

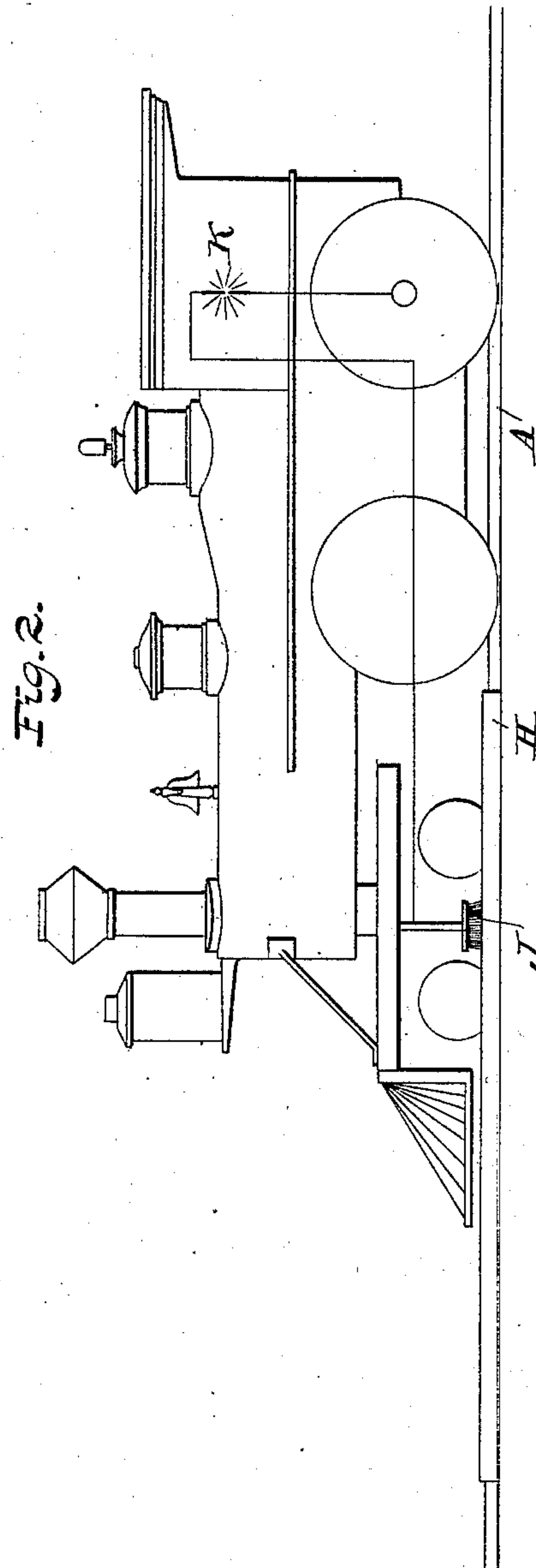
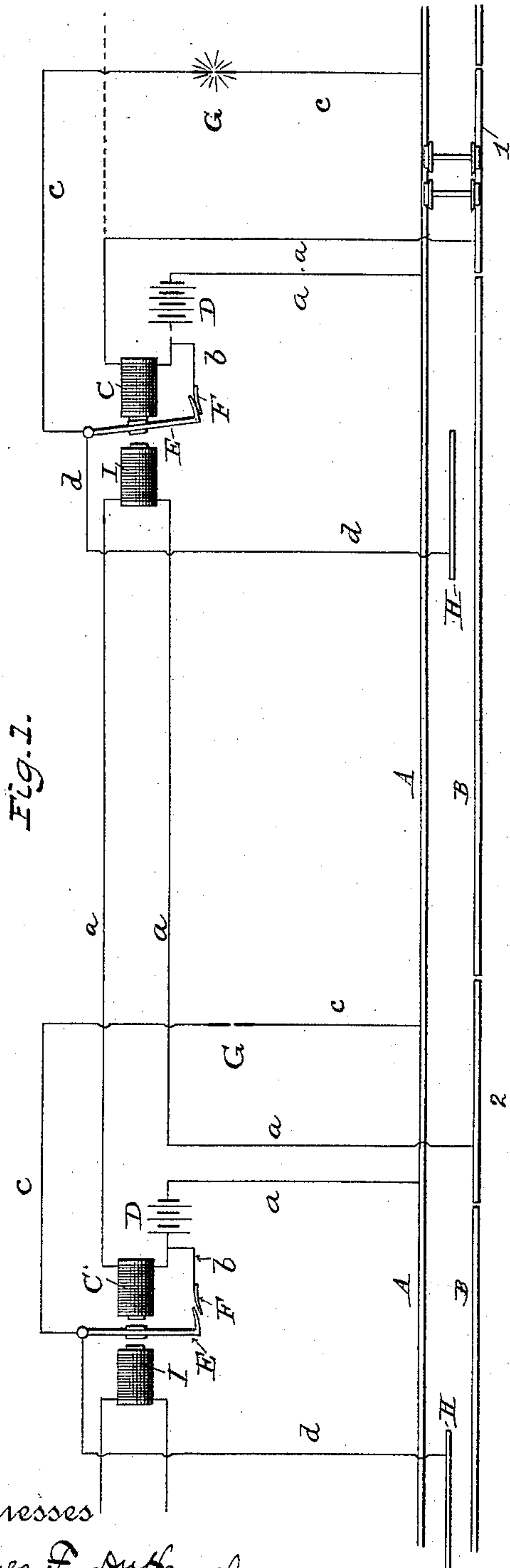
(No Model.)

