

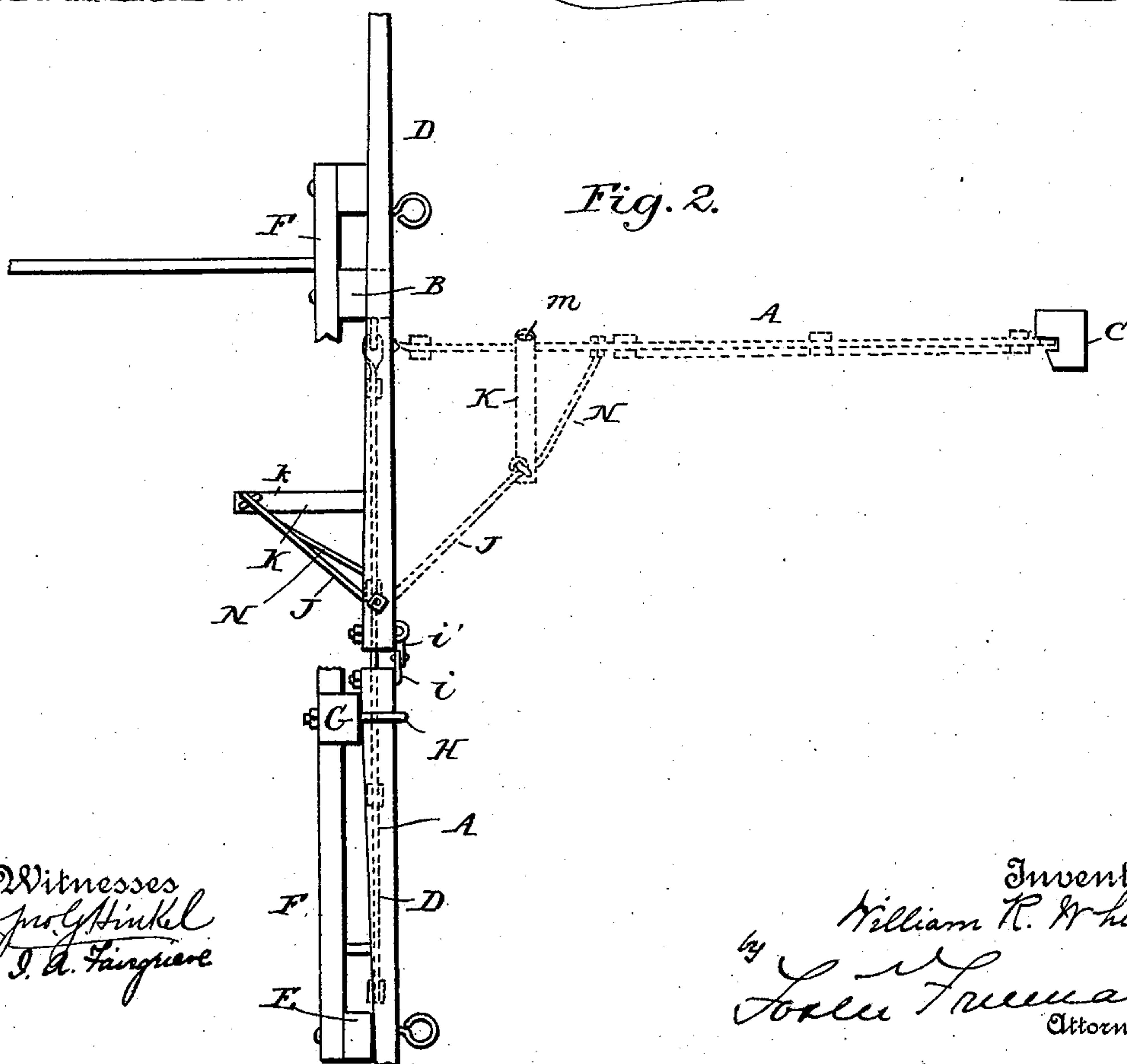
