

W. B. WORTHY.
ADVERTISING APPARATUS.

APPLICATION FILED NOV. 3, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

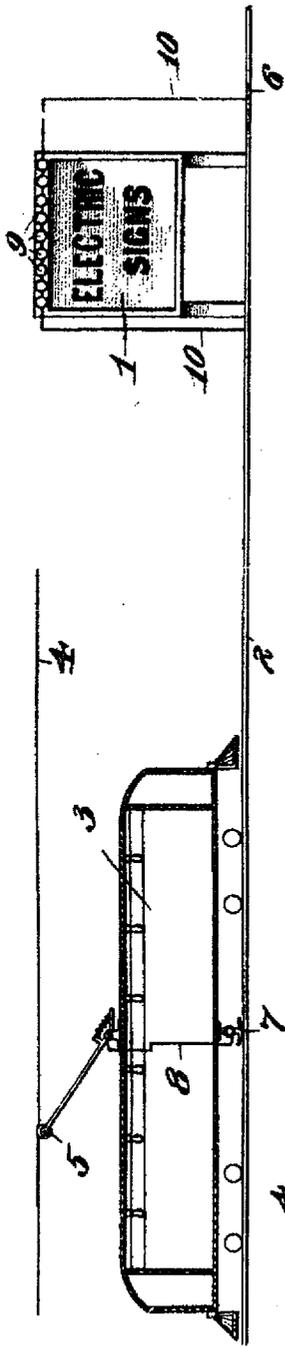


Fig. 2.

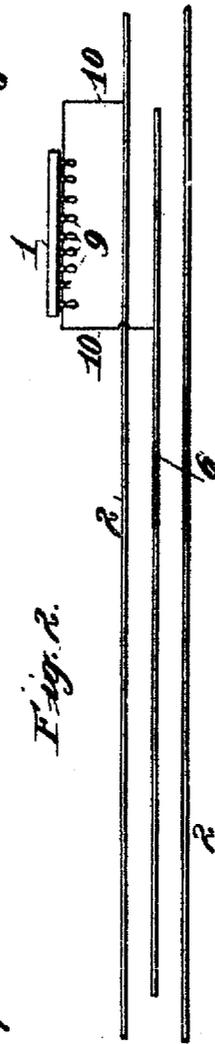


Fig. 3.

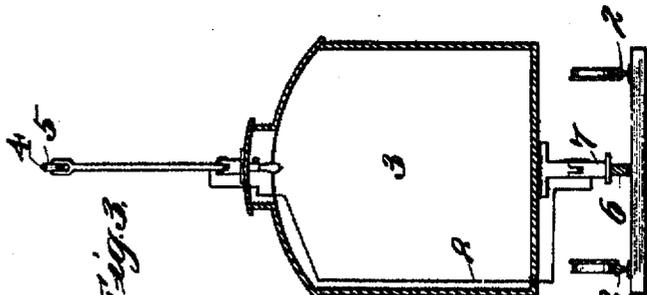
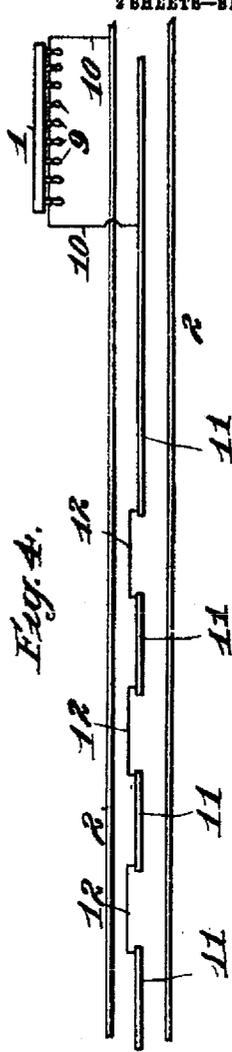


Fig. 4.



