T. E. SMITH.

AUTOMOBILE SIGNAL.

APPLICATION FILED JAN. 8, 1917.

1,257,646. Patented Feb. 26, 1918.

Fig. 1.

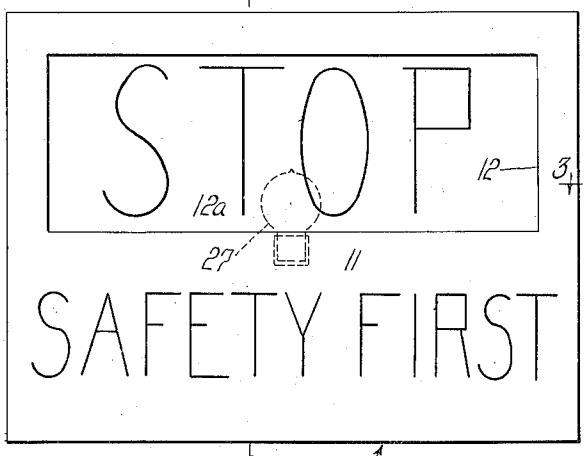
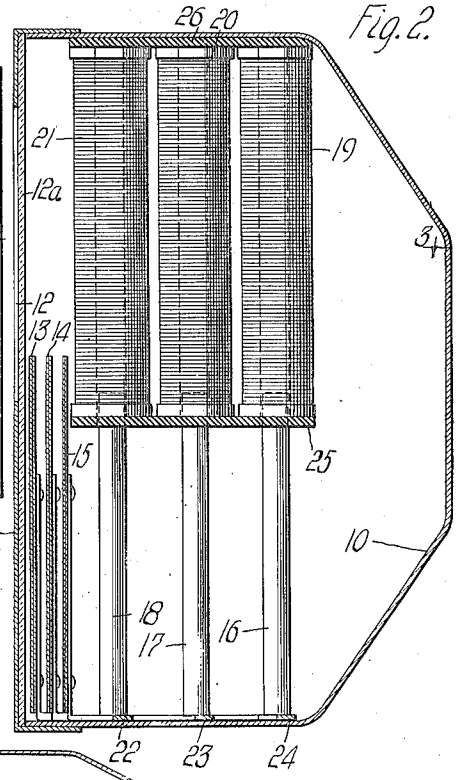


Fig. 2.



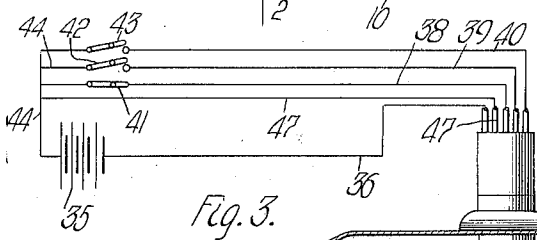


Fig. 3.

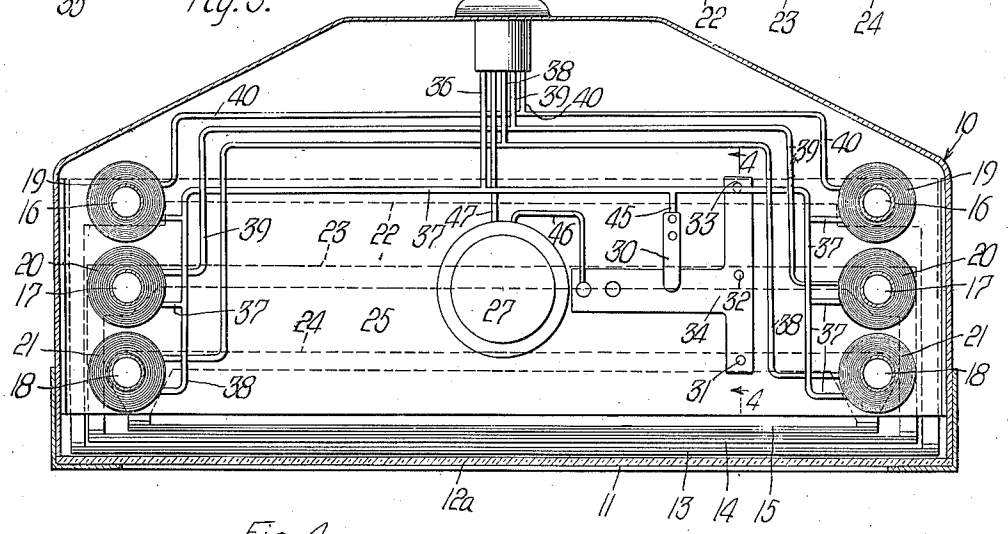
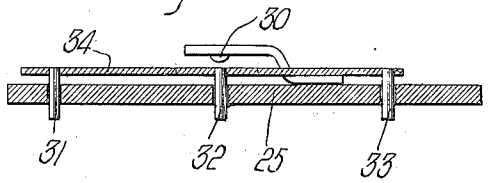


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AUTOMOBILE-SIGNAL.

1,257,646. Specification of Letters Patent. Patented Feb. 26, 1918.

Application filed January 8, 1917. Serial No. 141,077.

To all whom it may concern:

Be it known that I, THOMAS E. SMITH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Automobile-Signals, of which the following is a specification.

