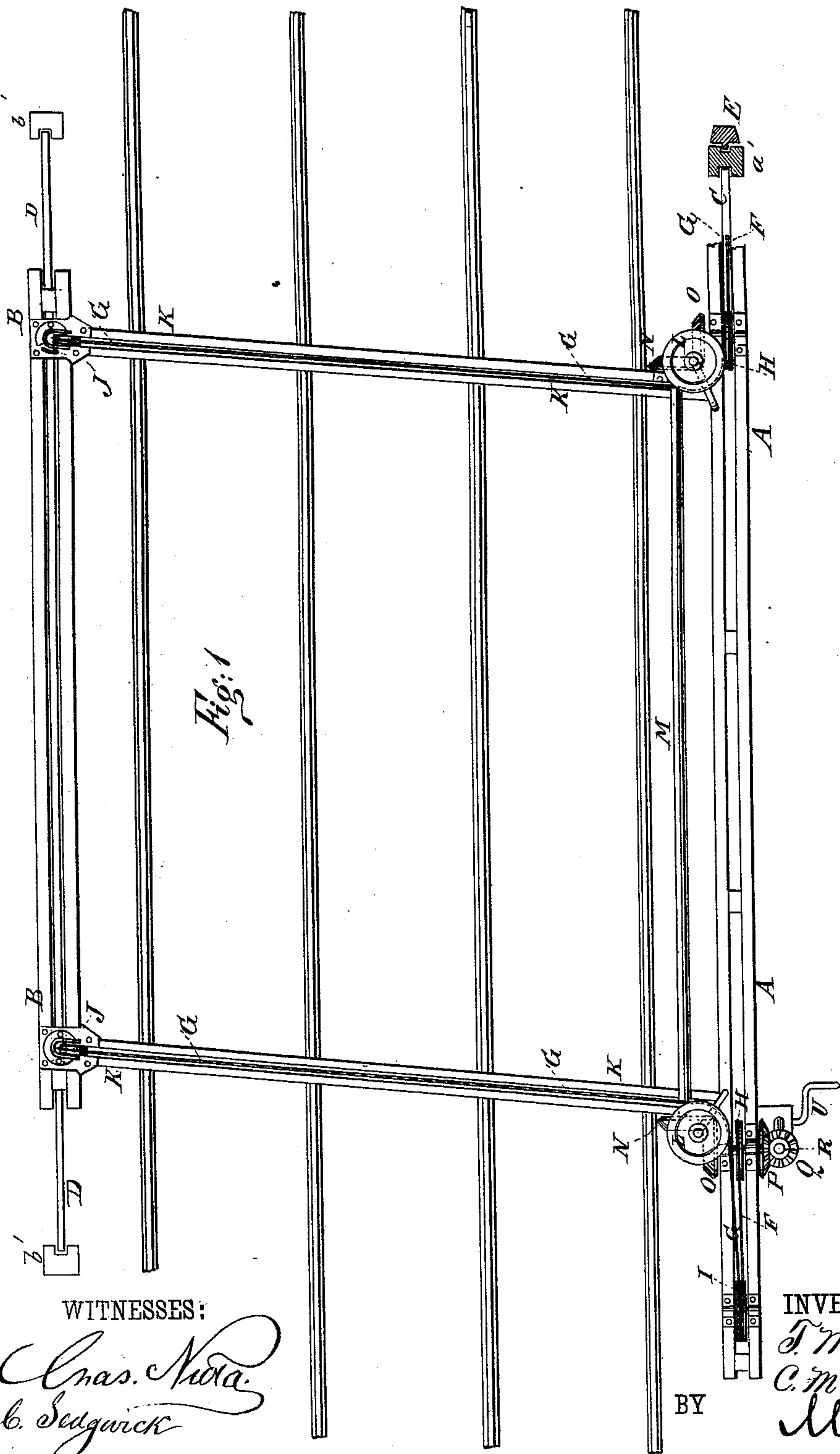


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Gate for Railroad-Crossings.

No. 218,551.

Patented Aug. 12, 1879.



