

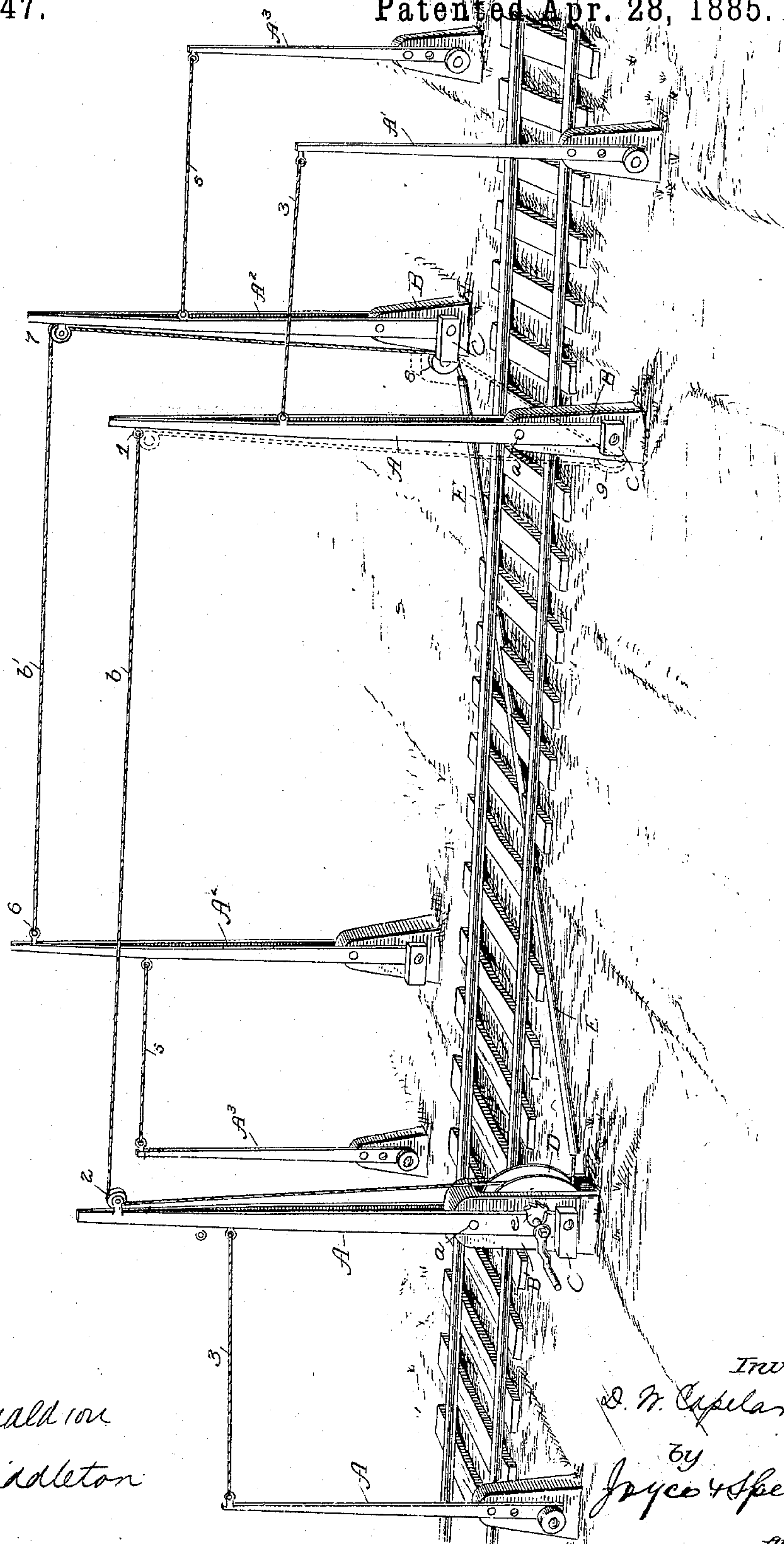
(No Model.)

D. W. COPELAND.

RAILROAD GATE.

No. 316,747.

Patented Apr. 28, 1885.



Attest  
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# UNITED STATES PATENT OFFICE.

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## RAILROAD-GATE.

SPECIFICATION forming part of Letters Patent No. 316,747, dated April 28, 1885.

Application filed June 6, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID W. COPELAND, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Railroad-Gates; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in gates designed for railway-crossings. The object is to simplify the mechanism, to secure easy and effectual working of the apparatus from one point, and to bring the gates down without danger to the persons on the road or path.

The accompanying drawing shows in perspective the full apparatus.

