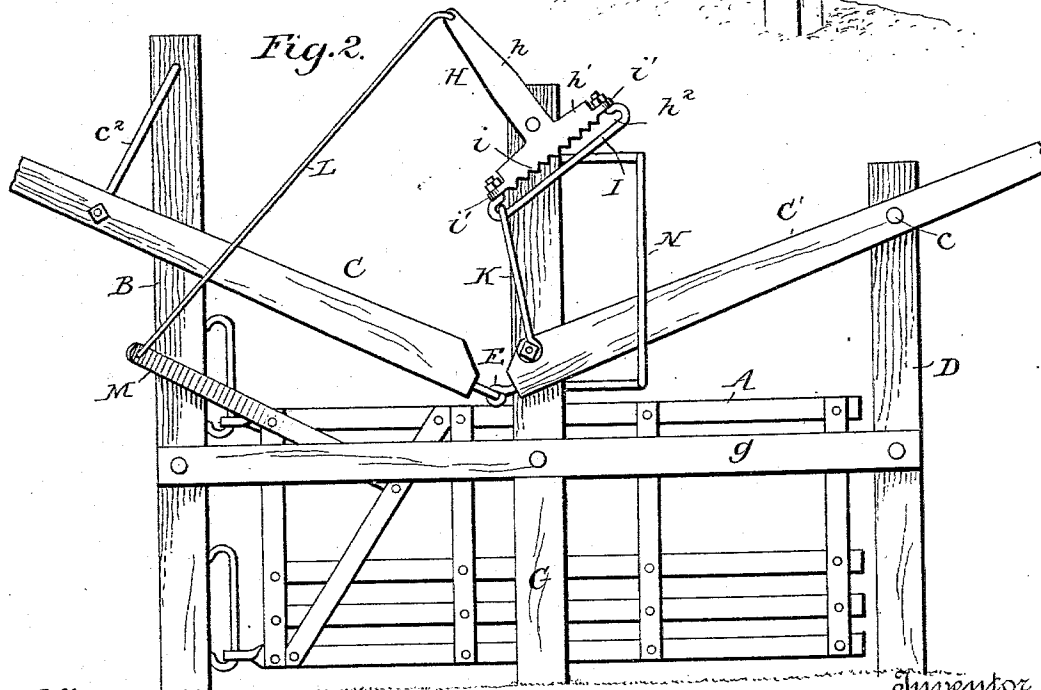
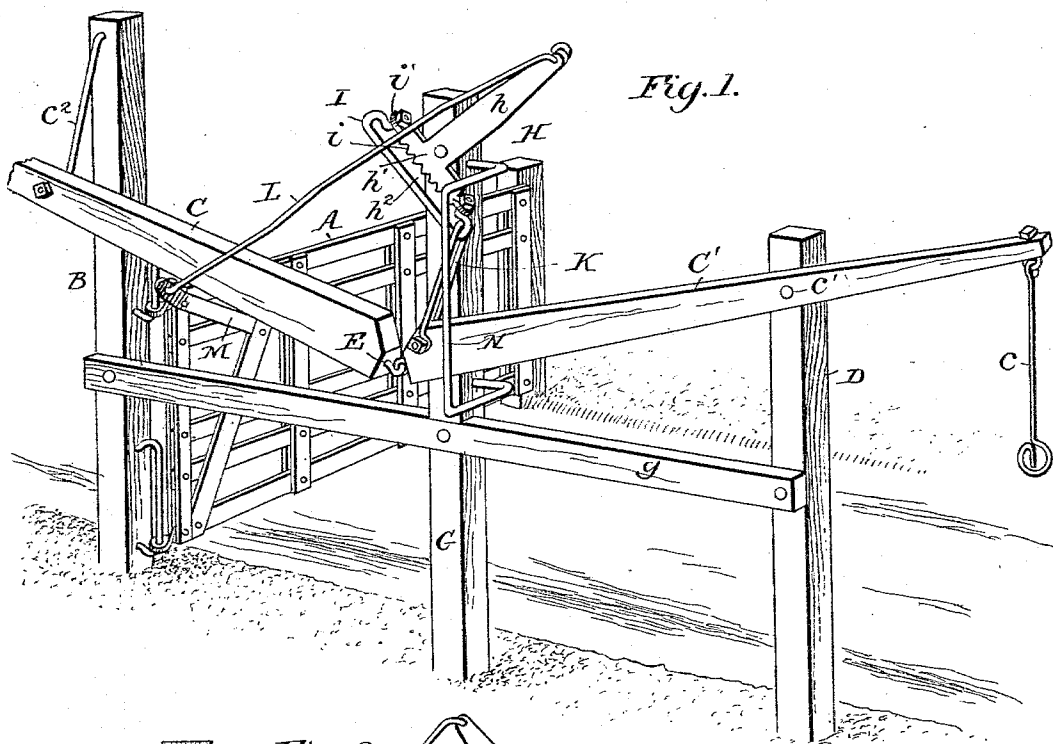


