(No Model.)

J. C. ROCK.

AUTOMATIC GATE.

No. 400,952. Patented Apr. 9, 1889.

Fig. 1.

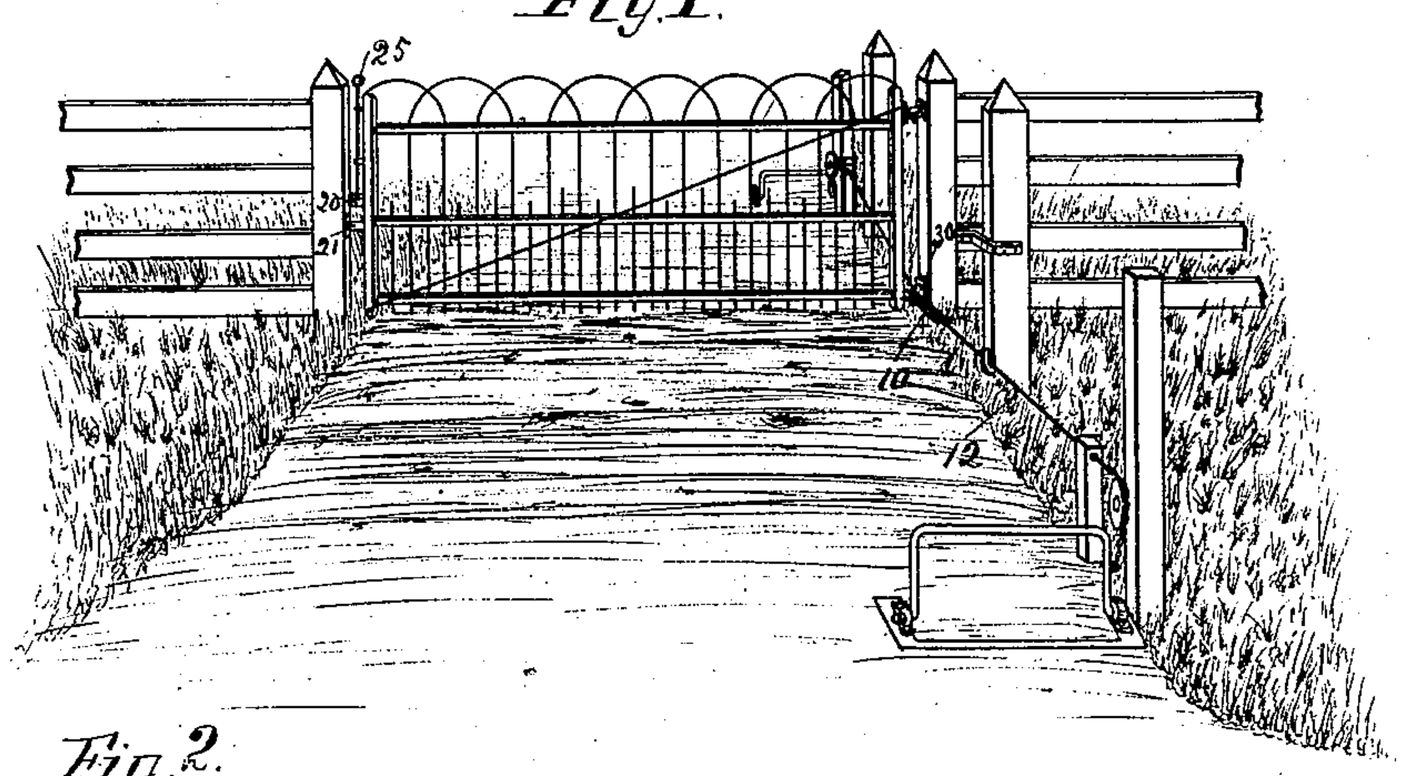


Fig. 2.

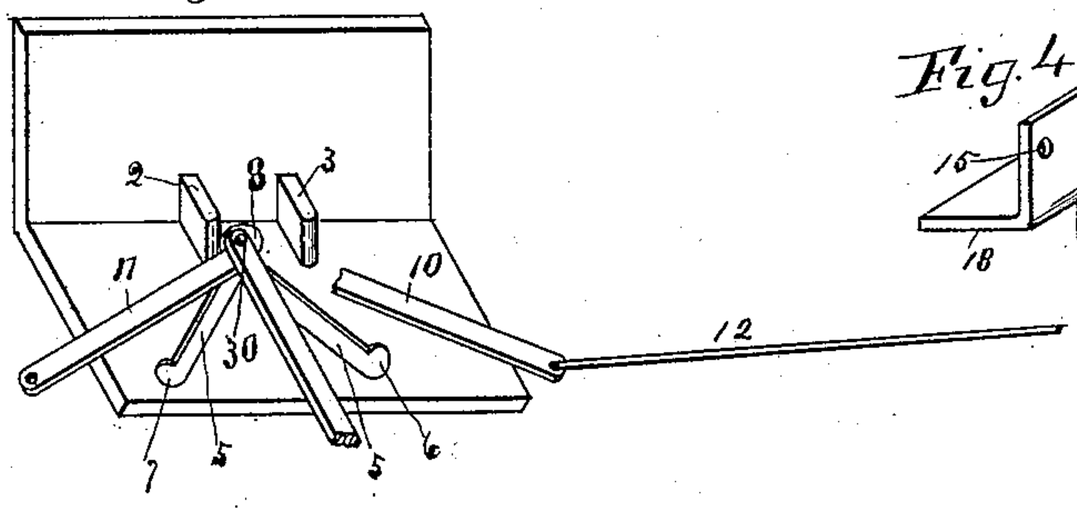


Fig. 4.

