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T. OKAMOTO

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TRAFFIC SIGNAL FOR AUTOMOBILES

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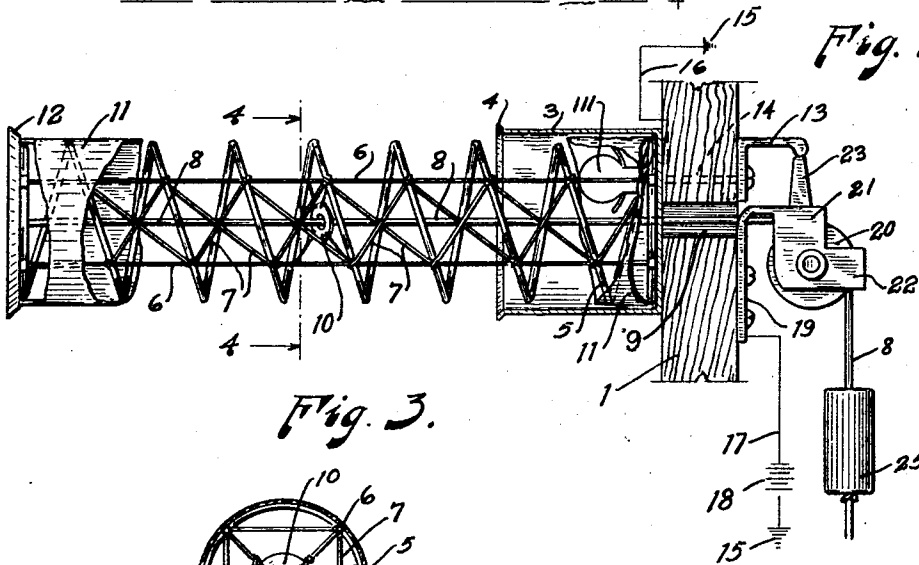
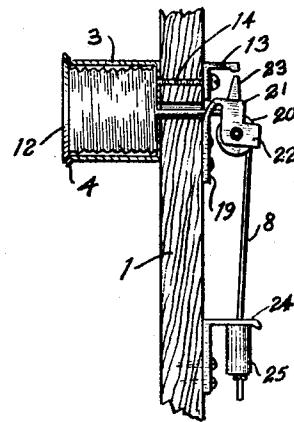
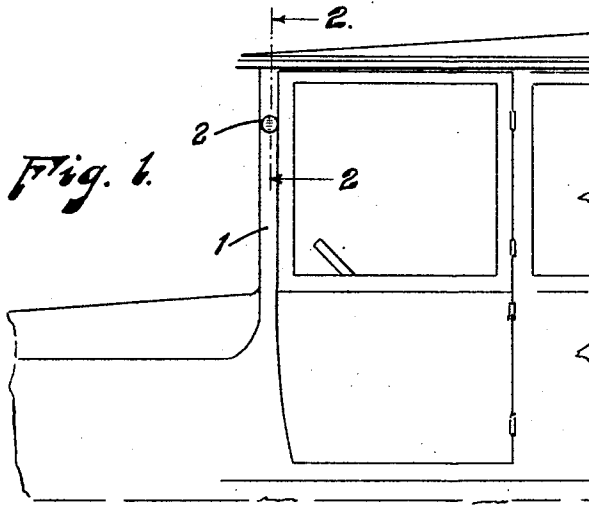


Fig. 3.

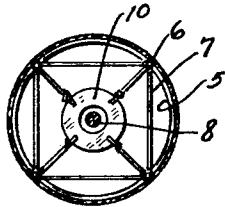


Fig. 4.

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TRAFFIC SIGNAL FOR AUTOMOBILES.

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To all whom it may concern:

Be it known that I, TOMOTARO OKAMOTO, a subject of the Emperor of Japan, residing at Fort Lupton, county of Weld, and State of Colorado, have invented certain new and useful Improvements in Traffic Signals for Automobiles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to traffic signals for automobiles.

