R. A. HORNING.

GATE.

No. 195,819. Patented Oct. 2, 1877

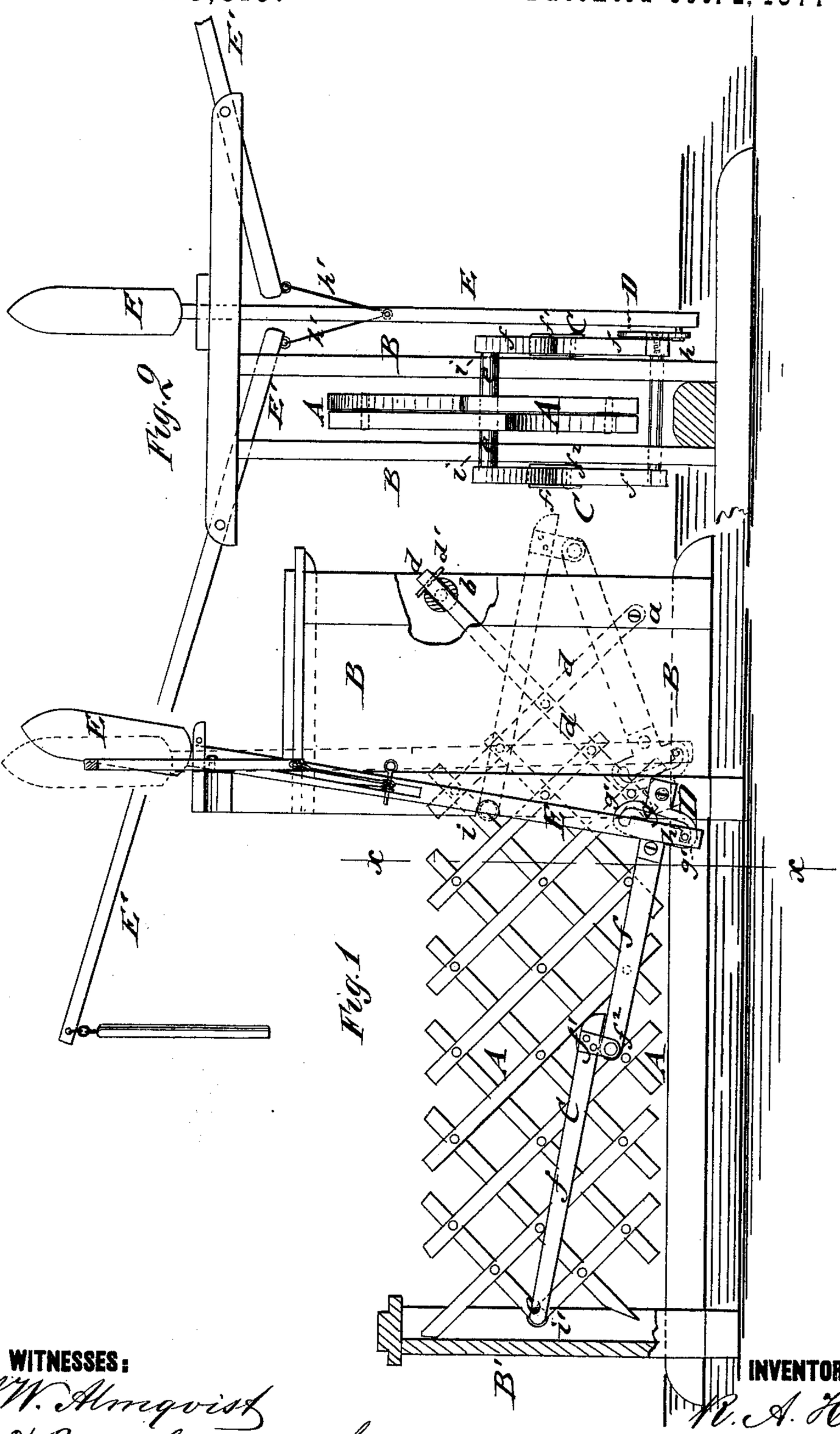

Fig. 2

Fig. 1

WITNESSES:

A. W. Almqvist

J. H. Scarborough

INVENTOR:

R. A. Horning

BY

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT A. HORNING, OF KARNS CITY, PENNSYLVANIA.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **195,819,** dated October 2, 1877; application filed January 13, 1877.