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APPLICATION FILED NOV. 2, 1904

2 SHEETS—SHEET 2.

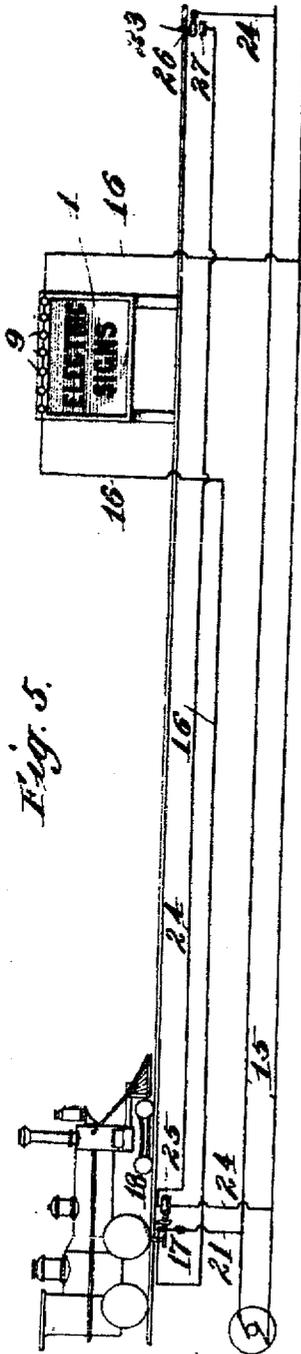


Fig. 5.

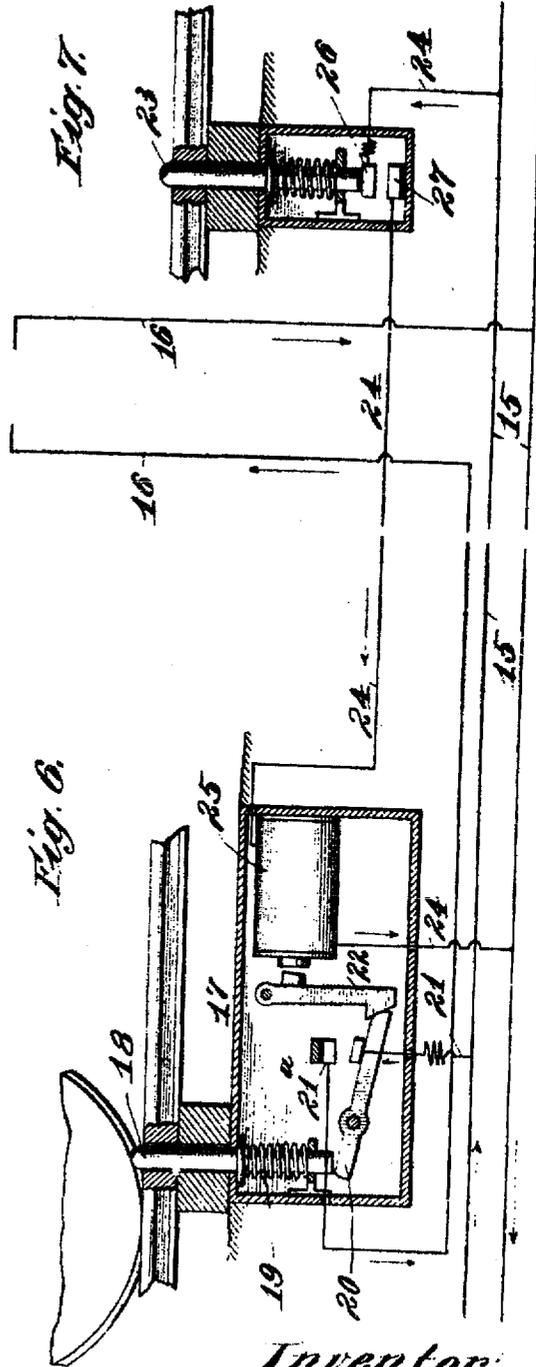


Fig. 7.

Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIS B. WORTHY, OF CHICAGO, ILLINOIS.

ADVERTISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 784,649, dated March 14, 1905.

Application filed November 3, 1904. Serial No. 231,207.

To all whom it may concern:

Be it known that I, WILLIS B. WORTHY, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Advertising Apparatus, of which the following is a specification.

It is common practice with advertisers of the present day to erect their sign-boards along the rights of way of railroads, both steam and electric, so that the attention of the passengers in the cars will be attracted to the signs as they look out through the car-windows at the passing scenery. The value of such signs, however, is at present greatly reduced, owing to the fact that as night comes on they are concealed or rendered illegible by the darkness, and this is particularly true of signs located along suburban lines and interurban electric railways where the travel is likely to be greatest after dusk and in the evening hours, during which the signs, if visible, would naturally meet with the greatest publicity. Occasional signs may of course be illuminated by ordinary methods and thus rendered visible at night as well as in the day-time; but the expense of continued illumination, if sufficiently marked to be in any way effective, is too great to be commercially practicable in the great majority of cases, particularly in outlying districts and in the country.

