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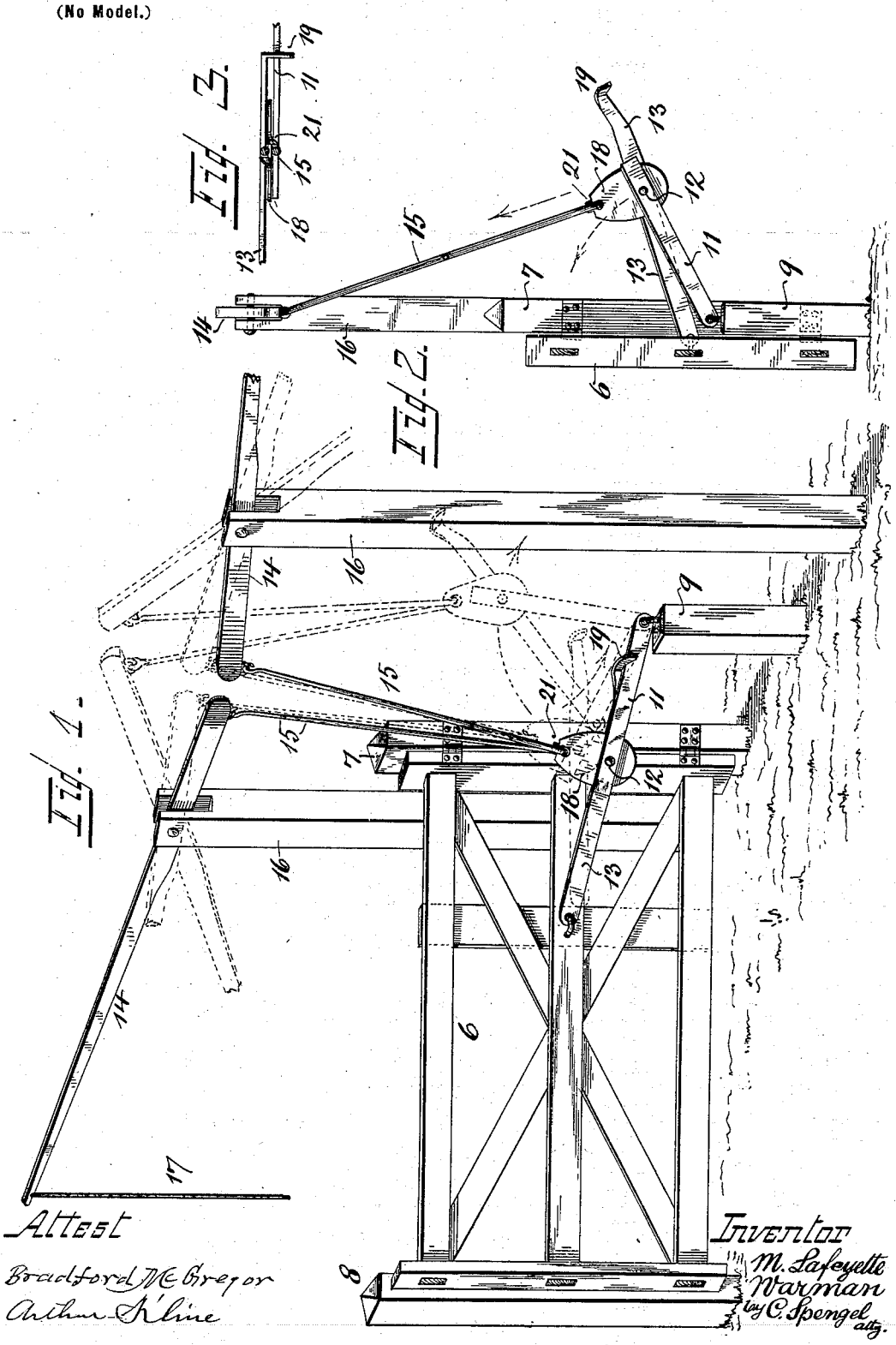
M. L. WARMAN.

GATE OPERATING MECHANISM.

(Application filed Jan. 5, 1900.)

(No Model.)



Attest

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UNITED STATES PATENT OFFICE.

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GATE-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 649,971, dated May 22, 1900.

Application filed January 5, 1900. Serial No. 437. (No model.)

To all whom it may concern:

Be it known that I, MARCUS LAFEYETTE WARMAN, a citizen of the United States, and a resident of Bethel, Clermont county, State of Ohio, have invented a certain new and useful Gate-Operating Mechanism; and I do declare that the following is a description thereof sufficiently clear, full, and exact to enable others skilled in the art to which it appertains to make and use the same, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form also a part of this specification.

