T. Collier,

Automatic Gate,

No. 67723. Patented Aug. 13. 1867.

Fig. 2.

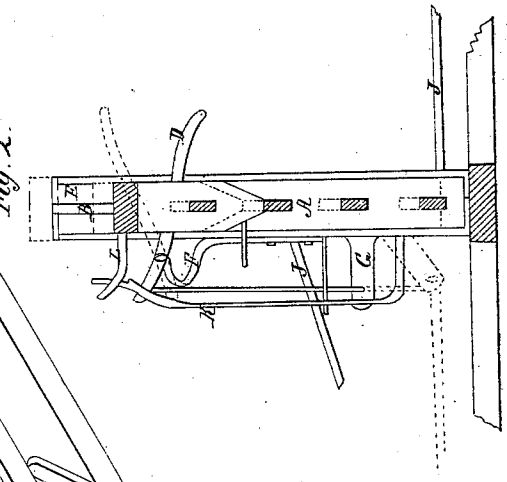
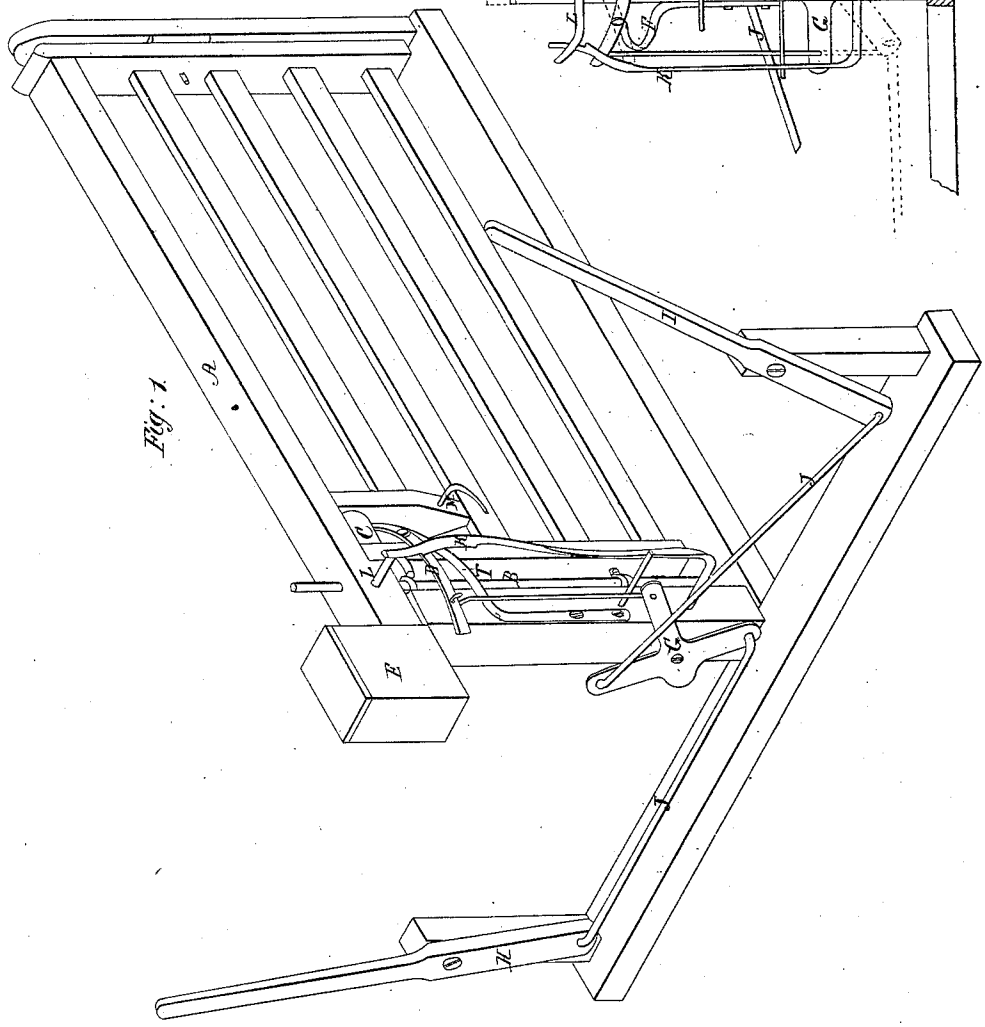


Fig. 1.



