

No. 785,338.

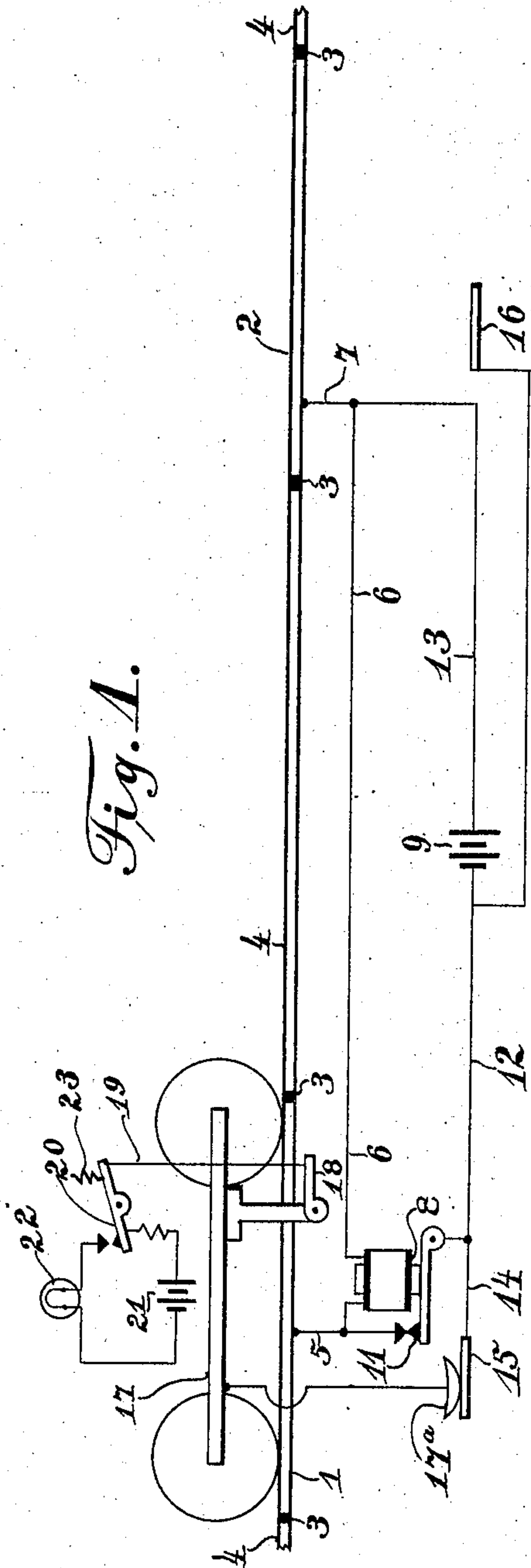
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G. THOMPSON & H. W. MERCHANT.

MEANS FOR PROGRESSIVELY ESTABLISHING AND DISSOLVING SPHERES
OF MAGNETIC INFLUENCE.

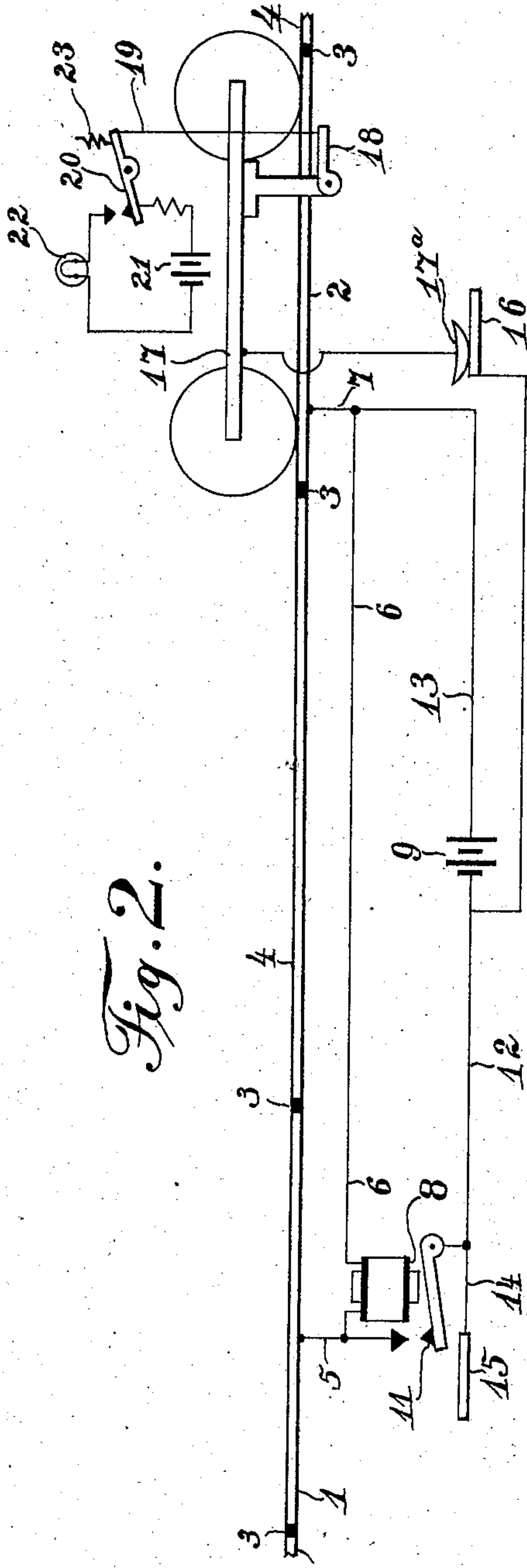
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Fig. 1.



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Fig. 2.



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UNITED STATES PATENT OFFICE.

