J. H. GRAVES.

Gate.

No. 56,039. Patented July 3, 1866.

Fig. 2

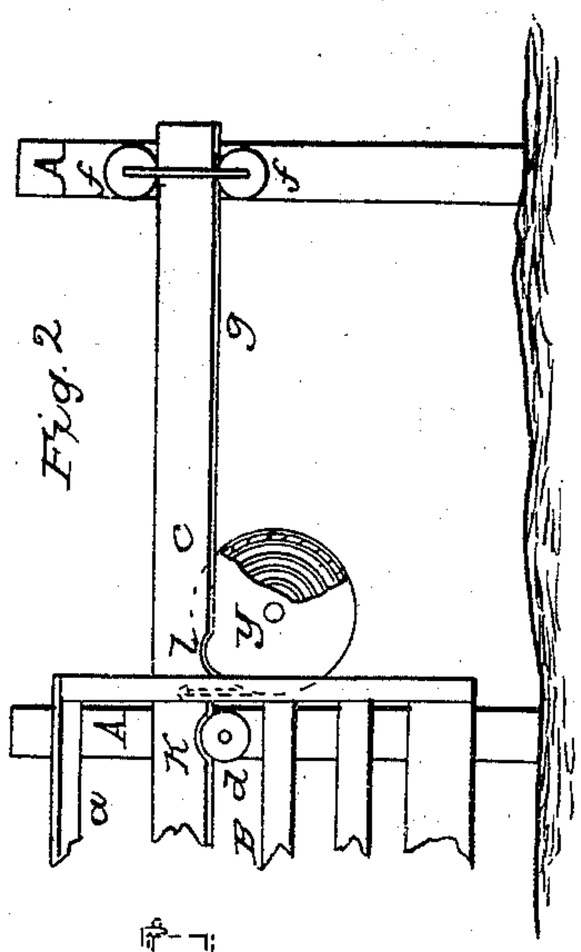


Fig. 8.

