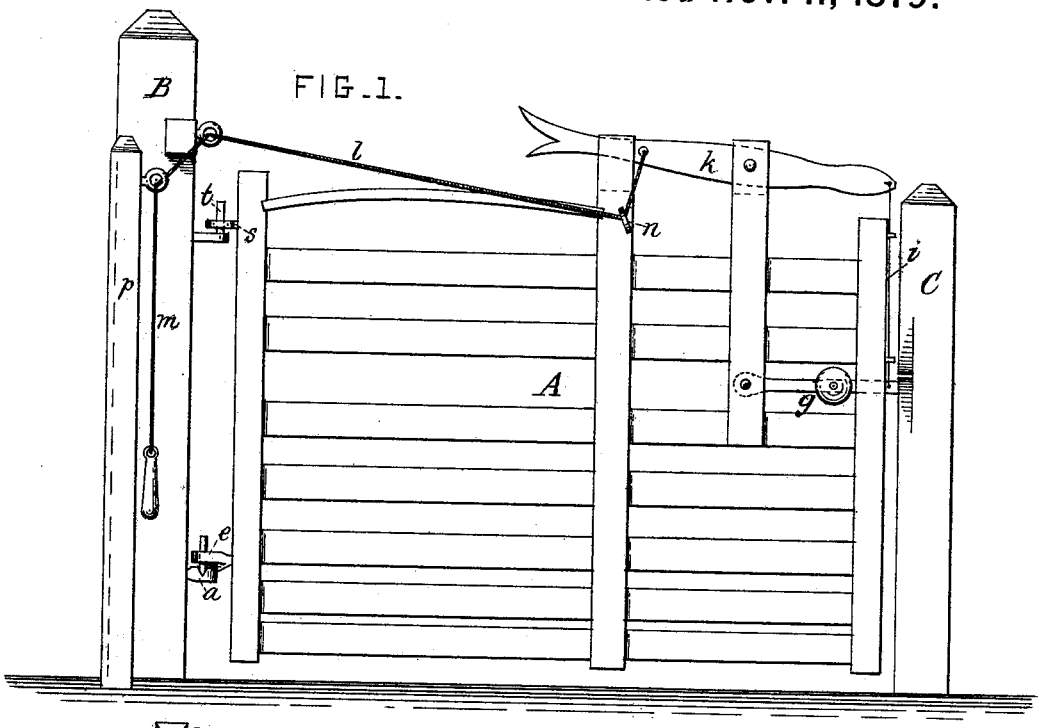
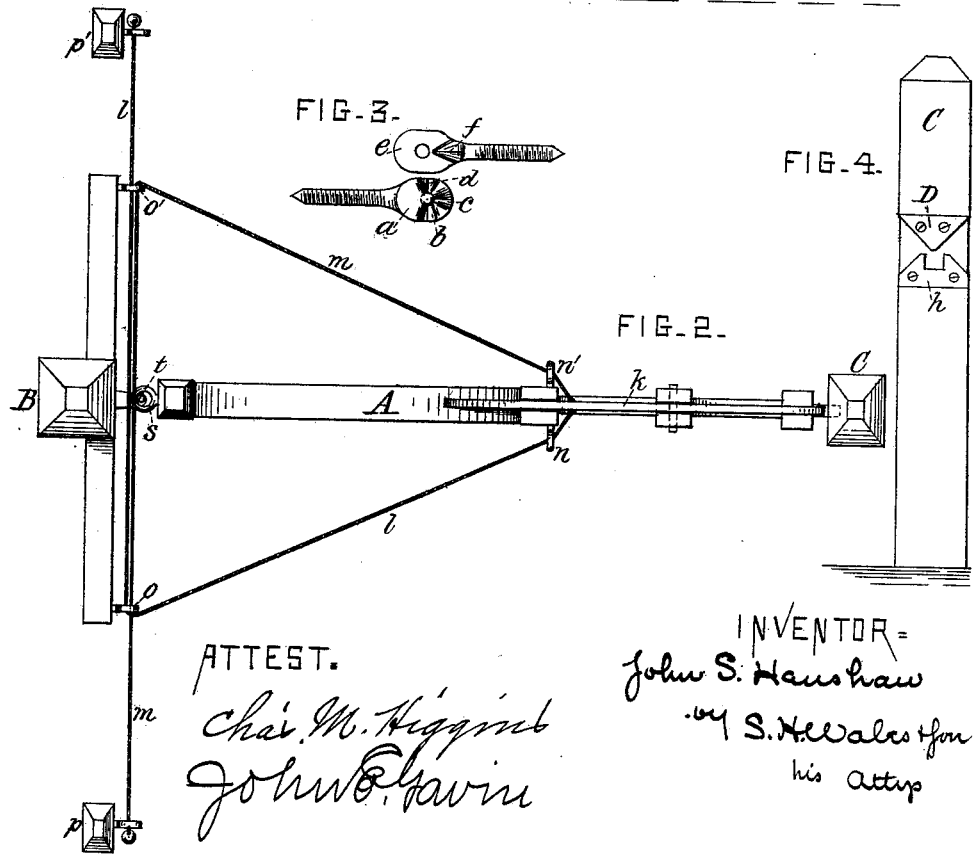
J. S. HENSHAW.

Gate.

No. 221,410. Patented Nov. 11, 1879.

FIG. 1.





ATTEST.

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UNITED STATES PATENT OFFICE.

JOHN S. HENSHAW, OF GOSHEN, KENTUCKY.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **221,410**, dated November 11, 1879; application filed July 31, 1879.