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THOMAS COLLIER, OF SPRINGFIELD, OHIO.

Letters Patent No. 67,723, *dated August* 13, 1867.

IMPROVEMENT IN FARM-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, THOMAS COLLIER, of Springfield, in the county of Clark, and State of Ohio, have invented a new and useful Improvement in Farm-Gates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my gate.

Figure 2 is a vertical elevation and section showing the method of operation.

My invention relates to that class of gates which are provided with instrumentalities whereby said gate may be opened or closed by a person in a wagon or on horseback without the trouble of dismounting; and it consists in the attachment of an adjustable inclined plane, upon which the gate is supported and caused to swing open or closed, as the said plane inclines in one direction or the other.

That others may understand my invention, I will particularly describe it.

My gate A is constructed in the ordinary manner, but the manner of hinging it is different. Instead of attaching it to one of the posts with the hinge connections as commonly used, I use a long round rod, B, or its equivalent, upon which the gate A may have a vertical movement of greater or less extent, as may be required. Near the rear end of the gate A is placed the friction-roller C, which runs upon the inclined plane D, upon which the weight of the gate is supported. At the rear end of the top bar of the gate is the counterpoise E, which should present side surface enough to counterbalance the force of the wind upon the gate. The inclined plane D is pivoted upon the arm F or its equivalent, and as it is inclined one way or the other—the two movements being shown in fig. 2 in black and red lines—the gate swings open or closed. The inclined plane D is operated by the rock-shaft or bell-crank G and the two levers H I, with the connecting-rods J J. The levers H and I are attached to posts set in the earth at a suitable distance from the gate, so as to be within reach of the hand of a person sitting in a wagon and about to pass through the gate. The bell-crank G is attached by one of its arms to one end of the inclined plane D, and as the levers H I, or either of them, is moved on its pivot so as to shift the position of the bell-crank, the ends of the inclined plane D are shifted in their position. When the gate is shut, and it is desired to open it, the lever H or the lever I is vibrated on its pivot, and that end of D which is connected to the bell-crank G is depressed. At the same time the gate is raised vertically, because it always rests upon the inclined plane D, and this vertical movement is sufficient to free the latch at the other end of the gate, so that it may swing open, in obedience to the law of gravity, which causes it to descend from the highest to the lowest point of the inclined plane D. In order to keep the plane D in the desired position until the weight of the gate has been transferred from above to below the pivot upon which the plane D moves, I provide the latch K, which is here represented as a spring-rod, with an upper and a lower shoulder—the lower one to catch and retain the plane D when it is depressed, and the upper shoulder to do the same when it is elevated. As it is only required that the plane D should be so retained until the gate has passed the pivot of D, and as it is necessary that the plane D should be free to reverse its movements, I provide guards L M, the former of which pushes the latch K back from the plane D when the gate closes, and the latter does the same when the gate swings quite open.

It is evident that the exact details of construction herein shown and described need not be observed, while the principles of construction will not be varied; thus, while the gate opened or closed by descending from the higher to a lower part of an inclined plane, which passes around the centre or axis upon which the gate revolves, other and quite different devices may be used in place of the latch K and the guards L and M, as the stop-latches may be applied to the bell-crank G, or to the levers H I. The latch N is of some ordinary construction, and when the gate is lifted vertically, before it commences to open, the latch is lifted out of its stop-notch, and when the gate closes again it returns to its notch in the ordinary way.

Having described my invention, what I claim as new is—

The curved and pivoted bar D, located below the top of the gate A, and operated by the bell-crank G and levers H I, in combination with their connecting-rods, substantially as set forth.

The double-acting latch K, to hold the bar D inclined as desired, in combination with the guards L M, for the purpose set forth.

The counter-weight E, in combination with the hinge-bolt B and pivoted bar D, for the purpose of reducing friction upon said hinge-bolt when the gate is being elevated, as set forth.

THOMAS COLLIER.

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