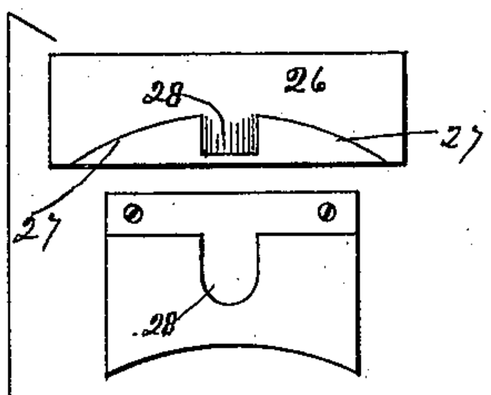


Fig. 3.

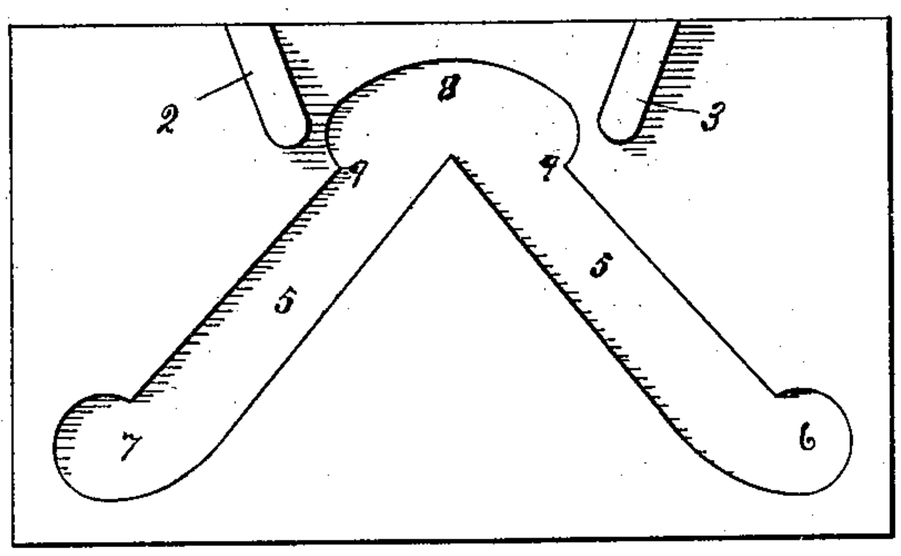
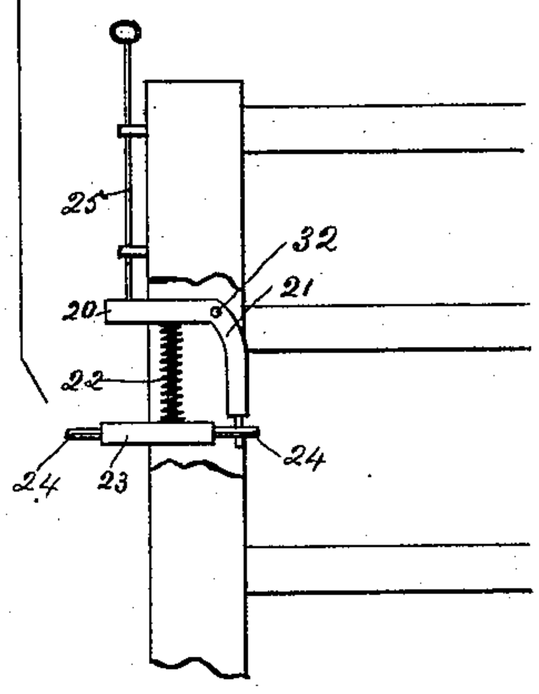


Fig. 5.



Witnesses,
C. F. Beer.
Wm Laupmann,

Inventor
John C. Rock.
By his Attorney
C. D. Campbell

UNITED STATES PATENT OFFICE.

JOHN C. ROCK, OF NEAR WEST LIBERTY, OHIO.

AUTOMATIC GATE.

SPECIFICATION forming part of Letters Patent No. 400,952, dated April 9, 1889.

Application filed April 25, 1888. Serial No. 271,863. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. ROCK, a citizen of the United States, residing near West Liberty, in the county of Logan and State of Ohio, have invented a new and useful Improvement in Automatic Drive-Gates, of which the following is a specification.

My invention relates to improvements in automatic drive-gates.

