(No Model.)

2 Sheets—Sheet 1.

W. H. ORDELL.

SELF OPENING GATE.

No. 584,011. Patented June 8, 1897.

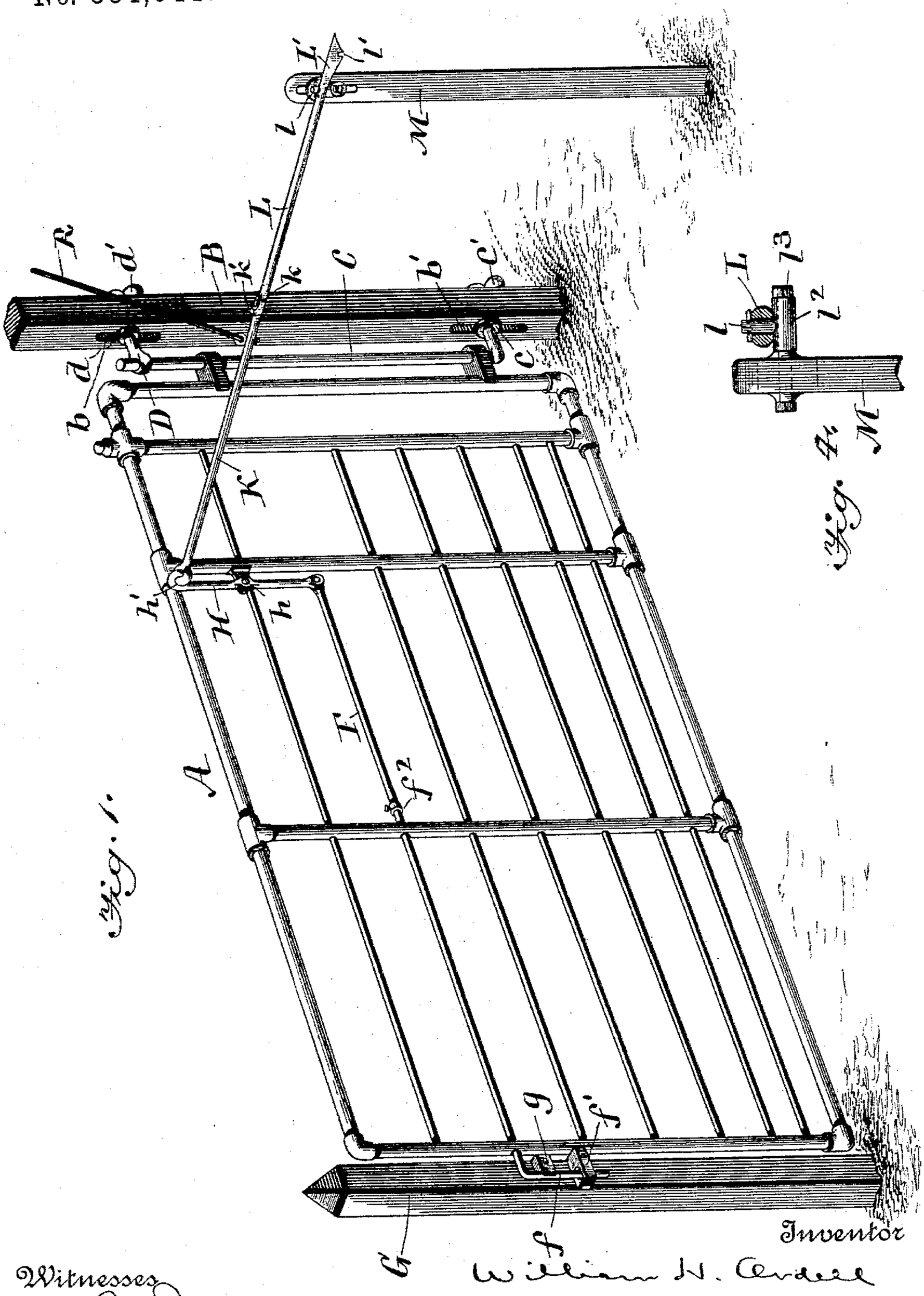

Fig. 1.

Fig. 4.