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MEANS FOR PROGRESSIVELY ESTABLISHING AND DISSOLVING SPHERES OF MAGNETIC INFLUENCE.

SPECIFICATION forming part of Letters Patent No. 785,338, dated March 21, 1905.

Application filed August 17, 1903. Serial No. 169,788.

To all whom it may concern:

Be it known that we, GUION THOMPSON and HUNTINGTON W. MERCHANT, citizens of the United States, residing at the city of New York, in the State of New York, have invented certain new and useful Improvements in Means for Progressively Establishing and Dissolving Spheres of Magnetic Influence; and we do hereby 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.

Our invention relates to means for progressively establishing and dissolving spheres of magnetic influence, and has for its object the provision of means which may be operated by transient means to establish a sphere of magnetic influence upon the route of a conveyance and which may be subsequently operated by said transient means at a point farther along said route to dissolve the sphere thus established.

With this and other objects in view it consists of the constructions, combinations, and arrangements of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a diagrammatic view of our said invention in position for establishing the sphere of magnetic influence. Fig. 2 is a diagrammatic view of said invention in position for dissolving said sphere of magnetic influence.

In the drawings, 1 and 2 are relatively short sections of railway-track insulated at each end by insulation-blocks 3 3 or in any suitable manner from the adjoining rails 4 of relatively long sections of track alined therewith. Said rail 1 is electrically connected around the intervening rail 4 and the intervening insulation with rail 2 by means of the conductors 5, 6, and 7, including the coil of an electromagnet 8, and with the poles of battery 9 or other suitable source of electricity by said conductor 5, a normally open contact 11, and conductor 12, and by said conductors 5 6 and a conductor 13, with which conductor 13 said conductor 7 is also electrically connected. A

contact plate or rail 15 adjacent to said rail 1 and normally insulated therefrom is electrically connected to the same pole of the battery as said conductor 12 is connected to. A contact plate or rail 16 adjacent to said rail 2 and normally insulated therefrom is connected to the same pole of the battery as conductor 12 is connected to, and said contact-plates 15 and 16 are in operative alinement with each other parallel with said track-rails. Upon said track is represented a conveyance 17, equipped with a suitable contact-shoe 17^a, adapted in operation to contact successively with said contact-plates 15 and 16 as said conveyance moves along said track, which shoe in cooperation with the frame and wheels of said conveyance or suitable portions thereof is adapted to form an electrical connection or circuit-closing means between said rail 1 and said contact-plate 15 or between said rail 2 and said contact-plate 16, according to the position of the conveyance. It is obvious, however, that within the scope of our invention the character of said conductors and of the source of electricity may be greatly altered so long as the same general electrical relation of the rails, magnet, contacts, and source of electricity to each other are preserved.

For the purpose of showing a utility of said invention we have shown on said conveyance a lever 18, pivoted to the under frame of said conveyance and adapted to pass over said electromagnet 8 and to be attracted downward toward said magnet as it passes over the same. To the free end of said lever is attached a wire or cord 19, connected at its opposite end with the circuit-breaker 20, which is electrically connected with one of the poles of a battery 21, carried upon said conveyance, the opposite pole of which battery is connected with a signal-lamp 22. Said circuit-breaker 20 may be normally held out of contact with said lamp by a back spring 23.

The operation of our invention is as follows: As a conveyance so equipped passes contact-plate 15, the shoe contacts therewith, and thereby closes a circuit from said battery 9 through the coil of said magnet 8, the rail 1,

the wheels and frame of said conveyance, the shoe 17^a, and the contact-plate 15 back to said battery, thus energizing said magnet 8, which operates to close said normally open contact 11. Said conveyance having passed said plate 15 the circuit is maintained from said battery through said coil, and the contact 11 back to said battery. If now a conveyance similarly equipped, following the first said conveyance, arrives over said magnet before said first conveyance reaches said contact-plate 16, the lever 18 on the second conveyance will be attracted toward said magnet, thus drawing said circuit-breaker 20 into electrical contact with said lamp 22, and producing a signal-light to warn the driver of said conveyance of the occupancy of the track in advance. When the first said conveyance arrives at the contact-plate 16 and the shoe 17^a contacts therewith, the current from said battery 9 will be short-circuited from said magnet 8 and the circuit will be temporarily established from said battery through said rail 2, the wheels, frame, and shoe of the first said conveyance, the contact-plate 16, and back to the battery. When the current is thus short-circuited from said magnet, the contact 11 will be broken and the following conveyance may proceed.

It is obvious that the details of construction may be greatly altered within the scope of our said invention so long as the relation of the circuits is preserved. The means carried by said conveyance and adapted to be operated in part by said electromagnet may also be greatly varied.

Having now described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of a normally open cir-

cuit including the coil of an electromagnet a normally open circuit - controlling contact adapted to be governed by said magnet when energized, and a source of electricity; a second normally open circuit including the coil of said electromagnet, said source of electricity, a normally open circuit-controlling contact and a transient circuit-closing contact adapted to close the normally open contact of said second circuit; a third normally open circuit, including said source of electricity and a normally open contact adapted to be closed by said transient circuit-closing contact, substantially as described.

2. A multiple-electric circuit, including a source of electricity common to each of its branches, the coil of an electromagnet common to two of said branches, a separate normally open circuit-controlling contact in each of said branches, a traveling contact adapted to close the normally open contact of one of said branches in which said electromagnet is included and subsequently to leaving and re-opening the latter said contact to close the normally open contact of the branch in which said electromagnet is not included; and means governed by said electromagnet adapted to close the normally open contact of the other electromagnet-containing branch when said electromagnet is energized.

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

GUION THOMPSON.

HUNTINGTON W. MERCHANT.

Witnesses as to Guion Thompson:

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