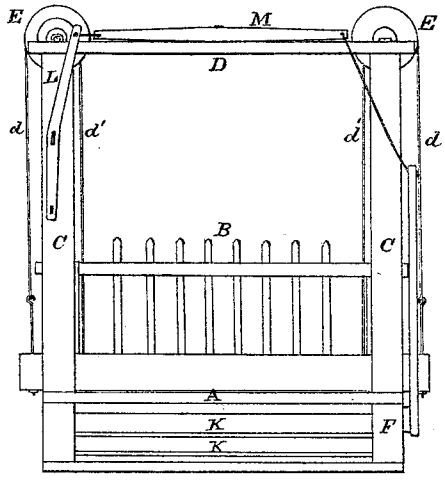
(52.)

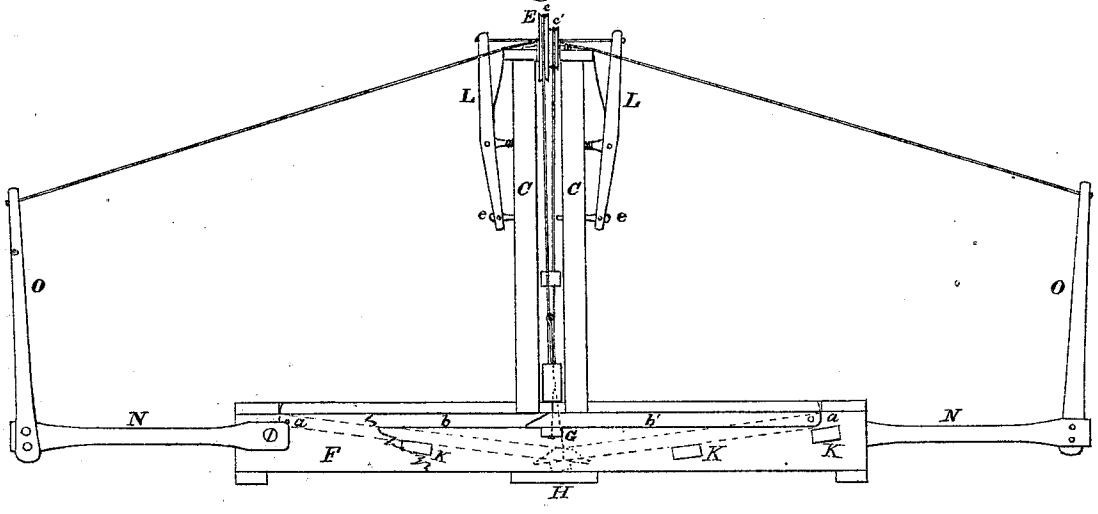
V. C. Newland's
Self Operating Gate.

No. 121,654. Patented Dec. 5, 1871.

Fig, 1.



Fig, 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

VINCENT CAMPBELL NEWLAND, OF SPARTA, WISCONSIN.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. 121,654, dated December 5, 1871.

To all whom it may concern:

Be it known that I, VINCENT CAMPBELL NEWLAND, of Sparta, in the county of Monroe and in the State of Wisconsin, have invented a new and useful Improvement in Self-Opening Gates; and do hereby declare that the following description, taken in connection with the accompanying drawing hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

My invention relates to machinery used for the operation of gates for teams and vehicles; and consists of an arrangement of pulleys by which the weight or bearing of the team or vehicle on the platform below causes the gate to open, and after passage through it the gate is closed by its own weight.

In the accompanying drawing which illustrates my invention and forms a part of the specification thereof, and in which corresponding parts are represented by similar letters—

Figure 1 is a front elevation of my improved gate, and Fig. 2 is a side elevation of same.

The construction and operation of my invention may be described as follows:

In the drawing referred to, A represents the platform on which vehicles pass in going through the gate. B designates the gate standing across the center of the platform, each end being placed between two upright posts, C C, allowing it to slide up and down in the operation of opening and closing. D indicates the top of the frame, supported at either end by the posts C C. The frame in which the gate operates is provided with two pulleys, E E, each of which is set in a slot cut in the top at the upper extremities of the posts C C. The platform A is divided in the center, the two sections coming together directly under the gate; and at the opposite extremities each section is provided with a coupling or hinges, *a a*, by which it is attached to the frame or base F, thus allowing the middle portions of the platform to yield to a downward pressure, as hereinafter stated. The flooring or surface-boards of each section of the platform rest upon the strips *b b'*, to which they are fastened, running longitudinally from the outer extremities of platform to the center, and extending a little beyond it, the inward extremities of the strips being somewhat sharpened or beveled, and resting upon the cross-tie G, to which the ends of the strips *b'* are rigidly fastened. The pulleys E E are made double, each one having two grooves, *c c'*, that part of the pulley with the groove *c'* being made smaller in circumference than that with the groove *c*. To each of the pulleys are attached two cords or ropes, *d d'*, one being fastened firmly in the center of each of the grooves, and these are so adjusted that when the pulleys revolve one cord on each pulley is unwound, while the other is wound up. The cords *d*, being wound outwardly on the pulleys, pass down to the ends of the lower bar of the gate and are fastened to it, while the cords *d'*, being wound inwardly on the pulleys, pass down through apertures in the bars of the gate and in the platform to the cross-tie G, to which they are fastened. By this arrangement the inner ends of the two sections of the platform A, being supported by the cross-tie G and cords *d'*, are kept in a perfectly horizontal position when the gate is closed. The frame or base F is provided with the cross-beam H, below the center of the platform, and the other cross-beams K K, upon which the platform rests when depressed.

The gate is operated by the weight of the team or vehicle which passes upon it, causing a downward bearing upon one section of the platform, which is communicated to the other by the strips *b* or *b'* and cross-tie G, and both are brought to oblique positions, the inward extremities resting on the cross-beam H. Simultaneously the gate B is raised by the operation of the cords and pulleys proportionately as the central portion of the platform is borne downward, thus allowing the team or vehicle to pass under it, after which, the platform being relieved from pressure, the gate sinks again by its own weight to its former position. The gate is kept closed by means of two bolts, *e e*, each passing through one of the posts C C, diagonally opposite. These bolts are held in position by the levers L L, which are pivoted to the posts at the center, and at the upper ends provided with springs, which keep the lower ends, in which the bolts *e e* are pivoted, pressed to the gate-posts. When it is desired to open the gate the levers L L are moved and bolts withdrawn by a third lever or bar, M, pivoted at the center on the top of the gate-frame, and connected at each

end with one of the levers L L, by a cord. In order that the bar or lever M may be moved by a passenger, a horizontal bar, N, is attached by a screw or bolt to the base F, at the corner opposite each of the levers L L and extending lengthwise, the outer end of the bar N being rigidly fastened to the upright bar O. From the upper end of the bar O a cord passes to the end of the lever or bar M, so that a depression of the bar N by means of the bar O operates lever M which works the levers L L.

Having described my invention, I claim—

The platform A, gate B, posts C, pulleys E, ropes *d* and *d'*, levers L and bar M, when combined and operating together as described.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of June, 1870.

VINCENT CAMPBELL NEWLAND.

Witnesses:

S. N. DICKINSON,

THOS. B. TYLER. (52)