I have described first the gate upon one side of the way and the mechanism for operating it. This gate consists of tapering bars A, pivoted at *a* upon standards B B', provided at the shorter ends with counter-weights C. Within one of the standards, B', which is formed with a cavity, is a drum, D, whose shaft is provided with a crank and a pawl and ratchet-wheel, *e*. A rope or chain, *b*, is attached to one of the bars at 1, and passes over a pulley, 2, on the other bar, and thence down to the drum, to which it is attached.

It will be apparent that by winding the rope upon the drum the two bars A A' will be turned down toward each other until they are horizontal or nearly horizontal, thus obstructing the passage of the roadway, which is between the posts to which the bars are pivoted.

The pawl may be used to hold the drum at any point, and when the drum is released the counter-weights will turn the bars to an upright position.

Various devices have been heretofore employed to close the walk at the same time with the roadway; but these, so far as I am aware, have been objectionable by reason of their complexity. To provide a simple device, I have carried out in a modified way the general principle of my invention, and have applied it to the foot-path or walk, (when such path is located by the side of the roadway, as is usually the case in cities.) A bar, A', similar to A, and similarly pivoted and weighted, but shorter to suit its purpose, is arranged on

the side of the walk opposite the bar A. Its top is connected to the bar A by a rope, chain, or wire, 3. The points of connection are so arranged that when the bar A is turned down, as heretofore explained, the connection 3 will draw down the bar A' to the same relative position, and the weight will return the bar in the manner heretofore explained.

The devices above described may manifestly be duplicated on the other side of the railroad by bars A<sup>2</sup> and A<sup>3</sup>, exactly similar to bars A A'. In order to operate these from the same drum D, the bars A<sup>3</sup> are connected to the bars A<sup>2</sup> by ropes, chains, or wires 5, and a rope or chain, *b'*, is connected to one of the bars A<sup>2</sup> at 6, and passes over a pulley, 7, on the top of the other bar on that side, thence along the latter bar to the pulley 8 at its base. Thence the rope or chain is carried, preferably, through a piece of ordinary gas-pipe, E, under the rails or track to a point near the drum D, to which said rope or chain is attached, so that it may wind upon the drum simultaneously with the rope or chain *b*.

The pipe E may be conveniently laid by notching the top of the ties and passing the pipe under the rails.

A single rope or chain may be used on the main bars A A<sup>2</sup> by placing a pulley at 1 and another at 9, as shown in dotted lines, and by running the rope *b* over these pulleys, across the track, and over the pulleys 7 and 8 to 6. In this way a single rope may be used; but obviously the apparatus will work less quickly with this arrangement with the same size of drum.

By this construction the whole apparatus can be worked by one man, the bars are all brought down accurately, and cannot, by falling, strike any one that is underneath, and will all return simultaneously when the bar is released.

The bars A A' are ordinarily made sufficiently long to reach to the center of the road; but this is not essential, as the rope forms an intermediate connection between the ends, and thus the ends are held and a continuous gate formed across the road.

I am aware that a supplemental bar for ob-



structing the sidewalk, connected to the main bar and moving therewith, is well known and in common use, and I do not broadly claim such. I am also well aware that bars for ob-

5 structing one or both sides of the railway, pivoted and weighted to swing on posts, and connected so as to be simultaneously moved from one point are well known, and I do not broadly claim such a combination.

10 I claim as my invention—

1. A gate consisting of bars pivoted on suitable posts on opposite sides of the roadway, said bars being provided with weights and combined with a rope attached to the top of

15 one bar, passing over a suitable pulley on the other bar, and connected to a drum, whereby the bars are pulled down together, and the rope forms a part of the gate when the bars are down, substantially as described.

20 2. In combination with the pivoted bars A A, adapted, when lowered, to obstruct the road by the side of the railway, the rope connecting them at the tops and forming part of the gate when the bars are down, the pulley

25 and drum for drawing the rope, the bar A', and a rope, 3, attached to the top of bar A' and connected to one of bars A, whereby both bars A A' are drawn down simultaneously, all substantially as described.

3. Bars A A and A<sup>2</sup> A<sup>2</sup>, pivoted on suitable posts on both sides of the railway and both sides of the roadway, and provided with suitable weights, a drum, D, a rope or ropes connecting the tops of the bars and forming

35 part of the gate when the bars are down, suitable pulleys, and a passage-way for the rope under the track or rails, said ropes being connected to the drum, all combined substantially as described.

4. In combination with the bars A A, pivoted and weighted, and arranged on opposite

40 sides of the road and on one side of the railway, and bars A<sup>2</sup> A<sup>2</sup> on the opposite side of the railroad, pivoted and weighted in like manner, pulleys 2, 7, and 8, ropes b and b', connecting the upper ends of the bars and forming,

45 when the bars are down, part of the gate, a suitable pipe, E, and a drum, D, ropes b and b' being connected to the said drum, all substantially as described.

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In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

D. W. COPELAND.

Witnesses:

F. L. MIDDLETON,  
JOHN B. THOMPSON.