To all whom it may concern:

Be it known that I, JOHN SCOTT HENSHAW, of Goshen, Oldham county, Kentucky, have invented certain new and useful Improvements in Gates, of which the following is a specification.

This invention relates to that class of gates which are opened by cords extending therefrom on either side within reach of an advancing person in a vehicle or on horseback, and is an improvement on a gate of this class patented to me October 15, 1878.

My present invention consists, mainly, in a novel combination of operating-cords, inclined locking-hinge, and latch, which co-operate to render the action of the gate in opening and closing more positive and certain, as hereinafter fully set forth.

In the drawings, Figure 1 presents a front elevation of the gate, and Fig. 2 a plan view. Figs. 3 and 4 are details, showing, respectively, the lower hinge and the latch-post.

As illustrated, A indicates the gate; B, the hinge-post, and C the latch-post. The upper hinge of the gate is of the common hook-and-eye kind. The eye *s*, however, is somewhat elongated, as shown, to admit of play on its hook or pintle *t*, to allow the front end of the gate to rise slightly, and thus enable the unlatching action to be more easily effected. The lower hinge, however, is of the inclined locking class, the lower or pintle half of the hinge *a* having three inclined recesses, *b c d*, one recess corresponding to the shut position of the gate, and the others, which are at right angles thereto on opposite sides, corresponding to the fully-open positions of the gate in both directions. Now the eye half of the hinge *e* has a corresponding inclined projection, *f*, to fall into said recesses, and thus assist in holding the gate shut or open, as required. The front portion of the gate is provided with an ordinary form of gravity-latch, consisting of a weighted latch-bar, *g*, pivoted at its inner end on one of the bars of the gate, while its outer end is adapted to engage in the catch *h* on the latch-post. The outer end of the latch *g* is preferably connected by a wire, *i*, to one arm of a lever, *k*, pivoted on the top of the gate, the opposite arm of which is connected with the operating-cords *l m*. These cords, as shown, extend from the lever *k* on each side of the gate, passing first through guiding-eyes *n n'*, at a distance below the lever, and near the front end of the gate, and thence extend in relatively reverse directions through eyes *o o'* on the hinge-post, finally passing through eyes on posts *p p'*, in advance of the gate on each side thereof, where the end of each cord hangs down within convenient reach of a person advancing toward the gate, whether on foot or in a vehicle.

It will now be readily seen that the direction of the cords is such that they pass from the point of operation to the back or opposite side of the gate in a somewhat downward direction, and there connect with the gate at its front end, and thence pass to the latch-lever; hence the strain of the cord when pulled first acts to depress the lever and raise the latch, or, if the lever should thus fail to move, the direction of the strain is such as to slightly raise the front end of the gate, so as to lift the latch bodily from the catch of the gate-post, after which the continued pull on the cord at once swings the gate open in advance of the operator, the inclines of the lower hinge rising over each other as the gate swings out, and again falling into engagement as the gate becomes fully opened, thus holding the gate open till again closed by pulling the other cord.

It will also be seen that this arrangement of cords, in co-operation with the inclined interlocking lower hinge and the loose upper hinge, renders the opening of the gate more positive and certain, for the latching is insured by the action of the cords on the latch-lever, or else by the bodily lifting of the latch-end of the gate by the upward pull of the cord, while the outswinging or opening of the gate is effected by the positive pull of the cord, thus insuring the opening of the gate in all cases; hence, if desired, the latch-lever and pivoted latch may be dispensed with, and a fixed latch, bar, or bolt be used instead, the unlatching being effected by the upward tilt of the gate, as described. In small gates this modification may be used with good effect; but in large gates I prefer to use the latch-lever and pivoted latch, as illustrated.

As shown in Fig. 4, the catch on the latch-post is so formed that the engagement of the

latch therewith is insured. *h* is the usual catch, having a central recess to receive the latch-bolt, which is approached on each side by inclines over which the latch rides into the recess, as usual. Above the catch-plate, however, is a triangular or doubly-inclined plate, D, having its apex arranged centrally over the recess of the catch-plate, while its inclines are disposed oppositely to those of the catch. It will, hence, be readily seen that as the gate swings shut the latch-bolt, in riding up the inclines of the catch, strikes the incline of the guard D, and thus becomes thrown down into the recess, thus insuring the gate becoming securely latched and preventing the possibility of the gate swinging past the latch-post without latching, to which it would sometimes be liable in the absence of the guard D.

It will be readily understood that the catch *h* and guard D may be formed by carving in the wood of the post, or by metal plates secured thereon, as shown.

These combined features of construction, while simple and inexpensive, render all the movements of the gate certain and positive, so that the gate is capable of being opened only by intention, and is not liable to be opened by the wind or by loose stock, and even if the gate should become unlatched and partly open by some chance, the inclined hinge would cause it to shut and become latched securely.

What I claim as my invention is—

1. The combination, with a swinging gate, of the cords *l* or *m*, or both, extending through guiding-eyes in fixed posts, in advance of the gate on one side thereof, to the opposite side of the gate, where the said cord or cords extend downwardly to and connect with the upper front corner of the gate, together with the loose-playing upper hinge, *s t*, and inclined interlocking lower hinge, *a e*, substantially as and for the purpose set forth.

2. The combination, with a swinging gate, of the movable latch *g*, operating-lever *k*, and connection *i*, with the actuating-cords *l* or *m*, or both, connecting with said lever in a downwardly-inclined direction from the supporting-post, and arranged substantially as herein shown and described.

JOHN SCOTT HENSHAW.

Witnesses:
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