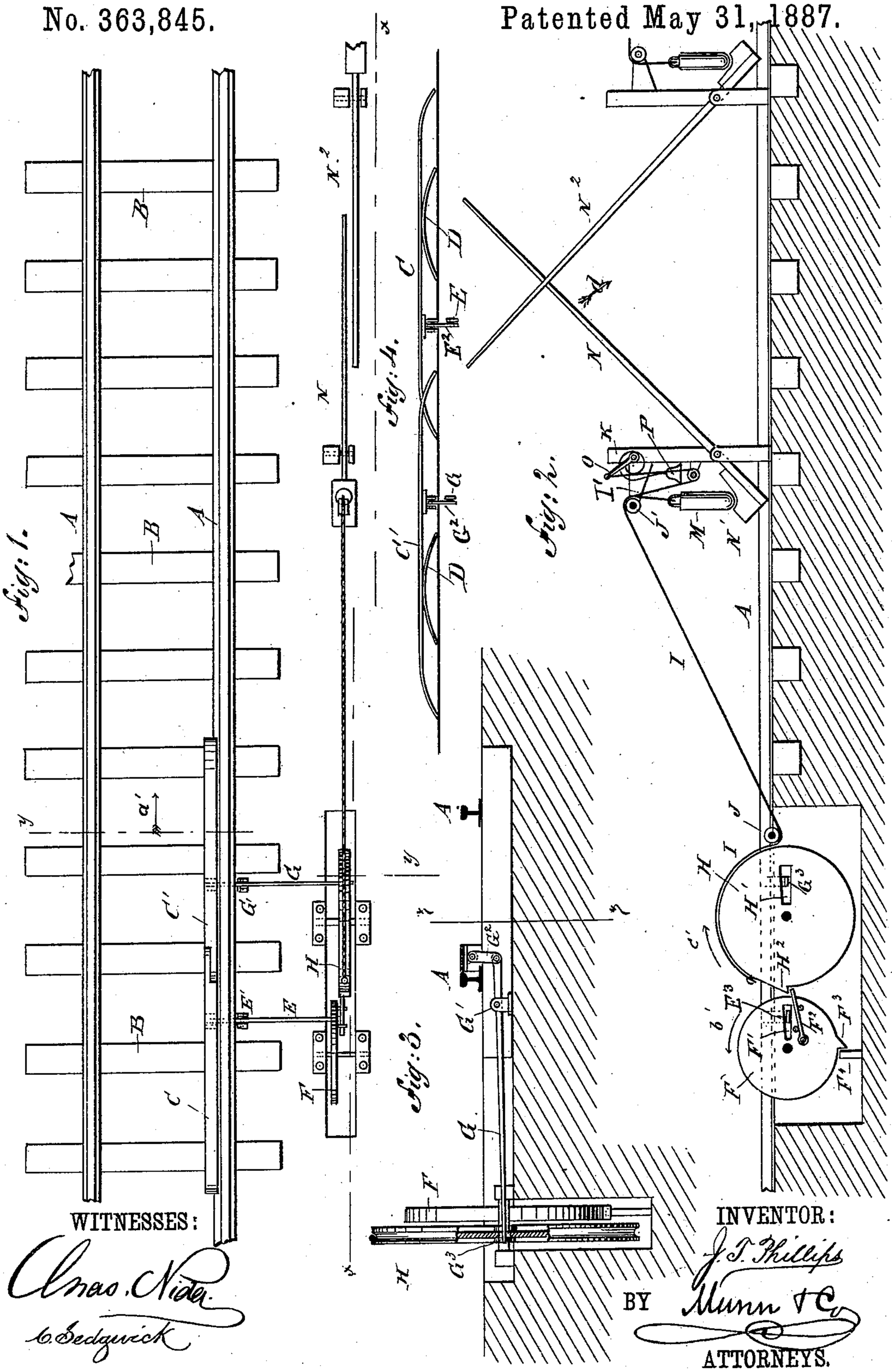
(Model.)

J. T. PHILLIPS.

AUTOMATIC RAILROAD GATE.

No. 363,845. Patented May 31, 1887.



UNITED STATES PATENT OFFICE.

JOHN T. PHILLIPS, OF NEW CASTLE, PENNSYLVANIA.

AUTOMATIC RAILROAD-GATE.

SPECIFICATION forming part of Letters Patent No. 363,845, dated May 31, 1887.

Application filed April 10, 1886. Serial No. 198,460. (Model.)

To all whom it may concern:

Be it known that I, JOHN T. PHILLIPS, of New Castle, in the county of Lawrence and State of Pennsylvania, have invented a new and Improved Automatic Railroad-Gate, of which the following is a full, clear, and exact description.

The object of my invention is to provide a railroad-gate which is closed automatically by the approaching train and opened as soon as the last car has passed the gate.

The invention consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improvement. Fig. 2 is a sectional side elevation of the same on the line *x x*, Fig. 1. Fig. 3 is a vertical cross-section of the same on the line *y y*, Fig. 1. Fig. 4 is a sectional side elevation of the same on the line *z z*, Fig. 3.

A device similar to the one shown at the left of the railroad-gate on one track is placed at the right of the gate on the other track, so that the gates are opened and closed by trains going in either direction; and as the two devices are the same in construction and operation it suffices to describe and illustrate but one. For single-track railroads the devices are placed on both sides of the gate on the same track.