Witnesses
John Daniel
Clarence H. Kelsey

Inventor
William H. Ordell
By Sumner Lord.
Attorney

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

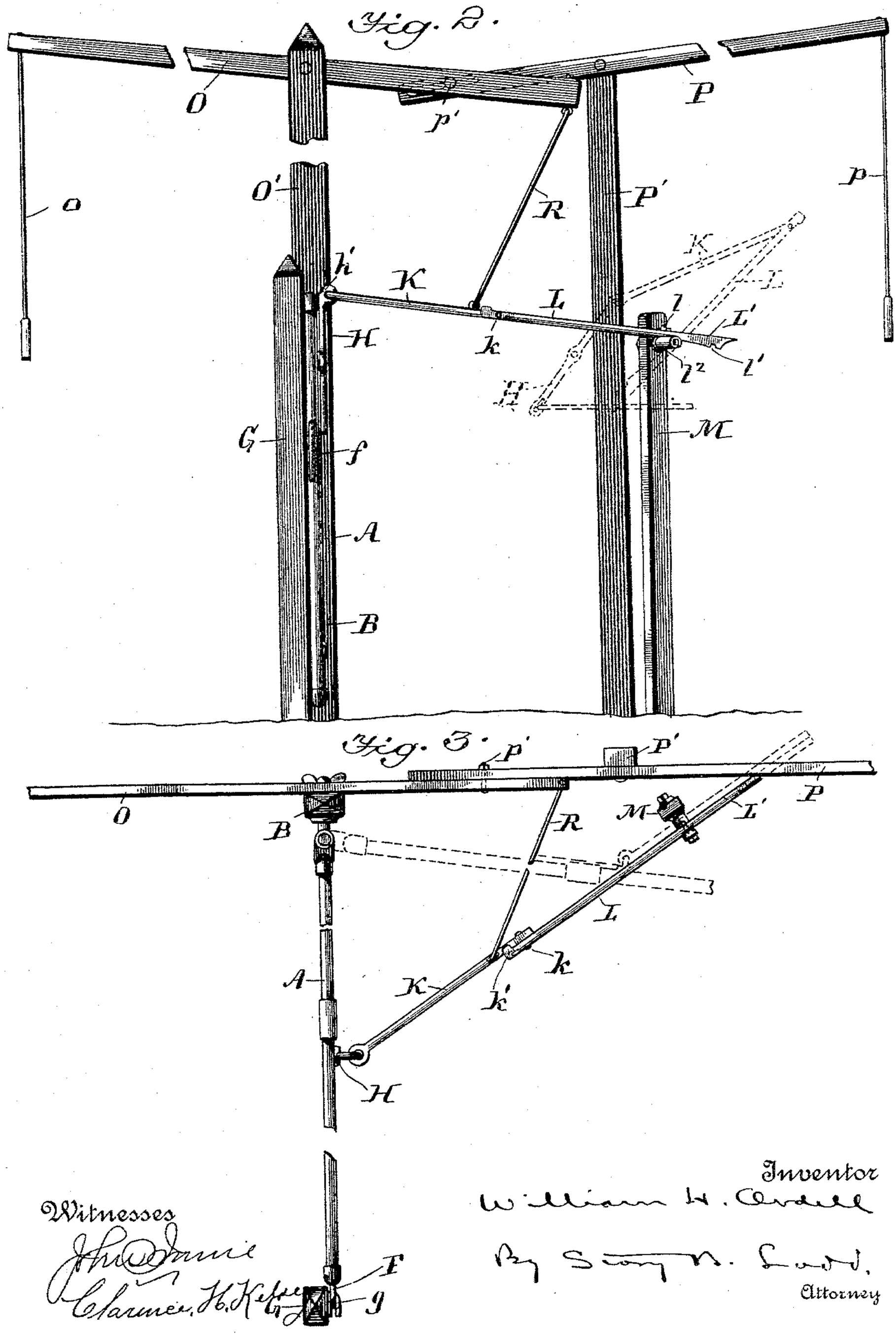

Fig. 3.

Witnesses
John E. Dennie
Clarence H. Kelly

Inventor
William H. Ordell
By Stanley N. Ford,
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. ORDELL, OF PHILO, ILLINOIS.

SELF-OPENING GATE.

SPECIFICATION forming part of Letters Patent No. 584,011, dated June 8, 1897.

Application filed December 26, 1896. Serial No. 617,052. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ORDELL, a citizen of the United States, residing at Philo, in the county of Champaign and State of Illinois, have invented certain new and useful Improvements in Self-Opening Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide a gate-opening mechanism which admits of the gate's being readily opened or shut from either side by a rider or driver; and the invention consists of the improved gate-operating mechanism, as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a gate embodying the invention. Fig. 2 is an end elevation, and Fig. 3 is a plan view, of the gate, showing all the operating-levers thereof, the latter being shown in the position they assume when the gate is shut by full lines and their relative position when the gate is open by dotted lines. Fig. 4 is a detail view showing the joint for one of the lever-bearings.

