R. H. MANSON.

ELECTRIC SIGNALING SYSTEM.

APPLICATION FILED NOV. 17, 1910.

1,065,151. Patented June 17, 1913.

Fig 1

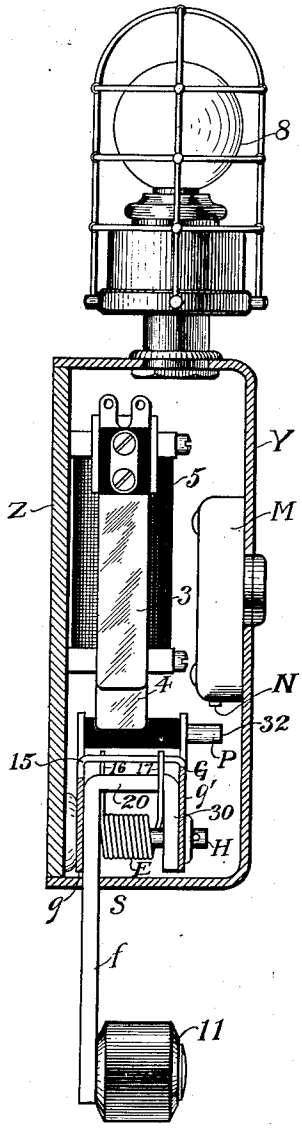
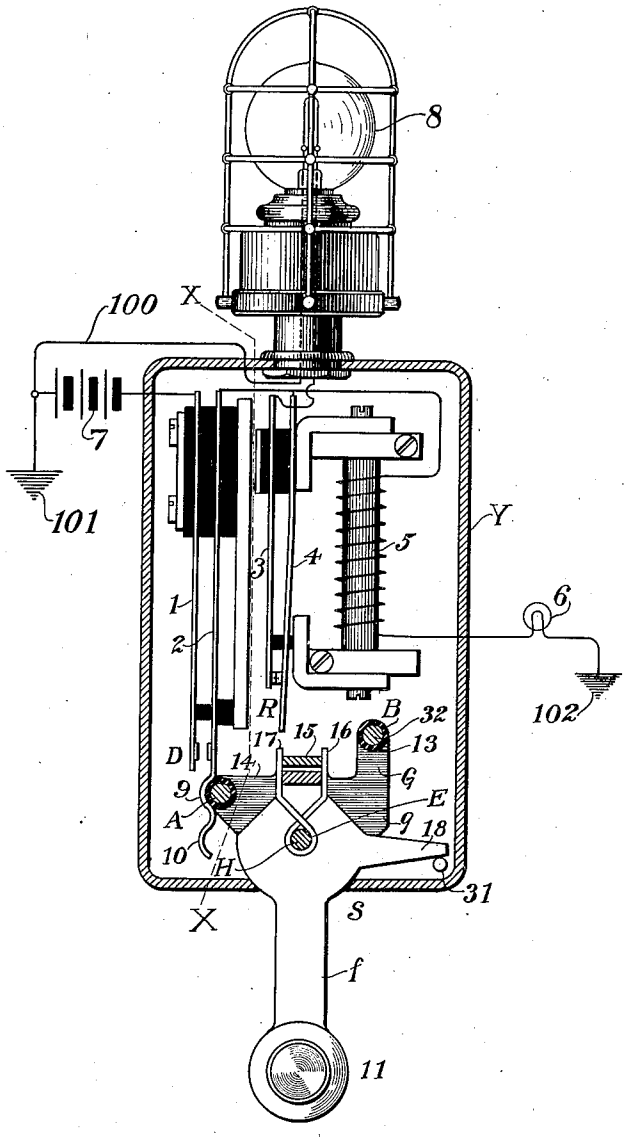


Fig 2



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UNITED STATES PATENT OFFICE.

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ELECTRIC SIGNALING SYSTEM.

1,065,151. Specification of Letters Patent. Patented June 17, 1913.

Original application filed December 27, 1909, Serial No. 535,187. Divided and this application filed November 17, 1910. Serial No. 592,771.

