

Michael Barthel

117143

Farm Gate.

PATENTED JUL 18 1871

Fig. 1.

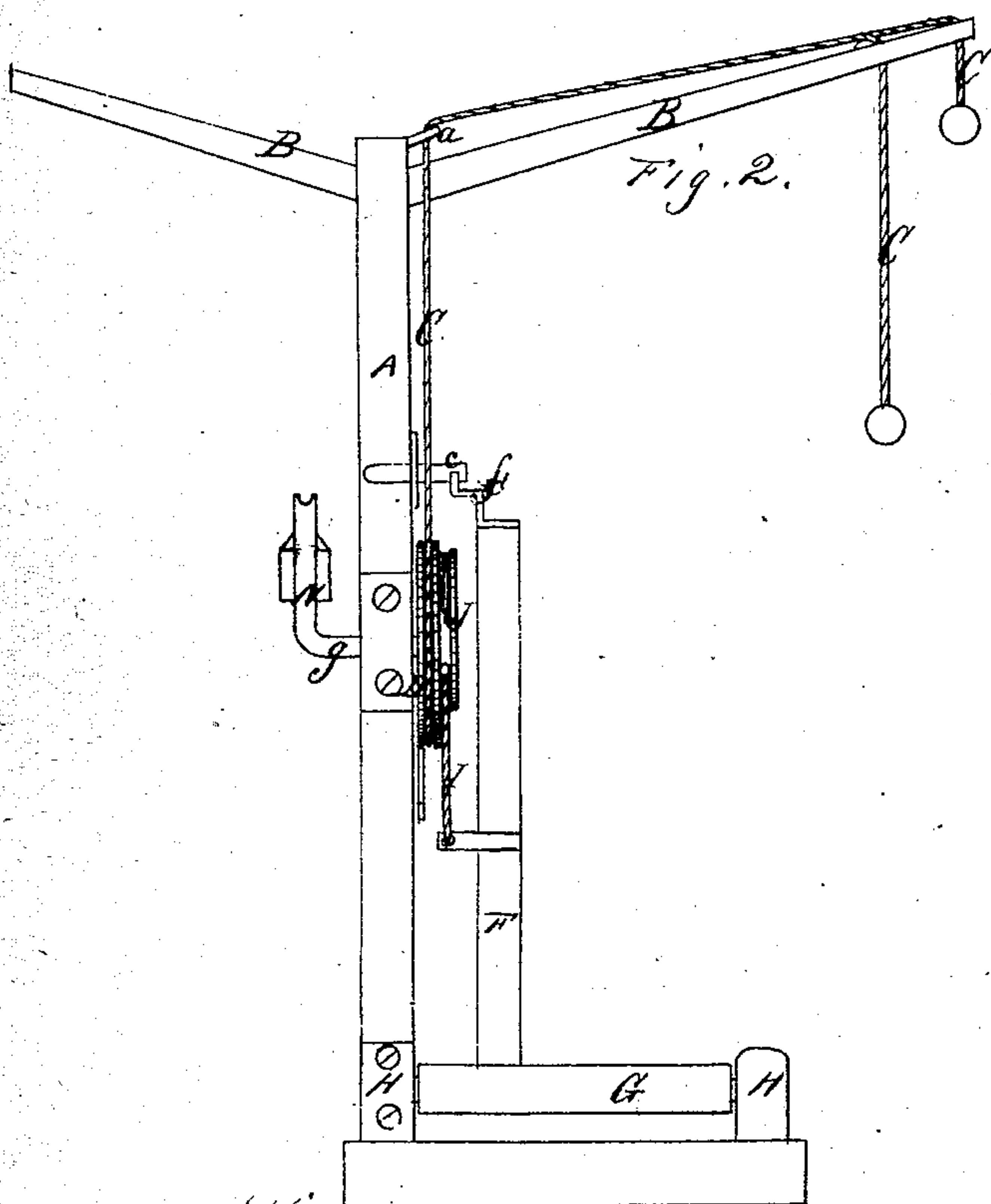


Fig. 2.

