No. 829,241. PATENTED AUG. 21, 1906.

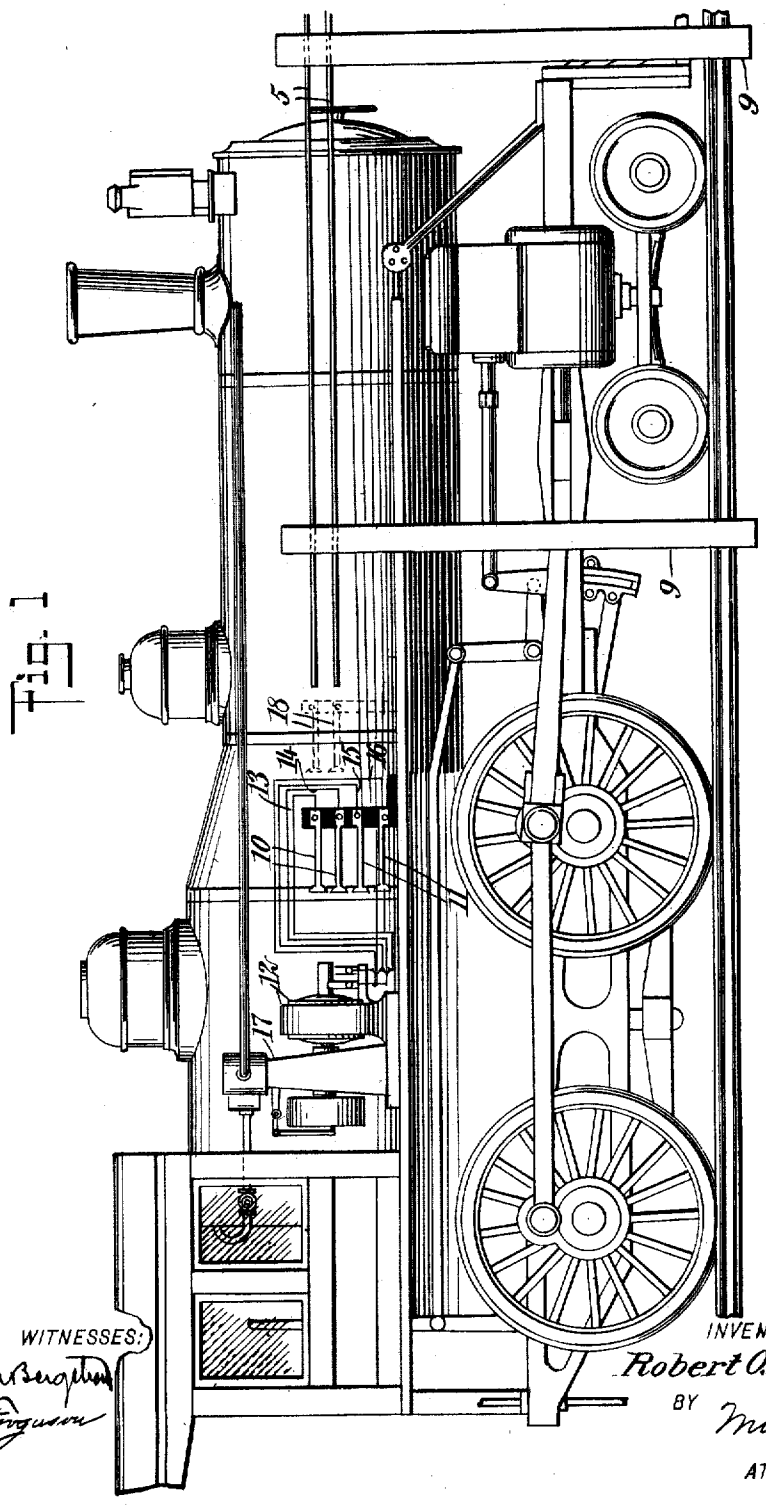
R. O. TURNER.

RAILWAY SIGNAL SYSTEM.

APPLICATION FILED FEB. 5, 1906.