To all whom it may concern:

Be it known that I, ROBERT A. HORNING, of Karns City, in the county of Butler and State of Pennsylvania, have invented a new and Improved Gate, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of my improved folding gate; and Fig. 2, an end view of the same folded up, and partly in section on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved folding gate that may be readily opened and closed by a person on horseback or from the carriage without dismounting or getting out, the gate locking securely and reliably, and without sagging, having but little friction, so as to be worked with great facility.

The invention consists of a folding gate made on the lazy-tong principle, and swinging on a fixed lower and a turning upper pivot by means of double folding levers secured centrally to the front end of the gate. The rear ends of the double folding levers are connected by a slotted pivot-piece with an upright weighted rod, which is operated to open or close the gate by links, levers, and handles extending at both sides of the gate along the road. The double folding levers are jointed by connecting-bands and pivots, and prevent the sagging of the gate when closed. The connecting cross-rod of the double levers locks the gate automatically into recesses of the gate-posts.

In the drawing, A represents a folding gate constructed on the lazy-tong principle, of pivoted cross-slats, with intermediate washers, for reducing the friction as much as possible. The gate A swings into folded position on a fixed lower pivot, *a*, and on a turning upper pivot, *b*, to which the ends of the extensions of end slats *d* are applied. The pivots *a b* are placed at the inside of a box or casing, B, which serves to protect the gate against the influence of the weather, preventing its being clogged by snow in winter, and securing the reliable action of the same in all seasons. The extension-slat *d*, applied to the upper turning pivot *b*, slides in a recess of the same, to follow the folding and opening motion of the gate, and is prevented from escaping therefrom by a cross-pin, *d'*, when the same has arrived at its extreme extended position, as shown.

The opening and closing of the gate A is accomplished by double levers C, that are arranged at both sides of the gate, being rigidly attached to a cross-rod, *e*, at the front end of the gate, said cross-rod *e* passing through the center-pivot of the slats. The double lever C at each side of the gate consists of two pieces or sections, *f*, of which the front piece is jointed by a fixed band, f^1, and pivot-pin f^2 to the rear section, bearing rigidly on the latter, so as to form a brace when in line with the same, but swinging readily on the rear section when raised to fold back with the gate. When in extended position as a brace it supports the front end of the gate, and prevents the sagging of the same.

The rear end of one of the double levers C is pivoted by a slotted piece, D, to the side gate-post, the slot *g* of the same being at right angles to the dlrection of the piece *f*, and provided with curved or angular extension-slots *g'*, to which the pivot-pin *h* of a vertically-movable lever-rod, E, is applied. The lever-rod E is weighted at its upper end in any suitable manner, so as to balance the connecting pivot-links *h'* and fulcrum lever-arms E', that extend at opposite directions from the gate along the roadside, and are provided with pendent handles, cords, or other devices for readily operating the gate from the carriage, or, when on horseback, at suitable distance from the same.

The weight of the upright lever-rod E carries the pivot down into the lower extension or seat of the slot, so that when any one of the levers is actuated it raises the slotted piece D, causes the swinging of the double levers, and finally the folding of levers and gate back into the box or casing B. When the gate has been partly folded and carried back into the box, the slotted piece D is swung, with the double lever, into inclined position at the side of the box, resting symmetrically to the former position, so that the weighted rod is allowed to drop down along the slot into the lower opposite extension of the same, and completes thereby the entire folding up of the gate. The pivot of the weighted lever-rod is thus at the same time brought into the required position for swinging the gate and levers back into closed position by operating any one of the le-

ver-arms, the slotted piece and double lever being carried forward and extended, and thereby the gate closed. The cross-rod of the double levers C enters recesses *i* of the box B, when the gate is carried into open position, so as to support the same ready for closing.

When the gate is extended and closed the cross-rod *e* enters corresponding recesses *i'* of the opposite gate-post B', and locks thereby automatically to the gate-post until released by the folding of the gate. These recesses *i'*, in connection with the brace action of the double levers C, keep the gate securely in closed position until the cross-rod is withdrawn and the brace action discontinued by the raising of the double levers at their pivot-points.

The folding gate may be opened and closed with great facility, as the weighted lever-rod and the washers of the pivot-slots reduce the friction and accelerate the operation of the gate.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with double levers C C, connected with a gate, as shown and described, of a plate, D, having slot *g g'*, and a vertically-movable rod, having side pin *h*, substantially as and for the purpose specified.

ROBERT ALLEN HORNING.

Witnesses:
V. HOLLER,
M. WALL.