W. P. KOOKOGEY.

RAILWAY SIGNAL.

No. 396,750.

Patented Jan. 29, 1889.



Witnesses

James F. Duffnell  
Walter C. Dodge.

By his Attorneys,

Inventor:  
William P. Kookogey  
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# UNITED STATES PATENT OFFICE.

WILLIAM P. KOOKOGEY, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE  
KOOKOGEY ELECTRIC COMPANY.

## RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 396,750, dated January 29, 1889.

Application filed June 7, 1887. Renewed June 9, 1888. Serial No. 276,569. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. KOOKOGEY, of Brooklyn, in the county of Kings and State of New York, have invented certain new and  
5 useful Improvements in Electrical Signals for Railways, of which the following is a specification.

My invention relates to apparatus for lighting and signaling along railways; and it consists in a novel arrangement of circuits, circuit-closers, and electro-magnetic controlling  
10 devices, whereby the passage of the train over certain insulated sections of the tracks is caused to complete local light-circuits and display the lights or signals at the desired points,  
15 as will be hereinafter more fully set forth.

In the drawings, Figure 1 is a diagram showing my improved arrangement of circuits and circuit closing and breaking devices. Fig. 2  
20 is a view showing the arrangement of parts in the locomotive.

Referring again to the drawings, A and B indicate the rails, the rail B being provided at suitable intervals with insulated sections 1 2,  
25 &c. From the insulated section 1 a wire or conductor, *a*, passes to and about an electro-magnet, C, thence to a battery, D, and finally to the rail A or other ground-connection. Facing and within the field of electro-magnet C is  
30 a circuit-closer, E, which, when moved into contact with a contact plate or finger, F, completes a circuit through E F, line *b*, battery D, line *a*, rail A, and line or conductor *c*, which latter contains an electric lamp, G. From this  
35 it will be seen that as soon as the rails A B are bridged at the insulated section 1 the lamp-circuit is completed and the lamp rendered luminous, and that it will continue luminous so long as the circuit remains closed  
40 between E and F. From the circuit-closer E a line or conductor, *d*, extends to a short central rail section or plate, H, placed conveniently between the rails A and B and suitably insulated. When the train arrives at the in-  
45 sulated rail H, contact is made therewith by means of a brush or other device, J, carried by the locomotive, and a circuit is then completed through the line *d*, rail H, the brush or contact J of the car A or locomotive, the wheels,  
50 rail A, and line *a*, battery D, line *b*, circuit-closer

E F, thereby rendering luminous for a moment a lamp, K, carried in the locomotive and included in the circuit between the brush and the wheels. This completes the apparatus for  
lighting one light or the light for one block or  
55 section of the road, which remains lighted until the train reaches the second insulated section, 2, where precisely the same arrangement of circuits is employed and arranged to light  
60 a second lamp. The apparatus at all points after the first set of circuits is further provided with an electro-magnet, I, included in the line *a*, so that when the circuit of which  
65 *a* forms part is completed in one block or section the magnet I at the preceding station is energized and serves to retract the circuit-closer E at such preceding section, and thereby to break the light-circuit and put out the light  
70 thereof. This action takes place at all the stations successively, so that as long as the light of one block or section is luminous it will  
be known that the train has not yet entered upon the succeeding section or block.

Having thus described my invention, what I claim is—

1. In combination with a railway-track having a series of insulated sections, one in each block or division of the road, an electric circuit for each block or division, including the  
insulated rail-section thereof, a generator or  
80 source of electricity, and an electro-magnet, and a local lamp-circuit for each block or division, including a battery or generator and a circuit-closer adapted to be operated by the  
85 electro-magnet, whereby a train entering upon an insulated rail-section is caused to complete the light-circuit and leave a lamp behind it in a luminous condition.

2. In combination with rails A and B, one provided with insulated sections 1 2, &c., one  
90 such section in each block or division of the road, an electric circuit for each block or division, including two electric magnets and a source of electricity, local lamp-circuits, one for each block or division, and a circuit-closer  
95 included in each lamp-circuit and located between the two electro-magnets, each in the circuit of a different block or division, whereby the circuit-closer of each lamp-circuit in succession is caused to complete such lamp-cir-  
100



5 cuit as the train enters upon the insulated rail-section of the block or division to which said lamp-circuit belongs and to break or open said lamp-circuit as the succeeding one is perfected.

10 3. In combination with rails A B, one having insulated sections 1 2, &c., a series of circuits, *a*, one for each insulated section and including the same, and two electro-magnets, C and I, the magnet I of each circuit arranged in proximity to the magnet C of the preceding circuit, a series of local lamp-circuits, one for

each insulated section, and a series of circuit-closers, one included in each lamp-circuit and located between the magnets C and I, whereby 15 the lamp-circuits are successively perfected as a train enters successively upon the insulated rail-sections.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WM. P. KOOKOGHEY.

Witnesses:

WILLIAM W. DODGE,  
T. W. SORAN.