

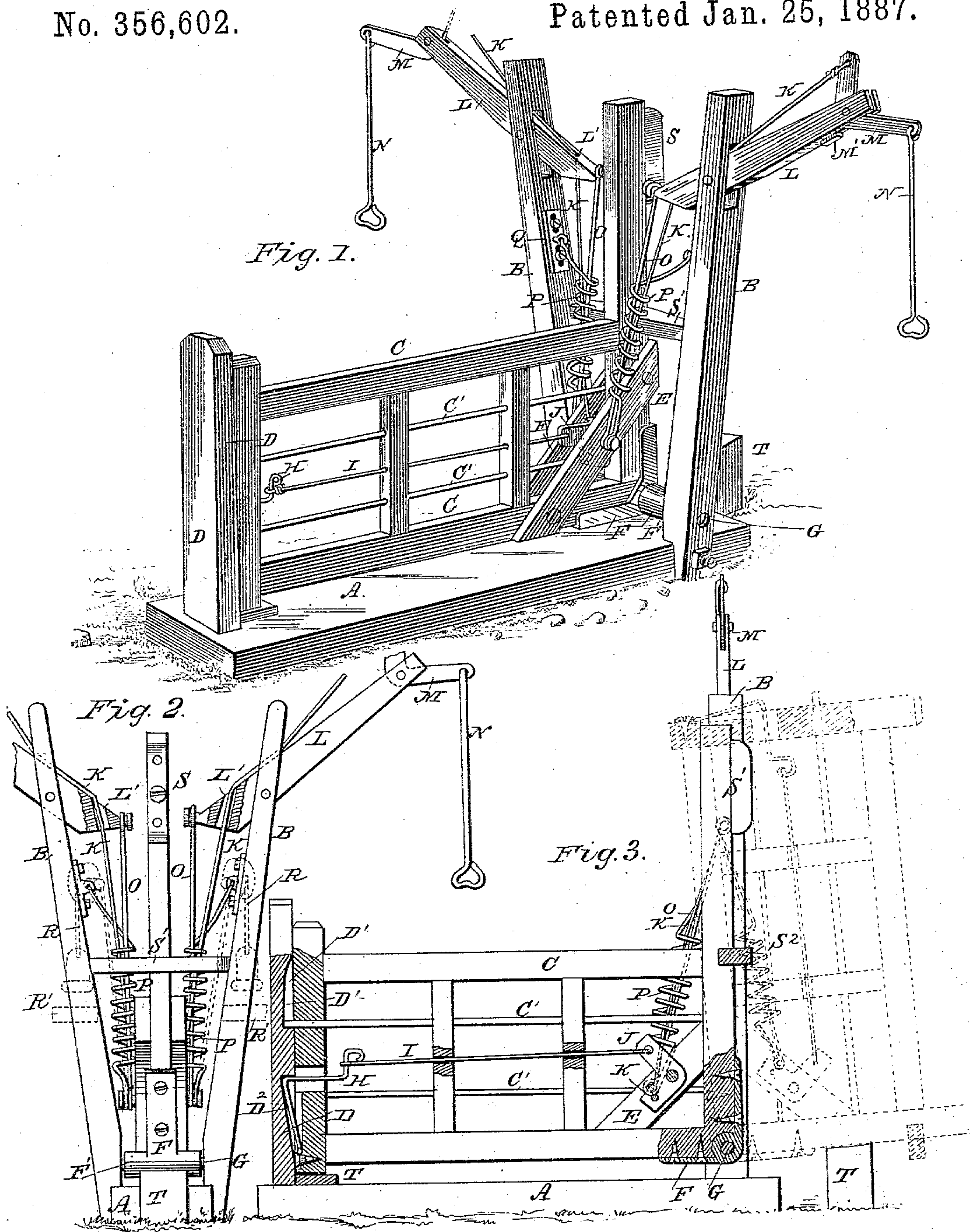
(No Model.)

E. B. RUSSELL.

GATE.

No. 356,602.

Patented Jan. 25, 1887.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ELSEY B. RUSSELL, OF BARDSTOWN, KENTUCKY.

## GATE.

SPECIFICATION forming part of Letters Patent No. 356,602, dated January 25, 1887.

Application filed June 12, 1886. Serial No. 205,016. (No model.)

*To all whom it may concern:*

Be it known that I, ELSEY B. RUSSELL, of Bardstown, in the county of Nelson and State of Kentucky, have invented a new and useful Improvement in Gates, of which the following is a specification.

My invention consists in an improved gate, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improved gate. Fig. 2 is a rear elevation of the same, and Fig. 3 is a longitudinal vertical elevation, with parts broken away.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A indicates a cedar post or slab, which is embedded permanently in the ground, and to the rear portion of which are bolted the two posts B B between which the gate swings. This gate consists of the rectangular frame C, having the longitudinal metal rods C', one of which is extended at its forward end to fit in a groove, D', in that side of the latch-post D. The gate-frame is braced at its rear end by the inclined braces E, these braces being so arranged in order to render the forward end of the gate as light as possible. The lower rear corner of the gate is bolted in a flanged hinge-piece, F, the flanges of which serve to steady and hold the gate firmly, while the hub F' of this hinge-piece is of sufficient length to fit closely between the posts B B, and is formed with a central longitudinal aperture, through which passes the rod G, which is secured firmly in the lower portions of the posts B, and on which the hub F' turns.

