J. L. HARRINGTON.

GATE FOR BRIDGES.

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1,067,169.

Patented July 8, 1913.

Fig. I.

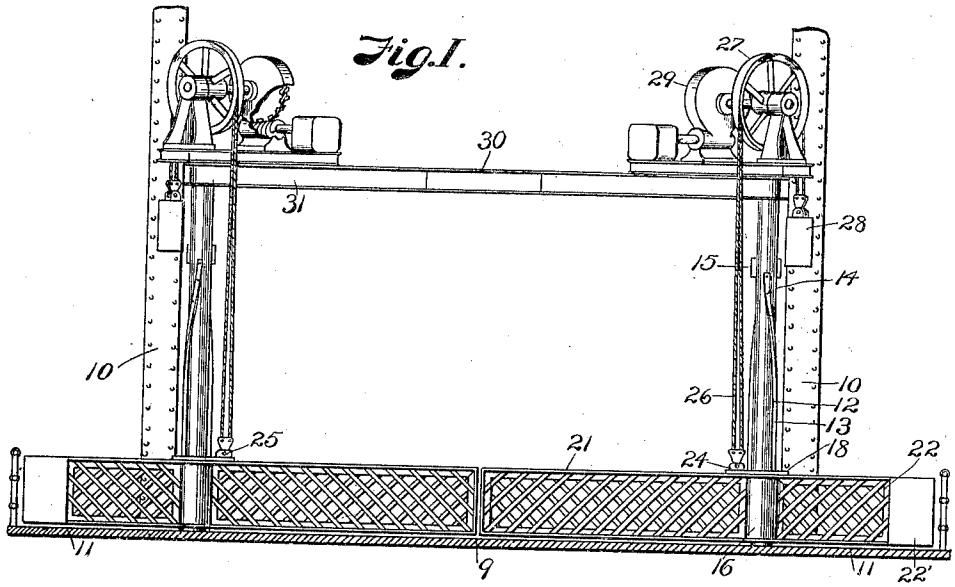


Fig. II.

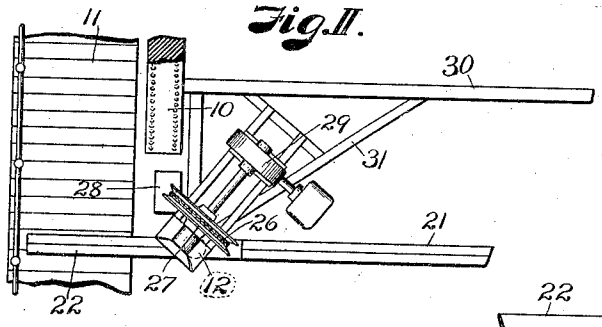


Fig. III.

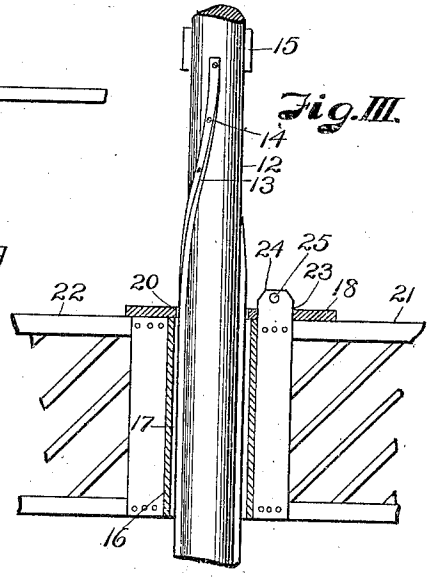
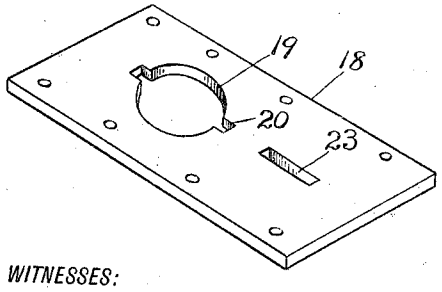


Fig. IV.



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GATE FOR BRIDGES.

