

April 16, 1935.

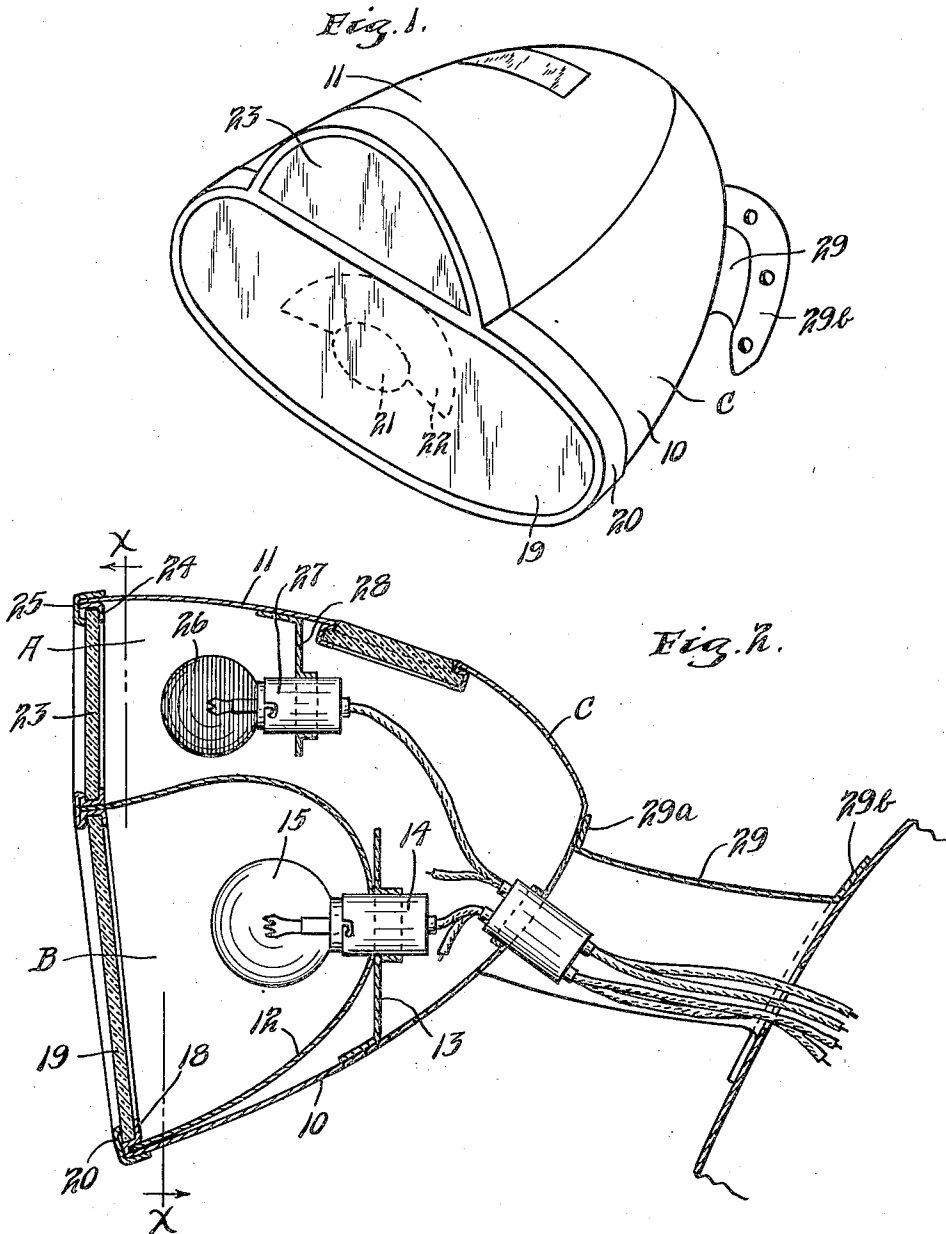
J. A. FOSSUM, JR

1,998,157

AUTOMOBILE SIGNAL LIGHT

Filed May 29, 1933

3 Sheets-Sheet 1



INVENTOR.
JOSEPH A. FOSSUM JR.
BY HIS ATTORNEYS.