2 SHEETS—SHEET 1.

Fig. 1



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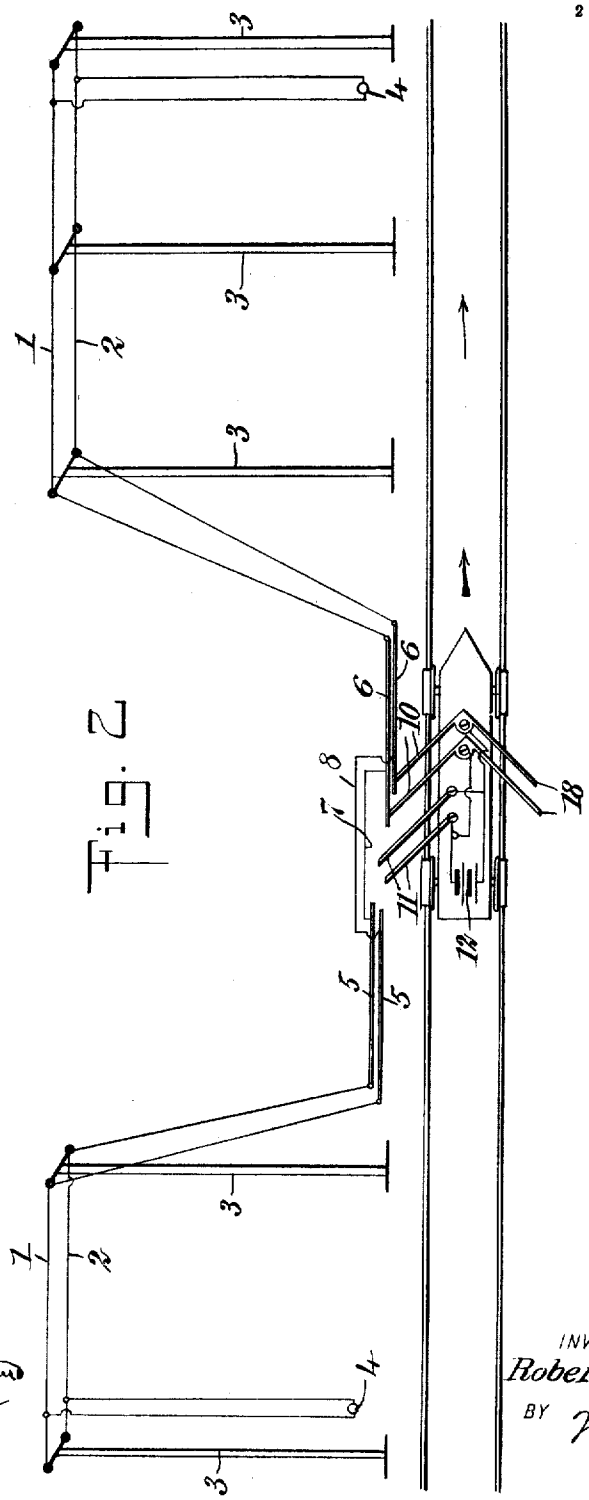

Fig. 2

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ROBERT OLIVER TURNER, OF BARRE, VERMONT, ASSIGNOR OF ONE-FOURTH TO LYMAN J. MEAD, OF BARRE, VERMONT.

RAILWAY SIGNAL SYSTEM.

No. 829,241. Specification of Letters Patent. Patented Aug. 21, 1906.

Application filed February 6, 1906. Serial No. 299,458.

To all whom it may concern:

Be it known that I, ROBERT OLIVER TURNER, a citizen of the United States, and a resident of Barre, in the county of Washington and State of Vermont, have invented a new and Improved Railway Signal System, of which the following is a full, clear, and exact description.

This invention relates to improvements in block-signal systems for railways, the object being to so arrange the circuit-wires for electric signal-lamps at the ends of the block that the circuit may be closed by devices carried by a locomotive or car to give two flashes of the lights when the train is moving in one direction and a single flash when moving in the opposite direction, thus informing the engineer of any train that may be approaching the block as to the direction in which the train in the block is moving, and therefore prevent possible collision.

I will describe a railway signal system embodying my invention and then point out the novel features in the appended claims.