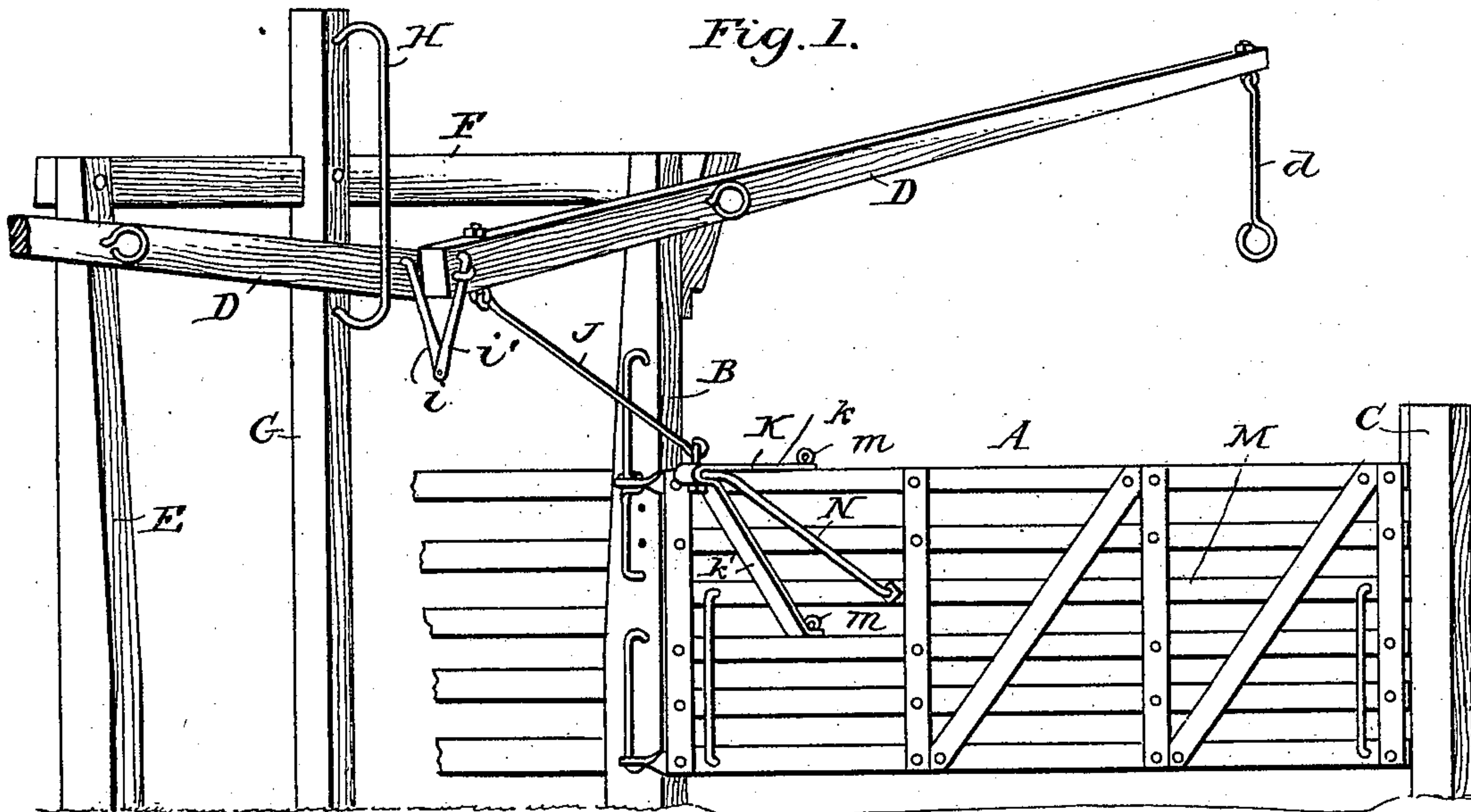
(No Model.)

