Dec. 6, 1932. A. F. HADDAD 1,890,379

AUTOMOBILE DIRECTION INDICATOR

Filed Oct. 22, 1929 2 Sheets-Sheet 1

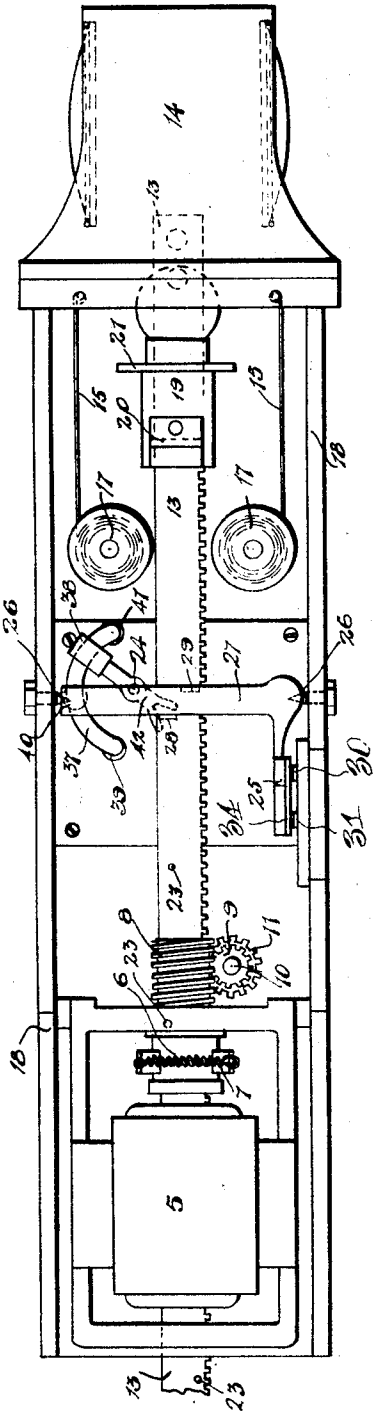


Fig. 1.

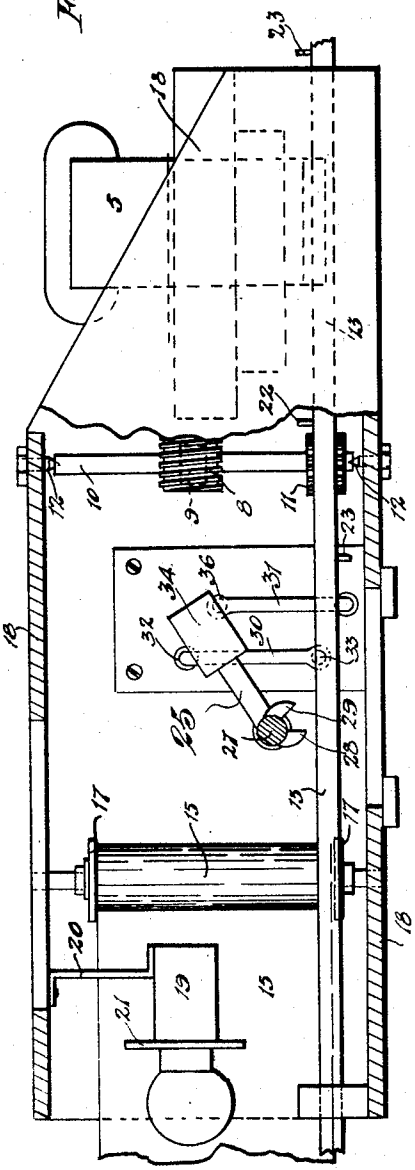


Fig. 2.

