(No Model.) 2 Sheets—Sheet 1.

M. B. MILLS.

GATE.

No. 346,121. Patented July 27, 1886.

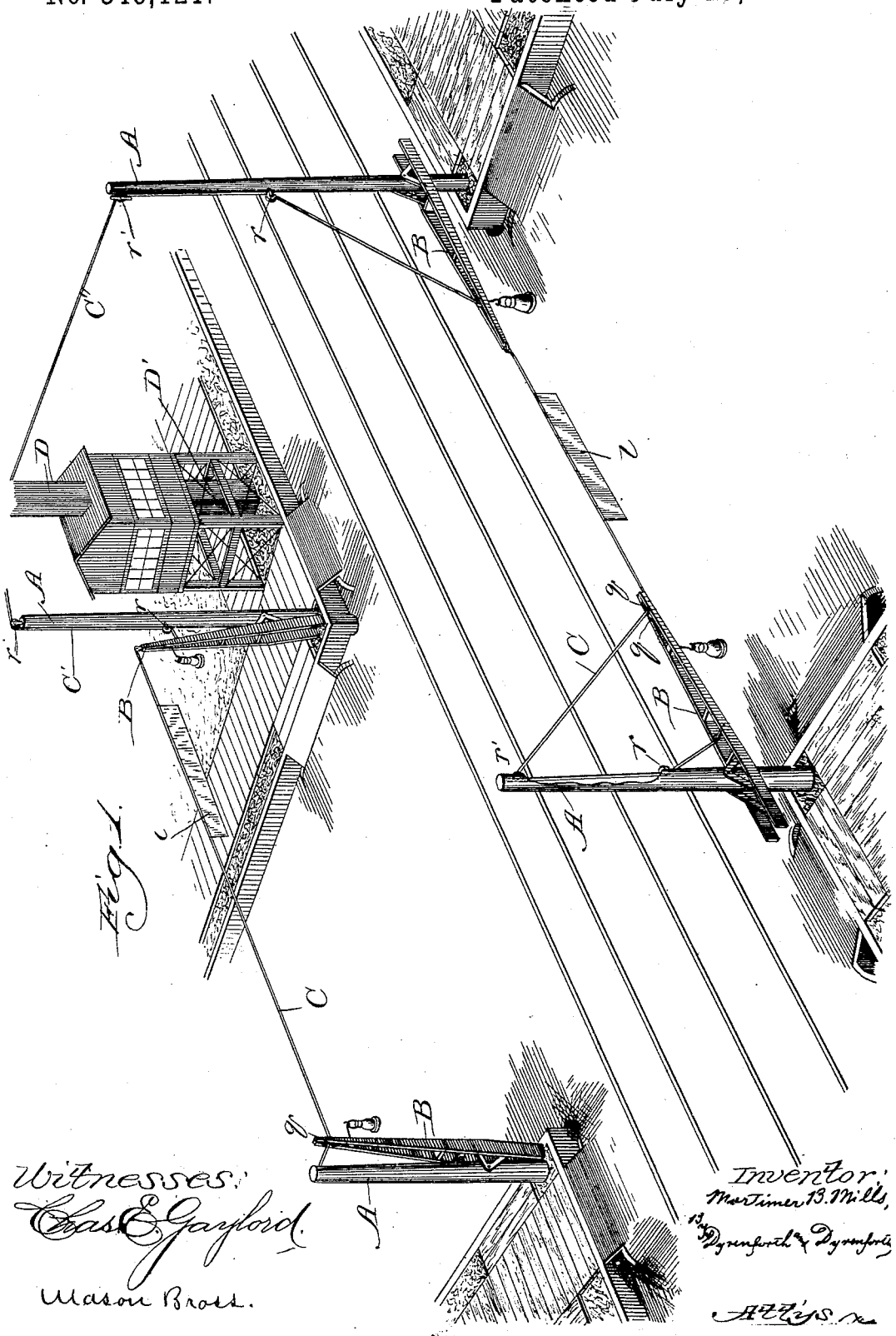

Fig. 1.

Witnesses:
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(No Model.)

