H. M. WARD.

Gate.

No. 54,796. Patented May 15, 1866.

Fig. 1.

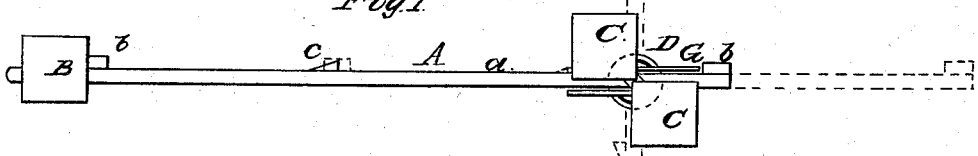



Fig. 3.

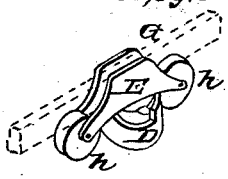



Fig. 5.


Fig. 4.

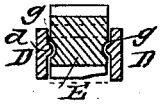
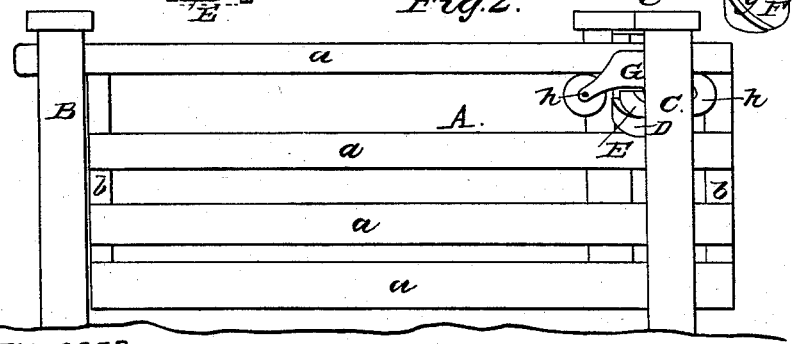



Fig. 6.


Fig. 2.




WITNESSES

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# UNITED STATES PATENT OFFICE.

H. M. WARD, OF STONE CHURCH, NEW YORK.

## IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **54,796**, dated May 15, 1866.

*To all whom it may concern:*

Be it known that I, H. M. WARD, of Stone Church, in the county of Genesee and State of New York, have invented a new and useful Improvement in Farm-Gates; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of my improved gate; Fig. 2, an elevation; Fig. 3, a perspective view of the self-acting joint; Fig. 4, a vertical section of the self-acting joint; Figs. 5 and 6, perspective views of the socket and bearing forming the joint.

Like letters of reference indicate corresponding parts in all the figures.

There is a class of gates for farm use in which the gate is first slid back half-way to balance and then is swung around bodily at right angles. In one device of this class a swivel-guide and friction-roller are employed under the upper rail, which allow the gate to be thrown back and swung around more easily. My improvement is similar in principle to this arrangement; but instead of the employment of a single friction-roller I employ two, so as to self-balance the gate, and also so arrange the joint that when slid half-way back the weight of the gate itself will serve to swing it around without aid of an operator.

As represented in the drawings, A is the gate, and B C C the posts.

The gate is made of rails *a a* and cross-cleats *b b*, in the usual way. It is provided with a stop, *c*, in the middle to gage the distance the gate is to be slid back to balance before it is swung around.

The post B serves simply to connect the opening end of the gate. The other posts, C C, with which is connected the joint, are set in the angular position indicated, and at such distance apart as will allow the gate to open at right angles to its closed position, as shown in red lines, Fig. 1.

Instead of employing the swivel-guide and single friction-roller, as in the device before referred to, I employ a joint of the following construction: Between the posts C C and beneath the upper rail of the gate is firmly fixed a socket, D, having spiral threads *d d* on its inside. In this socket fits a bearing, E, of corresponding shape, having threads *g g* matching with *d d*. On top of this bearing is firmly secured a guide, G, at whose opposite ends are jointed friction-rollers *h h*. The sides of the guide G receive the upper rail of the gate, which rail rests upon the friction-rollers.

In opening the gate the first action is to slide it back half-way, as indicated by dotted lines, Fig. 1, in which condition it is balanced by the two friction-rollers *h h*. Then by releasing the gate its weight on the bearing E will cause the latter to turn by reason of the spiral threads *d g* without the attendance of an operator, being thus self-acting. At the commencement of opening of course the top of the bearing E is sufficiently raised above that of the socket D to allow the necessary fall in swinging. The advantage of this arrangement over that at first referred to is obvious. In my device, when the gate is slid half-way back, it is perfectly balanced on the two friction-rollers, while in the other it cannot be balanced on the single one; and in my device, when thus balanced it swings back automatically, while in the other it must be swung around by manual force, necessitating the walking of the person around the quarter of a circle.

My arrangement is particularly valuable to teamsters who have to open the gate themselves.

I do not claim, broadly, the use of a swivel-guide and friction-roller, as I am aware that the same is not new; but

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

The self-acting joint made up of the socket D and bearing E, connected by the threads *d g* and the guide G, with two or more friction-rollers, *h h*, when used in combination with the gate A in such a manner as to balance it when slid half back and then swing it around automatically, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HORACE M. WARD.

Witnesses:

A. M'PHERSON,

JOHN H. WARD.