This invention relates to improvements in mechanism for operating swinging gates, particularly such of larger size used to close driveways, and it relates more particularly to gates which are operated some distance in advance, so that while approaching on horseback or in a vehicle the gate may be opened and closed from either side without dismounting.

The invention consists of certain mechanism and details of construction for the purpose of operating a swinging gate in the manner referred to, all as hereinafter set forth, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a gate provided with a mechanism for the purpose of operating it and constructed in the manner as contemplated by my invention. Fig. 2 is an edge view of the gate when open, showing also operating means in corresponding position; and Fig. 3 is a detail view.

In the drawings, 6 indicates a gate of customary construction hinged to a post 7 and abutting when closed against another post 8. Beside the driveway, some distance from the gate and about in line with post 7, there is a low post 9, to the top of which a link 11 is pivotally connected. The free end of this latter is jointed at 12 to the end of another link 13, connected also pivotally to one of the intermediate members of the gate in the manner and about at the point shown in the drawings. When the gate is closed, these two links assume a position which brings them in line with each other, which line is disposed at an acute angle to the former, and the position of the links and the connection of their ends are such that if they are raised at the point of their connection the straight line heretofore formed by them will be broken (see dotted lines in Fig. 1) and their outer or remote ends will approach each other, with the ultimate effect of opening the gate. For so raising these links I provide levers 14, connected thereto by rods 15 and supported on the upper ends of posts 16. These latter are about in line with posts 7 and 9 at equal distance from the location of pivot 12 and with levers 14 projecting in opposite direction, one at each side of the gate, so that this latter may be operated while coming from either direction. To facilitate this operation, the outer end of each lever may be provided with a pull rod or rope 17. Rods 15 do not connect directly to links 11 and 13, but first to an intermediate member 18, which interposed between the connected ends of the links holds them sufficiently apart to cause them to work freely and prevents interference of one with the other. At the same time the weight of this member assists the operation of the gate and the retention of it in either its closed or open position in a manner to be presently explained.

In the closed condition of the gate the links being in a straight line form a rigid brace which holds the gate firmly in its closed position, since a stress endwise against these links would be insufficient to collapse them for the purpose of permitting opening of the gate. The links are held in this locking position by their weight, assisted by the weight of member 18, and to prevent them from sinking below this position one of them, preferably link 13, is continued beyond the point of its connection to link 11 and shaped to form a heel 19, taking over the edge of link 11, whereby this result is accomplished. For opening the gate one of levers 14 is operated by a short jerky pull, which is continued only until the links are sufficiently raised to bring them at the point where they connect to each other to the highest position they may possibly attain, (see highest position in dotted lines in Fig. 1,) at which moment the lever is abruptly released, whereupon the swinging gate completes its movement by reason of its momentum, assisted by the weight of the links, which is increased by the additional weight of member 18 and heel 19 of extended link 13, all of which as soon as their combined weight has passed

the center of gravity drop in the other direction and to a position shown in Fig. 2, in which position the gate is now held by the combined weight of the same parts, as above described. The manipulation for closing the gate is the same. Another similar pull is exerted upon one of the levers sufficient only to raise the operating parts from the position shown in Fig. 2 to the highest one shown in dotted lines in Fig. 1, whereupon the momentum of the gate, together with the weight of the parts, carries the gate to its closing position, in which it is held by the position and weight of the parts.

The connection of rods 15 to member 18 is rigid, for which purpose I use the construction shown in Fig. 3, which consists of cutting or crimping member 18 at either side of rods 15 and bending portions of the material in opposite directions and in front of rods 15, as shown at 21.

Having described my invention, I claim as new—

In a mechanism to operate a gate, the combination of a gate-post 7, a low post 9 in line therewith, two links 11 and 13 hingedly connected to each other, link 13 being longer than link 11 and jointed with its free end to the gate, while the shorter link 11 is jointed to post 9, an intermediate member 18 also hingedly attached to links 11 and 13 at the point of their hinged connection to each other, but interposed between them to hold them laterally apart at such point, two operating-levers 14 and two rods 15, one jointed with one of its ends to each of the operating-levers and with each of their other ends connected to member 18 which latter by its weight in conjunction with the weight of the extended link 13 aids the operating parts to assume and maintain their extreme normal positions.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

M. LAFEYETTE WARMAN.

Witnesses:
E. J. FAGLEY,
CHAS. A. BRANNOCK.