2 Sheets—Sheet 1.

W. R. WHITE.
GATE.

No. 574,649.

Patented Jan. 5, 1897.



Witnesses
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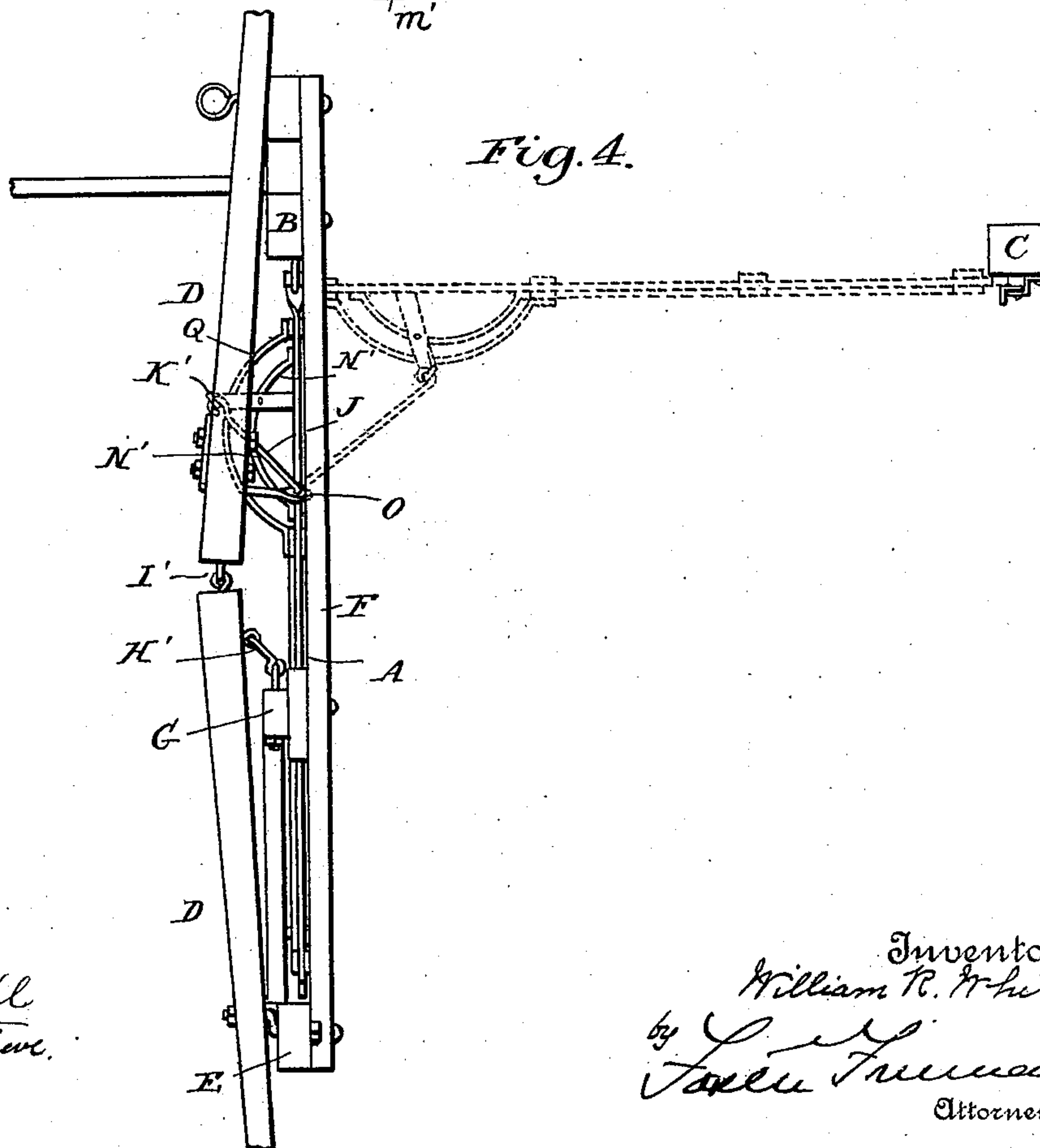
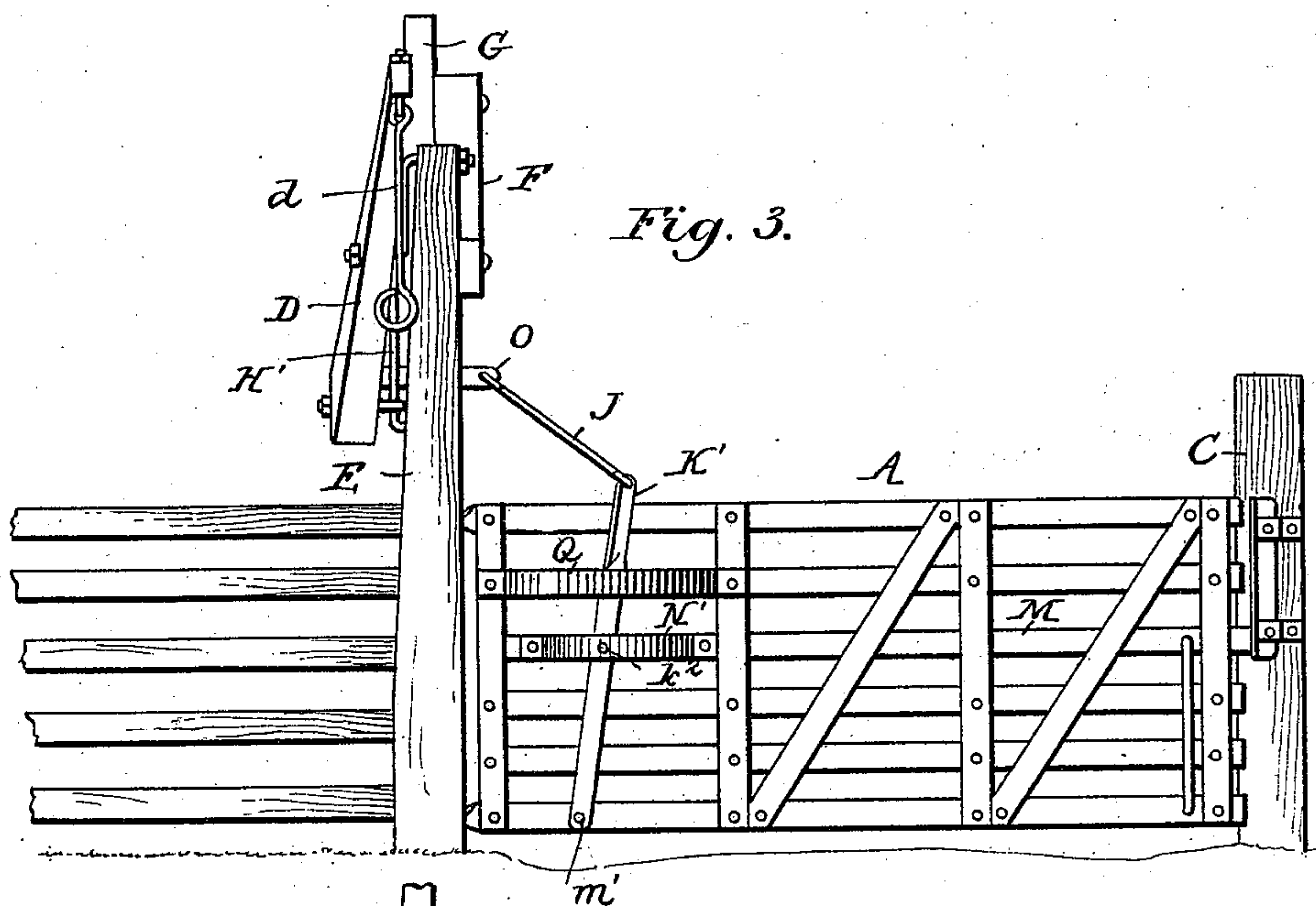
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UNITED STATES PATENT OFFICE.

