D. G. Goodall.

Automatic Gate.

No. 87,839. Patented Mar. 16, 1869.

Fig: 3.

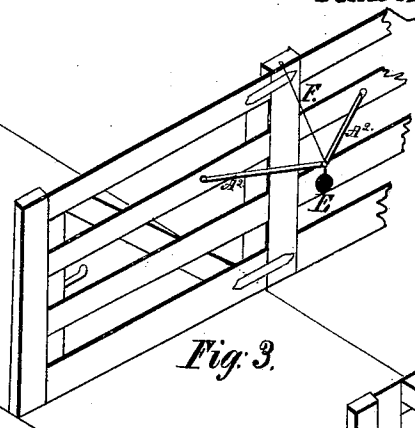

Fig: 3.

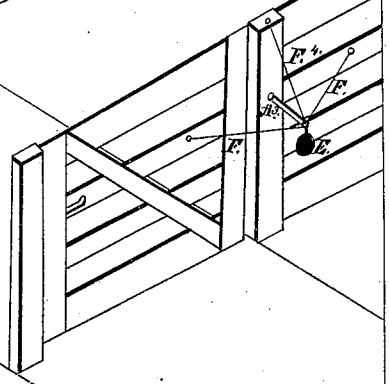

Fig: 4.

Fig: 1.

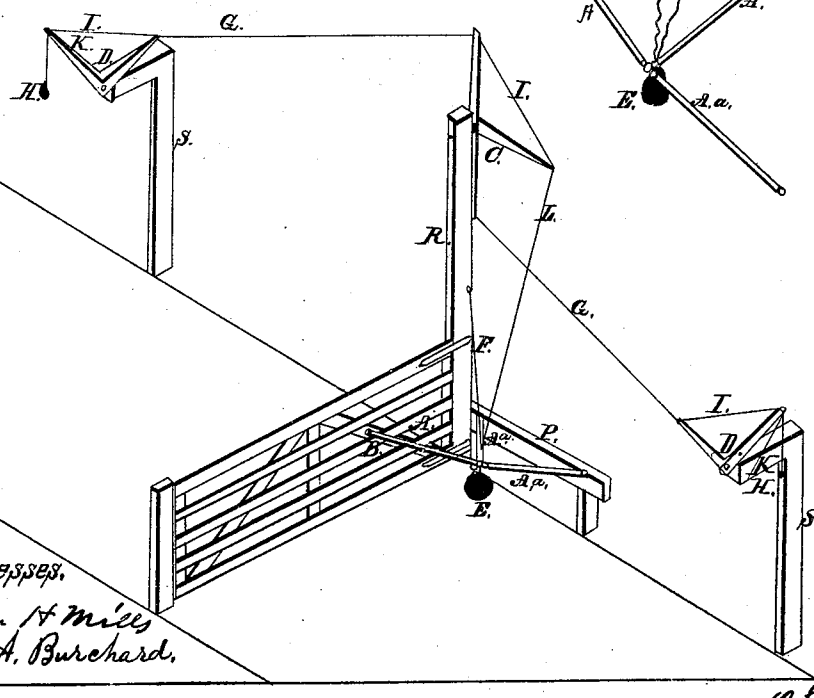

Fig: 2.

Witnesses,
Regan & Mills
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United States Patent Office.

DAVID G. GOODALL, OF BELOIT, WISCONSIN.

Letters Patent No. 87,839, *dated March* 16, 1869.

IMPROVEMENT IN DEVICE FOR OPERATING GATES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DAVID G. GOODALL, of Beloit, Rock county, in the State of Wisconsin, have invented certain new and useful Improvements in the Method of Closing Hand-Gates, and Opening, Closing, and Fastening Carriage-Gates; and I do hereby declare the following description and accompanying drawings 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 nature of my invention and improvements consists in the employment of a peculiar device for operating carriage and hand-gates; the former by the employment of the pull-wire, which is done without alighting from the carriage or saddle, and is held open, and firmly secured when closed, without the use of a latch. The latter is self-closing, and is held by any suitable latch.