2 Sheets—Sheet 2.

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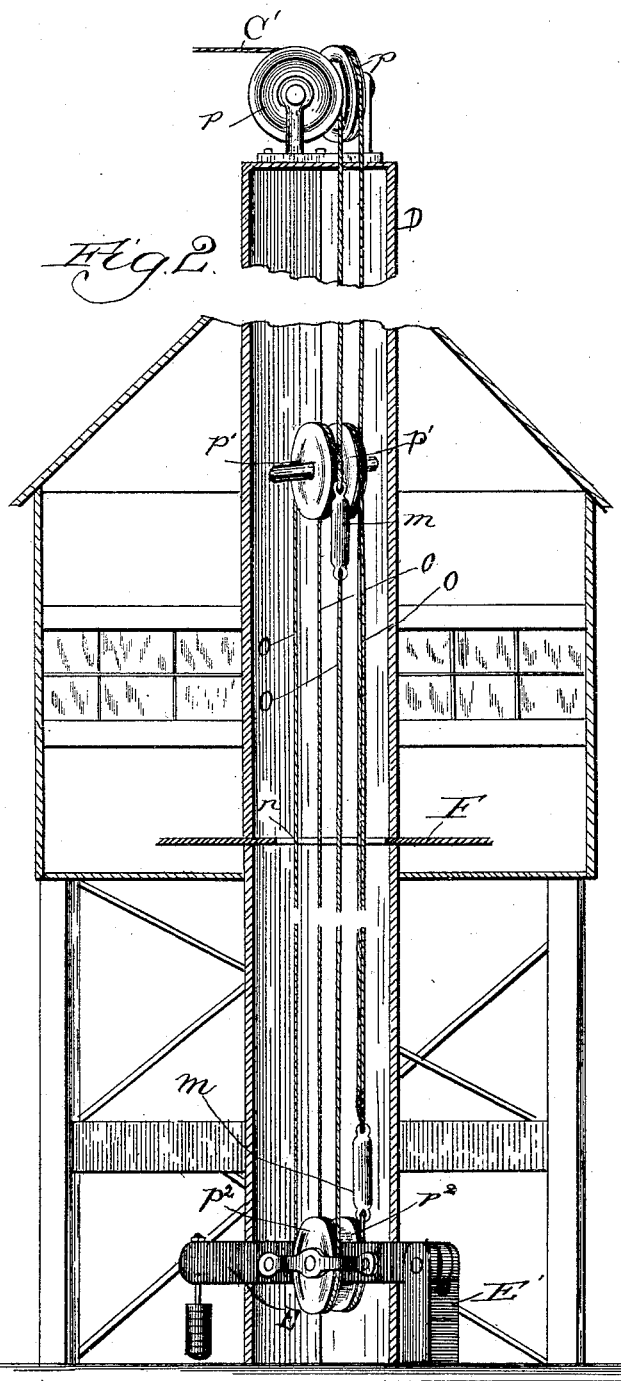
Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

MORTIMER B. MILLS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SAFETY GATE COMPANY, OF SAME PLACE.

GATE.

SPECIFICATION forming part of Letters Patent No. 346,121, dated July 27, 1886.

Application filed Septmber 21, 1885. Serial No. 177,752. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER B. MILLS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gates; and I hereby declare the following to be a full, clear, and exact description of the same.

My present invention is intended to afford an improvement upon that for which I filed, on the 6th day of August, 1885, an application for Letters Patent of the United States, Serial No. 173,692, and entitled "improvement in gates."

While I do not depart from the essential principle of the construction set forth in my aforesaid application—viz., that of forming the barrier by means of a cable connecting the swinging arms or levers—it is my object to provide a device of more simple construction and operation, whereby also the cost of manufacture shall be reduced to a minimum.

To these ends my invention consists in the general construction of my improvement, and also in certain details of construction and combinations of parts, all as hereinafter more fully set forth.

Referring to the drawings, Figure 1 represents, in perspective, my improved gate applied in position upon opposite sides of a railroad-track at the crossing, showing also the cabin from which the operation of both gates is effected; and Fig. 2 is a perspective view taken from a position corresponding with the left-hand angle of the cabin, which is in section, and showing the mechanism to which the operator applies himself for the purpose of actuating the gates.

It will be seen from the following description that the device herewith presented differs from that forming the subject of my aforesaid former application principally in the manner of connecting the cable and swinging arms, whereby one cable and the movable weights attached to its extremities, as also the windlasses, are omitted, and the preferred form of hollow posts is rendered purposeless.

A represents the posts, preferably in the form of poles, resembling telegraph-poles, of the desired height to permit raising, as hereinafter described, the barrier forming the gate to an elevation conforming to the municipal requirements in such matters.

B denotes the gate bars or levers, which are pivotally hung, as shown, behind their centers of gravity upon the posts A, to swing in vertical planes. A cable, C, is attached at one extremity to a bar or lever, B, on its upper side, extends over pulleys or guides *r* and *r'*, along the adjacent post A, thence through the bar or lever B, toward its forward extremity, between friction-pulleys *q*, journaled therein parallel with the track, to the bar upon the adjacent post, to the forward extremity of which it is fastened. Another cable, C', forming practically an extension of the cable C, is fastened at one end to the upper side of the last-named bar or lever B toward its forward extremity, extends thence upon the pulleys or guides *r* and *r'*, along the adjacent post A, to the operator's cabin. The latter is ordinarily elevated, as shown, above the level of the track, to permit an extended view along the same. A vertical inclosure, D, extends upward from the roof of the cabin, communicating with its interior, and another, D', in line with the first named, extends from the lower part of the cabin to the ground. If desired, the part D may form a continuous inclosure, resting on the floor of the cabin, as shown in Fig. 2, and having an opening in one side to permit access to its interior. The cable C' passes over a pulley, *p*, journaled upon the inclosure D.