To the forward upright of the gate-frame is secured the spring-latch H, which engages with a recess, D<sup>2</sup>, in the latch-post D when the gate is closed, and the upper free end of this spring-latch is connected by a wire, I, with one end of a bell-crank lever, J, which is centrally pivoted between the inclined braces at the rear end of the gate-frame, while the other end of this lever is connected to the wires or cords K. Said cords extend up through slats L' in the inner ends of the levers L, which are pivoted each in a slot in the upper portion of its respective post B, these posts diverging, as

shown, toward their upper ends. The longer ends of these levers L extend on the outer sides of the posts B. The cords K, after passing through the slotted ends of these levers, are secured each to the upper end of one of the bell-crank levers M, which are centrally pivoted in the outer ends of the levers L, while to the other or lower ends of these bell-crank levers are secured cords or handles N, which extend down within convenient reach. The inner ends of the levers L are also connected by the rods O with the inner end of the gate, as shown, while to each bolt which secures the lower end of its respective rod O to the inner end of the gate is secured the lower end of a coiled spring, P, the upper end of which is secured to a slotted plate, Q, which may be adjusted up or down on the inner side of its post to increase or lessen the tension of the spring. If desired, these springs may be replaced by weighted cords R, (shown in dotted lines, Fig. 2,) passing over pulleys on the inner side of the posts, and resting, when the gate has been opened to a certain point, on shelves R', for the purpose hereinafter set forth. The rear upright of the gate has its upwardly-extending end weighted at S to counterbalance the forward portion of the gate, and is further provided with a cross-piece, S', which extends between the diverging posts B, when the gate is in its closed position, and serves to brace the gate and prevent it from being forced out of position sideways by horses or cattle pushing against it. A rest, T, is placed at both the front and back posts for the gate to rest upon when opened or closed.

In operation, when a person riding from either direction toward the gate desires to open it, he pulls upon the handle or cord N, thus turning the crank-lever M on its central pivot, and, through the cords or wires K and I and the bell-crank lever J, draws back the spring-latch H, thereby freeing the forward end of the gate. The bell-crank lever M, after turning sufficiently far to thus open the gate-latch, strikes a stop, M', which prevents its turning farther, when the downward pull on the handle N will swing the lever L on its pivotal point, and thus, through the connecting-rod O, swing the gate on its pivotal point. The coiled spring P operates to aid in drawing the gate up until it is balanced or reaches



its dead-point, and as the gate swings back past this point the spring again takes up its weight and gradually lowers it in its open position, as shown in dotted lines in Fig. 3, thereby preventing any sudden jar as the gate reaches its lowermost point.

To close the gate the traveler pulls upon the handle on the opposite side of the gate after passing through, when the rod O and the coiled spring will operate in precisely the same manner to swing the gate back easily into its closed position, where it is caught and fastened by the spring-latch H. When the weight and cord are employed in place of the spiral springs, the weight operates in precisely the same manner as the said springs, the weight resting on the shelf R' when the gate reaches its dead-point, and being raised off of this shelf by the gate as the latter swings back past this point, so as to break the fall of the gate, as will be readily understood.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved gate will be readily understood.

It will be seen that a slight pull on either of the handles will unlatch the gate, and the coiled springs will then operate to raise it, ceasing to act when the gate is balanced or reaches its dead-point, and taking up the weight of the gate as the latter passes the said point and lowering it into its open position, while in closing the gate the springs act in the same manner. By the use of these springs I dispense with the use of long weighted levers, which would otherwise be necessary to balance the gate.

I am aware that gates have been pivoted between posts by rods passing through their lower rear corners, the gates being provided with lifting-levers pivoted to the posts and connected by lifting-rods with the gates. I am also aware that such pivoted gates have been provided with latches connected by cords with the lifting-levers in such manner that pulling upon the cords will first release the latch and then move the lifting-lever and raise the gate. I am further aware that a gate pivoted between posts has been provided with an angular lever pivoted to the rear end of the gate and also pivoted to a sliding bolt, the angular lever being connected by rods with hand-levers pivoted to the posts, the hand-levers, when depressed, first unlatching and then raising the gate. I do not therefore claim such inventions.

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

1. The combination, with the notched latch-post and the two rear posts having the slotted upper ends, of the gate pivoted at its rear lower end between the said posts and provided at its forward end with the spring-latch, the levers pivoted in the slotted upper ends of the rear posts and having the slotted inner ends, the rods connecting the inner ends of the said levers with the gate, the bell-crank levers and connecting cords or wires, arranged as described, and automatic devices connected with the gate and the rear posts to aid in lifting the gate and to gradually lower it into its open or closed position, substantially as set forth.

2. The combination, with the notched latch-post and the two rear posts having the slotted upper ends, of the gate pivotally secured at its rear lower end between the said posts, and provided at its forward end with the spring-latch, the levers pivoted in the slotted upper ends of the rear posts, and having the slotted inner ends, the rods connecting the inner ends of the said levers with the gate, the bell-crank levers and connecting cords or wires, arranged as described, and the spiral springs, all arranged to operate as set forth.

3. The combination, with the notched latch-post and the two rear posts having the slotted upper ends, of the hinge-piece journaled on the rod between the rear posts, the gate secured at its lower rear end in the said flanged hinge-piece, having the spring-latch at its forward end and having the weighted rear upright, the levers having the slotted inner ends, the bell-crank levers and connecting cords or wires, arranged as described, the adjustable plates, and the spiral springs secured at their lower ends to the gate and at their upper ends to the said adjustable plates, all constructed and arranged to operate in the manner and for the purpose herein set forth.

4. The combination, with the laterally-diverging posts B B, of the flanged hubs journaled between the said posts, and the gate having the rear upright provided with the cross-piece S', which extends between the diverging posts B B when the gate is in its closed position, substantially as set forth.

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Witnesses:

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