Williamson & Williamson

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Fig. 3.

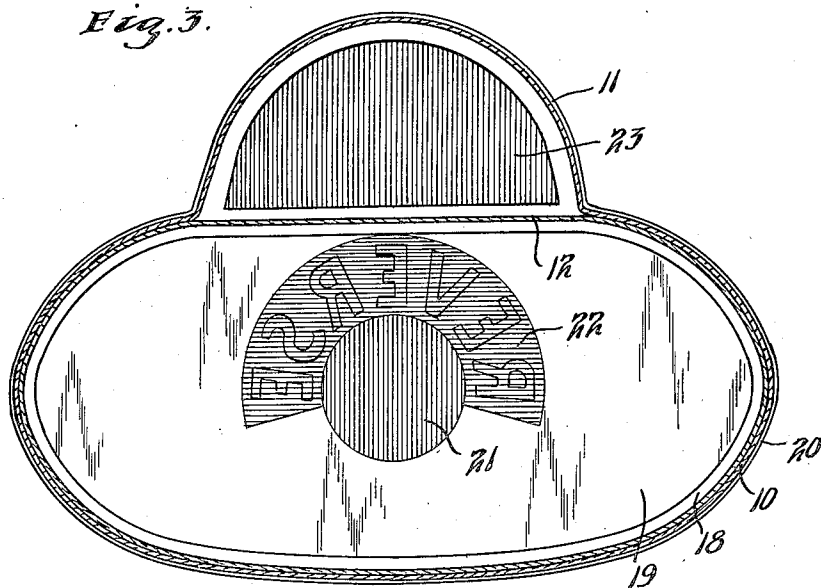
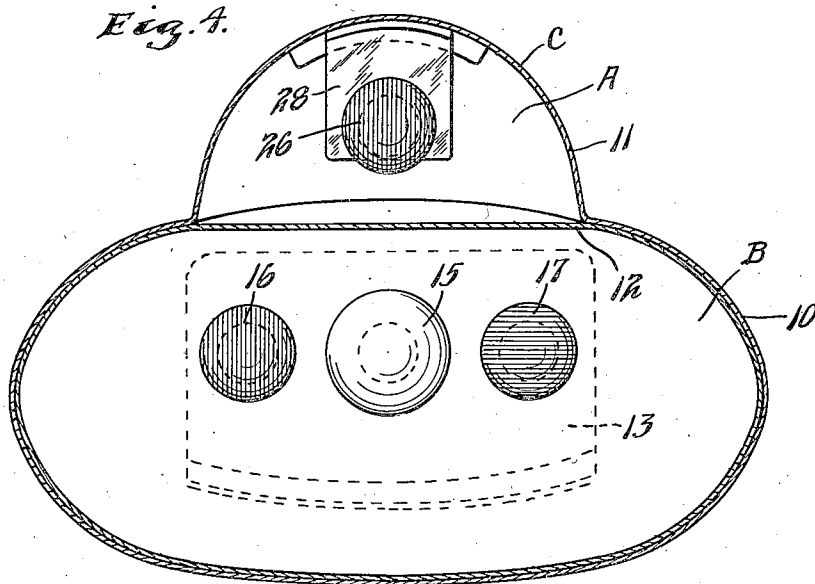


Fig. 4.