This invention relates to automobile signals and the like, the main object thereof being to produce a simple mechanism to afford to a person or passing automobile or one in the rear of a machine to which my signal is attached, a visible signal, which indicates the direction in which the automobile is to turn or that said automobile is about to stop.

My signal mechanism is operated by electro-magnetic means operated by the driver; who, operating certain switches operates the signal or signals (which is preferably on the front and back of the machine) to show the direction he is to turn or to indicate that he is about to stop. The signal mechanism comprises a case containing large signs together with solenoids to lift any one of the signs into sight. The operation of these solenoids will be described in the following specification. One of the main features of my device is its simplicity of operation, the showing of a large sign in operation, and its general effectiveness and durability.

In the drawings I have shown a preferred form of device, in which drawings Figure 1 is a side elevation of my device, Fig. 2 is an enlarged section taken on line 2—2 of Fig. 1, Fig. 3 is a section taken on line 3—3 of Fig. 2 showing the electrical connection between the signals and the lighting means, and Fig. 4 is an enlarged detail section taken on line 4—4 of Fig. 3.

In the drawings the numeral 10 indicates the inclosing case of my device and 11 the front part or cover thereof, a part of this front cover being cut away as shown at 12 and a transparent pane (glass) 12^a placed behind so that the signs may become visible to the eye when lifted to the proper position. The signs 13, 14 and 15 (on which are placed "Stop" "Left" and "Right") are preferably transparencies and are placed in the front part of the case directly back of pane 12^a; and the frames 22, 23 and 24 holding the signs are each separately mounted on pairs of solenoid plungers 16, 17 and 18, respectively, which operate in pairs of solenoids 19, 20 and 21 respectively. These solenoids may be of any character or design; I merely show a simple form of solenoid for purposes of illustrating my invention. On energization of a particular pair of solenoids the corresponding plungers are raised, which action raises the connected frame and sign and thereby lifts the sign to its raised position into sight at the opening 12.

The solenoids 19, 20 and 21 are mounted between frame pieces 25 and 26, which are preferably made of a non-magnetic material, such as fiber. The lower frame piece 25 holds the lamp base and lamp 27 which is adapted to be lighted on the raising of any of the frames, by the following means: When frames 22, 23 or 24 are raised to upper position they engage and raise pins 31, 32 or 33, respectively, which are permanently fastened to a spring contact piece 34. The upward movement of any one of the frames thus raises contact 34 until it touches stationary contact 30. This contact completes a circuit which energizes lamp 27 while a sign is being displayed.

The electrical connections will now be described. Any suitable source of current is used, as a battery 35. A wire 36 leads from one side of the battery to distribution wires 37 leading to one side of each solenoid. From the other sides of the solenoids 17, 18 and 19, the wires 38, 39 and 40 lead to individual control switches 41, 42 and 43, the other sides of these switches being connected by wires 44 to the other side of the battery. The switches 41, 42 and 43 control the supply of current to the pairs of solenoids 18, 19 and 20, respectively, and closure of any one of these switches will cause energization of the corresponding pair of solenoids, causing the raising of the corresponding sign. When a sign is raised, the contact 34 will engage contact 30 and current will flow from the battery through wire 36, wire 37, branch 45, contact 30, contact 34, wire 46, lamp 27, wire 47 and wire 44 back to battery. The lamp will then illuminate the elevated sign as long as it is kept in such position. The signs may be transparencies, or may be of any suitable nature; and may be preferably of different colors so as to be readily distinguishable one from the other.

The controlling switches may be operated in any desired manner. For instance, the switch that controls the circuit for the "Stop" sign may be mechanically connected

with the clutch pedal of the automobile. And other methods of operating the switches may occur to a person skilled in the art.

It will be seen that my signal mechanism is simple and effective in structure and operation. The action of exposing the signs to view is a direct one, involving direct connections between the solenoid plungers and the signs. There is nothing liable to disorder, and the wear is negligible even after prolonged use.

Having described a preferred form of my invention, I claim:

1. In a device of the class described, a case, a horizontal frame piece extending across the intermediate part of the case, electro-magnets mounted on the frame piece, armatures for the magnets extending below the frame piece, vertically movable signal members connected with the armatures and standing normally substantially below the frame piece, a lamp, a switch mounted on the frame piece and adapted to be actuated by the signal members when raised, and a circuit including the switch and lamp.

2. In a device of the class described, a case, a horizontal frame piece extending across the intermediate part of the case, solenoids mounted on and above the frame piece, cores for the solenoids normally extending down below the frame piece, frames attached to the lower ends of the cores, signal members attached to the frames, a switch mounted on the frame piece and adapted to be engaged and actuated by the frames when raised, and a lamp controlled by the switch.

3. In a device of the class described, a case, a horizontal frame piece extending across the intermediate part of the case, solenoids mounted on and above the frame piece, cores for the solenoids normally extending down below the frame piece, frames attached to the lower ends of the cores, signal members attached to the frames, a switch mounted on the horizontal frame piece comprising relatively movable and stationary members, the movable member having downward projections adapted to be engaged by the several frames at the lower ends of the cores when the cores and frames are raised, so that the raising of any one of the frames actuates the switch, and a lamp controlled by the switch.

In witness that I claim the foregoing I have hereunto subscribed my name this 29th day of December, 1916.

THOMAS E. SMITH.

Witnesses:
ELWOOD H. BARKELEW,
JAMES T. BARKELEW.