The gate A may be of wood or iron. It is shown as vertically adjustable with respect to the gate-post B. This post has two long slots b b', and the bent rod C, which directly carries the gate, is secured to the gate-post. The bottom bent end of the rod C passes through the slot b', and it has a shoulder c and a nut c' on its screw-threaded end. The upper end of the rod C passes through an eyebolt D, which eyebolt passes through the slot b and has a shoulder d and a nut d' on its screw-threaded end. The gate A is hinged on this vertically-adjustable rod C, and can thus be readily set high or low, as may be desired, on account of snow or otherwise. To remove the gate, it is only necessary to loosen the upper nut d' and slide the eyebolt D upward until it clears the rod D, when this rod can be turned to one side and the gate lifted off.

The gate-latch preferably consists of a longitudinally-movable rod F, which has its outer end f bent downward (or upward) and adapted to engage with a catch g, carried by the post G. A slotted guide-piece f' receives the end of the latch-rod f and a stop f^2 limits the movement of the latch-rod. Pivoted to the rear end of the latch-rod F there is a lever H, which lever is pivoted to the gate at h, and at its upper end h' is coupled to a toggle-lever formed of the two links K and L. These toggle-links are pivoted together at k with a stop k' to prevent them from dropping below a position of alinement. The lever L is pivoted to a post M at l, and it has an extension L', which has a notch l', adapted to engage with one of the bars of the gate or other part thereof—as, for example, the latch-rod F—and hold the gate open when it is swung back, as hereinafter described. The pivot connection of the lever L to the post M should admit of a free movement of the toggle-levers both in a vertical and a horizontal plane, and hence the pivot-pin l, on which the lever L directly turns, may be carried by a collar l^2 on a stud l^3, carried by the post M, as clearly shown in Fig. 4, and, further, to allow for the proper adjustment of the gate-operating levers in connection with the raising or lowering of the gate the stud l^3 may be vertically adjustable on the post M by means of the slot m the same as before described in connection with the hinge-rod C.

O and P are two levers pivoted to posts O' and P', and with handles o and p in convenient position for operating the gate on either side of the same. The lever O is connected by a link R with the toggle-lever K at a considerable distance from the center pivot k of the toggle to assist in the throwing of the levers past the dead-center. The levers O and P are coupled at p', so that a pull on either of the handles o or p will operate to draw the gate open.

The operation of the gate is briefly as follows: The gate being closed and latched the first effect of a pull on either of the handles o or p is to draw the toggle-levers K and L upward and swing the top of the lever H back toward the rear of the gate and the latch-rod F forward, releasing the catch. The pull of the toggle-levers, though oblique to the plane of the gate when the latter is shut, results in

first swinging the lever H in the plane of the gate sufficiently to release the catch, and then the continued upward pull on the toggle-levers causes the gate to swing open. The swing of the gate readily carries the toggle-levers and the connecting-rod R past the dead-center, and then an upward push on the handle *o* or *p* causes the levers K and L to pass clear over into the extreme position they are capable of assuming, as indicated by the dotted lines in Figs. 2 and 3, in which case the end L′ of the lever L is projected forward in front of the post M and the notch *l*′ catches on the gate and holds it open. When the gate is wide open and it is desired to close it, a pull on either of the handles *o* or *p* exercises a pushing force on the gate until the lever L has passed the dead-center, and then an upward push on the operating-handle forces the toggle-levers down into alinement and closes the gate with very little effort.

What I claim is—

1. The combination with a gate, of a longitudinally-movable latch-rod, a vertical lever pivoted to the gate and to the latch-rod and movable in the plane of the gate, a toggle-lever having one arm connected with said latch-operating lever and the other arm pivoted to a stationary structure and having a rear extension adapted to engage with and hold the gate when the gate is thrown open and the toggle-lever doubled back, and a gate-operating lever connected with said toggle-lever, as and for the purpose set forth.

2. The combination with a gate, of a toggle-lever having one arm connected to the gate and the other arm pivoted to a stationary structure, the latter arm having a rear extension adapted to engage with and hold the gate when the gate is thrown open and the toggle-lever doubled back, as and for the purpose set forth.

3. The combination with a gate and a slotted gate-post, of a hinge-supporting rod with its lower end bent and adjustably clamped in a slot of the gate-post, together with an eyebolt fitted on the end of the hinge-rod and adjustably clamped in a slot of the gate-post, as and for the purpose set forth.

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

WILLIAM H. ORDELL.

Witnesses:
G. E. PHILLIPS,
D. F. VANGUNDY.