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 AUTOMATIC ELECTRIC RAILWAY GATE.
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1,306,508.

Patented June 10, 1919.

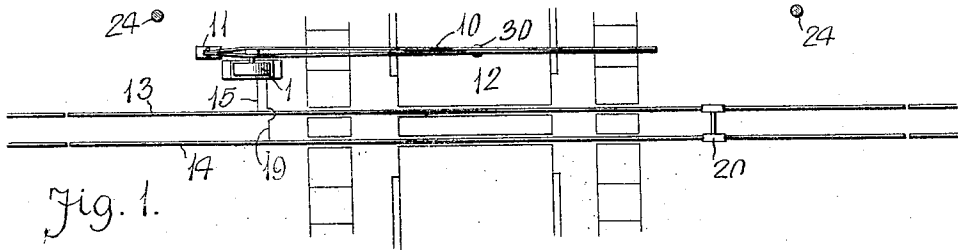


Fig. 1.

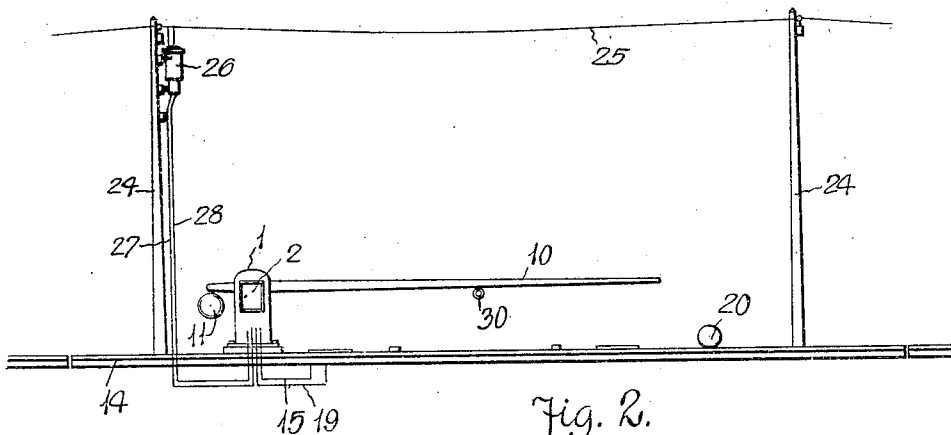


Fig. 2.

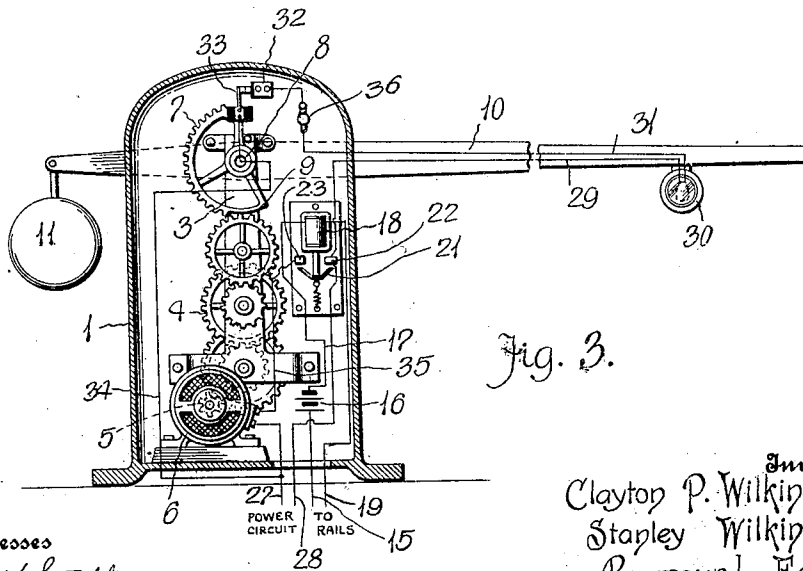


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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AUTOMATIC ELECTRIC RAILWAY-GATE.

1,306,508.

Specification of Letters Patent.

Patented June 10, 1919.

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To all whom it may concern:

Be it known that we, CLAYTON P. WILKINSON, RAYMOUR L. EDSALL, and STANLEY WILKINSON, subjects of the King of England, residing at Leamington, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in Automatic Electric Railway-Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an automatic electric railway gate, and the primary object of our invention is to provide automatic means in a manner as hereinafter set forth, for lowering and raising a street or road gate, at a railway crossing thereby obviating the necessity of a railway employing a crossing watchman.

Another object of our invention is to provide a railway crossing gate wherein positive and reliable means are associated with a suitable source of power for lowering and raising the gate at times, thus regulating traffic at the crossing and avoiding accidents by passing trains.

