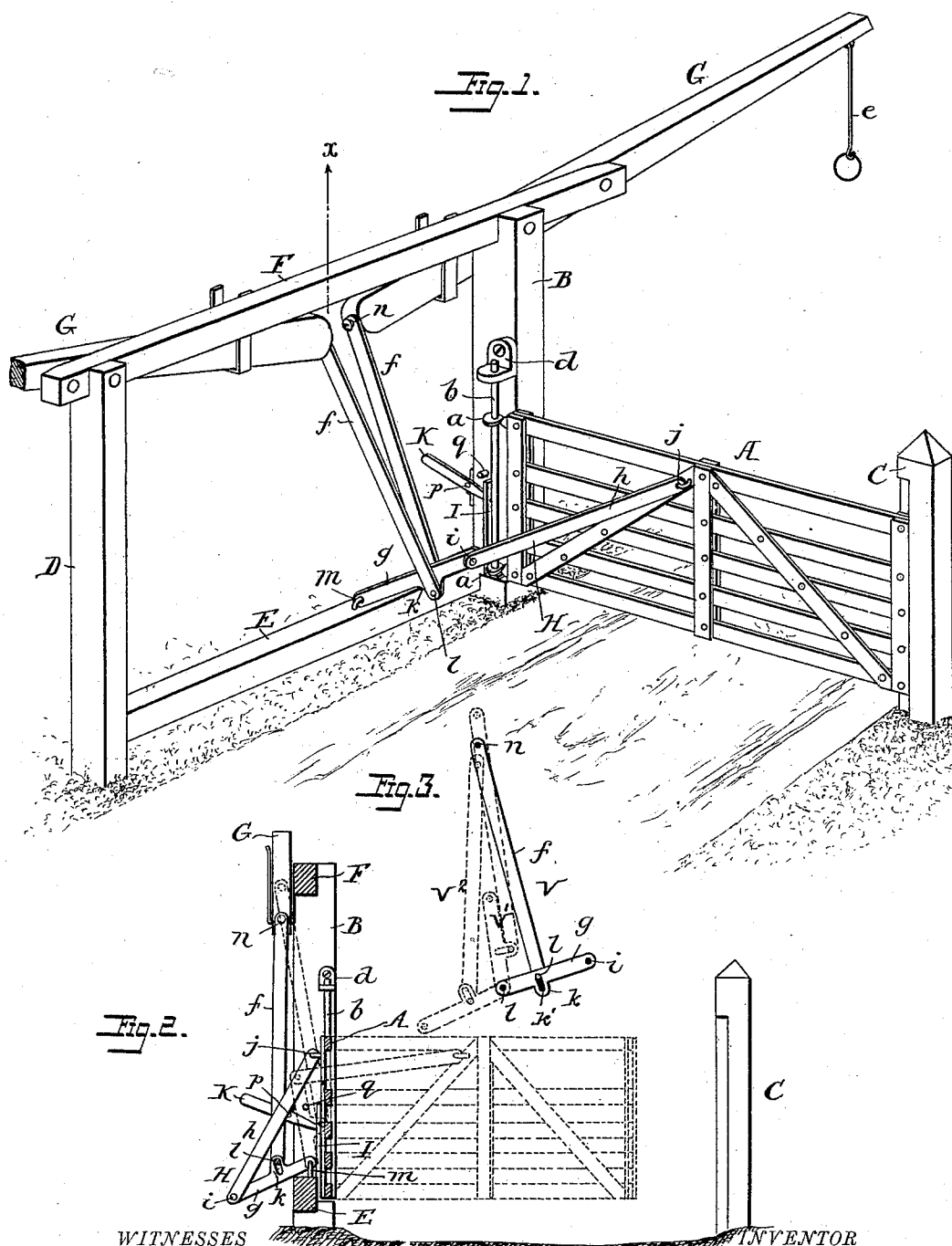


(No Model.)

W. R. WHITE.
GATE.

No. 463,324.

Patented Nov. 17, 1891.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM RICHARD WHITE, OF BLOOMINGTON, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 463,324, dated November 17, 1891.

Application filed July 22, 1891. Serial No. 400,366. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RICHARD WHITE, a citizen of the United States, residing at Bloomington, McLean county, State of Illinois, have invented certain new and useful Improvements in Gates, of which the following is a specification.

This invention relates to an improvement in gate-operating devices of the character heretofore patented by me, and illustrated, for instance, in my Letters Patent No. 371,237, granted October 11, 1887.

The invention consists in the novel construction and arrangement of parts herein-after set forth and illustrated in the accompanying drawings, in which--

Figure 1 is a perspective view of a gate and its operating mechanism embodying my invention, the gate being closed, and Fig. 2 is a transverse sectional elevation, the dotted lines indicating the relative positions of the parts when the gate is about half open. Fig. 3 is a diagrammatic view of part of the operating mechanism.