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AUTOMOBILE DIRECTION INDICATOR

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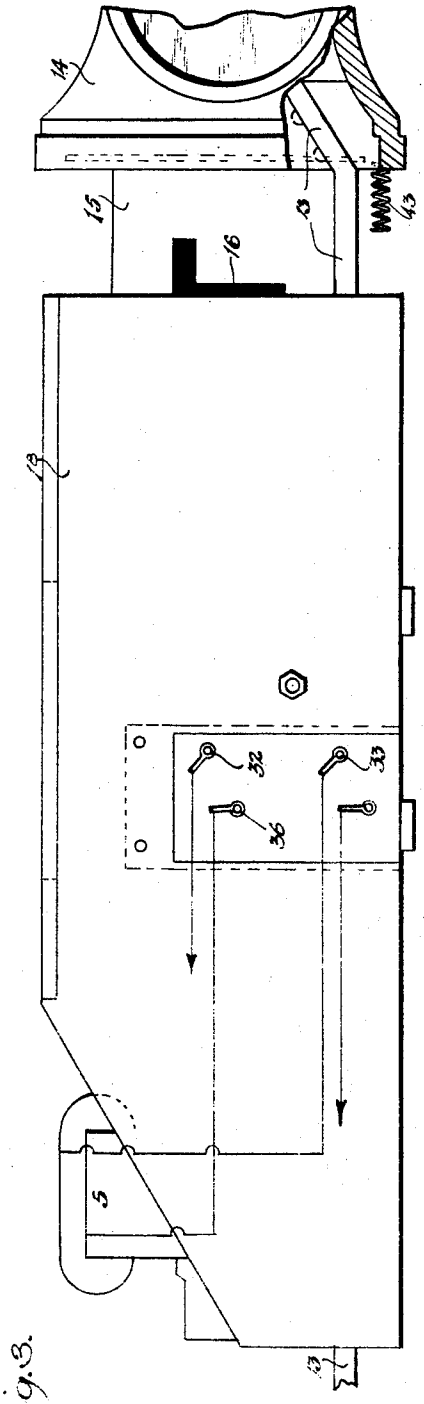


Fig. 3.

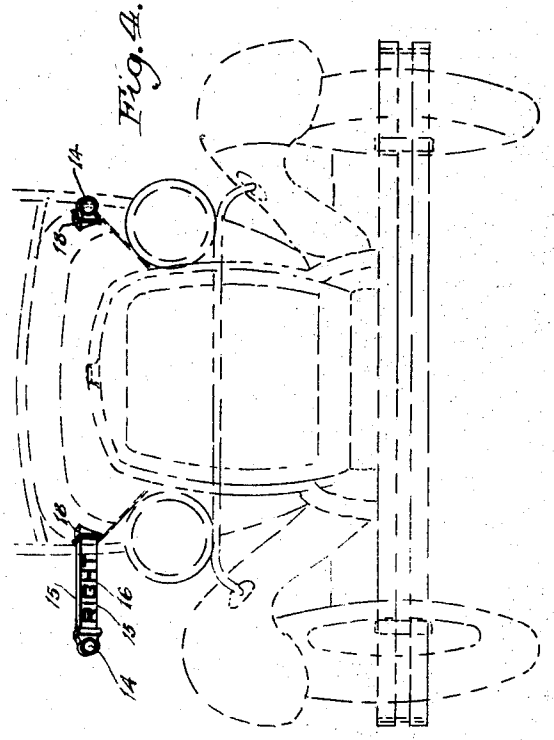


Fig. 4.

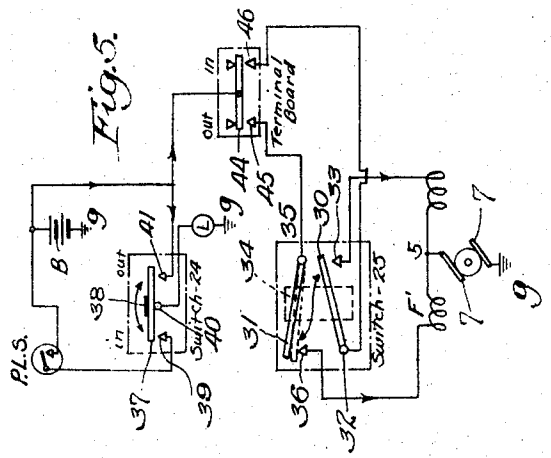


Fig. 5.