WILLIAM RICHARD WHITE, OF BLOOMINGTON, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 574,649, dated January 5, 1897.

Application filed April 6, 1895. Serial No. 544,778. (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 Gates, of which the following is a specification.

My invention relates to improvements in gate-operating mechanism; and it consists of the arrangements and combinations of parts to be hereinafter set forth.

My invention is particularly adapted for use in connection with that style of gate and gate-operating mechanism illustrated in my Patents No. 461,061, dated October 13, 1891, No. 493,539, dated March 14, 1893, and No. 503,887, dated August 22, 1893, but I do not wish to be understood as limiting my improvements to gates of this particular type.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a gate embodying certain of my improvements, the gate being shown closed. Fig. 2 is a top plan view, part of the supporting-framework being broken away and the gate being shown in its open position. Fig. 3 is an elevation illustrating a different form of the invention. Fig. 4 is a plan view of the form of invention shown in Fig. 3.

In the said drawings, A represents a gate which is hinged to a post B and is arranged to swing to and from a post C, placed upon the opposite side of the roadway from the post B.

The operating-levers D are pivotally supported, respectively, by the post B, or by a bracket or arm carried thereby, and by a post E in line with the post B and on the same side of the roadway. A connecting-piece F extends between the upper ends of the posts B and E, and this is supported and strengthened intermediately by a post G, which post also carries a suitable guide H for preventing lateral swaying or vibration of the inner ends of the operating-levers. This guide, as shown in the drawings, is in the form of a long staple, between which and the post G is arranged the inner end of one of the operating-levers. I have shown this guide as arranged upon the inner side of the post G, that is, on the side toward the roadway. The operating-levers are also arranged upon the inner side of this

centrally-arranged or intermediate post G, and by this arrangement I am enabled to shorten the connecting parts between the operating-levers and the gate.

The inner or adjacent ends of the operating-levers are connected together, so that both of the levers move together whichever one of the pendent handles *d* be grasped, and thereby only a single connection between the operating-levers and the gate is required. As shown in Fig. 1, the connection between the adjacent ends of the operating-levers consists of a link *i* and arm *i'*, connected, respectively, to the operating-levers and to each other. When the operating-levers are thus connected, they may each be mounted upon a fixed pin or fulcrum, the link *i* allowing the necessary amount of play as the ends of the levers approach and recede from each other during their simultaneous vibrations.

J represents the connecting-bar between the inner ends of the operating-levers and a laterally-projecting part of the gate. The part to the lower end of which the connecting-bar J is secured consists of a lever K, pivoted to the gate and connected with the latch bar or rail M of the gate.

In the form of my invention shown in Figs. 1 and 2 the lever K consists of two parts or members, a substantially horizontal part *k*, which is pivotally connected with the top rail of the gate, and a downward-inclined part *k'*, pivotally connected with one of the lower rails, the pivots *m*, by which the lever K is connected with the gate, being in vertical line with each other. The bar J is connected with the lever K, preferably at its outer end, and where the two parts *k* and *k'* unite with each other.

A link N connects the lever K with the latch-bar. In the form of my invention shown in Fig. 1 this link is connected with the outer portion of the lever, where the connecting-bar J is connected, and inclines thence forward and downward to the latch-bar.

It will be understood that whenever the operating-levers are worked by depressing their outer ends the lever K will be rocked or turned upon its pivot and through the link N the latch-bar will be operated, and at the same time there will be a draft upon the gate, tending to turn it upon its hinges as

soon as the latch-bar is withdrawn to release the gate from the catch.

I do not in this specification deem it necessary to describe the particular operations of the gate-opening and latch-operating mechanism, whereby the gate is released from the catch devices which hold it in both its open and its closed positions by a simple downward pull upon the handles of the operating-levers, as these operations have been described in my former patents and do not differ in principle of operation from the devices shown therein. By the arrangement which I have described, however, I can shorten the connecting parts between the gate and the inner ends of the operating-levers, and by employing the peculiar form of lateral projection from the gate which I have shown and described I find that the latch-bar is more easily and surely operated than by means of mechanism heretofore employed by me, and, furthermore, when the gate comes to the usual dead-center position, that is, the position where the hinges, the connection of the bar J with the operating-levers, and the connection of this bar with the gate, are most nearly in line with each other, then the latch mechanism is not on a dead-center, but may be readily moved by manipulating the operating-levers, from which it follows that should the gate stop or come to rest at its dead-center position it may yet be moved in one direction or the other by manipulating the operating-levers and shifting the latch, which will result in carrying the gate past such dead-point, and when the gate is on or at the usual point known as the "dead-center" (pivots nearest in line) the latch mechanism is not, and is readily thrown to one side, carrying with it the gate, and there is no possible chance for lodgment if the levers are moved up or down.

Of course I do not wish to be limited to the particular points of connection of the connecting-bar J with the operating-levers and with the lever K, as these places of connection may be varied without departing from my invention.

