N. J. McADAMS.

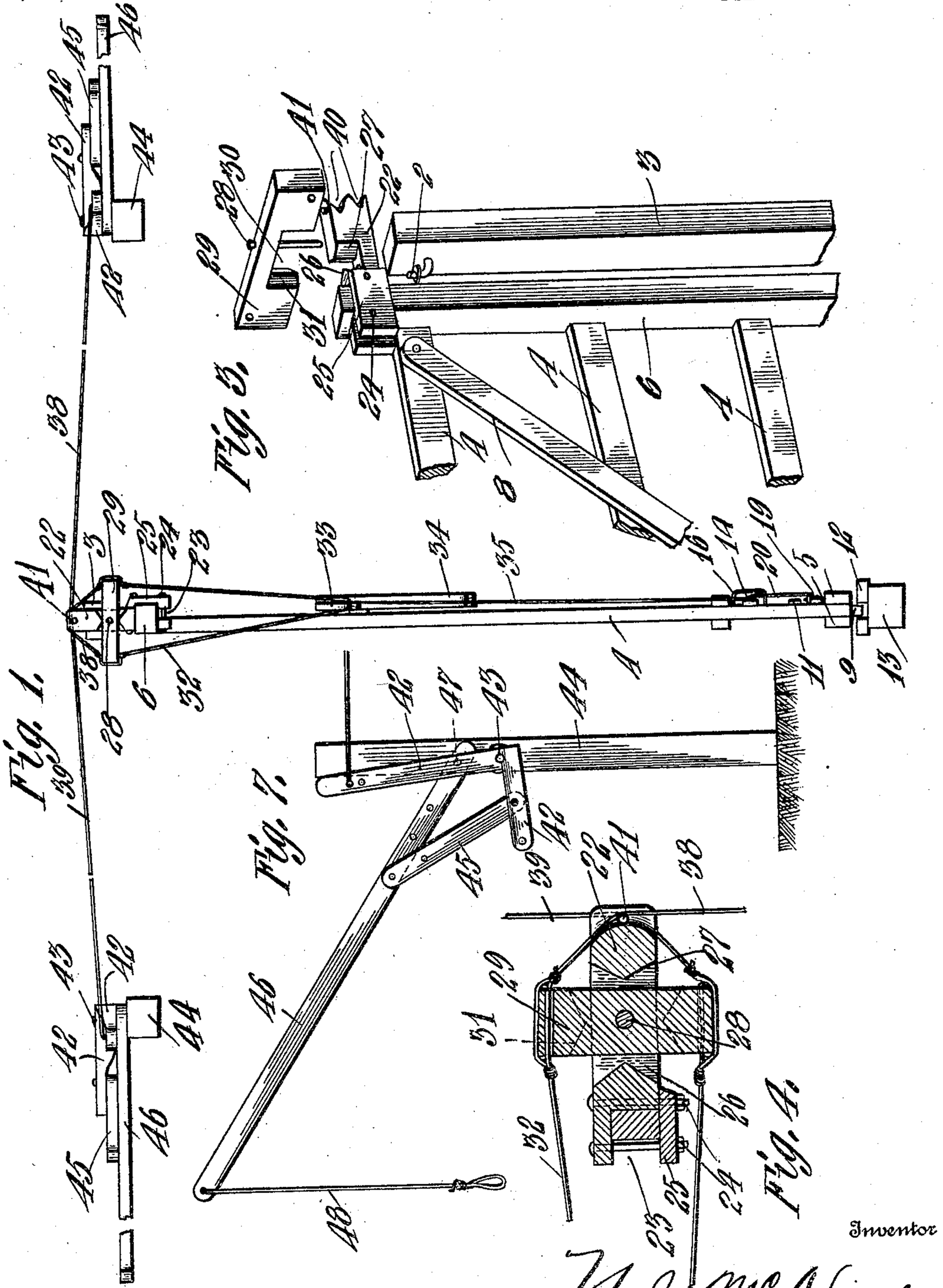
GATE.

APPLICATION FILED MAR. 19, 1909.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

929,462.