Referring to the drawings, A designates a gate-panel, which, as shown, is provided at its inner end with ears *a a*, pivotally mounted on a pin or rod *b*, supported in brackets *d d*, secured to a post B, the gate being thus adapted to swing toward and from a post C, to close or open the roadway extending between said posts. A third post D is arranged in line with and on the same side of the roadway as the post B, these two posts being connected near the ground by a horizontal bar E and at their upper ends by a bar F, the ends of which project beyond the posts. To each end of the bar F is pivoted an operating-lever G, having the usual pull device *e* at its outer end. The inner end of each lever is connected at *n* by a rod *f* to an operating-bar H, composed of two sections *g h*, pivoted together at *i*, the outer end of the section *g* being hinged to the bar E at *m*, while the outer end of the section *h* is hinged to the gate at *j*.

The operation of the parts thus far described will be understood, as it will be noticed that the construction is substantially the same as in my previous patents, except that the connection between the rods *f f* and jointed bar H is at one side of the latter, the rods being pivoted to a bearing-piece *k*, pro-

jecting laterally from the bar. The object of thus arranging the point of connection between the rods *f f* and the jointed bar H at a distance from the central line of the bar is to insure the opening of the gate as far as possible upon pulling down the outer end of either lever G before the pivotal points *l m n* approach a straight line passing centrally through them. (See Fig. 2.) By this means the danger of the operating mechanism assuming an inoperative position or getting on the dead-center with the gate half open is reduced to a minimum and the gate is carried to such a position by a direct pull on the lever G that when the points *l m n* are actually in line the weight of the section *g* on one side of said line will tend to carry the pivot *l* out of line with the points *m n* and out of locked position, and thus insure a complete opening of the gate.

To further reduce the liability of the operative parts getting locked on a dead-center, I preferably make the opening in the bearing-piece *k* for the passage of the pivotal bolt connecting the rods *f f* to the jointed bar H in the form of an elongated slot *k'*, extending at substantially a right angle to the plane of the bar-section *g*, as best shown in Fig. 3.

If now one of the levers G is operated to open the gate, the pivotal bolt *l* will first engage the inner end of the slot *k'*, and as the gate is drawn open and the section *g* is moved from the position V, Fig. 3, to a nearly vertical position, a further draft on the lever G will cause the bolt *l* to shift to the outer end of the slot and thus carry the section *g* to the position V' out of line with the points *m n*. Should for any reason the gate come to rest with the parts in this latter position and the gate-panel only partly opened, a complete opening thereof can be secured by a reverse or upward movement of the lever G, whereby the rods *f f* are thrust downward and the bolt *l* brought into engagement with the inner end of the slot *k'*, when the section *g* of jointed bar will be forced downward to the position V², and the gate be thus completely opened.

The gate may be closed by a downward pull upon one of the levers G, and the momentum thus given to the parts will usually insure a complete closing thereof. Should, however, the parts come to rest when in the position

V', Fig. 3, a reverse movement of the lever C will again open the gate to its fullest extent, in the manner already explained. The lever G may now be again pulled downward and with an increase of force, the parts will be carried beyond the dead-center line, and the gate will close completely, as will be understood.

The bearing-piece *k* on the jointed bar II may be differently constructed. As shown, it is formed in one piece with the bar-section; but it may be a separate piece secured thereto. It will be apparent that this feature of my invention, although shown in connection with a swinging gate may be applied to and used with advantage on sliding gates.

To provide for elevating the gate bodily to swing clear of obstructions on the ground, the pivot-rod *b* is of such length as to permit the ears *a a* to slide thereon. An L-shaped bracket I is suspended from the inner end of a hand-lever K, pivoted at *p*, to the post B, the horizontal portion of the bracket being perforated and sliding on the rod *b*, below the lower ear *a*. If, therefore, the horizontal movement of the gate is obstructed by snow at the lower side the gate may be raised to a limited extent by depressing the free end of the hand-lever, when the gate may be operated in the usual way.

To retain the gate elevated, a detachable pin *q* may be inserted into an opening in the post below the inner end of the lever when

raised, or any other securing means may be employed.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, with the gate, of a jointed operating-bar consisting of two arms connecting the gate to a fixed support, a bearing-piece on one arm of said bar extending laterally therefrom between its pivot-points and having an elongated slot, operating-levers, and connections between the latter and said slotted bearing-piece, substantially as described.

2. The combination, with a swinging gate, of a jointed operating-bar consisting of two arms, one of which is attached to the gate near its center and the other of which is attached to a fixed support, a bearing-piece extending laterally from one arm of said bar between its pivot-points and having an elongated slot, operating-levers, connecting-rods extending from the levers, one to each side of the bearing-piece, and a bolt passing through said rods and slot, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM RICHARD WHITE.

Witnesses:

MATTIE J. WHITE,

A. PHELPS MCCORMICK.