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

Figure 1 indicates a locomotive with circuit devices thereon and also showing a portion of the circuit-wires, and Fig. 2 is a diagrammatic view of the system embodying my invention.

While in the drawings I have indicated a dynamo for producing the electric current, it is to be understood that when the signal-lamps are used along the tracks for electrically-operated cars the current may be taken from the conductors from which the cars are supplied. It will also be understood that with a two-track railway signals will be arranged at each side.

Referring to the drawings, 1 2 designate the circuit-wires supported on poles 3. If desired, these wires may be connected to the ordinary telegraph-wire poles extended along the railway. At each end of the block is a signal-lamp 4, these lamps of course having connection with the wires 1 and 2. Arranged at a suitable point in the block—for instance, at about the center—are two pairs of conductor-bars 5 6, with the ends of which the circuit-wires 1 and 2 connect, and the pairs of bars are electrically joined by wires 7 8. The bars are supported on posts 9 near the track, and, as clearly indicated in Fig. 1, one pair of bars is arranged on a higher plane than the other pair of bars, the object of which will hereinafter appear.

Arranged on one side of the locomotive are two pairs of brushes 10 11, the brushes 10 being connected with a dynamo 12 through the wires 13 14, while the brushes 11 are connected to the dynamo through the wires 15 and 16. The dynamo may be operated by a small engine 17, supplied with steam from a boiler of the locomotive. On the opposite side of the locomotive is a single pair of brushes 18, which are arranged at a suitable height to engage with either pair of bars 5 or 6. As will be noted in Fig. 2, the pairs of bars are spaced apart, thus providing a gap between them.

In the operation, assuming the train to be moving in the direction indicated by the arrow in Fig. 2, one pair of brushes—for instance, the upper brushes 10—will engage with the upper pair of contact-bars, closing the circuit through the lamps at each end of the block. The circuit will be broken as the brushes pass into the gap between the two pairs of contact-bars, and then the lower brushes 11 will engage with the lower contact-bars, again closing the circuit through the lamps. Thus two flashes are given to indicate the direction in which the train is moving. When the train moves in the opposite direction, the circuit will be closed by the single pair of brushes 18. As these brushes, as before stated, are arranged to engage with but one pair of rods, if arranged to engage with the upper pair of rods they will pass over the lower pair of rods, and vice versa.

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

1. In a railway signal system, circuit-wires arranged along the track, lamps in electrical connection with the said wires, two pairs of contact-bars connecting the said wires and arranged near the track, the said pairs of bars being electrically connected, and the said pairs of bars being also arranged in different vertical planes, and contact-brushes carried by a locomotive or car, for engaging with said two pairs of contact-bars, the said brushes being connected to a source of electricity.

2. In a railway signal system, electric conducting-wires arranged along the track, lamps in connection with said wires, two pairs of conductor-bars connecting with the wires, the said pairs of bars being spaced apart, wire connection between the two pairs of bars, one pair of bars being arranged on a higher plane than the other pair of bars, two pairs of brushes arranged on different planes and carried by a locomotive or car, and a single pair of brushes on the opposite side of the locomotive.

3. In a railway signal system, electric conducting-wires arranged along the track, lamps connecting therewith, two pairs of conductor-bars supported near the track, one pair above the other, electric connections between the pairs of bars, the said two pairs of bars being spaced apart to form a gap, an electricity-generator carried by a locomotive or car, two pairs of brushes at one side of the locomotive or car, arranged one pair above the other, and a single pair of brushes at the opposite side of the locomotive, the several brushes being in connection with the generator.

4. In a railway block-signal system, electricity-conducting wires arranged along the track, lamps connecting with the wires at each end of the block, two pairs of conductor-bars connecting with the wires and arranged near the track, the said two pairs of bars being spaced apart and electrically connected, a dynamo mounted on a locomotive, an engine for operating said dynamo, and circuit-closing devices connected to the dynamo and adapted for engagement with said bars.

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

ROBERT OLIVER TURNER.

Witnesses:

BURT H. WELLS,

HUGH H. CARPENTER.