With these facts in view the present invention contemplates the rendering of such signs visible at night by illuminating devices which are brought into action only intermittently and for short intervals while the car or train is passing. In other words, it contemplates the provision at the sign of illuminating devices so controlled by the passing cars or trains on the adjacent railway that the sign will be lighted up as the car approaches and will continue to be lighted steadily or by intermittent flashes until the car has passed out of visual range. Obviously for this purpose an electrical lighting of the sign will ordinarily be the most feasible, and along electric railways the current from the trolley-wire or third rail of the railway may be utilized for the temporary illumination of the sign as well as for the propelling and illumination of the railway-

cars. Along steam-railroads of course a separate source of current must be employed. In the former case a limited length of conductor-bar laid alongside of and parallel with the track, after the manner of a third rail, can conveniently be employed in connection with a shoe on the car to throw the lamps of the sign into circuit with the trolley pole and wire. In the latter one or more pairs of connected switches can be provided along the tracks at proper intervals and arranged to be actuated in succession by the wheels of the car, so as to make and break the circuit one or more times as the car passes by the sign.

The invention consists in the matters thus and hereinafter set forth, and particularly pointed out in the appended claims when considered in connection with the accompanying drawings, in which -

Figure 1 is a somewhat diagrammatic view in elevation of a sign located along the line of an electric railway and arranged to be supplied with current through the trolley of the car as the latter passes the sign. Fig. 2 is a similar top plan view of the road-bed, showing the electrical connections of the sign in this arrangement. Fig. 3 is an end elevation showing the trolley-wiring in connection inside of the car. Fig. 4 is a top plan detail of a slightly-modified form of road-bed connection intended to produce a fitful or intermittent flashing of the sign instead of a steady illumination of it. Fig. 5 is a side elevation, diagrammatic in character, of a steam-road having on its right of way a sign arranged to be illuminated as the train passes through appropriate switches and connecting-wires. Fig. 6 is an enlarged longitudinal detail of the switch mechanism which throws on the lights as the car approaches the sign. Fig. 7 is a similar view of the switch mechanism employed to turn the lights off as the car recedes from the sign.

Referring to the drawings shown in Figs. 1 to 4, 1 designates a sign-board located along the right of way of an electric railroad. The motor-cars 3 of this railroad can be supplied with current either from a third rail or, as herein illustrated, from a trolley-wire 4, engaged by an underrunning trolley 5, the cur-

rent so derived being employed, as usual, to propel the car and illuminate its interior. In accordance with the present invention also the current so derived is used to temporarily illuminate the sign 1 as and when the trolley-car passes the sign, and to this end a section of the track 2 adjacent to the sign is provided with a longitudinal conductor-bar in the nature of a third rail 6, which bar is arranged to be engaged by a shoe or brush 7, carried by the car. This shoe 7 is shown as connected by a wire 8 with the trolley 5, and consequently will divert a portion of the current from the trolley-wire to the conductor-bar at such times as the shoe is in contact with the bar 6. This current is then directed through one or more lamps 9 at the sign 1 by introducing these lamps in a circuit 10, leading from the conductor-bar 6 to any suitable ground connection, which will conveniently consist of one of the ordinary rails of the track 2. The lamps 10 of the sign 1 may be so arranged as to outline the letters of the sign in a familiar manner, if so desired, or may simply be arranged in a position to throw light upon the face of the sign, and thus light it up. In either case the lighting up of the sign will occur only at such times as the shoe 7 of the trolley-car rests in contact with the conductor bar or rail 6, and by making this bar of appropriate length and locating it in proper longitudinal position with reference to the sign the lighting of the latter may be made to occur whenever desired with reference to the approach of the car and may be continued as long as desired or until the car has passed beyond the visual range of the sign. The whole period of illumination, furthermore, may, if so desired, be divided into a series of flashes with intervening moments of darkness, in the expectation that the fitful illumination of the sign will cause it to even more effectively attract the eye. This may be brought about, for example, by breaking the conductor-bar into separate lengths 11, Fig. 4, each of which, although maintained electrically in circuit with the other sections by connecting-wires 12, will itself be in contact with the shoe 7 of the trolley-car only momentarily. With this construction the sign will be lighted up while contact is made with each section 11 of the conductor-bar and will be darkened again each time the brush passes over one of the spaces between the conductor-bar, so that the entire period of illumination will be broken up into flashes of greater or less duration, according to the manner in which the conductor-bar is divided.