A further object of our invention is to provide an automatic electric railway gate that can be operated in conjunction with the block system of a railroad, particularly by utilizing the same source of electrical energy employed in connection with the block system.

A still further object of our invention is to provide an automatic railway gate wherein the parts are constructed with a view of reducing the cost of manufacture and at the same time retain the features by which safety, durability, simplicity and ease of assembling are secured, and with such ends in view, our invention resides in the novel construction, combination and arrangement of parts as hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein--

Figure 1 is a plan of an automatic electric railway gate in accordance with our invention;

Fig. 2 is an elevation of the same, and Fig. 3 is an enlarged vertical sectional view of the gate operating mechanism.

In describing our invention by aid of the views above referred to, we desire it to be

understood that said views are merely illustrative of an example whereby our invention may be applied in practice, and we do not care to limit ourselves to the precise construction shown. The following description is therefore to be broadly construed as including substitute constructions and arrangements of parts which are the obvious equivalent of those to be herein-after referred to.

In the drawings, 1 denotes a hollow pedestal having a door 2 whereby easy access can be had to the interior of the same. Within this pedestal and connected to a side wall thereof is a frame 3 supporting a train of gears 4 and one of the lowermost gears meshes with a gear 5 on the armature shaft of a low speed motor 6 mounted within the pedestal. An uppermost gear of the train of gears 4 meshes with a segment gear 7 mounted upon a gate shaft 8 journaled in the frame 3 and the side wall of the pedestal 1. A portion of the segment gear 7 is devoid of teeth, as indicated at 9 and this portion of the segment gear simply engages the teeth of the uppermost gear, as best shown in Fig. 3.

10 denotes a gate mounted upon the shaft 8 and the inner or short arm of said gate has a weight 11 adapted to raise the long arm of the gate when there is a cessation in the operation of the motor 6. The gate 10 is of sufficient length to span a street or road 12 when the pedestal 1 is located at one side thereof and in proximity to a railroad track. The rails 13 and 14 of the track provide a block that is insulated or separated relative to the remainder of the track, and the rail 13 is connected by a wire 15 to a battery 16 within the hollow pedestal, and said battery is connected by a wire 17 to a solenoid switch 18. The solenoid switch is of a conventional form and is suitably supported within the pedestal. It is connected by a wire 19 to the rail 14 and when a truck 20 of a car connects the rails 13 and 14 the circuit is completed through the battery 16 and solenoid switch 18, raising the spring held armature 21 of said switch and connecting contact members 22 and 23.

24 denotes poles supporting a power cable 25 and on the pole adjacent the railway gate is a transformer 26 connected by wires 27 and

28 to the motor 6 and the contact member 22 respectively. The contact member 22 is connected by a wire 29 to a suitable lamp on the gate 10 and this lamp is connected by a wire 31 to a contact member 32 within the hollow pedestal. This contact member is adapted to be engaged by an insulated arm 33, carried by the segment gear 7 and said insulated arm is connected by a wire 34 to the power wire 27. Another wire 35 connects the the motor 6 to the contact member 23.

With the insulated railroad block of greater length than the longest train, the truck of a locomotive will close the battery circuit and the solenoid switch 18 will be energized and close the power circuit. This power circuit immediately places the motor 6 in operation, and the train of gears 4, and gear 7 lower the gate 10. When the gate is lowered, the arm 33 of the segment gear 7 engages the contact 32 and completes an electric circuit in connection with the lamp 30 and this lamp is illuminated as long as the gate remains in a lowered or closed position. While the power circuit is maintained the train of gears is driven and with the uppermost gear engaging the segment gear 7, the gate is retained in a lowered position, but immediately upon the solenoid switch circuit being broken and then the power circuit, the weight 11 raises the gate. This is only accomplished after the train has passed the crossing.

A small switch 36 may be located in a hollow pedestal whereby the lighting circuit of

the lamp 30 may be broken during the day time and the lamp simply used of a night.

From the foregoing it will be observed that in order to maintain the gate in a lowered position, it is necessary that the train of gears be constantly driven whereby the uppermost gear will engage one of the teeth of the segment gear and thereby practically hold the same stationary until there is a cessation in the operation of the train of gears.

What we claim is:—

In an automatic electric railway gate, the combination of a hollow pedestal, a frame in parallelism with a wall of said pedestal and connected thereto, a gate shaft journaled in said frame and the pedestal wall, a gate on the outer end of said shaft, a segment gear on the inner end of said shaft, and a train of motor operated gears supported by said frame adapted to mesh with said segment gear to lower said gate and out of mesh and in contact with a single tooth of said segment gear to maintain said gate lowered during further operation of said train of gears.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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