Figure 1 is a perspective view of my gate; Fig. 2, a view of my lower hinge-plate, showing the fulcrum-blocks, V-shaped groove, and throwing-levers; Fig. 3, a top view of lower hinge-plate; Fig. 4, perspective of my upper hinge-plate; Fig. 5, a view of the front post of my gate-frame.

The construction and operation are as follows: Near the bottom of the post upon which the gate is hung is an angle-plate one face of which is bolted fast to the post, the other extending horizontally at right angles to it. In the horizontal portion is a V-shaped groove, 5, having rounded parts 6 and 7 at its ends, and an egg-shaped part, 8, at the apex between the corners 9 9. The rounded ends of the egg-shaped part 8 extend beyond these corners. The lower hinge-pintle, 30, travels in the V-shaped groove in the lower hinge-plate. When the gate is open, this hinge-pintle rests in one of the rounded ends, 6 or 7. When the gate is closed, it rests in the egg-shaped part 8. When the buggy-wheel runs over the trip at either side of the gate, the rod 12 draws toward it the lever 10 or 11, which levers form links between rods 12, and are pivoted to the said rod and to the gate-pintle. Cast on the lower plate are two lugs or projections, 2 and 3, that extend out across the straight path of the levers and rods 10 and 12 and 11 and 12 when the gate is closed, causing the said levers and rods to form an obtuse angle, instead of being in line, and allowing the gate-pintle pivoted in the end of the short levers to rest at the back of the oval 8. The pintle if drawn straight along by the rod 12 would catch against one of the corners 9 and be stopped; but as soon as the rod 12 begins to pull lever 10 or 11 is pressed against projection 2 or 3, which acts as a fulcrum, and as the outer end of the lever 10 or 11 is drawn into line with rod 12 its inner end throws the pintle out of the curved part 8 into the V-shaped groove, throwing the gate out of plumb, when the gate swings open from the team and the pintle of the hinge falls into the round part 6 or 7, which prevents its bounding back when it strikes the end of the groove. When the trip at the other end is run over, the rod 12, acting on lever 10 or 11, pulls the pintle back along one side of the V-shaped groove 5, so that it falls into the rounded part 8, where it strikes against the opposite corners 9 and is stopped. If the part 8 were only a semicircle, the pintle would often, when it reached the apex of the V-shaped groove, rebound and slide off down the other side of the groove; but with the corner 9 extended back beyond the end of the curve the pintle is kept from bounding out, the weight of the gate holding it in the curve. The upper hinge-plate (shown in Fig. 4) has the hinge-pintle 17 projecting down from its base 18, while from the face 13 of the plate a bolt, 16, projects, that in use extends through the rear post of the gate-frame and is secured on the other side. The plate 13 extends beyond the edge of the gate far enough to clear the holes 14 and 15, through which pass the ends of the stay-rods or sag-rods, (shown in Fig. 1,) making the rods serve the purpose of staying the gate and holding the hinge-plate on.

My latch or plunger, as shown in Fig. 5, slides in a sleeve, 23, in the gate-frame, and is operated by an L-shaped lever, 21, pivoted in the frame at 32. The front end of this lever is held up by the spring 22, and is depressed to throw the latch back by means of rod 25. The sleeve 23, when the gate is closed, rests upon the plate 26 on the gate-post, while the latch or plunger 24 rests in the notch 28 in the rounded part 27 of the latching-plate. The bottom of this notch is semicircular, being lower at the bottom than on the sides. When the gate swings shut, the plunger 24 strikes against the rounded face 27 and is pressed back until it comes to the notch 28, when the spring forces it into the notch, the sleeve 23 resting on the horizontal face 26, while the latch or plunger is relieved from the weight and rests freely in the notch 28.

When the bottom of the gate is swung out of plumb in opening it, the latch is raised above the plate 27 out of the notch 28 and the gate swings open.

A person on foot or horseback can open the gate by pressing down on handle or rod 25, which will retract the plunger and allow the gate to be pushed open. A chain attached to the end of the pulling-rods passes over a pulley, and is fastened to the trip near the middle vertically. Another chain attached to the trip is weighted and passes over a post to keep the trip in a vertical position.

What I claim is—

1. The combination, with a gate, of the hinge-plate having the V-shaped guide-slot (formed with the oval recess 8 at its apex, the rounded ends of which project beyond corners 9) and also provided with fulcrums 2 and 3, levers 10 and 11, pivoted to the gate-pintle, and rods 12, connecting said levers to the wheel-irons, all substantially as shown and described.

2. The combination of the gate having an upper hinge-plate forming a brace for the stay-rods, a spring-latch, and the sleeve 23, surrounding the latch-bolt, for supporting the gate when closed, with the lower hinge-plate having the V-shaped guide-slot (formed with the oval recess 8 at its apex, the rounded ends of which project beyond corners 9) and also provided with fulcrums 2 and 3, levers 10 and 11, pivoted to the gate-pintle, and rods 12, connecting said levers to the wheel-irons, all substantially as shown and described.

JOHN C. ROCK.

Witnesses:
S. A. KNIGHT,
E. K. CAMPBELL.