In Figs. 3 and 4 I have illustrated a different form of my invention. As shown in these figures, the operating-levers are arranged at more of an angle to the roadway than they are in the other construction, the inner ends of the operating-levers being behind or outside of the post G. Likewise the inner adjacent ends of the operating-levers are connected together by the interlocking eyes I', and a guide H', different from that shown in the other construction, is employed. However, these differences are immaterial so far as the main features of my invention are concerned, and are shown for the purpose of illustrating the fact that the construction of the gate and the gate-operating devices may be varied without departing from the principle of the invention. As shown in these figures, the connecting-bar J, instead of being

jointed directly to one of the operating-levers, is connected with an arm O, projecting therefrom, the arm extending sufficiently far to bring the point of connection between it and the bar J substantially opposite to the hinge-line of the gate, so that the amount of motion and of force imparted to the operating-levers shall be the same for opening or closing the gate. In the form of invention illustrated in these figures the lever to which the bar J is connected at its lower or inner end is designated by K'. It is pivoted at m', at or near its lower end, to one of the lower rails or bars of the gate and connected with the latch-bar by means of a bow-shaped bracket or connection N', which is united with the lever K' by a pivot k².

Q represents a bow-shaped bracket or frame secured to the gate and arranged so as to inclose the upper portion of the lever K'. This is used merely as a protection to the latter, and serves, with the bow-shaped connection N', to prevent the lever K' from being injured by stock or from other causes, and to steady the gate so as not to wobble, especially if this bow is bifurcated or braced, and to strengthen and stiffen the gate proper. This stiffening of the gate results especially when the ends of this bow-shaped piece are bifurcated and separated so as to engage with different rails of the gate.

In both of the forms of my invention shown the lever to which the bar J is connected is pivotally supported directly by the gate and extends outward or laterally to one side thereof. By pivoting this lever to the gate below the latch-bar and joining the connecting-bar with the upper end thereof a short connecting-bar may be used, which is at the same time so disposed as to be practically out of the reach of stock.

Whenever the operating-levers are worked, the connecting-bar J draws upon the lever which is pivoted to the gate, turning it slightly upon its fulcrum. This results first in unlatching the gate and then in causing it to swing upon its hinges. The operation is the same whether the gate be in its open or its closed position when the operating-levers are moved.

The means for connecting the inner ends of the operating-levers to each other and for guiding the same, so as to prevent lateral vibration or swaying, as shown in Figs. 3 and 4, are not claimed in this application, as they are set forth and claimed in another application of mine, filed March 12, 1895, Serial No. 541,489. Neither do I in this application claim the specific form of lever K' and its connection with the gate and the guard Q therefor, but reserve to myself the right to make these the subject of another application for patent.

What I claim is—

1. The combination with a gate and the operating-levers, of a latch-bar, a lever pivotally connected to the gate below the latch-bar and extending upward above the same, the upper

end of the lever also extending outward from the gate on the side toward the inner ends of the operating-levers when the gate is closed, a connection between this lever and the operating-levers, and a connection between the lever and the latch-bar, substantially as set forth.

2. The combination of a gate, the operating-levers, the connecting-bar, the lever K having a substantially horizontal portion *k* pivotally connected with the gate, and a downwardly-inclined portion *k'* also pivotally connected with the gate, this lever K being connected at or near its outer end with the connecting-bar J, and a link connecting the said lever with the latch-bar, substantially as set forth.

3. The combination with the gate, of the operating-levers, each mounted upon a fixed fulcrum, and provided at their inner ends, the one with the arm *i'* and the other with the link *i* pivotally connecting with said arm, substantially as shown and for the purpose set forth.

4. The combination with a swinging gate, of the operating-levers, the posts by which the operating-levers are supported, a post G disposed intermediate of the supporting-posts and close to the inner ends of the operating-levers, the inner end of said levers being close to each other and arranged on the side of the

intermediate post adjacent to the roadway, the laterally-projecting lever pivotally supported on one side of the gate and projecting toward the inner ends of the operating-levers, and a vertically-disposed guide for said levers attached to the intermediate post and permitting vertical movement of the operating-levers but preventing sidewise or lateral swaying thereof, substantially as described.

5. The combination with the gate and the operating-levers, of a latch-bar for the gate, a lever projecting laterally from the gate and pivoted thereto at a point within the point of suspension of the gate and having two members, one of said members being pivotally connected with the gate below the latch-bar and the other pivotally connected with the gate above the latch-bar, the two pivotal points being in the same vertical line, a connecting-bar between the operating-levers and the projecting lever, and a movable connection between this latter lever and the latch-bar, 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:

FAIRELENDER WHITE,
LUELLA E. WHITE.