To all whom it may concern:

Be it known that I, RAY H. MANSON, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Electric Signaling Systems; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to signaling systems in general, but more particularly to systems used upon vehicles such as boats, automobiles, or in fact, any vehicle.

It is customary to place signal lights upon vehicles, such for example, as the head, tail and side lights. Some of these, such for example, as the tail light, are in such positions that they are not constantly under the observation of the driver, so that should they become extinguished or otherwise inoperative, such fact would not come to the knowledge of the driver.

The object of my invention is to produce a system in which the signals of the vehicle are connected and in which means are provided to apprise the driver or other occupant of the vehicle that the first mentioned signal is failing to perform its proper functions.

This application is a division of my application 535187, filed December 27, 1909, now Patent Number 1,047,260 dated Dec. 17, 1912.

Other purposes of my invention will be better understood from the detailed description thereof, when the same is taken in connection with the drawing.

I have disclosed my invention in connection with a particular form of switch operating mechanism, though I do not wish to be limited thereto, but contemplate the use of the signaling circuit in connection with any suitable circuit controller.

Figure 1 is a cross section through the line X—X of Fig. 2. Fig. 2 is a front elevation of the apparatus which controls contacts in an electric circuit. The circuit is shown in diagram.

Referring to the drawings and to the embodiment of my invention there shown, I have illustrated a member Z which constitutes a base for various parts of the apparatus. A casing Y is mounted upon this base serving to cover the apparatus mounted upon the base.

At 7 I show a source of current, here shown as a battery.

At 6 the main signal is shown. I call this the main signal, intending to embrace by that term, the tail signal, the side signals, the head light, or in fact any lamp or signal used upon the vehicle. The source of current and the signal are connected by conductors which join them in an electric circuit. In this circuit I show a switch D consisting of the switch springs 1 and 2 interposed in this circuit which may be operated to open or close said circuit. One pole of the battery is grounded at 101 and one terminal of the signal 6 is grounded at 102. A branch of the main circuit is shown at 100. A lamp 8 and a switch 3—4 are connected in this branch and an electromagnet 5, controlling the switch 3—4 is shown connected in the main circuit. In the particular form shown, this is connected in series. The end of the spring 2 is shown creased at 9 and 10 for a purpose to be described later.

At S is shown a circuit controlling mechanism, which consists of the part adapted to transmit power from the operator or operating means to the electric switch. This part is made up of a handle *f* having a button 11 at one end, is bent over at right angles at 20 and extends down to a second limb 30, thus forming a U-shaped portion at the end opposite the button. The limbs *f* and 30 are perforated and the whole member is pivoted on a stud H fastened in the bottom of the base and projecting through these perforations. From the limb *f*, a pin 18 projects engaging a second pin 31 mounted upon the base in the path of the movement of the pin 18 and adapted to limit the movement of *f*. A coil spring E is wound around the part of the pin H which lies between the limbs *f* and 30. The ends 16 and 17 of this spring are extended upward to embrace the horizontal part 20 of the handle *f*. A second member which is adapted to operate the switch contacts when power is transmitted to it through the handle *f*, is shown at G.

This is also a U-shaped member consisting of two limbs *g* and *g'* and a horizontal connecting portion 15. The ends 16 and 17 of the spring also embrace the horizontal portion 15 of the part G, serving to couple these two members together when they are actuated under normal conditions. Each of the limbs *g* and *g'* is carried up into jutting portions 13 on one side and 14 on the other. Between these jutting portions, fiber rollers A and B are journaled upon pins secured thereto. The roller A operates the spring 2, fitting in the creases at 9 and 10. The roller B is adapted to engage the spring 4 of the switch R to close it when the part *f* is thrown to its extreme right hand position. A pin 32 mounted in the jutting parts 13 extends outward at P as shown in Fig. 1.

At M I show a lock.

N is a lock bolt, which is adapted to engage the pin P to lock the part G in either normal or operative position.

The various parts of my invention and the functions thereof, as well as the purposes of the invention, will be best understood from a description of the operation of my system.