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Patented Dec. 6, 1932 1,890,379

UNITED STATES PATENT OFFICE

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AUTOMOBILE DIRECTION INDICATOR

Application filed October 22, 1929. Serial No. 401,504.

This invention relates to improvements in direction indicators for automobiles, and specifically to a device of this character which provides and displays a horizontal sign of the semaphore type protruding on each side of the automobile at the position of the usual parking lights, and which, having legible characters on each vertical side, can be read both from the front and rear of the automobile.

The invention forms an improvement on the device disclosed in the patent of the United States numbered 1,629,501 and dated May 24, 1927, and consists in the combination of certain novel features incorporated in the device and referred to in the description and claims, and specifically in the drawings accompanying and forming a part of this application.

The drawings consist of:

Figure 1 which is a plan.

Figure 2, a sectional elevation on the line 2—2 of Figure 1.

Figure 3, an external side elevation.

Figure 4, a front or end elevation.

Figure 5 is a wiring diagram of the electrical circuit connections of one unit.

In these drawings the numeral 5 indicates an electro-motor of which 6 is the commutator and 7 the brush gear. Secured to the motor spindle is a worm 8; this meshes with the pinion 9, driving the shaft 10, on which latter is secured the pinion 11. The shaft 10 runs in adjustable cone bearings at 12 and through the pinion 11 reciprocates the rack 13 with which the pinion 11 meshes.

The usual lantern 14 forming the housing for the "parking lamps" is embodied in the device and is secured to the rack 13 and to the fabric tapes 15 on which the sign characters 16 are painted. The spring actuated spools 17 on which the tapes 15 are convoluted by the action of the spool spring are carried by a common housing or framework 18 to which also is secured the incandescent lamp socket 19 by the bracket 20.

Thus, when the motor 5 is energized for the purpose of projecting the sign, the parking light lantern 14 moves outward with the sign leaving the incandescent lamp in its fixed position to project its illumination outward and between the lettered tapes 15, aided by the reflecting collar 21. The rack 13 slides in suitable guideways formed in the casing 18 and carries projecting pins 22 and 23, one on each side. These actuate the switches 24 in connection with the lamp and 25 in connection with the motor. The motor switch 25 pivots adjustably at 26, the centre spindle 27 having projecting lugs 28 and 29, which contact the pin 22 as the rack 13 moves in one direction or the other, and thus partially rotates the spindle 27.

The contacts are made by the resilient flat bars 30 and 31, the bar 30 being permanently connected at 32, and making intermittent contact at 33 as the brush contact member 34 slides along it towards the contact 33. The similar but oppositely placed bar 31 makes contact at 36 in a similar manner.

The lamp switch 24 has a curved resilient contacting member 37 permanently secured at 35 which is operated by the brush member 38 in a manner similar to the switch 25 but in another plane.

The curved bar 37 connects with three terminals, 39 being connected to close the lamp circuit, 40 connected to open the lamp circuit and 41 connected to the terminal board. Thus, as the pin 23 contacts the forked end of the lever 42 the brush member 38 responds by forcing the bar 37 against the respective terminal. As the semaphore extremity 14 is caused to recede by the motor 5 a cushioning spring 43 absorbs the concussion.