WITNESSES:

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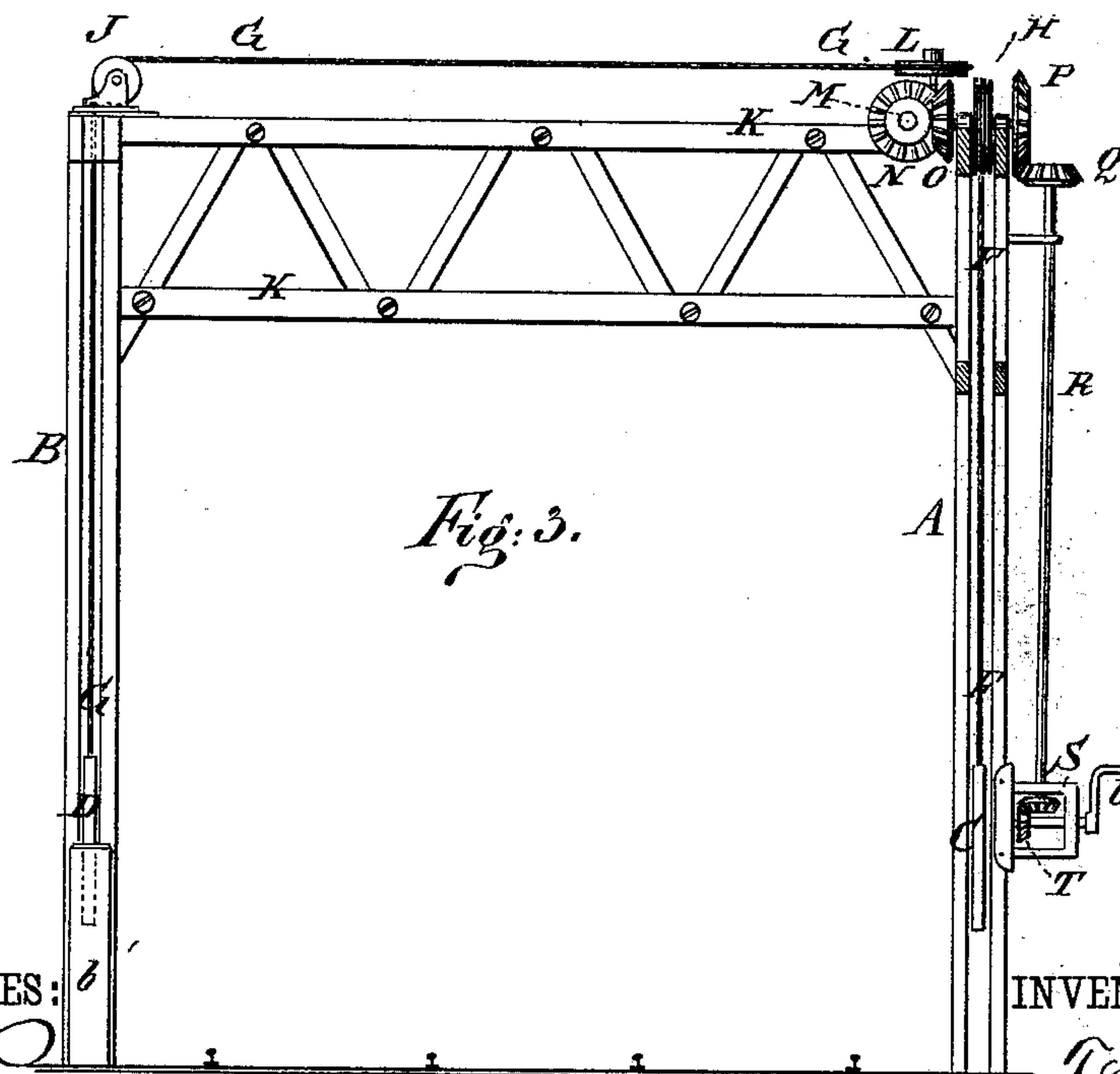
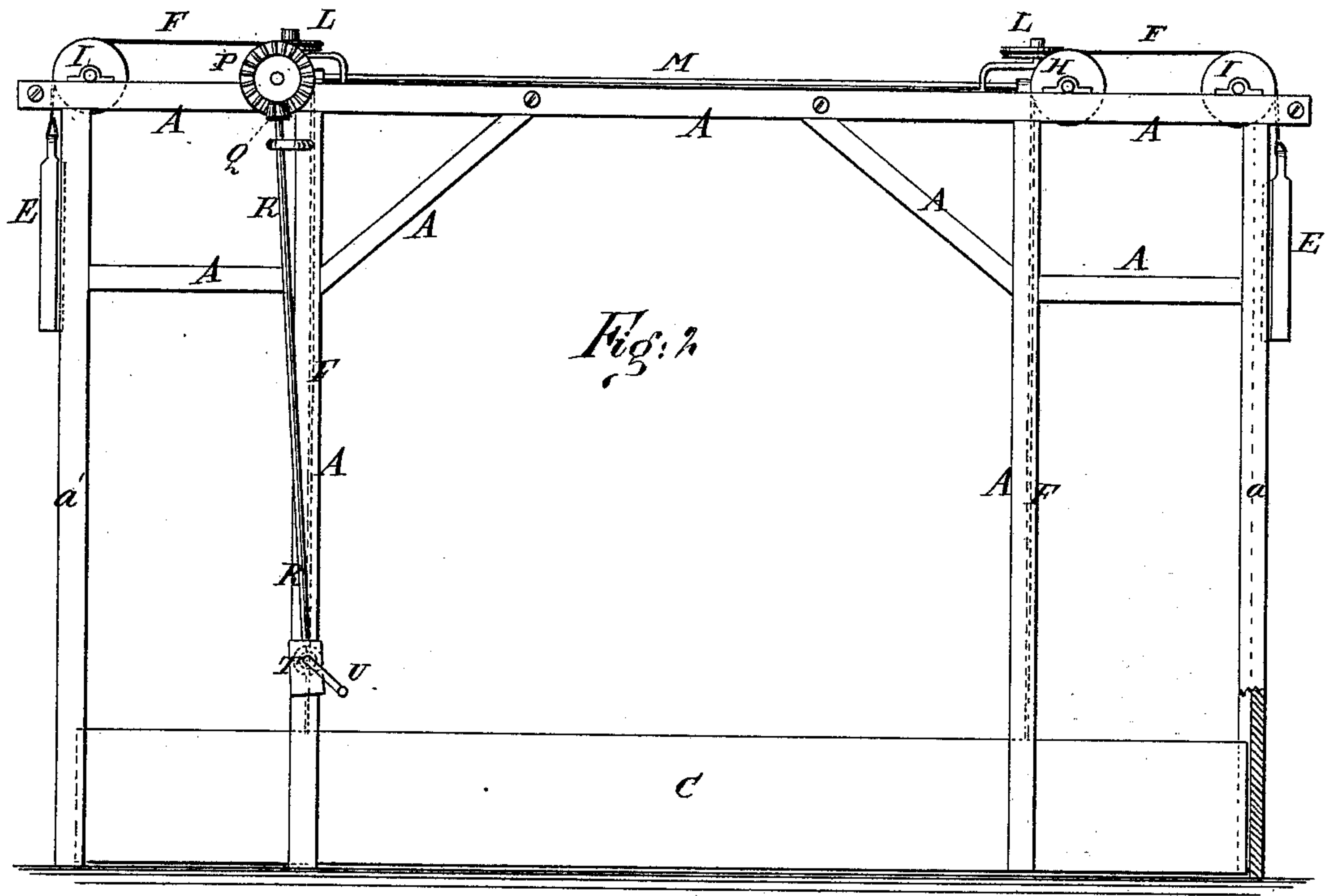
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# UNITED STATES PATENT OFFICE.