(No Model.)

W. R. WHITE.
OPERATING MECHANISM FOR GATES.

No. 552,943.

Patented Jan. 14, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM RICHARD WHITE, OF BLOOMINGTON, ILLINOIS.

OPERATING MECHANISM FOR GATES.

SPECIFICATION forming part of Letters Patent No. 552,943, dated January 14, 1896.

Application filed March 16, 1895. Serial No. 541,976. (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, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Operating Mechanism for Gates, of which the following is a specification.

My invention has for its object to improve the operating mechanism for gates, and is particularly intended for swinging gates.

It consists of the combinations and arrangements of parts by means of which the gate is opened and closed, as will be set forth in the following specification.

I have illustrated my invention in the accompanying drawings, but I do not wish to be understood as limiting my invention to the particular form and arrangement of parts shown, nor to its application to a swinging gate, as these parts may be variously modified without departing from the principle of my invention.

In the drawings, Figure 1 is a perspective view of a gate and its operating mechanism embodying my invention, the gate being shown in a closed position. Fig. 2 is an elevation showing the parts in the positions occupied when the gate is open.

In the drawings, A represents a swinging gate, which may be of any usual or preferred construction, and B the post to which it is hinged.

C C' represent the operating-levers provided with the pendent handles *c* and supported respectively by the posts B and D, the latter being situated by the roadway in line with the post B, to which the gate is hinged, so that when the gate is opened it is situated between these two posts. The inner ends of the operating-levers are pivotally connected directly together, the connection shown being the two interlocking screw-eyes E, although other forms of jointed connections might be employed. One of the operating-levers C' is mounted upon a fixed fulcrum or pin *c'* and the other lever upon a link *c*², which constitutes a swinging or movable fulcrum.

G represents a post situated about midway between the posts B and D and connected

preferably therewith by a cross-piece *g*, which serves to support the posts, and thereby constitute a rigid framework for the operating mechanism of the gate. Near the upper end of this post G there is supported an oscillating frame or lever H, of peculiar construction, being substantially T-shaped, the cross-piece of the T being downward, so that when in operative position the lever is in the form of an inverted T.

h represents the upward-extending stem of the T-lever, and *h'* the cross-piece thereof, the latter being provided with a longitudinal slot *h*². I prefer that the cross-piece *h'* should be a metal plate, having its lower edge serrated, as at *i*, substantially from end to end, and its ends formed into or provided with perforated lugs *i'*, into which are secured the ends of a staple-shaped piece of rod metal I.

It will be seen that the longitudinal slot *h*² is formed between the cross-piece *h'* of the T-lever and the rod I carried thereby.

Of course it will be understood that the lever H might be made of a single piece of metal, the particular construction which I have described being merely the form which I prefer to employ. Likewise this T-lever might be entirely of wood, or partly of wood and partly of metal.

K represents a link connected to one of the operating-levers near its lower end, and at its upper end connected with the T-lever H, the connection being such that the lever slides freely in the slot *h*².

L represents another link connecting the stem portion *h* of the T-lever with an arm M projecting from the gate.

In order to prevent lateral swaying or vibrations of the inner ends of the operating-levers I employ a guide N, which operates to prevent such lateral movements, while allowing the levers to vibrate freely up and down. This guide, as shown, consists of an elongated bar supported by the framework for the operating-levers, being set off or to one side of the post G, between which and the guide one or both of the operating-levers are situated. Other forms of guides might, however, be used for the same purpose.

The relations of the connected parts of the

operating device to each other are such that when the gate is closed the T-lever is inclined, as shown in Fig. 1—that is to say, the stem portion h thereof inclines away from the gate and the link K lies in the lowermost part of the slot h^2 and at the end which is farthest away from the gate.

