March 16, 1948. C. E. EDWARDS 2,437,944

VEHICLE TURN SIGNAL

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FIG. 1.

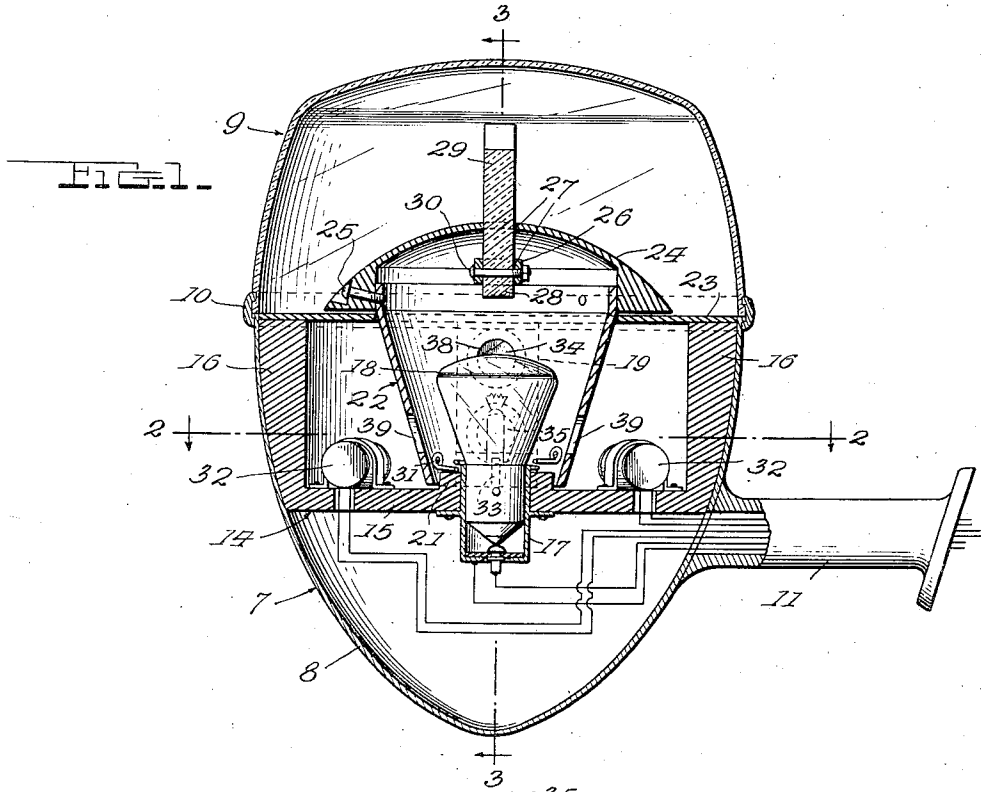
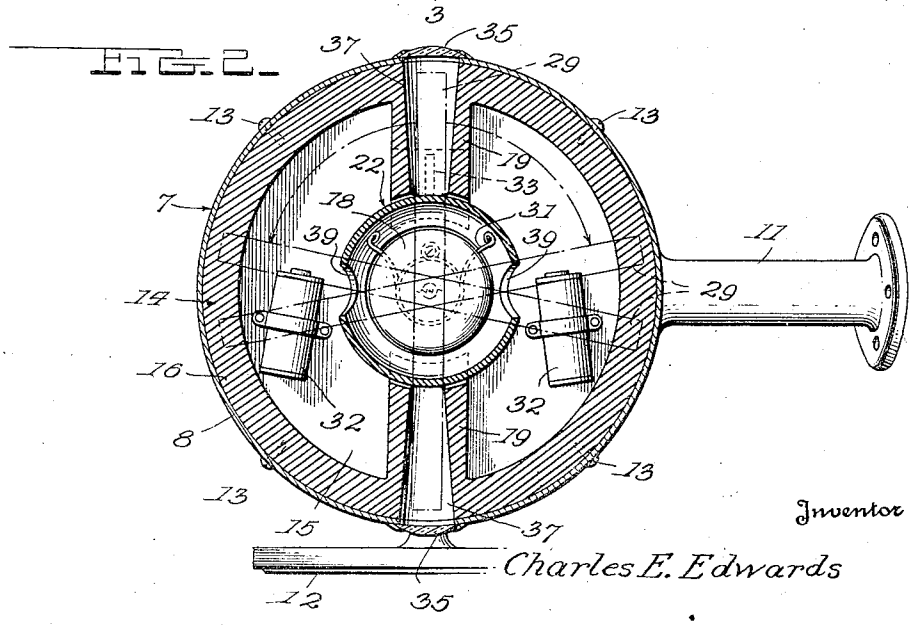


FIG. 2.