In Figs. 5 and 6 I have shown an arrangement applicable to steam-railways or any other situations in which it is desired that the passage of the car shall cause the temporary illumination of the sign through the action of properly-arranged switches serving to turn the current on and off as and after the train passes. The current for illuminating the sign

is in this case derived from a special lighting-circuit 15, with which the local circuit 16 of the sign is placed in connection through a suitable switch mechanism 17. As herein shown, this mechanism comprises a plunger 18, which is normally held upward by a spring 19, but which projects into the path of the wheels of the locomotive and cars so as to be depressed thereby in their passage. This plunger is shown as engaging at its lower end a pivoted switch-lever 20, which is connected, as by a wire 21, with one side of the main circuit 15 and which when the plunger-bar is depressed by the wheels will be thrown up into contact with a terminal 17 of the local circuit 16 leading to the sign. A gravity-latch 22 is provided to temporarily hold the switch-lever in its position against the contact 17, and the current passing from the circuit 15 through the wire 21, switch-lever 20, contact 17, and circuit 16 will energize the lamps 9 of the sign and cause it to light up, the other end of the circuit 16 being connected with the opposite side of the circuit 15 than that to which the wire 21 connects. The turning off of the lights of the sign is then accomplished, after a suitable interval has passed, by an auxiliary mechanism comprising a second plunger 23, which also, like the plunger 18, projects into the path of the wheels of the locomotive or the car so as to be depressed thereby in their passage. This second plunger controls the flow of current through an auxiliary circuit 24, which is bridged across the circuit 15 and in which an electromagnet 25 is connected. To this magnet the latch 22 is arranged to act as an armature in such manner that when the magnet is energized the latch is withdrawn and releases the switch-lever 20. This lever then drops down and opens the lighting-circuit 16 and the contact 17, thereby cutting the lamps 9 out of circuit. Normally the auxiliary circuit 24 is opened and the latch 22 is free to engage the lever 20. The depressing of the plunger 23, however, is arranged to close the circuit 24, said plunger being provided with a contact 26, which when the plunger is depressed strikes against a fixed contact 27 and permits the current to flow from the one side to the other of the lighting-circuit 15 through the electromagnet 25, as described. With this construction the passage of an engine or car over the first plunger 18 will light up the sign, and this lighting up of the sign will continue until the engine or car passes over the second plunger 22, whereupon the lights will be extinguished, for the reason that the retraction of the armature 22 will thereafter permit the lever 20 to drop and open the lighting-circuit. The distance between the two plungers, and consequently the length of time during which the sign is lighted up, may obviously be made as great or small as desired. Obviously, also, with this construction the main switch mechanism,

even if unprovided with the latching device 22, would nevertheless serve to direct the lighting-current through the lamps of the sign and cause it to be lighted up momentarily whenever the wheels of an engine or car passed over the plunger 18, and this momentary lighting up or flashing of the sign would in such case occur as many times during the passage of the train as there were separate wheels to pass over and depress the plunger, and the apparatus so limited would be considerably simpler, for the reason that not only the latching device but also the auxiliary circuit and electromagnet and the second plunger controlling this auxiliary circuit and magnet would in such event also be dispensed with, while the lighting up of the sign by repeated flashes might make it even more noticeable and attractive than the more constant lighting produced by the double-plunger arrangement. Obviously, also, a great variety of mechanisms and different forms of switch devices may be made to accomplish the same general result and all be within the spirit of my broad invention as thus set forth and hereinafter claimed. The particular arrangements and mechanisms disclosed and claimed are, however, in themselves effective and valued features of improvement within such broad invention.

I claim as my invention—

1. An advertising apparatus for use in connection with railroads, comprising a sign along

the track, devices for illuminating the sign, and means controlled by the passage of the car on the track for bringing the illuminating devices into action at intervals and during the passage of the train or car, substantially as described.

2. An advertising apparatus for use in connection with railroads, comprising a sign along the track, devices for illuminating the sign, and means for bringing the illuminating devices into action at intervals and by intermittent flashes during the passing of the car or train, substantially as described.

3. In an advertising apparatus for railroads, the combination of a sign located alongside of, and facing, the road-bed, electric illuminating devices adjacent the sign, a circuit including the illuminating devices, means operated automatically by an approaching train for closing said circuit when the sign comes within the field of vision of the passengers carried on the train, and means operated by the train for opening the circuit when the sign leaves the field of vision of the passengers, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two subscribing witnesses, this 28th day of October, A. D. 1904.

WILLIS B. WORTHY.

Witnesses:

HENRY W. CARTER,
K. A. COSTELLO.