When the gate is in its open position the stem of the lever H inclines in the opposite direction or toward the gate-hinges, and the link K lies at the other end of the slot, which, however, is in this instance the lowermost part of the slot.

It will thus be seen that when the gate is in either its closed or its open position the link K occupies the lowermost position of the slot in the oscillating frame or lever H, being carried thereto by the weight of the inner ends of the operating-levers. The weight of these ends of the levers thus serves through the connecting mechanism between them and the gate to hold the gate in the position to which it was last moved, whether open or closed, as will be understood.

When it is desired to move the gate, the outer ends of the operating-levers are drawn down, this resulting in lifting the link K, which comes into engagement with the upper edge of the slot h^2 , thereby tending to rock the lever or frame H from the position which it occupies, and through its connections to swing the gate. The serrations i operate to prevent the link K from slipping along the upper edge of the slot h^2 , the serrations holding the link near the end of the cross-piece of the lever, where it first comes into engagement with the upper edge of the slot, and where the power is most advantageously applied. As soon as the gate has been swung past its mid-position, whether moving in one direction or the other, the handle c may be released when the inner ends of the operating-levers will fall, carrying the link K into engagement with the rod I or the lower edge of the slot, along which it will slide to the end of the slot opposite to that which it occupied when the movement of the gate commenced, the weight of the inner ends of the operating-levers and of the link serving to insure the gate's completing its movement.

Any usual or approved form of latch and latch-operating devices may be employed with the gate and operating mechanism which are described, but as this forms no part of my present invention I have not illustrated any latch device.

The disposition of parts which I have described has the advantage that the gate-operating mechanism is arranged and mounted high so as to be out of reach of the stock, which cannot therefore injure it with their horns or otherwise.

I lay no claim herein to the arrangement of the operating-levers, with one movable and one fixed fulcrum, an intermediate post, and a guide, since these are claimed in my pending application, Serial No. 541,489.

It will be observed that by arranging or supporting the oscillating frame or lever above both the gate and the inner ends of the operating-levers, and also on the side of the intermediate post G opposite to that side which faces the roadway, the several parts and their connections are not only out of reach of stock, but they are also prevented from injury by the gate as it is swung against the posts G and D. Furthermore, I am enabled by such an arrangement to employ a much shorter link or sliding connection between said oscillating frame or lever and the inner ends of the operating-levers for the gate.

I claim—

1. The combination with a gate and the posts B, G and D, of the operating levers having their inner ends brought close together and movably connected, an oscillating frame or lever supported above the inner ends of the operating levers, a link connecting the operating levers with the oscillating frame or lever, and having a sliding engagement with the latter, and connections between the said oscillating frame or lever and the gate, the severally recited levers and their connections being on the side of the posts opposite to that side which faces the roadway, substantially as shown and for the purpose described.

2. The combination with a gate, and the posts B, G, and D, of the operating levers movably connected at their inner ends, a T-shaped lever mounted in an inverted position above the operating levers, a link connecting the inner ends of the operating levers with the T-shaped lever and having a sliding connection with the cross head of the latter, and connections between the stem of the said T-shaped lever and gate, the severally recited levers and their connections being arranged on the side of the posts opposite to that side which faces the roadway, substantially as shown and for the purpose described.

3. The combination with a gate and the operating levers, of an oscillating lever or frame having a slotted portion, one edge of the slot being serrated substantially from end to end and the other smooth, a link connecting the operating levers with the slotted portion of the said oscillating frame or lever, the link normally engaging with the smooth edge of the slot, but when the operating levers are moved to move the gate being forced into engagement with the serrated edge of the slot, and another link interposed between the said oscillating frame or lever and the gate, substantially as set forth.

4. The combination with a gate and the operating levers having their inner ends brought close together and connected, of a T-shaped lever arranged above the inner ends of the levers, the said lever having an upward extending stem portion h , and a cross-head h' , at its lower end, the cross-head being serrated along its lower edge, a rod I, secured to the said cross-head and arranged at a short dis-

tance from its serrated edge so as to form a slot h^2 , a link connecting one of the operating levers with the said rod I, and another link connecting the stem of the T-lever with an arm projecting from the gate, substantially as set forth.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

WILLIAM RICHARD WHITE.

Witnesses:

FAIRELENDER WHITE,

LUELLA EVELYN WHITE.