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FIG. 3

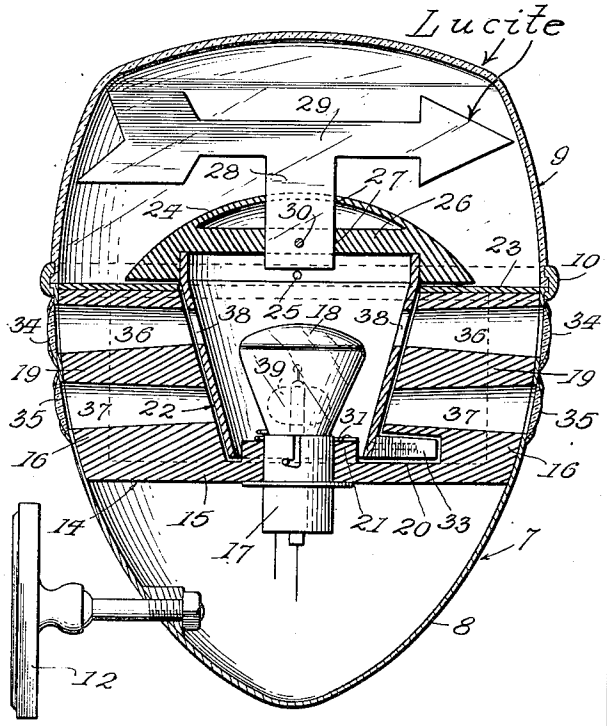


FIG. 4

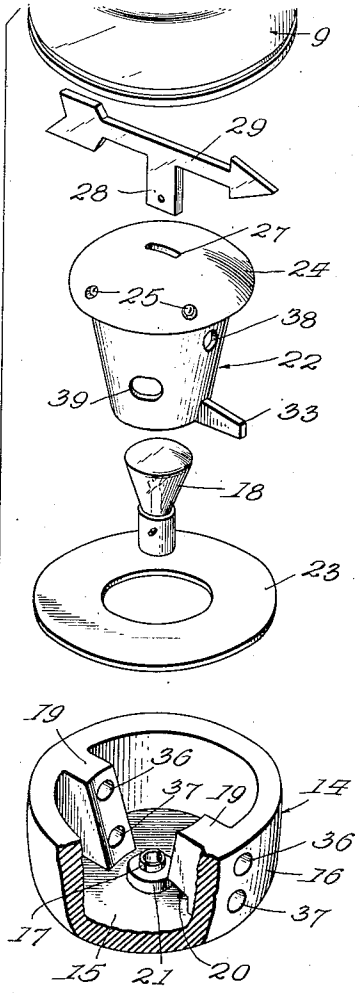
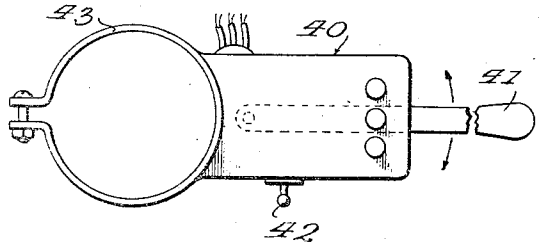
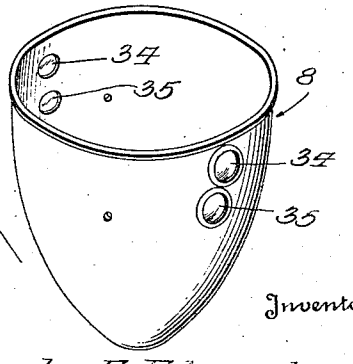


FIG. 5





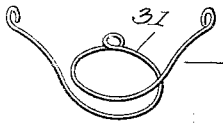


FIG. 6

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VEHICLE TURN SIGNAL

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Application January 8, 1946, Serial No. 639,853

7 Claims. (Cl. 177—329)

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The invention aims to provide a novel, easily operable, effective and durable signal for use on all kinds of motor vehicles, to conspicuously show the driver's intentions as to turning or proceeding straight-ahead; thereby overcoming numerous misunderstandings and hazards heretofore encountered, as well as overcoming the necessity of extending one arm beyond the vehicle body for hand signalling, often in inclement weather, and overcoming also the necessity of one arm driving while so doing.