By reference to Figure 5 it will be observed that B indicates the battery, one terminal of which is connected to the parking light switch P. L. S. that is usually located on the dash for turning the parking light on and off manually. The same terminal of the battery B connects with the terminal 41 of the switch 24 and with the manually operated circuit closer on the terminal board by which the operator works the motor circuit of the signal device to either cause the semaphore to be projected or retracted as desired. The particular construction of the switch on the terminal board may be varied but for convenience of illustration a normally open rocking bar switch

is shown, the rocking bar 44 of which may make contact with either of the terminals 45 or 46 accordingly as the operator desires the semaphore to be projected outwardly or retracted inwardly. The terminal 45 of the terminal board circuit closer is connected to the resilient bar 31 while the terminal 46 of the terminal board is connected to the resilient bar 30, it being understood that the bars 30 and 31 alternately close the circuit through the motor and they are so arranged that the circuit is closed at either 33 or 36 according to the position of the member 34 of the switch 25. When the semaphore is in the retracted position (see Figure 1) the member 34 will be to the extreme left in Figure 5 and the circuit will be closed between 31 and 36 and open between 30 and 33. The terminal 36 is connected to one coil F′ of the motor 5 while the terminal 33 is connected to the reverse coil F^2 of the motor 5.

When the semaphore is in the retracted position the switch 24 has its circuit closed between the elements 37 and 39 so that the light L, Figure 5, which is the same as the one mounted in the socket 19 in Figures 1 and 2, is in the branch circuit, which includes the parking light switch, so that in the day time the parking light switch will be open and the lamp L will not cause illumination of the parking lantern 14. At night time, however, when the P. L. S. switch is closed and contacts 37 and 39 are together the current will flow directly from the battery B through the lamp L to illuminate the lantern 14.

When, however, it is desired to project the semaphore the operator closes the circuit at the terminal board by causing 44 to engage 45 thereby causing current to flow from the battery over the contacts 31, 36 through the winding F′ of the motor, etc. to turn the motor in a direction to move the bar 13 outwardly. As the outward limit of the movement of the bar is approached the pin 23 will throw the switch member 27 over to open the circuit between 31 and 36 and close the parts 30 and 33. This, however, will not cause reverse operation of the motor if circuit is opened between 44 and 46. As the bar 13 moves outwardly a pin 23 will rock the lever of the switch 24 to move the brush member 38 thereof from left to right in Figure 5, thereby opening the light circuit through the P. L. S. switch and connecting it directly to battery.

To retract the signal the operator causes the circuit to be closed between 44 and 46 at the terminal board, which causes current to pass from the battery over 32, 33, through reverse coil F^2 of the motor which energizes the motor to cause it to rotate in a reverse direction and move the semaphore in. This reverse movement of the semaphore also effects a reverse movement of the switches 24 and 25 to restore them to their initial or normal position as will be clear, it is thought, without further description. When I refer herein to the "lantern" I have reference to the lamp house 14 with its lens windows. The term "semaphore" has reference to the bar 13, the signalling tapes 15, and so much of the lamp house 14 as may be necessary to cooperate with the tapes 15.

I claim:

1. In an automobile direction indicator, a casing having an opening, a member slidable in said casing, a lamp house adapted to lie over said opening, said lamp house being carried by said slidable member, a pair of sign strips having one end of each attached to said lamp house and spaced apart, spools on which said strips are wound within said casing, winding up means associated with said spools, a light mounted in said casing in a position to direct its rays between said strips and into said lamp house, a motor and power transmitting mechanism to reciprocate said slidable member, a motor controlling switch and a light controlling switch, and means effected by movements of said slidable member for actuating said switches.

2. In an automobile direction indicator, a casing having an opening in one end, a member slidably mounted in said casing for projection through said opening, a motor and power transmitting connections between said motor and said slidable member for causing projection and retraction of said slidable member from and into said casing, a lamp house carried by said slidable member to lie over the open end of said casing when said slidable member is in the retracted position, a roller strip sign having its free end anchored to said lamp house and its roller end located within said casing, a light fixedly located in said casing in a position to project its rays over said strip sign and into said lamp house, and a motor reversing switch, means to throw said switch by the movements of said slidable member, and an electric circuit including a source of energy, a manually operated circuit closer, said motor and said reversing switch.