THOMAS MEEHAN, OF BROOKLYN, E. D., AND COLIN McLEAN, OF JAMAICA,  
NEW YORK.

## IMPROVEMENT IN GATES FOR RAILROAD-CROSSINGS.

Specification forming part of Letters Patent No. **218,551**, dated August 12, 1879; application filed  
June 11, 1879.

*To all whom it may concern:*

Be it known that we, THOMAS MEEHAN, of Brooklyn, E. D., in the county of Kings, State of New York, and COLIN McLEAN, of Jamaica, in the county of Queens and State of New York, have invented a new and Improved Gate for Railroad-Crossings, of which the following is a specification.

Figure 1, Sheet 1, is a top view of our improved gate. Fig. 2, Sheet 2, is a side view of the same. Fig. 3, Sheet 2, is an end view of the same.

The object of this invention is to furnish an improved gate for railroad-crossings, which shall be simple in construction, light, strong, durable, inexpensive in construction, convenient in use, and easily and quickly opened and closed.

The invention consists in the combination of the vertical frame provided with the side posts, the vertical frame provided with the short side posts, and the two trusses with each other, for supporting suspended railroad-gates and their operating mechanism; and in the combination of the two sets of chains or ropes, the two sets of pulleys, the two weights, the four pairs of bevel-gear wheels, the horizontal shaft, the upright shaft, and the crank-shaft with each other, and with the two gates and the supporting frame-work, as hereinafter fully described.