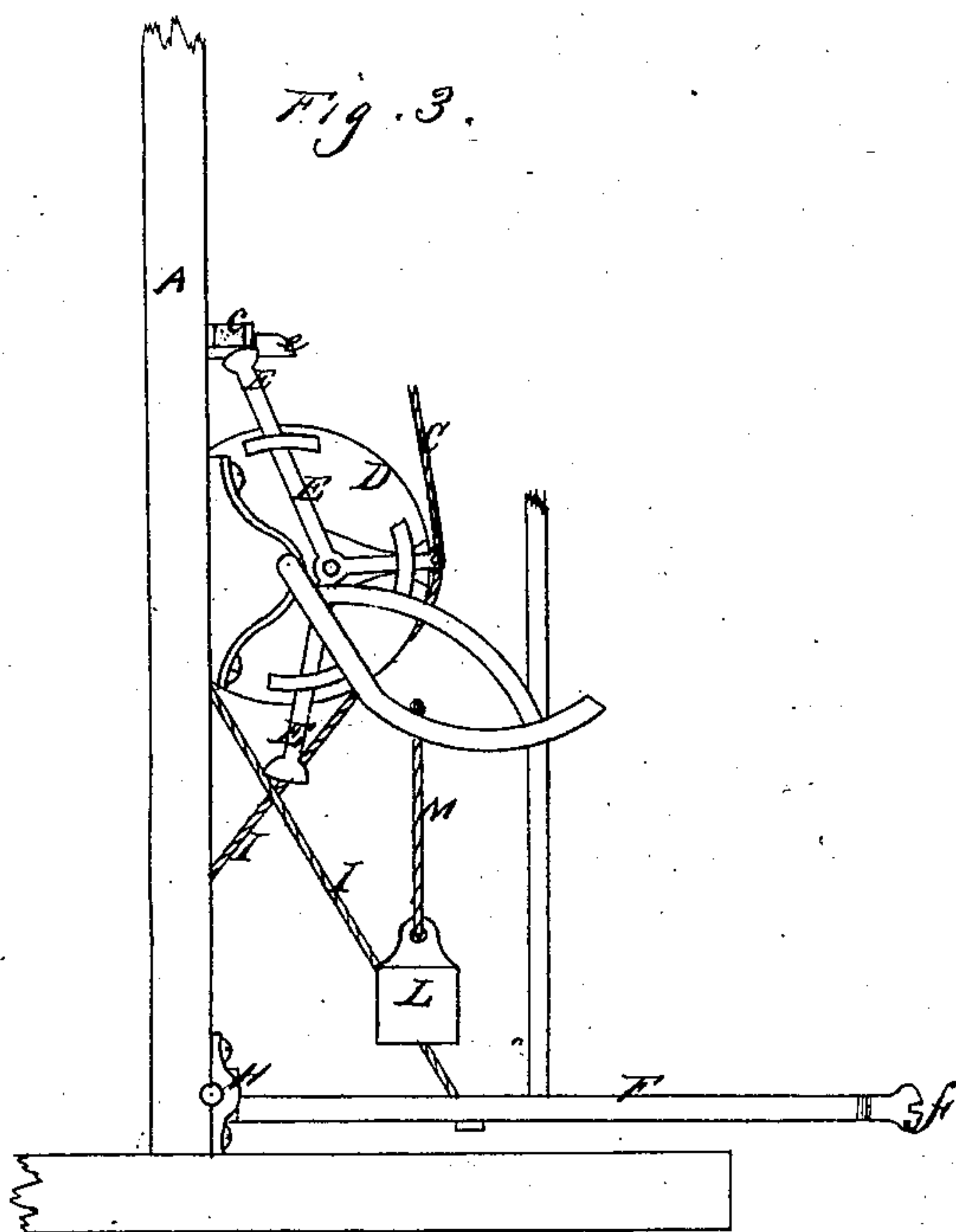


Fig. 3.

Witnesses.
Wm. H. Rummel
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UNITED STATES PATENT OFFICE.

MICHAEL BARTHEL, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN FARM-GATES.

Specification forming part of Letters Patent No. 117,143, dated July 18, 1871.