INVENTOR.
JOSEPH A. FOSSUM JR.
BY HIS ATTORNEYS.
Williamson & Williamson

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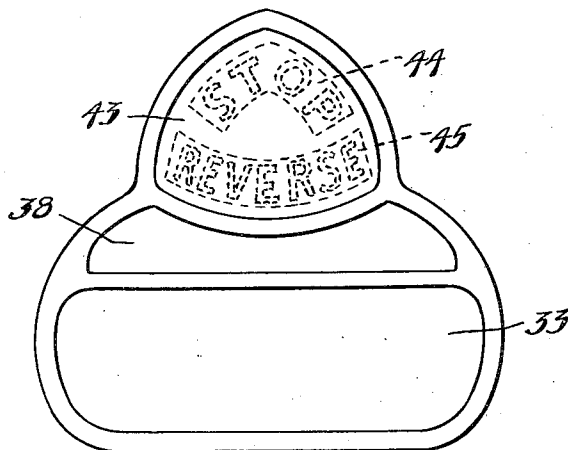
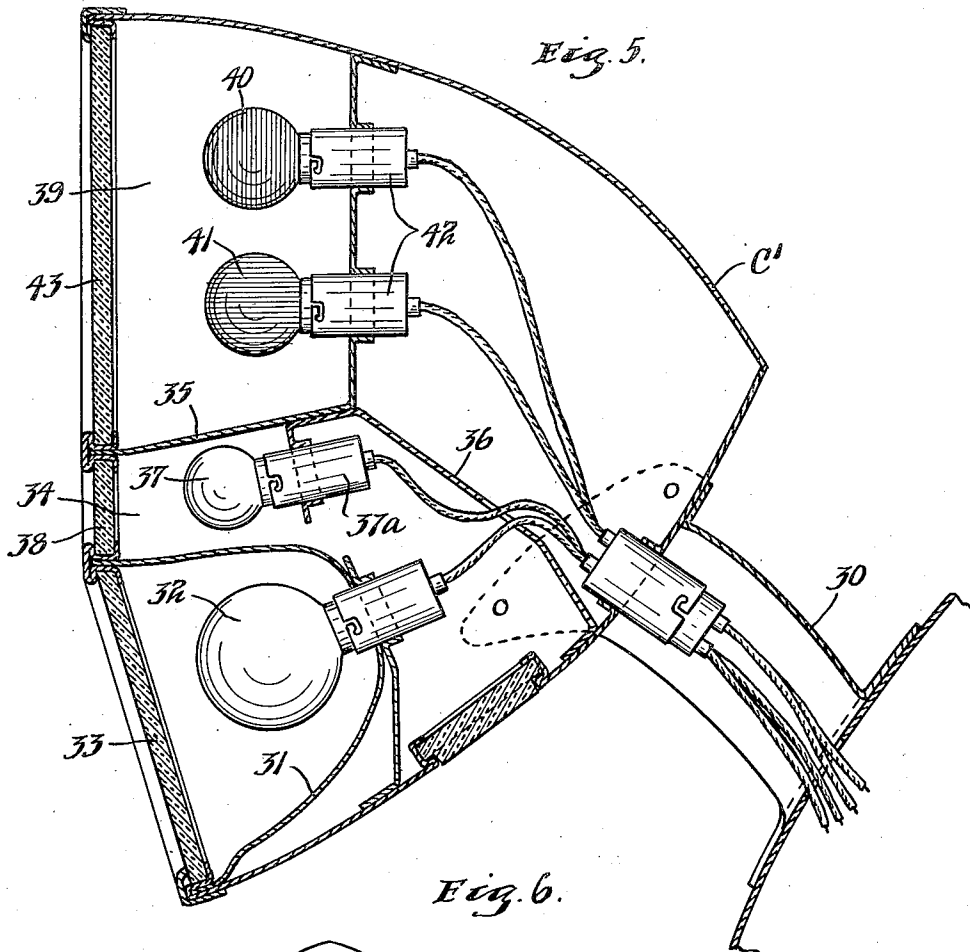
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

1,998,157

AUTOMOBILE SIGNAL LIGHT

Joseph A. Fossum, Jr., Minneapolis, Minn.

Application May 29, 1933, Serial No. 673,364

1 Claim. (Cl. 177—327)

This invention relates to a combination backing and signaling light adapted to be mounted on the rear of a motor vehicle and controlled by the driver.

5 It is an object of my invention to provide a compact construction of the class referred to, including a clear lens and means for projecting light for backing purposes and means in association with the same lens giving an illuminated
10 "backing" or reverse sign when the motor vehicle is backed and for giving from the same lens an illuminated stop signal when the travel of the car is checked as by applying the brakes or releasing the clutch.