A and B are the vertical frames at the sides of the railroad, and which are made double, as shown in Figs. 1 and 3, so that they may serve as guides to the gates C D as they are raised and lowered.

The main posts of the frames A B are at such a distance apart as the width of the intersected roadway may require. At the outer sides of the main posts of the frame A, and at a little distance from them, are placed posts *a'*, which are made double and have the space between their parts partially filled with timber, to form grooves to receive the ends of the gate C and prevent any longitudinal movement of the said gate when lowered and when moving up and down. The side posts, *a'*, are also designed to support the downward pressure of the balancing-weights E. At the outer sides of the posts of the frame B, and at a lit-

tle distance from them, are two short posts, *b'*, which have grooves formed in their inner sides to receive the ends of the gate D and prevent any longitudinal movement of the said gate when lowered.

To the gates C D, between the parts of the main posts of the frames A B, are attached the ends of two pairs of chains or wire ropes, F G. The chains or ropes F pass over guide-pulleys H, pivoted to the top bars of the frames A at the outer sides of the upper ends of the main posts of the said frame, and over guide-pulleys I, pivoted to the top bars of the said frame A at the upper ends of the side posts, *a'*. The chains or ropes G pass over guide-pulleys J, pivoted to the top bars of the frame B and to the top bars of the trusses K. We prefer to pivot the guide-pulleys J to swivel-bearings, to avoid the necessity of making a different bearing for every change in the angle of crossing. From the guide-pulleys J the chains or ropes G pass around guide-pulleys L, pivoted to the top bars of the frame A and to the top bars of the trusses K, and over the guide-pulleys I.

The pulleys I may be double grooved pulleys, or single pulleys placed side by side.

The ends of the two chains or ropes F G at the outer sides of the said posts *a'* are attached to two weights, E, which move up and down along the said side posts, *a'*, and may be inclosed in boxes, or not, as may be desired.

The weights E should be sufficiently large to balance the gates C D, so that all the gate-man will have to do in raising and lowering the said gates C D will be to overcome the friction of the mechanism, which will be sufficient to hold the gates securely in any position into which they may be raised, and at the same time will allow them to be raised and lowered easily.

M is a shaft, placed parallel with the frame A, and revolving in bearings attached to the top bars of the trusses K. To the ends of the shaft M are attached bevel-gear wheels N, the teeth of which mesh into the teeth of the bevel-gear wheels O, attached to the inner journals of the pulleys H.

To the outer journal of one of the pulleys H is attached a bevel-gear wheel, P, the teeth of



which mesh into the teeth of the bevel-gear wheel Q, attached to the upper end of an upright shaft, R. The shaft R revolves in bearings attached to a main post of the frame A, and to its lower end is attached a bevel-gear wheel, S, the teeth of which mesh into the teeth of a bevel-gear wheel, T, attached to the shaft of the crank U. The crank-shaft U works in bearings attached to a main post of the frame A, in such a position that its crank may be conveniently reached and operated by the gateman.

With this construction, when the gateman turns the crank U in one direction, he raises so much of the gate C that the weights E overbalance the gates C D, and the said gates rise together. When the gateman turns the crank U in the other direction, he raises so much of the weights E that the gates C D overbalance the said weights E, and the gates descend together.

The frames A B are connected at their main posts by the two trusses K. Each of the trusses K is formed of two pairs of longitudinal bars, connected by short connecting-bars inclined alternately in opposite directions, as shown in Fig. 3. The trusses K are placed at right angles or at an oblique angle with the frames A B, according as the roadways cross each other at right angles or at an oblique an-

gle. The trusses hold the frames A B in position, and at the same time support the inner parts of the main posts of the said frames against the side strain of the weight, and thus allow them to be made of lighter timber than would otherwise be possible.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the vertical frame A, provided with the side posts, *a'*, the vertical frame B, provided with the short side posts, *b'*, and the trusses K with each other, for supporting suspended railroad-gates and their operating mechanism, substantially as herein shown and described.

2. The combination of the two sets of chains or ropes F G, the two sets of pulleys H I and J L, the two weights E, the four pairs of bevel-gear wheels N O, N O, P Q, S T, the horizontal shaft M, the upright shaft R, and the crank-shaft U with each other, and with the two gates C D and the supporting frame-work A B K, substantially as herein shown and described.

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Witnesses:

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C. SEDGWICK.