The density of the automobile traffic on our streets and highways is so great that it is imperative that every automobile shall be provided with some serviceable indicating device which will enable the driver to apprise other drivers of his intention to turn, especially when a left-hand turn is contemplated. When an ordinary touring car is used it is customary for the driver to extend his left arm whenever a left-hand turn is contemplated, but when a closed car is employed it is not convenient to use the arm for a signal and as a result the driver of a following car is left in ignorance of the intention of the driver of the car ahead to make a turn, with the result that accidents often occur.

It is the object of this invention to produce a simple and serviceable signal that can be readily attached to the body of any automobile, and which will enable the driver, by a slight movement of his hand, to display on the left-hand side of his car a signal that will be readily visible both from the front and from the rear of the car. It is a further object to produce a signal that shall have a very neat appearance and be inconspicuous when not in use.

My invention, briefly described, consists of a box or casing adapted to be secured to the outside of the framework of an automobile. This box has its outer end open. Within the box is a helical coil spring which normally extends several inches outside of the box and is covered with thin red silk, thereby producing the appearance of a cylindrical side rod projecting outwardly

from the side of the car. A cord is fastened to the outer end of the spring and extends axially therethrough and serves to compress the spring and to draw the same into the box. In order to prevent sagging of the spring the several coils are interconnected so as to form a trusswork that tends to hold the spring straight when projecting horizontally. I also provide a light within the spring and a switch which automatically closes when the signal is in operation, but is kept in open position when the signal is inoperative.

In order better and more clearly to describe my signal and its mode of operation, I shall have reference to the accompanying drawing in which the present preferred embodiment of my invention has been illustrated, and in which:

Fig. 1 is a side elevation of a car showing my signal in place thereon;

Fig. 2 is a section taken on line 2—2, Fig. 1, and shows the signal in inoperative position;

Fig. 3 is a section similar to that in Fig. 2, but with the signal in extended or operative position; and

Fig. 4 is a section taken on line 4—4, Fig. 3.

The same reference characters will be used to designate the same parts throughout the several views.

Numeral 1 designates one of the vertical posts of the frame of an enclosed car and 2 designates my signal as a whole. The signal consists of a cylindrical casing 3 which has one end closed and the other open. The open end is flared outwardly as indicated by numeral 4. Secured at one end to the bottom of the casing 3 is a coil spring 5 which in its normal extended position projects a considerable distance out of the casing in the manner shown in Fig. 3, but which can be compressed to such an extent that it will be fully concealed in the casing in the manner shown in Fig. 2. In order to prevent the spring from bending downwardly when it is in extended position, I have connected the coils by four cords 6 extending parallel to the axis of the spring. The points where the cords are connected to the spring coils are connected by tension members 7, which form a trusswork in the manner shown in Fig.

3. When the coils of the spring are connected in the manner shown, it will sag or bend very little. A cord 8 is fastened to the outer end of the spring and extends through an opening 9 in the post 1 and serves to compress the spring and to hold it in inoperative position in a manner that will be hereinafter described. To guide the spring while it is compressed and to prevent it from buckling, I have secured to the coils a ring 10 through which the cord 8 passes. This ring is located practically on the axis of the spring which therefore cannot buckle without bending the cord 8 which is under tension and therefore resists being bent. As many of these rings may be provided as are found to be necessary. The outside of the spring is covered with diaphanous red silk 11 and to the outer end I secure a soft rubber disk 12 that fits the flared end of the casing and closes the same against the entrance of dust and rain when the signal member is in collapsed position. Secured within the casing is an incandescent lamp 111 which, when lighted, illuminates the interior of the signal member, making it glow red. It is, of course, unnecessary to have the lamp 111 lighted when the signal is inoperative and I have therefore designed a switch mechanism that will automatically light the lamp when the signal is operative. The switching device is constructed as follows:

A contact 13 is secured to the inside of the post 1 and is connected by means of a screw 14 with one terminal of the lamp 111, the other terminal being connected to ground 15 by means of a conductor 16. A conductor 17 extends from the ignition battery 18 to a spring support and contact member 19. Member 19 carries a pulley 20 over which the cord 8 runs and has guide portions 21 and 22 that prevent the cord from running off the pulley. A contact 23 projects upwardly from the guide portion 21 and is normally in electrical contact with the contact member 13 so that current can flow from the battery 18 to the lamp 111 and to ground 15. Member 19 is made of resilient material that will bend when subjected to a force and when so bent the member 23 will be out of contact with member 13 in the manner shown in Fig. 2. When the cord 8 is tensioned for the purpose of compressing spring 5 the strain put on the member 19 will cause the same to bend sufficiently to open the circuit. A hook 24 is secured to the post 1 and the cord has a stop member 25 secured to it in such a position that when the spring is fully collapsed it can be hooked under member 24 and will therefore hold the signal in inoperative position and the circuit to the lamp open. When it is desired to display the signal as when making a left turn, the

member 25 is removed from the hook 24 and the spring 5 permitted to expand into the position shown in Fig. 3 and at the same time member 23 will contact with member 13, closing the circuit to the lamp. When the turn is made the parts are moved into the position shown in Fig. 2.

From the above it will be apparent that I have produced a signal that can be readily installed on a closed car and which will be inconspicuous when in inoperative position, but which will be readily seen when it is in operative position.

I have shown and described my signal as used in connection with a closed car, but it is evident that it can be employed on any car whether of the open or closed type.

Having now described my invention, what I claim as new is:

1. An automobile traffic signal comprising a cylindrical box having one end closed and the other end open, a helical spring secured at one end to the closed end of the box, said spring when extended projecting out of said box, a diaphanous covering for said spring, said covering being adapted to be illuminated by a lamp within the same, a flexible member extending axially through the spring whereby it may be contracted and folded within the box, and means connected to the spring and operatively related to the flexible member for preventing buckling of the spring as it is compressed.

2. An automobile traffic signal comprising in combination a box having one end open and the other end closed, a helical coil spring secured at one end to the closed end of said box and adapted to project from said box when free to expand and to be contained within said box when compressed, a covering of red diaphanous material for the spring, means for compressing said spring, said means comprising a flexible member extending through the spring centrally thereof and means secured to the spring and cooperatively related to the flexible member for preventing the spring from buckling while it is compressed.

3. A device in accordance with claim 2 in which the adjacent coils of the spring are interconnected by members so arranged as to form stress triangles when the spring is in extended position whereby the spring when extended will remain substantially straight.

4. A device in accordance with claim 2 in which the end of the spring is provided with a flexible member adapted to close the end of the box when the spring is compressed.

5. An automobile traffic signal comprising, in combination, a cylindrical box having one end closed and the other open, a helical spring having one end secured with-

in said box, said spring being normally of such length as to project out of said box, means for compressing said spring so that it will be entirely contained within the box
5 and means for preventing buckling of the spring while it is being compressed.

6. An automobile traffic signal comprising, in combination, a cylindrical box having one end closed and the other open, a
10 helical spring having one end secured within said box, said spring being normally of such length as to project out of said box, means, comprising a flexible member extending longitudinally through the interior of
15 said spring and connected to the outer end thereof, for compressing the spring and means secured to the spring and operatively related to the flexible member for prevent-

ing buckling of the spring while it is being compressed.

7. An automobile traffic signal comprising, in combination, a cylindrical box having one end closed and the other open, said spring being normally of such length as to project out of said box, means for compressing said spring so that it will be entirely contained within the box, means for preventing buckling of the spring while it is being compressed and a plurality of flexible members connecting various parts of
20 said coil so as to produce stress triangles that tend to hold the spring rigid when in extended position.

In testimony whereof I affix my signature.

TOMOTARO OKAMOTO.