To all whom it may concern:

Be it known that I, MICHAEL BARTHEL, of the city and county of San Francisco, State of California, have invented an Improved Farm-Gate; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

The object of my invention is to provide an improvement in that class of farm or other gates which is intended and arranged to be opened and closed without leaving the carriage or vehicle when approaching the gate from either direction. It consists of a gate having a horizontal axis upon which it turns near the bottom so as to be raised on end when open. A post sufficiently high is placed near this end of the gate, and arms extend in either direction so far that the operating-cords will hang conveniently for use when approaching the gate. These cords pass over pulleys at the top of the post and thence around a large wheel or pulley near the top of the gate so that the wheel can be turned by the cords in either direction. An eccentric pulley is attached to this wheel, and the cords which move the gate pass around the eccentric, so that when the gate is first started the cords act upon the smallest radius of the eccentric and thus have the greatest power when the weight is greatest. A sort of latch is so fixed as to hold the gate in place either open or shut, and the operating-cords act on this latch and raise it before the gate is moved. By this device I am enabled to so counterbalance the gate that it will remain in either of its positions without making it excessively heavy to open or close. The counter-balance consists of a weight, which is attached to an arm-wheel or eccentric, so calculated as to nearly balance the gate in all its positions and allow it to be easily moved.

To more fully explain my invention, reference is made to the accompanying drawing forming a part of this specification, in which—

A is a stout post, sufficiently high to allow the arms B to extend out over the carriage-way so as to carry the operating-cords within easy reach of the occupant of the carriage. The cords C may have light weights at their depending ends

to keep them in place. These cords pass over pulleys at *a* and *b* and extend down, one on each side of the wheel D, being so attached that by pulling one or the other they will rotate the wheel in a direction to open or close the gate, as the case may be. The ends of these cords are attached to a peculiarly-shaped lever, E, Fig. 3, which has a limited motion sufficient to operate the latch *c*. The catches *e* and *f* corresponding to the latch are secured, as shown, one on the gate near the bottom and one on the rear or inside post F. The gate F' has a horizontal axis, G, extending across the post F near the bottom rail of the gate, and turning in boxes H, so that the gate can be turned about the axis and raised upon its end when open. The movements of the gate are made by cords I I, which are attached, one to the bottom of the gate and one to the post F, as shown. These cords extend around an eccentric pulley, J, so as to meet from opposite directions, and are so secured that when either of them begins to move the gate from its position they will act on the smallest radius of the eccentric and thus have the greatest power, the other arm of the lever being the radius of the wheel D, to which the eccentric is secured. The axle *g*, upon which the wheel and eccentric turn, extends out to one side of the post A and has there a crank-arm, N, with an eccentric-grooved rim, K, or an equivalent wheel, so that the weight L can be suspended from a cord, M, which lies in the groove. When the gate is closed the weight is suspended from the point furthest from the center, and, consequently, exerts the greatest force upon the gate to raise it. As the gate rises the shape of the arm or rim K will bring the weight nearer to the center, and when the gate is poised the weight will hang in a line with the axle *g*. As the gate passes to its final position upon its end the weight will be carried beyond this line and then retard the motion of the gate, thus compensating throughout the motion in either direction so nearly that the gate will stand at any point. By the use of the latch I am enabled to very nearly equalize the weight and gate, as there is no necessity of any overweight of the gate to keep it closed. A curved rack on the gate and an operating-pinion on the wheel might be used. I also construct my gate with a part of the counterpoise placed upon the post F,

and thus lessen the weight L, which can then be suspended from a simple wheel instead of the arm here shown.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The wheel D with its cords C, and the eccentric pulley J with its cords I I or equivalent devices, in combination with the gate F' and horizontal axis G, when constructed and operating substantially as herein described.

2. In combination with the wheel D and cords C, the peculiar lever E, latch *c*, and catches *e f*, when applied to a farm-gate, substantially as and for the purpose above described.

3. The crank-arm N with the eccentric rim K or an equivalent device, and the weight L, in combination with the wheel D and eccentric J, with their operating-cords, when constructed and operating substantially as herein described.

4. The gate F' having the axis G, in combination with the wheel D and eccentric J, with their operating-cords and the holding, latch, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand and seal.

MICHAEL BARTHEL. [L. s.]

Witnesses:

WM. H. RUNNELS,

GEO. H. STRONG.