15 An important feature of the invention is the cooperation of a plurality of differently colored light sources with a single lens having portions colored variously, said lights being mounted in a common chamber back of said lens whereby
20 when a certain colored light is illuminated it will have the effect of intensifying the color transmitted through one of the portions of the lens and will serve by contrast with other portions of the lens to render the illuminating effect there-
25 from more or less opaque.

It is a further object to provide a combination backing and signaling light wherein the several elements for signaling "stop" and "reverse", a
30 tail light and a backing light are compactly coordinated and mounted in a single casing adapted to be supported at the rear of a motor vehicle.

These and other objects and advantages of the invention will be more fully set forth in the following description made in connection with the
35 accompanying drawings, in which like reference characters refer to similar parts throughout the several views, and in which:—

Fig. 1 is a perspective view showing one form of the invention detached from the motor vehicle;

40 Fig. 2 is a vertical section taken centrally or axially through the casing;

Fig. 3 is a vertical cross section taken on the line X—X of Fig. 2 looking in the direction of the
45 upper arrow or toward the lens;

Fig. 4 is a vertical cross section taken on the line X—X of Fig. 2 looking in the direction of the
lower arrow or toward the electric lamps;

Fig. 5 is a vertical section taken longitudinally and centrally through a somewhat different form
50 of the invention, and

Fig. 6 is a front view of the same.

With reference to the form illustrated in Figs. 1 to 4, a suitable and symmetrical casing, indicated as an entirety by the letter C is provided

having a tapered ovoidal periphery and terminating in a closed rear end and an open front end provided with an edge to which the lenses are secured. Casing C is characterized by a lower
5 or main portion 10 substantially oval shaped in cross section and an upper portion 11 which may if desired be integral with the lower portion, of arcuate cross section.

A suitable reflector 12 is mounted within the lower portion 10 of casing C dividing the forward
10 portion of the interior of the casing into upper and lower light chambers A and B respectively. The forward end of reflector 12 is open and is nested snugly at its lower and side portions within the lower portion 10 of casing C. A
15 mounting plate 13 is secured to the lower peripheral wall of casing C and projects substantially vertically being secured to the rear of reflector 12. In said plate three electric lamp sockets 14
20 are mounted, the open ends of said sockets projecting within reflector 12 and arranged horizontally in spaced relation. A colorless lamp bulb 15 is mounted in the central socket and substantially centrally of reflector 12 and electric
25 lamps 16 and 17 of contrasting colors, say red and blue, respectively, are mounted in opposite sides of the colorless lamp 15.

The rim of the lower portion 10 of the casing is provided with a flanged lens seat 18 in which
30 a suitable lens 19 of oval shape is secured. A retaining strip 20 may be provided in cooperation with the lens seat for yieldingly securing the lens in the proper operative position.

The greater portion of the lens 19 is uncolored to emit light for illuminating the road at the rear
35 of the car, but in the central portion of the lens and preferably on its rear face coloring material is provided for cooperation with the various light colors produced by the bulbs 16 and 17. As shown a disk 21 of colored material (for example red
40 paint or a piece of red celluloid) is coated or affixed to the central portion of lens 19 and at the upper portion of said disk and embracing the same an arcuate panel 22 of paint of a contrasting
45 color or celluloid or the equivalent is affixed to the lens. The panel has somewhat opaque characters printed thereon which transmit less light than the body of the panel. As shown, the word "reverse" printed inversely is produced upon
50 the panel 22.

At the edge of the upper portion 11 of the casing an arcuate shaped lens 23 is mounted in a suitable flanged seat 24, retained, as shown, by a
55 strip 25. Lens 23 may be of colored glass or the

equivalent and is preferably colored red to act as the tail light for the motor vehicle on which my signal is mounted. A red lamp 26 is mounted directly behind lens 23 attached to a suitable electrical socket 27 which is supported from a plate 28 attached to the upper peripheral wall of the upper casing 11.