Figure 1 of the accompanying drawings is a vertical sectional view looking toward the front of the signal.

Fig. 2 is a horizontal section on line 2—2 of Fig. 1.

Fig. 3 is a vertical section on line 3—3 of Fig. 1.

Fig. 4 is an "exploded" perspective view.

Fig. 5 is a plan view of the controlling switch.

Fig. 6 is a perspective view of the spring which restores the signalling arrow to straight-ahead position after each turning thereof to the right or left.

A preferred construction has been illustrated and will be rather specifically described, attention, however, being invited to the possibility of making variations within the scope of the invention as claimed.

A vertically disposed casing 7 is provided, consisting of a lower cup-shaped section 8 preferably formed from metal suitably plated for protection, and an upper dome-like section 9 of transparent material, the two sections being secured removably together by means of an appropriate clamping band 10. The section 8 is provided with an appropriate attaching bracket 11 and this section preferably carries a traffic mirror 12.

Fixedly mounted in any appropriate way, for example, by means of screws 13, within the upper portion of the lower casing section 8, is a cup-like body 14, the bottom and side wall of which are denoted at 15 and 16 respectively. The central portion of the bottom 15 carries an appropriate electric light socket 17 for a conventional bulb 18 and at diametrically opposite sides of said socket and spaced outwardly from the latter, the body 14 is formed with two integral inwardly projecting lugs 19 which are joined both to the bottom 15 and side wall 16, the lower portion of one of said lugs being formed with a notch 20 opening through the inner end of said lug for a purpose to appear. The central, socket-carrying portion of the bottom 15 is formed with an upstanding boss 21 which is surrounded rotatably by the lower end of an upwardly flared arrow-carrying member 22. This member projects above the body 14 through a central opening in a plate 23 resting upon said body, and is provided at its upper end with a removable dome-like cap 24 preferably held in place by means of screws 25 extending through its peripheral portion and into the subjacent end of the member 22. The cap 22 has an integral internal cross bar 26, and this cross bar and the superposed portion of said cap have vertically alined slots 27. The downwardly projecting shank 28 of a horizontal signalling arrow 29, extends into these slots and is fastened to the cap by means of a bolt 30 extending through said shank and the bar 26. The arrow 29 is of light-permeable material, is confined within the transparent upper section 9 of the casing 7, and is to be conspicuously illuminated by means of the bulb 18, the rays of which permeate said arrow through the lower edge of its shank 28. "Lucite" or other appropriate transparent material may well be used for this arrow and for the casing section 9 and the "Lucite" from which said arrow is formed is preferably red or some other conspicuous color.

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A suitable spring 31, mounted upon the bottom 15 of the body 14 and connected with the rotatable member 22, serves to normally hold the arrow 29 in a straight-ahead position, and two electromagnets 32 and an armature 33 are employed to turn the member 22 and arrow 29 either to the right or the left, as required, said magnets being mounted upon the bottom 15 of the body 14 and said armature being suitably secured to the lower end of the member 22, said armature normally occupying the notch 20 above described.

The casing section 8 is provided at its front and rear with upper and lower lenses 34 and 35, the lenses 34 being green and the lenses 35 red. Upper and lower light passages 36 and 37 are formed through the lugs 19 and side wall 16 of the body 14, in alinement with the upper and lower lenses 34 and 35 respectively, for cooperation with upper and lower openings 38 and 39 in the member 22, said openings 38 and 39 being so located that when the arrow 29 occupies straight-ahead position, the openings 38 aline with the light passages 36 and when said arrow is swung to a right-turn or left-turn position, the lower openings 39 register with the light passages 37. Thus, when the bulb 18 is illuminated to conspicuously illuminate the arrow 29, the green upper lenses 34 will be illuminated as long as said arrow occupies the straight-ahead position, but if said arrow be turned to right or left, the lower red lenses 35 will be illuminated. Thus,

not only does the arrow indicate the driver's intentions in a very conspicuous manner, but his intention to proceed straight-ahead is shown if the green lenses be illuminated, and warning of a turn is given by illumination of the red lenses when the arrow **29** is swung in one direction or the other.

In order to give the desired effect, light rays must permeate the arrow **29** only through its lower edge portions, in the present disclosure, and, therefore, the subjacent portions of the device are all opaque, except the lenses **34** and **35**. It is preferable to form the body **14**, top plate **23**, and member **22**, with its cap **24**, all from suitable opaque plastic or the like, but obviously the invention is not restricted to the use of any particular material or materials.