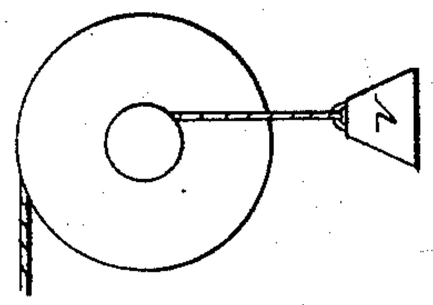


Fig. 6

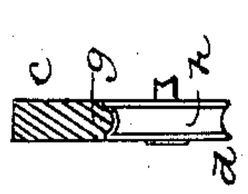


Fig. 5

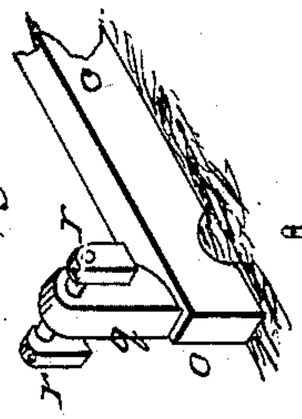


Fig. 7

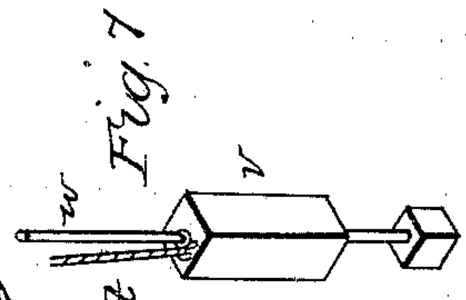
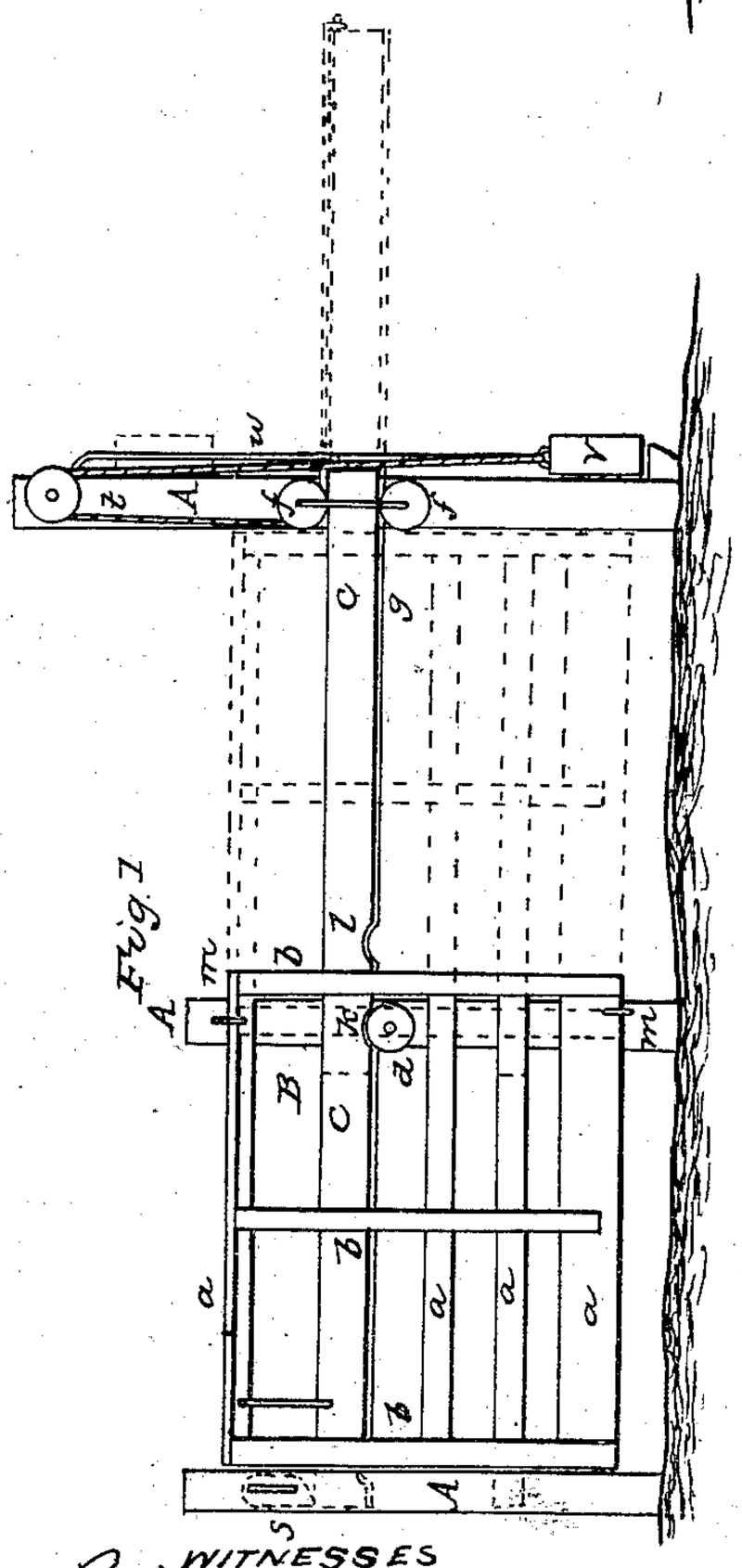


Fig. 1



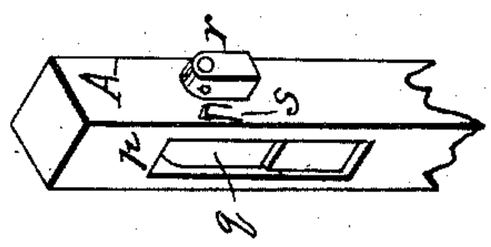
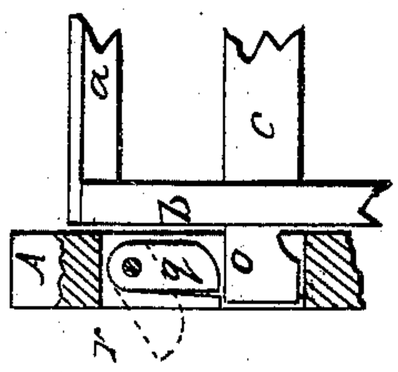


Fig. 3



WITNESSES

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JOHN H. GRAVES, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **56,039,** dated July 3, 1866.

To all whom it may concern:

Be it known that I, JOHN H. GRAVES, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in 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 side elevation of my improved gate; Fig. 2, a similar view of a portion of the same, but showing a modification of the device for closing the gate; Figs. 3, 4, and 5, views showing more particularly the catch arrangement for holding the gate closed; Fig. 6, a diagram showing the method of sustaining the extension-guide on the friction-roller; Fig. 7, view of the weight detached; Fig. 8, modification of the device for closing the gate.

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

My improvement belongs to that class known as "slide-gates," and is adapted both to farm and house yard use.

The invention consists essentially in providing the gate with an extension-guide running upon rollers and having sockets or depressions that sink upon the rollers at the extreme of each stroke to hold the gate in place; also, in the combination of a weight or spring therewith to produce the necessary reaction in closing; and, furthermore, in a peculiar catch arrangement for holding the gate closed.