When it is desired to operate the main signal 6, the handle *f* is thrown to the right closing the switch 1—2. If the lock M is operated at the time, the spring E will permit relative movement of the parts G and *f* preventing the breaking of the mechanism. As soon as the switch 1—2 is closed, a circuit will be completed through a battery 7, the electromagnet 5 and the signal 6. The magnet will attract the spring 4 interrupting the branch 100, so that though the lamp 6 is operated, the lamp 8 will be extinguished. The lamp 8 is mounted in such a position that when in operative condition, it will be attractive to the driver. Should the lamp 6 become inoperative, the circuit therethrough will be broken, the electromagnet deënergized, the switch 3—4 closed and a circuit completed through the lamp 8 as follows: battery 7, 100, 8, switch 3—4, switch 1—2 back to battery 7. This will indicate to the driver that the main signal 6 has become inoperative. Should the driver desire to test the lamp 8, at any time, he may do so by throwing the switch 5 to its extreme right hand position when the roller B will engage the end of the spring 4, overcoming the attractive force of the magnet 5 and closing the switch 3—4, thus removing that switch from the control of the magnet 5. This will complete the circuit as described through the lamp 8.

I have shown only this one form of my invention, but it will be obvious to those skilled in the art, that numerous and extensive departures from the form and details of the apparatus here shown, may be made without departing from the spirit of my invention, this particular form being shown solely for the purpose of clearly illustrating the said invention.

I claim:

1. In a vehicle signaling system, the combination of a signal, an electric circuit including said signal, a second signal in a branch of said circuit, means in the main circuit controlling the branch to open said branch when the first named signal is operated and to close the same to operate said second named signal when the first named signal is inoperative, separate means to close said branch to operate said second signal, a normally open switch in said main circuit and a device common to said switch and second named means controlling said switch and said second named means.

2. In a vehicle signaling system, the combination of a signal, an electric circuit including said signal, a second signal in a branch of said circuit, means in said circuit controlling said second signal and separate means to remove said signal from the control of said first named means without retiring said first signal.

3. In a vehicle signaling system, the combination of a signal, a source of electric current, circuit conductors associating said source and said signal whereby electric current is supplied from said source to control said signal, a second signal electrically associated with said source of current whereby said signal is supplied with controlling current over said conductors, a switch in the circuit of said second signal, an electromagnet in the circuit of the first signal controlling said switch and a lever controlling said switch for removing it from the control of said magnet.

4. In a vehicle signaling system, the combination of a signal, a second signal associated therewith, a main circuit in which said first named signal is connected, a branch of said main circuit in which said second named signal is connected, a switch in said branch, an electromagnet in the main circuit controlling said switch and manually controlled means for closing said switch, said last named means being operable independent of said magnet.

5. In a signaling system, the combination of a signal, a source of current, conductors connecting said source and said signal in an electric circuit, a branch of said circuit, a second signal connected in said branch, means to close the circuit of the first signal, means in said circuit to open the branch circuit and retire the second signal when the first signal is operating, said means adapted to permit the operation of the second signal when the first is retired, and means to close the branch and operate the second signal when the first signal is operating.

6. In a vehicle signaling system, the com-

bination of a signal, an electric circuit including said signal, a source of current in said circuit, a tell-tale signal, conductors for connecting said tell-tale signal in circuit with said source, a magnet in circuit with said first named signal controlling the operation of said tell-tale signal, separate means controlling said tell-tale signal, a normally open switch in the circuit of said first named signal, and a device common to said switch and said means controlling said switch and said means.

7. In a vehicle signaling system, the combination of a signal, a second signal associated therewith, a main circuit in which said first named signal is connected, a branch in said main circuit to which said second named signal is connected, a switch in said branch, a movable armature carrying one of the contacts of said switch, an electromagnet in the main circuit controlling said armature and adapted when energized to attract said armature to open said switch, and manual means for engaging such armature and removing it from the control of said magnet.

8. In a vehicle signaling system, the combination of a signal, an electric circuit therefor, a switch in said circuit controlling the same, a second signal in a branch of said circuit, a magnet in said circuit controlling said second signal to cause actuation of the same when said circuit is opened and to retire the same when said circuit is closed and mechanical means operable to remove said second signal from the control of said magnet without interrupting said circuit.

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

RAY H. MANSON.

Witnesses:
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F. O. RICHEY.