Witnesses

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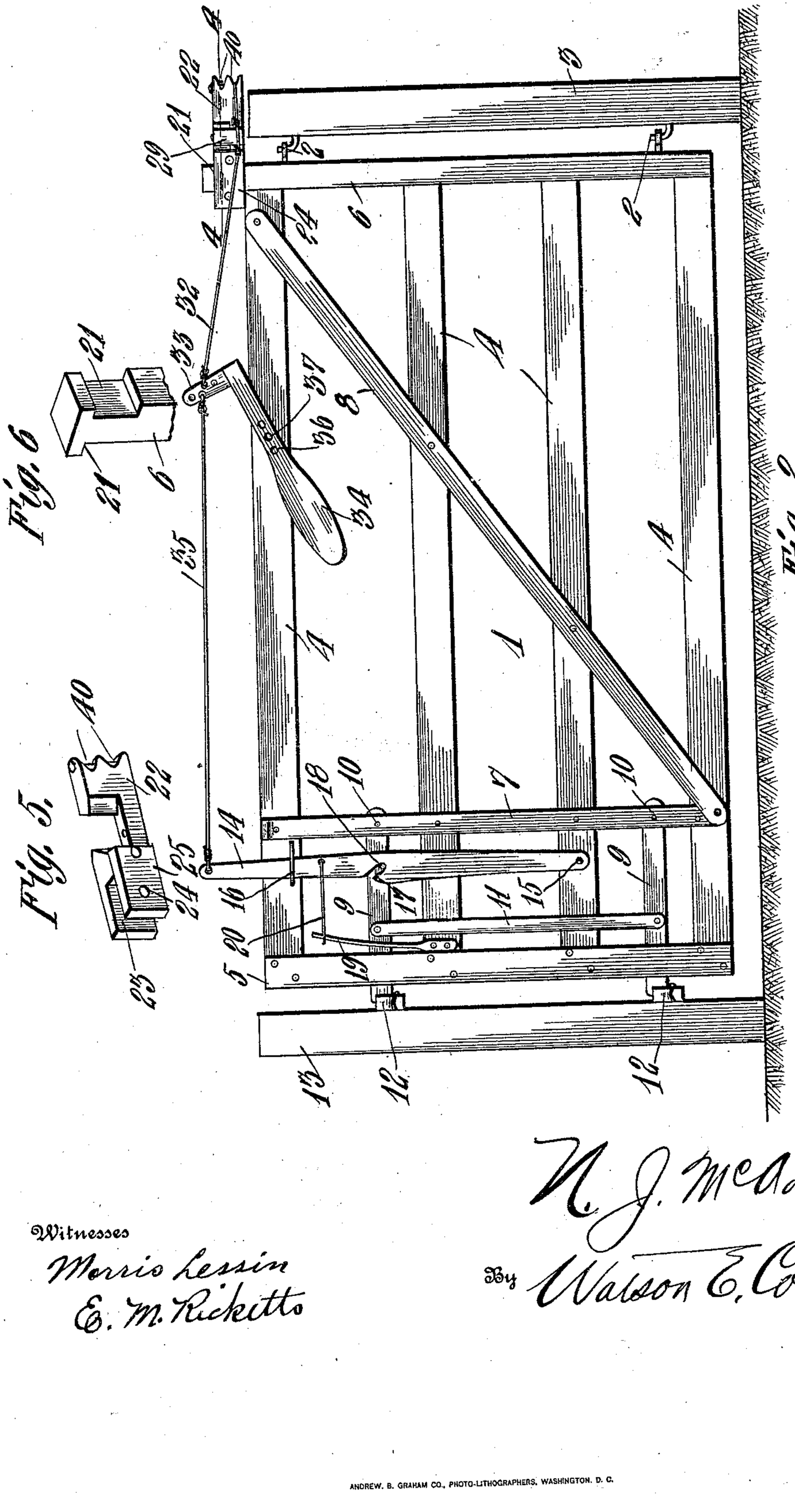

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UNITED STATES PATENT OFFICE.

NATHANIEL JOSEPH McADAMS, OF SMYRNA, TENNESSEE, ASSIGNOR OF ONE-HALF TO ROBERT E. OAKLEY, OF SMYRNA, TENNESSEE.

