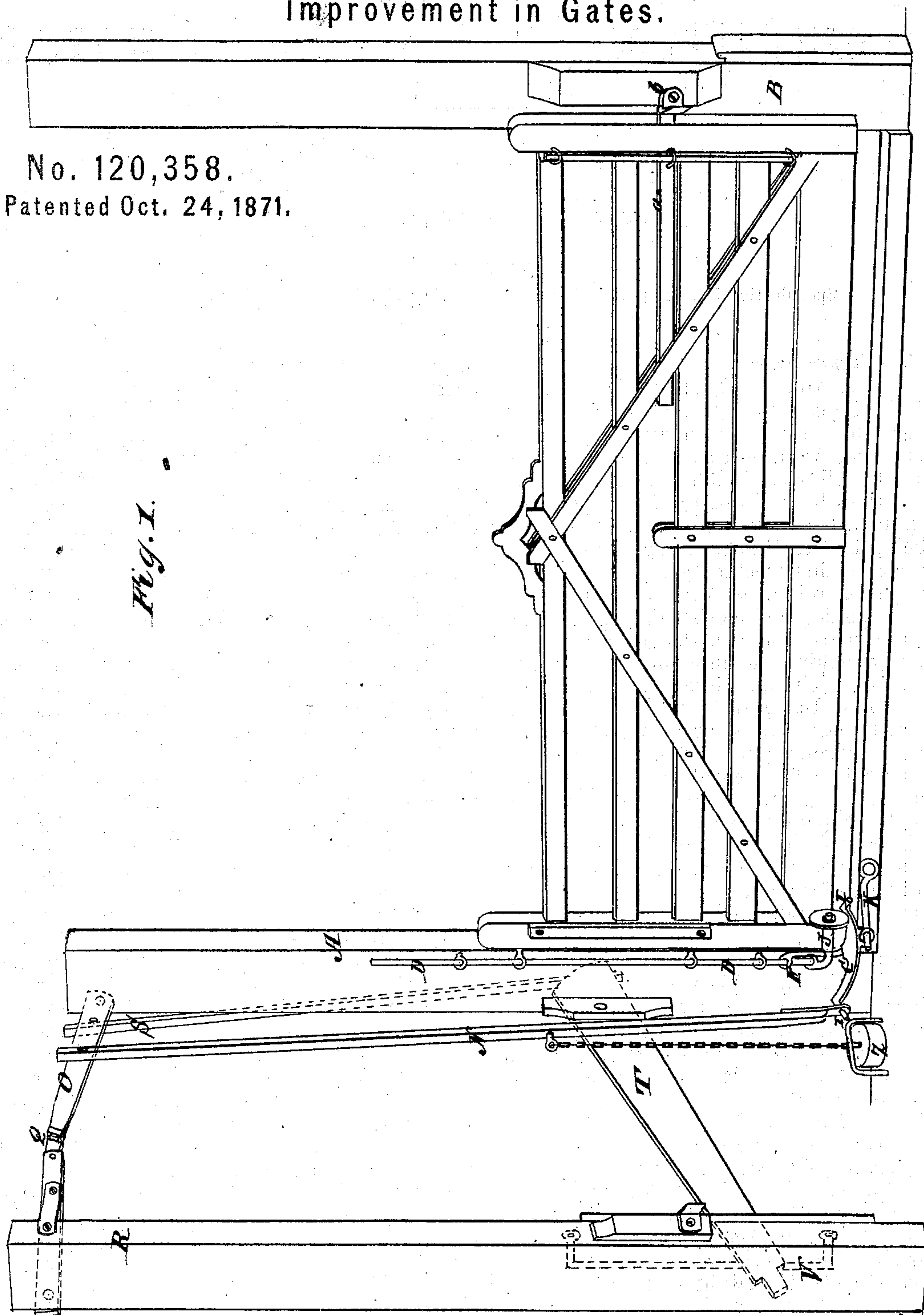


R. J. WOOD.  
Improvement in Gates.

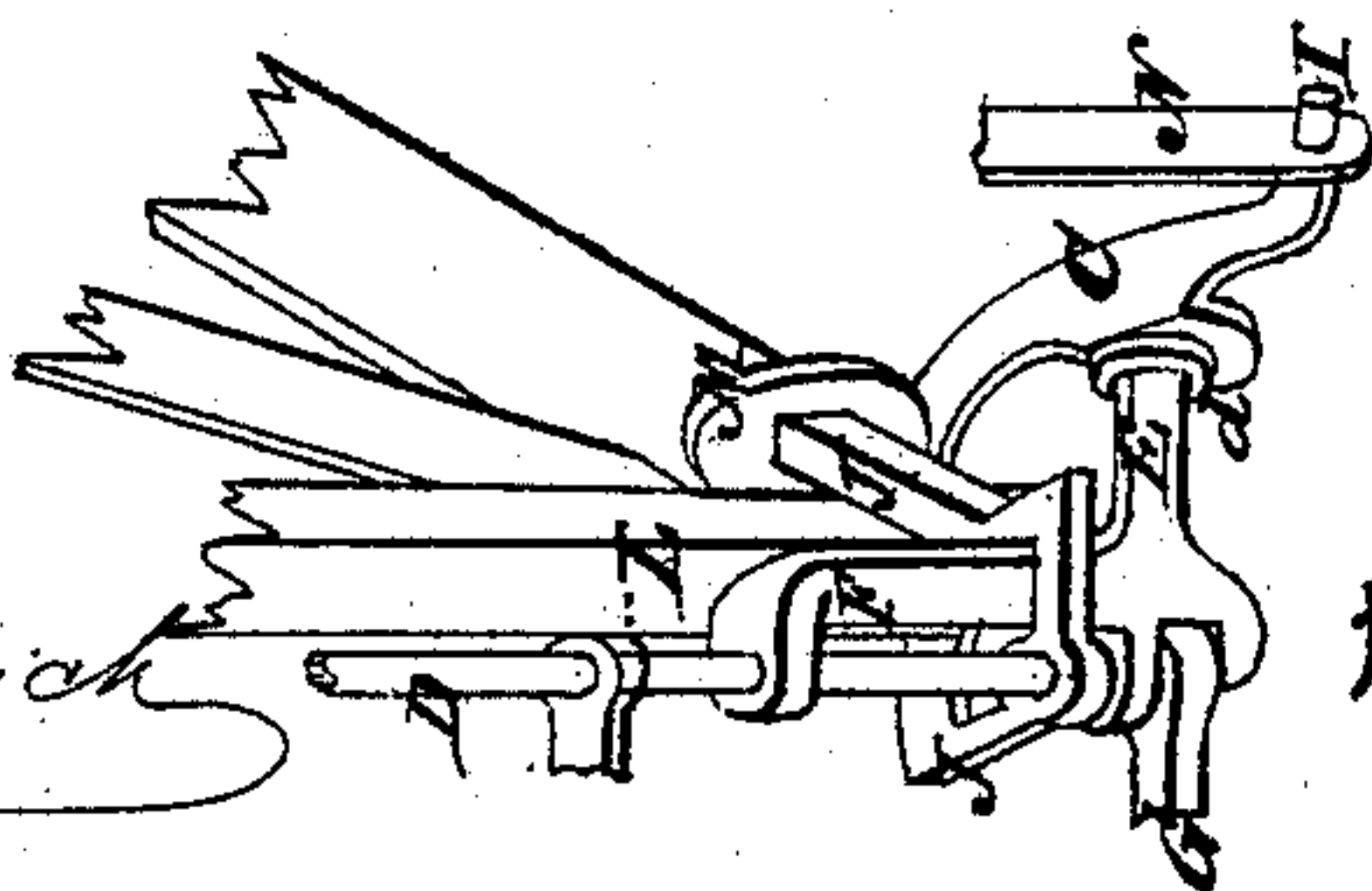
No. 120,358.  
Patented Oct. 24, 1871.

Fig. 1.



Witnesses:

E. Wolff.  
Gustave Dietrich



Inventor:

R. J. Wood.  
PER *Munn & Co.*  
Attorneys.



# UNITED STATES PATENT OFFICE.

ROBERT J. WOOD, OF HANCOCK, MICHIGAN.

## IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. 120,358, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, ROBERT J. WOOD, of Hancock, in the county of Houghton and State of Michigan, have invented a new and Improved Gate-Actuating Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to improvements in apparatus for opening and closing gates, to be set in motion by persons in a carriage or on horseback on approaching the gate to pass through; and it consists in circular plate or track mounted on a pivot under the gate for tilting, for lifting the gate when either closed or open, and causing it to swing by rolling down the said track, on which it rests by a friction-roller, and apparatus for tilting said plate, all as hereinafter described.

Figure 1 is a perspective view of a gate having my improved apparatus applied to it, and Fig. 2 is a perspective view of some of the apparatus and part of the gate.

Similar letters of reference indicate corresponding parts.

A represents the post to which the gate is hinged, and B the one with which the swinging end catches. C is a curved plate of metal, representing about a quarter circle, struck from the axis, whereon the gate swings—say the rod D, which represents the pintle of the hinges. This plate C is pivoted at the center on the end of a prong, E, of a bracket, F, supported by the rod D and the head of a strong screw-bolt, G, screwed into the post to hold rod D and form one part of the lower hinge. This prong E forms an angle of forty-five degrees with the gate, both when open and shut, and it preferably projects downward slightly from a horizontal line. It is fitted on the rod D so that it might swing, but is held by a brace, K. The plate C has a stud, I projecting radially from each end at the periphery. The part J of the hinge projects beyond the vertical bar L of the gate, to which it is attached, and a roller or wheel, M, on an axle, in which it terminates, which is adapted to keep the wheel on the plate C when the latter is tilted up against it, for which it is connected at one end with a vertical bar, N, rising up to a lever, O, pivoted to the gate-post A near the top, and projecting

beyond it, to connect with another at Q, supported on the post R, for supporting it. The lever O is connected by a bar, S, with the short arm of a lever, T, pivoted on post A, and extending to post R, where it is provided with a guide, V, to control it while swinging up and down to actuate the gate. This lever will have cords attached to it, and arranged on suitable guides to be suspended on each side of the gate, where they can be reached conveniently by the person approaching the gate to open and close it without dismounting from the carriage or horse. When the long arm of this lever is raised, the end of the plate C under the gate when closed will be forced up by it, and will lift the gate high enough to raise the catch *a* out of the catch *b*, at the same time receiving the weight of the gate on its face, which, being so tilted, descends, so that the gate will instantly begin to swing open by the tendency of the wheel M to roll down the incline. The movement of the free end of the lever T in the downward direction will tilt the plate C back again, raising the end which is under the open gate together with the gate, which will then swing shut in the same manner. A weight, Z, is suspended from the bar N by a chain, for holding the bar C up snugly against the gate or wheel M, when shut, ready for opening. The prong E is arranged to have the bar C shifted on it toward or from the axis of the bracket, as may be required for different gates, and rings or washers *d* are placed on it for shifting from one side to the other of the bar C. The latter is provided with a stud-pin, I, at each end, for connecting the bar N, when used for a right-and-left hand hinge, and the bracket E F; also the parts J G of the hinge, are all arranged to be used for either right or left-hand action, the adaptation of the part J of the hinge, both for attachment to the gate-bar, and for the application of the wheel M, simplifying the construction; and it cheapens the cost considerably over an arrangement by which a separate attachment for the wheel must be provided. The part J of the hinge being made wide near the eye for the pintle, and provided with a hole for the vertical part of the bracket F, admits of the latter rising above the part G, whereby the hinge is placed much lower down than could be the case if the said part F were carried downward; moreover, the pintle-rod D affords greater support for it above the part G

than it would if extended below and receiving the bracket at its end, which would be unsupported. The latch *a* is arranged to slide endwise, for disengaging from the catch when the gate is to be opened by hand.

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

1. The tilting-plate C, provided with connecting-stud I, for actuating bar N, at each end, substantially as specified.

2. The prongs E and the tilting-plate, arranged for shifting the latter toward or from the axis of the hinges, substantially as specified.

3. The part J of the hinge, arranged for the attachment of the roller M, substantially as specified.

4. The arrangement of the part J of the hinge and the part F of the bracket, whereby the latter is extended above said part of the hinge for being supported on the end D, all substantially as specified.

ROBERT J. WOOD.

Witnesses:

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(52)