Any desired switch mechanism may of course be employed for energizing one or the other of the electro-magnets **32**. For illustrative purposes, I have in a general way disclosed a switch **40** in Fig. 5, said switch having an operating lever **41** actuated by hand and movable to three positions. The wiring for the bulb **18** may also be connected with this switch to be controlled thereby, and the bulb **18** may either be illuminated constantly or only when the arrow **29** is to be turned to one position or the other. It is preferable, however, that said bulb be constantly illuminated while the car is in motion and I have, therefore, indicated a separate switch **42** for controlling the circuit of said bulb. The switch **42** is carried by the casing of the switch **40** and this casing may well be secured to the steering column by means of a clamp **43**, although it could of course be mounted at some other convenient location.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that novel and advantageous provision has been made for attaining the desired end. While preferences have been disclosed, attention is again invited to the possibility of making variations within the scope of the invention as claimed.

I claim:

1. A turning signal comprising a casing having a side wall provided with a transparent portion, an arrow within the confines of said transparent wall portion and normally occupying a straight-ahead position, said arrow being formed of light-permeable material, signal lenses carried by said side wall and spaced vertically from said transparent wall portion, a body secured in said casing and spaced vertically from said transparent wall portion, said body having radial light passages extending to said lenses, a hollow member rotatable in said body and carrying said arrow, means for turning said hollow member to turn said arrow to a right-turn position and to a left-turn position, an edge of said arrow being exposed to the interior of said hollow member, and a light source within said hollow member for illuminating said arrow by directing light rays into it through said edge portion, said hollow member having light-conducting openings to admit light rays from said source to said light passages to illuminate said lenses according to the position of said arrow.

2. A turning signal comprising a casing having a side wall provided with a transparent upper portion, a body secured in said casing under said transparent wall portion, said body having a bottom, a side wall projecting upwardly from said bottom, and two diametrically opposed lugs projecting inwardly from this side wall, said body having radial light passages extending from the inner ends of said lugs to the casing side wall, signal lenses secured to said casing side wall at the ends of said light passages, a top plate upon said body and having a central opening, a hollow member extending through said opening and rotatably mounted on a vertical axis, said hollow member being disposed between said lugs, an arrow secured upon the upper end of said hollow member and disposed within the confines of said transparent portion of said casing wall, means for turning said hollow member to turn said arrow to a right-turn position and to a left-turn position, and a light source mounted on said bottom of said body and disposed in said hollow member for illuminating said arrow, said hollow member having openings for admitting light to said light passages to illuminate said lenses according to the position of said arrow.

3. A structure as specified in claim 2; said hollow member having a cap at its upper end directly overlying said top plate, and removable to give access to said light source.

4. A turning signal comprising a casing having a transparent wall portion, an arrow within the confines of said transparent wall portion, said arrow being formed of light-permeable material exposed to view throughout the length of said arrow, a light source in said casing and spaced from an edge portion of said arrow, opaque means in said casing shielding all but said edge portion of said arrow against direct rays from said light source, said opaque means including a hollow rotatably mounted member carrying said arrow and containing said light source, and means for turning said hollow rotatably mounted member to selectively turn said arrow to any of a plurality of signalling positions.

5. A turning signal comprising a casing having a transparent wall portion, an arrow within the confines of said transparent wall portion, said arrow being formed of light-permeable material exposed to view throughout the length of said arrow, said arrow having a light-permeable attaching shank between its ends, a hollow rotatably mounted member in said casing having a slot in which said attaching shank is secured, means for turning said hollow member to selectively turn said arrow to any of a plurality of signalling positions, and a light source in said hollow member for illuminating said arrow by directing rays only into said shank, provision being made to shield said arrow against other illumination by said light source.

6. In a signal, a signalling member, said signalling member being formed of light-permeable material exposed to view throughout the length of said signalling member, a hollow rotatably mounted member carrying said signalling member, means for turning said hollow member to selectively turn said signalling member to any of a plurality of signalling positions, said signalling member having an edge portion exposed to the interior of said hollow member, and a light source in said hollow member for illuminating said signalling member by directing rays into it through said exposed edge portion thereof.

7. In a signal, a signalling member, said signalling member being formed of light-permeable material exposed to view throughout the length of said signalling member, said signalling member having a light-permeable attaching shank, a hollow rotatably mounted member having a slot in one end in which said shank is secured, means for turning said hollow member to selectively

turn said signalling member to any of a plurality of signalling positions, and a light source within said hollow member for illuminating said signalling member by directing rays into said attaching shank.

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