Where two gates are employed, as represented, one on each side of the railroad track, two pulleys, *p*, are used, and placed at an angle to each other, as shown in Fig. 2, to be in line with the direction in which the cables, which pass over them, extend. Inside the cabin, directly underneath the pulleys *p*, are pulleys *p'*, journaled upon suitable shafts, or within the inclosure D, as shown, if the latter is continuous, and each connected by an endless rope, *o*, to which the cable C' is properly connected with a pulley, p^2, journaled upon a lever, E, below the surface of the floor F of the cabin, in which is provided an opening, *n*, in line with the inclosures D and D', for the passage of the ropes *o*, and the lever E is ful-

crumed at one extremity to a vertical post, E′, and is weighted toward its opposite extremity, to maintain the ropes *o* taut.

The lever mechanism E E′ is contained, mainly, within the inclosure D′, as shown.

If desired, a separate weighted lever, E, may be provided for each pulley p^2, thereby to cause the weight to keep taut each rope *o*, if there shall be any difference in their lengths.

A weight, *m*, forms a connecting-link in each rope *o*, and is sufficiently heavy to operate, together with the friction attendant upon the parts, owing to the manner of their connection, to balance the bars or levers B, with which the ropes *o* are respectively connected.

It will be noticed that the posts A on opposite sides of the track nearest the operator's cabin are higher than the other two posts. This is to cause the cable C′ to extend across the track at a sufficient elevation to be out of the way of passing cars, for which reason also, in addition to the one already mentioned, the cabin is elevated.

The gate bars or levers of both gates are very easily operated together or independently to raise or lower the levers B and cables C by pulling up or down upon either or both of the ropes *o*, very little exertion being required on the part of the operator, since the weights *m* balance the gates; and, owing to the close proximity of the ropes *o*, both may be grasped in one hand and both gates may be thus actuated.

The cables C may be provided with red cloth *l*, or other suitable devices, to afford signals.

It is not broadly new to construct a gate having arms pivotally secured upon posts, and a cable connecting the arms to form with the latter, when lowered, a barrier; and I do not claim such construction, broadly, since I am aware of a gate having bars or posts and provided with weights, and combined with a rope attached to the top of one bar passing over a pulley on the other bar and connected to a drum, whereby the bars are pulled down together, and the rope forms a part of the gate when the bars are down.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the posts of a gate, bars or levers pivotally secured thereon, friction-pulleys upon the bars, and guides *r r′* upon the adjacent posts, a cable connecting the bars to form a barrier with the same when lowered, the said cable being secured at one extremity toward the center of one bar or lever, passing thence over the guides and between the friction-pulleys, and secured at its opposite extremity at the forward part of the opposite bar or lever, and means, substantially as described, for actuating the bars or levers and cable, substantially as set forth.

2. A gate comprising posts A, bars or levers B, pivotally secured thereon behind their centers of gravity, to form with the same, when lowered, a barrier, a cable secured at one extremity toward the center of one bar or lever, which bar is provided toward its forward end with friction-pulleys *q*, pulleys *r r′* on the adjacent posts, the said cable passing over the pulleys *r r′* and between the said friction-pulleys, and secured at its opposite extremity toward the forward end of the opposite bar or lever, B, and a cable, C′, secured at one end to the last-named bar or lever, and passing thence over pulleys *r r′* and over pulley *p*, supported on journals at the operating-station, an endless rope, *o*, weighted to balance the bars or levers and connected with the cable C′, and passing over pulleys p' p^2, supported at its opposite extremities on journals at the operating-station, and means, substantially as described, for maintaining taut the said endless rope, the parts being combined to operate as set forth.

3. A gate comprising posts A, bars or levers B, pivotally secured thereon behind their centers of gravity, a cable, C, connecting together the bars or levers, and forming, with the same, when lowered, a barrier, the said cable being secured at one extremity toward the center of one bar or lever, provided with friction-pulleys *q* toward its forward ends, and passing thence over pulleys *r r′* upon the adjacent post, between the said friction-pulleys, and secured at its opposite extremity, toward the forward end of the bar or lever on the opposite post, the said pulleys *q*, and friction-pulleys *r r′*, a cable, C′, secured at one end to the last-named bar or lever B, and passing thence over pulleys *r r′* upon the adjacent post and over a pulley, *p*, supported on journals at the operating-station, an endless rope, *o*, weighted to balance the bars or levers, and connected with the cable C′ and passing over pulleys p' p^2, supported at its opposite extremities on journals at the operating-stations, and a weighted lever, E, upon which the pulley p^2 is journaled, and operating to maintain taut the endless rope *o*, the parts being combined to operate substantially as described.

4. The combination of a cabin provided with an inclosure, D, extending through its roof, and an inclosure, D′, extending from its floor, pulleys *p* upon the inclosure D, pulleys p' within the cabin, and pulleys p^2 below the pulleys p', and supported on a weighted lever, E, endless ropes *o*, connecting together the pulleys p' and p^2, and provided with weights *m*, posts A, supporting swinging bars or levers B, having friction-pulleys *q*, cables C, fastened to bars or levers B, and passing thence over pulleys *r r′* and between the said friction-pulleys, and fastened to bars or levers B on opposite posts, and cables C′, fastened to the last-named bars or levers, and passing over pulleys *r r′* and *p* to the endless ropes *o*, with which they are connected, the whole being constructed and arranged to operate substantially as described.

MORTIMER B. MILLS.

In presence of—

MASON BROSS,

WM. SADLER.