As represented in the drawings, A A A are posts, and B the gate. The posts are of usual form. The gate may be made of rails and battens *a a b b*, or with pickets, or in any other desired manner. It is provided at a suitable position with a guide, *c*, in the form of a rail, which not only extends the usual length of the gate from the first to the second post, but projects beyond, so as to overlap the third post. This guide rests upon a friction-roller, *d*, secured to the middle post, and between two rollers, *f f*, or equivalent, secured to the third post.

The lower edge of the guide is formed with a tongue, *g*, Fig. 6, which fits in a groove, *h*, of the roller *d*, or, what is the same, with a groove that fits over a bead or flange of the roller. It is also provided with sockets or depressions *i k l*, at such relative positions that when the gate is closed, as in black lines, *k* will rest over the roller *d*, and when the gate is opened, as in red lines, *i* will rest over *d* and *l* over *f*. The gate is held in position by hooks or guides *m m*, secured to the middle post.

The end of the guide *c* is made to project a proper distance in front, as shown at *o*, so as to strike into a mortise, *p*, of the first post. Within this mortise is situated a pendent catch, *q*, whose axis projects out through the post at each side, and has attached thereto handles *r r*, by which the catch is raised. The weight of the catch and the handles will always cause the catch to hang in the proper position to hold the projection *o*.

A wedge-shaped lug, *s*, is situated on one or both sides of the post, at such position that when the handles are raised a slight pressure inward will cause them to hold up on the lug.

In heavy farm-gates I prefer to produce the reaction in closing the gate by a weight, as shown in Figs. 1 or 8. In the first case, a cord or chain, *t*, is secured to the extremity of the guide *c*, passing inward around the upper roller, *f*, thence upward over a pulley, *u*, and thence down and attaching to a weight, *v*, sliding upon a wire guide, *w*. In Fig. 8 a similar effect is produced by the cord connecting with the gate passing over a large pulley, and another cord, with the weight attached, passing over a small pulley connected therewith. In this case the post is only of the usual height.

For ordinary house-yard gates I prefer the spring arrangement shown in Fig. 2, in which a coiled spring is wound in a case, *y*, having the cord attached to the gate connecting therewith. The reaction of the spring closes the gate.

From the above description the operation of the gate is manifest. In sliding back, the extension-guide *c*, resting on the roller *d* and between the rollers *f f*, will keep the gate in position and insure its easy working, and the weight or spring will cause it to close properly. At the extreme of opening or closing the sockets *i k l*, dropping over the rollers *d f*, serve to hold the gate in that position, and when opened a touch of the hand will free it,

and when closed it is retained against ordinary end pressure. This action is of much importance. The extension-guide thus serves the purpose of guiding and steadying the gate, of connecting the weight or spring to produce the reaction, and of sustaining it in a fixed position, either opened or closed.

I am aware of no gate in which the reacting extension has been employed so arranged that at each extreme of motion the gate drops upon the rollers so as to retain it in that position.

The tongue *g*, resting in the groove *h* of the roller, is of much importance in holding the gate in position as it is run forward or back. Were it not for this the tendency would be for the guide to run off the roller and bind either inward against the post or outward against the hooks *m m*.

In the forward movement, as the guide closes, it will be seen that the projection *o* will strike against the pendent catch *q* and throw it outward, as in red lines, Fig. 3; but at the moment the socket *k* strikes over the roller *d* and the projection *o* falls to its lowest position in the mortise, the catch will swing back over the projection and hold it from being raised. The gate being thus held down in front and rear, and held by the socket and roller in the middle, cannot by any possibility be moved endwise unless by design. It is therefore safe against hogs or other animals. The use of the lug *s* enables me to retain the catch in an elevated position whenever desired. The action of the gate is thus uniform and regular.

The arrangement of the weight, as shown in Fig. 1, is such that it cannot swing or become displaced; but by running straight on the wire or guide it produces an easy and equable movement at all positions of the gate.

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

1. The employment, in connection with a sliding gate, of the extension-guide *c*, running on rollers *d f*, and provided with sockets or depressions *i k l*, for fitting over the said rollers, and closed by the reaction of a weight or spring, substantially as described.

2. In combination with the above, forming the lower edge of the guide *c* and the periphery of the roller *d* with the tongue and groove *g h*, substantially as and for the purpose specified.

3. The combination of the catch *q* and handles *r r* with the projection *o* of the extension-guide, when so arranged as to hold the gate from being raised and thrown back when closed, substantially as specified.

4. The special arrangement of the wire *w* with the sliding weight *v*, cord *t*, and pulleys *u f*, for producing the reaction of the gate, as set forth.

JOHN H. GRAVES.

Witnesses:
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