GATE.

No. 929,462. Specification of Letters Patent. Patented July 27, 1909.

Application filed March 19, 1909. Serial No. 484,555.

To all whom it may concern:

Be it known that I, NATHANIEL JOSEPH McADAMS, a citizen of the United States, residing at Smyrna, in the county of Rutherford and State of Tennessee, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in gates and opening devices therefor.

The object of my invention is to provide a simple and practical gate for farm purposes which may be readily opened by any one in a vehicle or on horse back approaching the gate from either side.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the improved gate and opening means therefor; Fig. 2 is a side elevation of the gate; Fig. 3 is a detail perspective of the hinged end of the gate showing parts of the operating or opening device separated; Fig. 4 is a detail horizontal section taken on the plane indicated by the line 4—4 in Fig. 2; Fig. 5 is a detail perspective of the arm which is secured to the inner upright of the body of the gate; Fig. 6 is a similar view of the upper end of said upright of the gate; and Fig. 7 is a detail view showing one of the two levers arranged on opposite sides of the gate for drawing upon the operating wires or cables.

In the drawings 1 denotes the body of the gate which may be of ordinary or any preferred form and construction and which is hinged, as shown at 2, to a hinge post 3. As illustrated in Fig. 2, the gate body 1 is composed of a plurality of spaced longitudinal bars 4 united by outer and inner uprights 5, 6 and also by an upright 7 arranged adjacent to the outer one and by a diagonal connecting brace 8.

The uprights 5, 7 consist of spaced bars between which swing upper and lower latch levers 9 which are pivoted at their inner ends, as shown at 10 in the upright 7. The two latches 9 are connected by a vertically disposed pivoted link 11 and their projecting outer ends are adapted to engage keepers 12 provided upon a latch post 13. Said keepers 12 are of ordinary form and consist of blocks secured transversely on the post 13 and having their upper edges formed with centrally arranged recesses and downwardly inclined beveled ends, as will be understood upon reference to Figs. 1 and 2 of the drawings. The latches 9 are adapted to be operated by a lifting lever 14 pivoted at its lower end at 15 to one of the longitudinal bars 4 of the gate and having its upper end arranged to swing in a U-shaped guide 16. The intermediate portion of said lever is formed with an inverted V-shaped cam portion 17 with which co-acts a pin 18 projecting from the intermediate portion of the upper latch 9. A leaf spring 19 secured at one end to the gate has its free end connected by a link 20 to the lever 14, whereby the latter is actuated normally in an outward direction to cause the pin 18 to engage the lower portion of the inner side of the cam 17. It will be seen upon reference to Fig. 2 that when the upper end of the lever 14 is swung inwardly the cam 17 will cause the pin to ride up and over it and thereby cause the latches 9 to be elevated out of engagement with their keepers 12, and that when said lever 14 is released the spring 19 will move it in the opposite direction and the pin 18 will be caused to move in the reverse direction over said cam 17.

The upper end of the inner upright 6 of the body of the gate is recessed or shouldered, as shown at 21, to receive an inwardly projecting arm 22. Said arm has a recessed end 23 which engages one of the recessed sides of the upright 6 and to which is secured, by bolts or the like 24, a clamping block or strip 25, which latter engages the other recessed side 21 of the upright 6, whereby said arm 22 is rigidly secured to the body of the gate so that it projects from the inner end of the gate and over and beyond the hinges 2 thereof. Formed in the intermediate portion of the upper edge of the arm 22 is a transverse recess 26 the opposite vertical walls of which have outwardly inclined or beveled portions 27, as shown more clearly in Fig. 4. Pivoted in the recess 26 on a vertical pivot pin 28 is an oscillatory or rock lever 29. The latter is in the form of a rectangular block or bar having in its bottom edge a centrally arranged recess 30, whereby it straddles and interlocks with the