3. In an automobile direction indicator, a casing having an opening in one end, a member slidably mounted in said casing for projection through said opening, a motor and power transmitting connections between said motor and said slidable member for causing projection and retraction of said slidable member from and into said casing, a lamp house carried by said slidable member to lie over the open end of said casing when said slidable member is in the retracted position, a roller strip sign having its free end anchored to said lamp house and its roller end located within said casing, a light fixedly located in said casing in a position to project its rays over said strip sign and into said lamp house, and a motor reversing switch, means to throw said switch by the movements of said

slidable member, and an electric circuit including a source of energy, a manually operated circuit closer, said motor and said reversing switch, and a light controlling switch operated by the movements of said slidable member.

4. In an automobile direction indicator, a casing having an opening in one end, a member slidably mounted in said casing for projecting through said opening, a motor and power transmitting connections between said motor and said slidable member for causing projection and retraction of said slidable member from and into said casing, a lamp house carried by said slidable member to lie over the open end of said casing when said slidable member is in the retracted position, a roller strip sign having its free end anchored to said lamp house and its roller end located within said casing, a light fixedly located in said casing in a position to project its rays over said strip sign and into said lamp house, and a motor reversing switch, means to throw said switch by the movements of said slidable member, and an electric circuit including a source of energy, a manually operated circuit closer, said motor and said reversing switch, a branch electric circuit including said source of energy and a manually operated parking light switch, and a light controlling switch in both said circuits operated by the movement of said slidable member to connect to said light either with said first mentioned circuit or in said branch circuit accordingly as said slidable member is in one position or another.

5. In an automobile direction indicator, a casing, vertically disposed transparent signs mounted in said casing and adapted to be lengthwise extended therefrom, a lamp house at the end of said casing, means to extend and retract said signs and lamp house from and to said casing, a lamp fixedly located in said casing in a position to project its rays over and through said signs and into said lamp house to illuminate said lamp house and said signs, an electric circuit including said lamp and switching instrumentalities for controlling the operation of said lamp to energize said lamp accordingly as said sign and lamp house are in one position or another.

6. In an automobile direction indicator, a casing having an end opening, a lamp house over said opening, a slidable support within said casing for said lamp house, a transparent sign associated with said casing and with said lamp house, means to move said support thereby to move said lamp house and exhibit said sign, and a single lamp fixedly located in said casing in a position to have its rays projected over and through said sign and into said lamp house to illuminate both said lamp house and said sign, an electric circuit including said lamp and switching instrumentalities operated by movement of said support for controlling the illumination of said lamp by the energization or de-energizing of said lamp accordingly as said sign and lamp house are in one position or another.

7. In an automobile direction indicator, a casing, a semaphore adapted to be extended from and retracted to said casing, and including a member carrying a lamp house, a transparent strip-sign, means operated by movement of said lamp house for extending and retracting said sign from and to said casing, and a lamp fixedly mounted in said casing in position to have its rays projected over and through said sign and into said lamp house, means to move said sign and lamp house, an electric circuit including said lamp and a switching device cooperative with the movement of said sign and lamp house for controlling the illumination of said lamp by the energizing or de-energizing of said lamp accordingly as said sign and lamp house are in one position or another.

8. In an automobile direction indicator, a casing, a semaphore adapted to be extended from and retracted to said casing, and including a member carrying a lamp house, a strip-sign, means operated by movement of said lamp house for extending and retracting said sign from and to said casing, a lamp fixed in said casing with a reflector directed to project light rays outwardly to illuminate said sign and lamp house, means to move said sign and lamp house, an electric circuit including said lamp and a switching device cooperative with the movement of said sign and lamp house for controlling the illumination of said lamp by the energizing or de-energizing of said lamp accordingly as said sign and lamp house are in one position or another.

