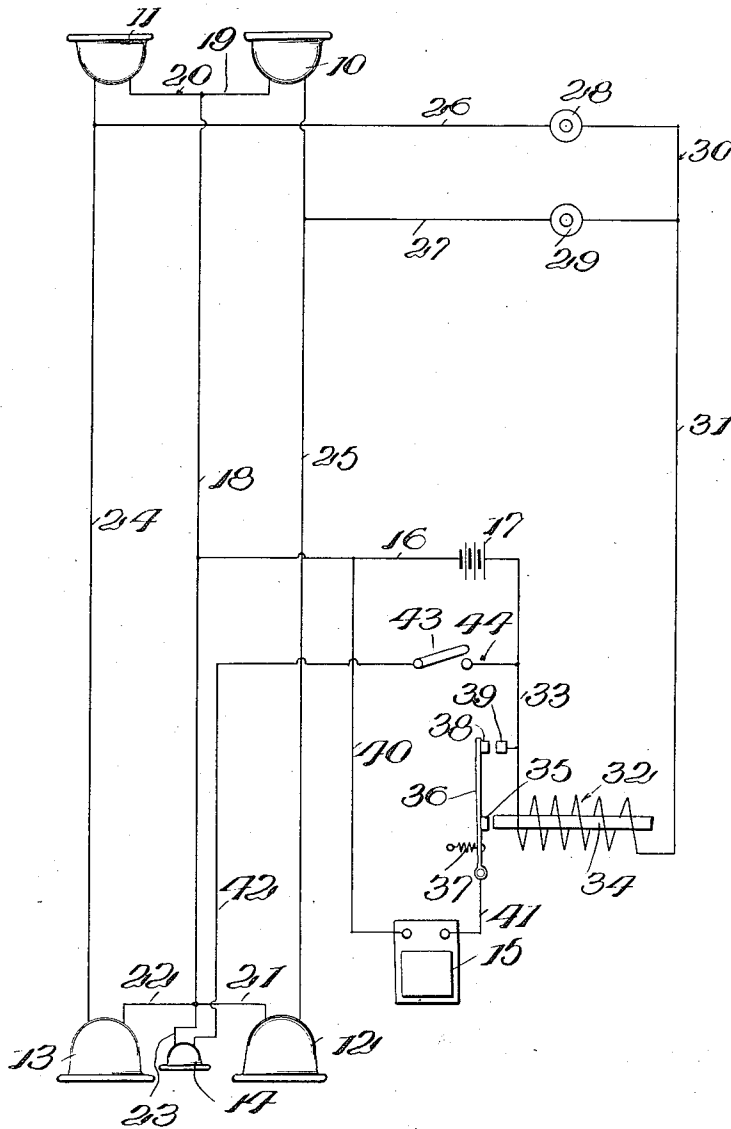


E. A. WALZ, JR.
WIRING SYSTEM.
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1,154,462.

Patented Sept. 21, 1915.



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WIRING SYSTEM.

1,154,462.

Specification of Letters Patent.

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Original application filed July 28, 1914, Serial No. 853,749. Divided and this application filed February 2, 1915. Serial No. 5,713.

To all whom it may concern:

Be it known that I, EDGAR A. WALZ, JR., a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Wiring Systems, of which the following is a specification.

My invention relates to new and useful improvements in direction signaling systems for vehicles, being a division of my co-pending application, filed July 28, 1914, and bearing the Serial No. 853,749.

The primary object of my invention consists in the provision of an extremely simple and efficient form of direction signaling system of the visual type, in which the signals are given by the selective lighting of one or more of a plurality of electric lights.

A further object of my invention is the provision of a signaling system arranged to display corresponding signals at both the front and rear of a vehicle, the lights of the signal being included in circuits controlled by switches, preferably in the form of push buttons, mounted directly upon the steering wheel of the vehicle or at any other desired point.

A still further object of my invention consists in the provision of an additional signal, usually audible, to enable the driver of the vehicle to tell whether the direction indicating signals are working properly.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings, and then specifically pointed out in the claims which are attached to and form a part of this application.

