which the spindle is mounted to turn, an operating-lever fulcrumed on the spindle and having connection at one end with the gate, a bell-crank lever mounted in the other end of the lever, a latch for the gate, connections between the bell-crank lever and the latch, and an antifriction-roller having stationary bearings and engaged by the spindle of the bell-crank lever.

3. The combination with a gate-post and gate proper, of a bracket attached to the post, a spindle held in the bracket, an antifriction-roller mounted on the spindle, a swinging arm also mounted on the spindle, a yoke attached to the post and serving to limit the movement of the swinging arm, a spindle attached to the gate and mounted in the free end of the swinging arm, a lever fulcrumed on the latter spindle and having at one end connection with the gate, a latch for the gate, a bell-crank lever having a spindle mounted in the outer end of the operating-lever, and connections between the bell-crank and the latch, the spindle of the bell-crank bearing against the antifriction-roller.

4. The combination with a gate-post and gate proper, of an antifriction-roller mounted on the gate-post, an operating-lever having connection with the gate, and a bell-crank mounted in one end of the operating-lever and also having connection with the gate, the bell-crank having a spindle bearing against the antifriction-roller.

5. The combination of a gate-post, an arm mounted to swing thereon, means for limiting the movement of the arm, a gate having a spindle mounted in the free portion of the arm, and an operating-lever mounted on the spindle and having connection with the gate.

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Witnesses:
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E. B. DEES.