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To all whom it may concern:

Be it known that I, JOHN LYLE HARRINGTON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Gates for Bridges; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to gates, and more particularly to a gate for controlling the approaches to a lift bridge, or the like, and wherein it is desirable to control the oncoming and off-going sides of the roadway independently of each other, to facilitate travel; the principal object of the invention being to provide a structure of this type which is simple and economical in construction and operation and comprises the improved details of structure hereinafter described and illustrated in the accompanying drawings, wherein:—

Figure I is an end view of a bridge approach equipped with my improved gates, both the on-coming and off-going gates being shown in lowered position. Fig. II is a plan view of a part of one of the gates, showing its connection and mounting on a bridge, and the arrangement of the individual motor. Fig. III is an enlarged detail view of one of the gate mountings, showing the spiral web for turning the gate. Fig. IV is an enlarged perspective view of one of the guide plates carried by the gates.

Referring more in detail to the parts:— 9 designates the roadway, 10 a post and 11 the sidewalks of a bridge of any ordinary construction. At each side of the roadway is a standard 12 which runs to a sufficient height to clear the highest loads which will probably pass over the bridge, and is circular in cross-section, being preferably constructed of metal tubing. Fixed to said standard are webs 13 which extend vertically to a height sufficient to clear ordinary loads and are then spiraled on the standard, as shown, the webs being arranged on opposite sides of the standard and paralleling each other during their straight and spiraled length. The webs are preferably formed of bar metal and secured to the standard by countersunk screws 14 which extend through the outer faces of the webs to provide smooth side faces therefor. Near the top of the webs the standard is provided with stop wings 15. On each of said standards is a gate structure comprising a tubular drum 16 which surrounds the standard 12 and is of sufficient diameter to provide an annular space 17 between the same and the outer surfaces of the webs 13. At the upper end of the drum 16 is fixed a plate 18, having a circular opening 19 of but slightly greater diameter than the standard so that it will fit snugly thereagainst, and having diametrically opposite slots 20 for receiving the webs 13.

It is apparent, as will presently be more specifically described, that when the gate is lifted the webs traveling in the slotted plate 18 will turn the gate when the spiral portions of the web are reached.

Fixed on drum 16 are the gate members 21 and 22, the former being longer than the latter and adapted to cover substantially one-half of the roadway of the bridge. The latter is adapted to cover the sidewalk and has a weighted free end 22′ to enable the short gate section to balance the longer section. Each of the plates 18 has a slot 23 through which the upper end of a hanger bar 24 is projected, said hanger bar being riveted to the gate and provided with an eye 25 at its upper end, with which cables 26 are connected. Cables 26 run up over the top of the standard and around the groove of a sheave wheel 27, the free ends of said cables being connected with a counterweight 28, which substantially balances the weight of the gate. The shaft of sheave wheel 27 is connected with an individual motor 29 whereby said wheel may be revolved in either direction to determine the upward or downward travel of the gate. A cross frame 30 connecting the posts 10 and a framework 31 connects the standards 12 and frame 30 and supports the sheaves and motors.

As before stated, an individual gate is arranged at each corner of the bridge and adapted for individual operation as and for the purpose now described.

Presuming the gates to be assembled and in their elevated positions, so that the roadway is free for traffic in both directions, when the roadway is to be closed, the motors at the right-hand sides of the opposite

ends of the bridge are operated so that the sheave wheels at such sides, or corners, of the bridge are revolved to tend to lift the counterweights 28. As soon as the gate members are relieved of the counterweights, the weight of said members allows them to lower on their standards, the webs 13 engaging the plates 18 so that the spiraled portions of the webs will tend to turn the gates on the standards to move the long ends of the gates out over the roadway and the short ends over the sidewalks. It is apparent that by having the right-hand sidewalks and sides of the roadway closed, the on-coming traffic is intercepted and as soon as the bridge and sidewalks have been cleared of the off-going traffic the gates at the left-hand corners of the bridge are lowered in like manner to entirely close the bridge.

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

The combination with a standard, of a web fixed on the standard and having a straight lower portion and spiral upper portion, and a gate having a slotted member slidably engaging the web whereby the gate when raised is adapted to travel in a direct path over the lower portion of the web and in spiral path over the upper portion thereof, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN LYLE HARRINGTON.

Witnesses:
LETA E. COATS,
ARTHUR C. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."