The drawings illustrate diagrammatically the preferred embodiment of my invention.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

My signaling system, in its preferred form, includes a pair of forward lights 10 and 11, a pair of rear lights 12 and 13 and a tail light 14, these lights being each mounted in any suitable type of casing. It also includes an additional signaling device, such as a buzzer 15, the latter being preferably mounted upon the dash of the vehicle. A feed wire 16 leads from the positive pole of a battery 17 to a common feed wire 18

which runs longitudinally of the vehicle, terminating at its front end in leads 19 and 20 to contacts of the lights 10 and 11 and at its rear end in leads 21, 22 and 23 to contacts of the light sockets of the lights 12, 13 and 14. A wire 24 connects the free contacts of the light sockets of the lights 11 and 13, forming a part of a common return circuit for such lights, and a wire 25 connects the free contacts of the light sockets of the lights 10 and 11, forming a part of a common return circuit for said lights. Return wires 26 and 27 lead from the wires 24 and 25, respectively, to a contact of the push button switches 28 and 29. A wire 30 leads from the other contact of the switch 28 to a wire 31 leading from the other contact of the switch button 29 to one terminal of a relay 32, a wire 33 leading from the other terminal of the relay 32 to the negative pole of the battery 17. This relay 32 includes an electro-magnet 34 having an armature 35 carried by a contact arm 36 which is swingingly mounted and normally held by a spring 37 in such a manner that the armature 35 is out of engagement with the magnet 34. The free end of the contact member 36 carries a contact 38 engageable with a contact 39 when the armature 35 is drawn into engagement with the electro-magnet 34, this latter contact 39 being included in the wire 33 forming part of a common return circuit for the lights 10, 11, 12 and 13.

A wire 40 leads from the feed wire 16 to one terminal of the buzzer 15 and a wire 41 leads from the other terminal of the buzzer to the contact member 36. A wire 42 leads from the free contact of the light socket of the light 14 to one contact of a manually operable switch 43 and a wire 44 leads from the other contact of this switch to the common return wire 33.

The foregoing description, particularly when taken in connection with the drawings, is believed to constitute such a clear disclosure of my invention as will render any detailed description of its operation unnecessary. Should the driver of the vehicle wish to turn to the right, he will close the circuit through the push button 29, under which conditions, current will flow from the battery through the wire 16 and wire 18 to the leads 19 and 21, so through the lights 10 and 12 to the return wire 25, through the wire 27 and push button 29 to the wire 31,

through the electro-magnet 34 and wire 33 back to the battery. On the other hand, if the driver wishes to turn to the left, he will close the circuit through the push button 28 when a circuit from the battery through the wires 16 and 18, leads 20 and 22, lights 11 and 13, wire 24, wire 26, push button 28, wires 30 and 31, electro-magnet 34 and wire 33 to the battery will be formed. If, again, the driver wishes to stop or reverse the car, he will close both the above described circuits by simultaneously operating both push buttons. It will be noted that current will at all times pass to the tail light 14 unless its separate controlling switch 43 is opened.

As above set forth, the circuits for both the lights at the right and the lights at the left of the vehicle pass through the electro-magnet 34 of the relay 32. This relay is so adjusted that such increase in current in the common return circuit as would be caused by the energizing of two lights at once, such as the lights 10 and 12, would energize the relay to make it attract its armature and so close a circuit through the buzzer. The driver can, therefore, always tell, upon closing of either circuit, whether both lights in the circuit are energized or not and is, therefore, always certain that his signal is being given.

It will of course be clear that my system may be modified to include only a single pair of direction indicating lights, the buzzer and the relay, each light being in an independently controlled circuit. If this is the case, the relay is, of course, arranged to attract its armature upon passage of such current through the common return circuit as would be necessary to energize a single light. I therefore reserve the right to make any changes in the arrangement of lights and wiring which may come within the scope of the appended claims, without in the

slightest degree departing from the spirit of my invention.

Having thus described the invention, what is claimed as new is:

1. The combination with signal devices and a common circuit therefor, of a relay in the circuit, a second circuit closed by the closing of the relay, and an additional signal device in the second circuit, the relay being arranged to close only upon passage of current through the common circuit of sufficient strength to energize all signal devices therein.

2. In direction signaling systems for vehicles, a pair of independent front signals, a pair of independent rear signals, a circuit common to one signal of each pair, a second circuit common to the other signals, means for selectively closing such circuits, an audible signaling device in a circuit common to both circuits, and resistance operated means controlling the sounding of such signal, whereby the signal will remain silent unless all signals in either of the first circuits are energized.

3. In direction signaling systems for vehicles, a pair of independent front signals, a pair of independent rear signals, a circuit common to one signal of each pair, a second circuit common to the other signals, means for selectively closing such circuits, an additional signaling device in a circuit common to both circuits, and resistance operated means controlling the energization of said additional signal, whereby such additional signal will not be energized unless all signals in one or the other of the first circuits are energized.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR A. WALZ, JR. [L.S.]

Witnesses:

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