In the drawings—

Figure 1 is a perspective view of a carriage-gate, with my device for opening and closing attached thereto;

Figure 2 is a view of said opening and closing-device detached;

Figure 3 is a perspective view of a hand-gate opening inward, with my device attached, in which the gate is so closed by the pushing-action of the device in question; and

Figure 4 is a similar view of a hand-gate, opening outward, and is self-closed by the pulling-action of my said device.

B, fig. 1, represents a carriage-gate.

A *a* are oscillating levers, attached by a loose joint to the sill P, which is fastened at right angles to the heel-post R of the gate.

A is a connecting brace-rod, the outer end being loosely jointed to the rail of the gate B, and to the inner ends of the oscillating levers A *a*, as shown, connecting in the centre with each other by a loose joint, at which place, also, the weight E is suspended.

F is a jointed check-wire or chain, the lower end of which is made fast at the reciprocating centre joints of the brace-rod and oscillating levers in question; the upper end of which is made fast to the heel-post R of the gate, so as to prevent a too great depression of the weight E.

C is a double crank-lever, pivoted to the top part of the heel-post of the gate.

I is a supporting-wire to the same.

L is a draught-wire, having the upper end secured to the outward end of the horizontal arm of the double crank-lever C, and the lower end attached to the inner ends of the oscillating levers A *a*, at or near the point at which the weight E is suspended.

D D are crank-levers, having supporting-wires I I, forming quadrants or triangles, and are pivoted to the cross-bars, at the tops of the pull-posts S, as shown.

The inner pull-wires G G are attached to the inner ends or angles of the crank-levers D D, having pulls, H H, attached to the outer ends or angles thereof, the inner ends of the said pull-wires G G being fastened to the upper and lower ends, respectively, of the vertical bar of the said double crank-lever C.

The gate is opened by a rather quick draught of the pull H, at either approach to the gate, raising the weight E rather briskly, with the conjoining ends of the oscillating levers A *a* and connecting brace-rod A, to an angle of about forty-five degrees, pulling the gate open at the point of the dead-centre of the draught, between the opening and closing, by means of said pull; but the exhaustion of the pull, I place a few inches one side of the centre of gravity of the weight, as so supported, so that the gravitation of said weight, and the momentum acquired, shall complete the opening of the gate, when it is firmly held by said weight and the levers, until closed by the same pull and reversed action of said levers and weight.

This device may be attached, and employed to operate any ordinary swing or sliding gate.

Fig. 3 exhibits my device applied for closing a hand-gate, pushing it to, as shown, in which E is the weight, A^2 the oscillating levers, and F the check-wire, explained in fig. 1.

Fig. 4 is a hand-gate employing my device, in which the gate is closed by pulling, as shown, and in which A^3 is the oscillating lever, F F brace wires, F^4 the check-wire, and E the weight.

This device may be cheaply applied to any hand swing-gate.

In attaching my device to sliding gates, it is the same as shown in fig. 1, excepting that the gate slides in a perpendicular line, to act in its best position, from a point midway between the attachment of the outer ends of the oscillating levers A *a*, on the sill P, and the apex of said levers, the connecting-rod A acting in a straight line.

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

1. Broadly, the oscillating levers A *a*, weight E, connecting brace-rod A, and check-wire F, when constructed and arranged as shown at fig. 1, substantially as set forth and described, when employed for the purpose of operating at gate or gates.

2. In combination with the foregoing, the arrangement and employment of the draught-wire L, double crank-lever C, crank-levers D D, supports I I, pulls H H, pull-wires G G, pull-posts S S, post R, and sill P.

3. Broadly, the suspension of a weight on an oscillating or vibrating lever or levers, to effectually close hand-gates, by either pushing or pulling them to, after being opened.

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Witnesses:

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