At the inner side of one of the rails A A, attached to the ties B, are placed the springs C and C′, one in front of the other, interlocking with each other at the point of their junction and resting with their ends on the flanges of the rails A A, and additionally supported by the springs D D, acting against the under sides of the springs C and C′.

A lever, E, pivoted to the keeper E′, is provided with the pivoted arm E^2, terminating under the spring C, the other end, E^3, passing through a recess, F′, in the wheel F, which is mounted to turn in a suitable bearing on one side of the railroad-track. The wheel F is provided with a pawl, F^2, acting between two pins on the wheel F and extending a short distance beyond the periphery of the wheel. A lug, F^3, on the under side of the wheel F, engages the stop F^4.

A lever, G, similar to the lever E, is pivoted to a keeper, G′, and is provided with a pivoted arm, G^2, terminating under the spring C′, the other end passing through a recess, H′, in the wheel H, mounted to turn in suitable bearings on one side of the track.

The wheel H is provided with a lug, H^2, and to the periphery of the said wheel is attached one end of a rope, I, which passes under a pulley, J, and to a pulley, J′, mounted on a bracket attached to the post K of the railroad-gate. The rope I passes over the pulley J′, and is provided with a weight, M, which rests on one end, N′, of the gate-lever N, pivoted to the gate-post K. A branch rope, I′, attached to the rope I, connects with an arm, O, attached to a bell, P, mounted to swing on the gate-post K.

The operation is as follows: The springs C and C′ are so arranged that two sets of car-wheels are always on one of the springs, and a train going in the direction of the arrow *a*′, and passing over the rails A, depresses, with the flanges of the wheels, the spring C, so as to cause the outer end, E^3, of the lever to be thrown up and partly revolve the wheel F in the direction of the arrow *b*′, the spring-pawl F^2 carrying the wheel H a short distance around its axis in the direction of the arrow *c*′ until the pawl F^2 is disengaged from the notch H^2. Then, as the car-wheel flanges depress the spring C′, the outer end, G^3, of the lever G revolves the wheel H in the inverse direction of the arrow *c*′, thereby pulling on the rope I, so as to release the weight M from its resting-place N′ on the gate-lever N, which swings downward in the direction of the arrow *d*′, and thereby closes the gate. As soon as the last wheel of the train has left the spring C′, the latter is thrown up again into its normal position by the action of the springs D, and thereby causes the end G^3 of the lever G to rotate the wheel H in the direction of the arrow *c*′ until the wheel H reaches its normal position. This rotation of the wheel H causes the weight M to reseat itself on the projection N′ of the gate-lever N, which, by this additional weight, is swung up into the position shown in Fig. 2.

When a train comes in the inverse direction

of the arrow *a'*, the spring C' is depressed; but the lever G cannot rotate the wheel H, as the same is locked by the projection H^2, resting against the pawl F^2 on the wheel F, which is prevented from turning in the inverse direction of the arrow *b'* by its lug F^3 striking against the stop-pin F^4, so that the gate-lever N remains in the raised position; but as the other gate-lever, N^2, has been closed by the train there is no necessity for closing the gate-lever N of the device, and the gate remains open until a train runs in the direction of the arrow *a'*, as before described.

It will be seen that when the wheel H revolves in the inverse direction of the arrow *c'*, as before described, the cord I, besides lifting the weight M, also pulls on the branch cord I', actuating the lever O, which causes the bell P to swing, and thereby sound an alarm, thus signaling the approach of the train.

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

1. In an automatic railroad-gate, the combination, with a pivoted gate, of springs arranged at the side of one of the rails of the track, wheels mounted in bearings at one side of the track, levers engaging the springs and wheels, a cord connected to one of the said wheels, and a weight on the free end of the cord, substantially as herein shown and described.

2. In an automatic railroad-gate, the springs C and C' and the levers E and G, in combination with the wheels F and H, provided with the recesses F' and H' and the lugs F^3 and H^2, respectively, the pawl F^2, the stop-pin F^4, and a cord, I, provided with the weight M, actuating the gate-lever N and operating the bell P, substantially as herein shown and described.

3. In an automatic railroad-gate, the combination, with the swinging gate-bar N, of the spring C', arranged at the side of one of the rails of the track, the wheel H, journaled in bearings at the side of the track, the lever G, engaging said spring and wheel, the rope I, attached to the wheel, and the weight M on the free end of the rope, substantially as herein shown and described.

4. In an automatic railroad-gate, the combination, with a pivoted gate, of wheels journaled in bearings at one side of the track, a rope attached to one of the said wheels, a weight on the end of the rope, levers engaging the said wheels and extending to the inner side of one of the rails of the track, and provided with upwardly-projecting arms, and springs arranged at the side of one of the rails of the track, substantially as herein shown and described.

5. In an automatic railroad-gate, the spring C, the lever E, the wheel F, provided with the lug F^3, and the spring-pawl F^2, in combination with the spring C', the lever G, the wheel H, having a lug, H^2, the cord I, passing over the pulleys J and J', and provided with a weight, M, and the pivoted gate-lever N, substantially as herein shown and described.

JOHN T. PHILLIPS.

Witnesses:
GEO. W. MILLER,
ERRETT E. PHILLIPS.