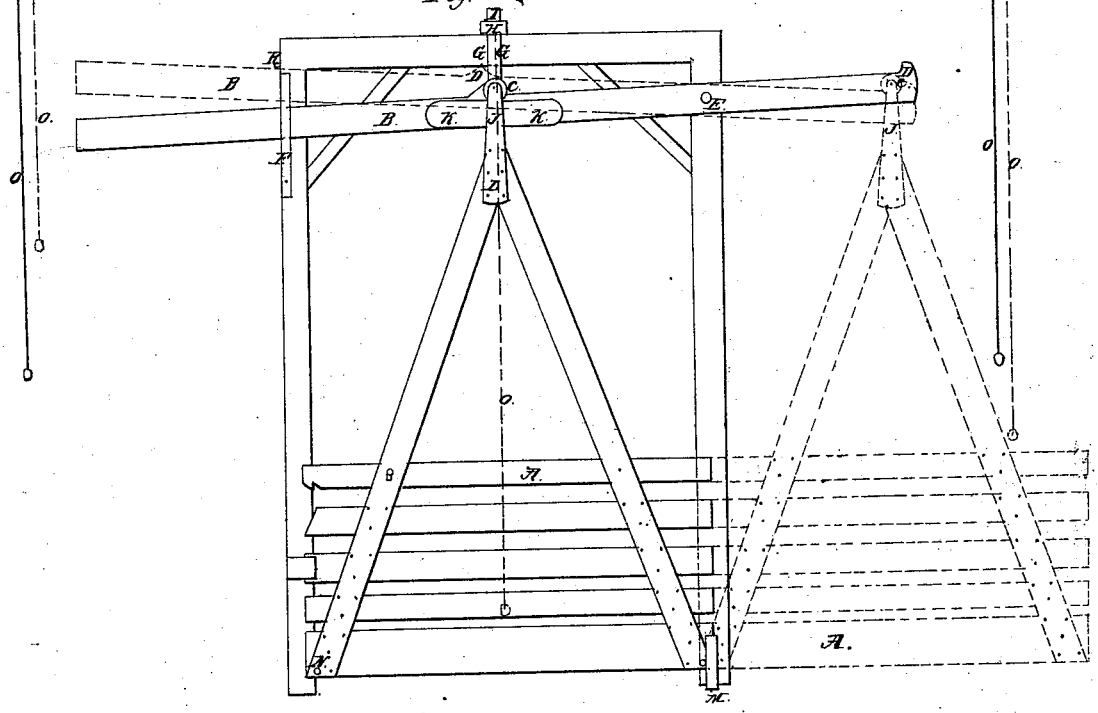
T. S. Minnis,

Automatic Gate,

No. 46,377. Patented Feb. 14, 1865.

Fig. 2.

Fig. 1.



Witnesses:
H. B. Brooks
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UNITED STATES PATENT OFFICE.

THOMAS S. MINNISS, OF MEADVILLE, PENNSYLVANIA.

IMPROVED MODE OF HANGING GATES.

Specification forming part of Letters Patent No. **46,377**, dated February 14, 1865.

To all whom it may concern:

Be it known that I, THOMAS S. MINNISS, of Meadville, in the county of Crawford and State of Pennsylvania, have invented a new and Improved Mode of Making and Hanging Gates; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in a gate hung upon a reversible incline, and so constructed as to be centrally balanced on a single wheel or pulley to traverse the said incline and carry the gate with it, the incline to be operated by means of a lever centrally over the road and extending far enough on each side of the gate to be reached by a person on horseback or in a carriage by means of a cord suspended from the end of the lever—to wit, the incline is raised from the center outward by pulling the cord, when the gate will glide open. The person will retain the cord in his hand till he passes through, when the incline will be reversed by means of the weighted lever and the gate will shut of itself.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I use gate posts from four to six inches square, according to the size of gate, with a corresponding cap braced at the upper corners, either planted firmly in the ground or framed on timbers at right angles with the gate.

Figure 1 is a perpendicular view of the gate when shut, the dotted lines representing the gate open.

To make a farm-gate, say, ten feet long, I would make my posts about twelve or thirteen feet high, and cap of ten feet six inches, so that the gate will lap a few inches on each post when shut. I then take a plank, B, twenty feet long, and five feet from one end bolt it to one of the posts, as at E, Fig. 1, about one foot below the lower side of the cap I then place the stop and guide F on the opposite post, so that the incline will have a fall of about one-half inch to the foot, or till the gate will run with sufficient force to shut itself. I make a stop, D, at the end of the incline, and another stop, D, so as to arrest the pulley in the middle of the gateway, and I counterbalance the weight of the gate when open by spiking or otherwise attatching sufficient weight on the long end of B. I make my gate with boards, say, inch thick. I take two boards, six inches wide and about eleven feet long, and with them and the bottom board of the gate form a triangle, the apex reaching to the bottom side of B. When the gate is in position to these, I nail all the other boards of the gate, and thus in the most simple manner construct a self-braced gate. I then construct a casting, J, with wings K K and fix it firmly to the gate, as at L. To the upper end of J the axle for the pulley C is fixed, which should be of half-inch steel rod, and the pulley six inches in diameter, and inch and a half thick at the center, three-quarters inch on the rim, with half-round gutter half-inch wide to run on a plate of half-round rod fixed on runway of the reversible incline. The wings K K are to slide along the sides of B to steady the direction of the gate when in motion.

Fig. 2 represents a side view of the lever that opens the gate, as well as a transverse section of the working parts of gate, the dotted lines showing the position of the parts while the gate is open.

H is a piece of scantling three feet long and four by five inches square, bolted to the top of the cap P, so that exactly one-half of its length shall project on the side of the cap and frame that the gate is on.

I is a double lever having the ends of H for fulcrums, while the incline B is attached by two quarter-inch rods, G G, fixed at Q, Fig. 2, and passing up through H are pivoted to the sides of the double lever at its center. I make the double lever to extend about twelve feet on each side of the gate, and from the extreme ends I suspend cords reaching almost to the ground.

Operation: The gate being in position and all the parts adjusted, the operator takes hold of the cord O, draws the lever I toward him till the weighted lever is drawn up against the stop R, when the incline will carry the gate open till the stop N will strike the post M at the same time that the pulley will strike the stop D on the end of the incline. Still holding on to the cord, he passes through, letting the cord slip through his fingers; then letting go, the weighted lever reverses the

incline, and the gate shuts of itself. I have made the upper board of the gate to perform the duties of a latch slipping over a catch on the post.

Where it will be used only as a small yard-gate, I would dispense with the long double levers at the center, and, passing a cord over a pulley at the top of the left-hand post, would attach it directly to weighted lever, while the lower end of the cord would hang conveniently at the side of the post. Barn and other heavy doors may be hung in the same way.

The advantages in this mode of hanging gates is, first, that it raises the gate out of the snow or grass before it begins to open; second, that it is sure to come shut of itself; third, that you can drive close to it at either side; fourth, that there is no strain upon the posts, the weight always being vertical; fifth, that this gate never can sag out of shape; sixth, its cheapness, simplicity, and durability, and, not the least, the great convenience of being able to open and shut without getting from your horse or carriage.

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

The gate A, shifting-lever I, and cords O, the several parts being constructed, arranged, and operating as and for the purpose set forth.

THOMAS S. MINNISS.

Witnesses:

H. B. BROOKS,

J. B. COMPTON.