arm 22 when pivoted in the recess 26 of said lever; and the vertical walls of the recess 30 are beveled or inclined outwardly in opposite directions, as shown at 31. The beveled or inclined portions 27, 31 of the recesses in the arm and lever provide stops for limiting the swinging movement of the lever in either direction from its normal position which is at right angles to the longitudinal axis of the arm 22. The outer ends of the lever 29 are connected by wires or the like 32 to the short angular arm 33 of a weighted lever 34 pivoted intermediate its ends on the upper longitudinal bar 4 of the body of the gate. The lever 34 has its arm 33 connected by a wire or the like 35 to the upper end of the latch lifting lever 14 and the connection between the wires 32, 35 and the end 33 of the lever is preferably made adjustable by forming in said end series of openings with which the wire may be engaged, as shown in Fig. 2. Said lever is also preferably adjustable by forming in it a longitudinal series of openings 36 any one of which may receive its pivot pin 37. Also secured to the ends of the lever 29 are two wires, cables or the like 38, 39 which extend in opposite directions across the outer end of the arm 22 and through upper and lower guide notches 40 formed in said end of the arm. When the arm 22 is made of wood, a metal rod or bolt 41 is passed vertically through it so as to intersect the bottom portions of the recesses or notches 40 and provide a bearing for the wires 38, 39, as shown more clearly in Fig. 4 of the drawings. The operating wires 38, 39 extend a suitable distance from the gate on opposite sides of the same and are adjustably connected to the long arms of bell cranks 42 which are pivoted at their angles, as shown at 43 in Fig. 7, on upright posts 44. The short arms of the bell cranks 42 are adjustably connected to links 45, which latter are in turn adjustably connected to the intermediate portions of operating levers 46 fulcrumed at 47 upon the posts 44. Depending from the outer ends of the levers 46 are wires, cables or the like 48 which hang within reach of a person upon the ground, or on horse back, or in a vehicle.

In operation, assuming the gate to be in a closed position shown in Figs. 1 and 2 of the drawings, when a person approaches the gate from either side, he can, without leaving the horse on which he may be mounted or the vehicle in which he may be riding, pull the cord 48 on the adjacent lever 46, whereupon the latter causes the link 45 to rock the bell crank 42 and draw upon the attached wire 38 or 39 as the case may be. When either one of these wires is drawn upon, it will rock the lever 29 as far as the latter can swing in one direction, whereupon one of the wires 32 will pull the weighted lever 38 and the latter will cause the wire 35 to pull the latch lifting lever 14 inwardly, whereupon, the latches 9 will be lifted out of engagement with their keepers 12. The continued pull on the wire 38 or 39 will cause the body of the gate after being unlatched, to swing to an open position away from the partly operating the gate. When the gate swings open, the operating lever 46 on the other side of the gate is raised to a position higher than its normal one shown in Fig. 7 so that the party after passing through the gate may close the same by pulling downwardly upon the pull cord or wire attached to such lever. It will thus be seen that the gate may be readily opened by a person approaching the same from either side without such person dismounting from the horse or vehicle on which he may be mounted and that the gate will always swing away from the approaching party and can be easily closed in a similar manner after the party has passed through the gate.

From the foregoing it will be seen that the invention provides an exceedingly simple and practical gate and operating means therefor; that all parts of it, with the exception of the wires and bolt, may be made from wood at a comparatively small cost; that it will be strong and durable in use; and that it will be reliable and effective in operation.

Having thus described the invention what is claimed is:

1. The combination of a gate hinged for horizontal swinging movement, an arm projecting from the hinged end of the gate and having a recess with inclined walls forming stops, the outer end of said arm being formed with guide notches, a transverse lever pivoted intermediate its ends in the recess of said arm, said lever being recessed to interlock with the arm and having the walls of its recess provided with inclined stop portions, a latch device for the gate, operative connections extending from the ends of the lever to the latch device and flexible operating connections extending from the ends of the lever in opposite directions through the guide notches in the outer end of the arm.

2. The combination of a gate, bell cranks pivoted at their angles at points distant from the gate and on opposite sides of the same, operating connections between said bell cranks and the gate, operating levers fulcrumed at their ends, links connecting the intermediate portions of said levers to said bell cranks and pull cords depending from said operating levers.

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

NATHANIEL JOSEPH McADAMS.

Witnesses:
R. E. OAKLEY,
B. F. SULLIVAN.