9. In an automobile direction indicator, a casing having an opening in one end, a bar slidably mounted in said casing for extending through said opening, a motor located within said casing and power transmitting connections located within said casing between said motor and said bar for causing extension and retraction of said bar from and into said casing, signalling instrumentalities controlled by the movement of said bar, a motor reversing switch, means to throw said switch by the movements of said bar, and an electric circuit including a source of energy, a manually operated circuit closer, said motor and said reversing switch.

10. In an automobile direction indicator, a casing having an opening in one end, a bar slidably mounted in said casing for extending through said opening, a motor and power transmitting connections between said motor and said bar for causing extension and retraction of said bar from and into said casing, a lamp house carried by said bar serving as a closer of the open end of said casing when said bar is in the retracted position, a transparent sign operated by movement of said bar,

a light fixedly located in the casing in position to project its rays over and through the sign and into the lamp house, a motor reversing switch, means to throw said switch by the movements of said bar, and an electric circuit including a source of energy, a manually operated circuit closer, said motor and said reversing switch, a branch electric circuit including said source of energy and a manually operated parking light switch, and a light controlling switch, both of said circuits operated by the movement of said bar to connect said light either with said first mentioned circuit or in said branch circuit according as said bar is in one position or another.

11. An automobile direction indicator of the semaphore type including a casing, a member slidable in said casing, an element on said slidable member to be held adjacent said casing or away therefrom accordingly as said slidable member is in one position or another, two spring-actuated spools mounted in said casing, tapes of semi-transparent flexible fabric secured to said spools and to an element, a lamp secured to and within said casing and adapted when energized to illuminate said tapes when an element is moved away from said casing, means to energize said lamp, means to effect reciprocation of said slidable member in either direction of its length, and switching means cooperative with said means to energize and be actuated by the traverse of said slidable member, whereby said lamp may be energized when said rack is moved outwardly.

12. In an automobile direction indicator, a casing, vertically disposed transparent signs mounted in said casing and adapted to be lengthwise extended therefrom, a lamp house at an end of said casing, means to extend and retract said signs and lamp house from and to said casing, and a lamp fixedly located in said casing in a position to direct its rays over and through said signs and into said lamp house, and means to energize said lamp.

13. In an automobile direction indicator, a casing having an end opening, a lamp house over said opening, a slidable support within said casing for said lamp house, a transparent sign cooperatively carried within and by said casing and by said lamp house, means to slide said support to move said lamp house away from said casing and cause said sign to be exposed, and a single lamp for illuminating both said lamp house and said sign, said lamp being fixedly located in said casing in position to have its rays projected through said sign and into said lantern, and means to energize said lamp.

14. In an automobile direction indicator, a casing having an end opening, a lamp house over said opening, a slidable support within said casing for said lamp house, a transparent sign cooperatively carried within and by said casing and by said lamp house, means to slide said support to move said lamp house away from said casing and cause said sign to be exposed, and a single lamp for illuminating both said lamp house and said sign, said lamp being fixedly located in said casing in position to have its rays projected through said sign and into said lantern, and an electric circuit for energizing said lamp.

15. In an automobile direction indicator, a casing, a semaphore adapted to be extended from and retracted to said casing and including a member carrying a lamp house, a transparent strip-sign, means operated by movement of said lamp house for extending and retracting said sign from and with said casing to expose or hide said sign accordingly as said lamp house is in one position or another, a lamp fixedly located in said housing in a position to have its rays directed over and projected through said sign and also into said lamp house, and means to energize said lamp.

16. In an automobile direction indicator, a casing, a semaphore adapted to be extended from and retracted to said casing, and including a member carrying a lamp house, a strip-sign, means operated by movement of said lamp house for extending and retracting said sign from and into said casing to expose or hide said sign accordingly as said lamp house is in one position or another, a lamp fixed in said casing with a reflector directed to project light rays outwardly to illuminate said sign and lamp house, and means to energize said lamp.

In testimony whereof I affix my signature.

ABRAHAM F. HADDAD.