Casing C may be attached to the rear fender or back of the car in any suitable manner and as shown I have provided an inverted channel shaped supporting bracket 29 having an attachment flange 29a spot welded or otherwise secured to the rear and lower portion of casing C and having an attachment flange 29b which may be bolted, riveted or otherwise secured to a suitable supporting portion of the automobile.

The electrical service wires for the several lamps 15, 16, 17 and 26 may conveniently pass through the rear of the casing C and through the channel 29 where they are concealed.

It will be noted that the reflector 12 is directed downwardly and rearwardly and that the lens 19 at the outer end thereof is inclined with respect to the vertical to some extent to more efficiently transmit light rays in a desired direction rearwardly of the motor vehicle.

The electrical circuit for the colorless backing light 15 preferably includes a hand switch which may be conveniently mounted on the instrument board to facilitate control by the driver.

The electrical circuit for the red "Stop" light 16 includes preferably a suitable switch of conventional type operated upon depression of the clutch pedal or brake, as desired, of the motor vehicle.

The circuit for the blue light indicating "reverse" includes preferably a switch operated by the gear shift lever when the same is thrown into reverse position.

In operation when the speed of the motor vehicle is checked as by releasing the clutch or putting on the brake, the red light 16 and reflector 12 will be illuminated, causing red light rays to be emanated from the clear portion of the lens 19 giving a noticeable red signal at the rear of the car. The central red disk 21 will stand out prominently since the color of the light passing through the same (red) is the same as that of the disk itself. On the other hand the arcuate reverse signalling portion 22 of the lens will be rendered more or less opaque due to the fact that red light rays pass through the blue arcuate portion of the lens blending to form a deep purplish color which is not seen for any great distance from the device.

When the blue light 17 is illuminated by the shifting of the gears into reverse speed then the arcuate panel 22 of the lens indicating reverse will show a solid blue color and the entire body of lens 19 will be a faint blue and at this time the blue rays passing through the red disk 21 at the center of the lens will cause the disk to appear more or less opaque or a dark purplish color which will not be readily noticed.

When it is desired to use the backing light it is only necessary to throw the hand switch, whereupon a beam of light is thrown rearwardly and downwardly from the back of the car illuminating the highway and ditches to facilitate backing.

Lamp 26 in chamber A functions in the usual manner of a "tail" light.

In Figs. 5 and 6 a somewhat different form of the invention is illustrated comprising a symmetrically shaped casing C' which may be secured to the rear fender or other portion of the rear end of a motor vehicle by suitable means such as a

bracket 30 of the type described in connection with the first form of the invention. The lower portion within casing C' is provided with a somewhat downwardly directed reflector 31 in which is mounted a backing light 32. A clear lens 33 covers the front of reflector 31 and is secured in a suitable flanged seat.

The central portion of the interior of casing C' is divided into a tail light compartment 34 by means of the upper portion of reflector 31 and an angular partition 35. A mounting plate 36 as shown is affixed to the rear of the interior of casing C' and extends upwardly and forwardly terminating in a flange which is secured against the bottom of the angular partition 35. A tail light 37 is mounted in a suitable socket 37a which is supported by a depending aperture at the extremity of the mounting plate 36. A narrow lens 38 extending across the face of casing C' and secured in an appropriate flanged seat completes the tail light chamber and is preferably colored red.

The angular partition 35 divided off the upper portion of the interior of casing C' to form a signal chamber 39 wherein electrical lamps 40 and 41 of contrasting colors are mounted. Said lamps are connected with suitable sockets 42 mounted in the rear and vertical portion of the angular partition 35. As shown the lamp 40 is colored red while the lamp 41 is colored blue. The lens 43 for the signalling compartment may be frosted and is preferably uncolored throughout the greater portion thereof but has disposed upon the rear surface thereof two panels 44 and 45 respectively indicated in dotted lines in Fig. 6. The panels may be constructed of paint or other coloring material such as celluloid and the upper panel 44 as shown is colored red and has somewhat opaque characters printed thereon indicating the word "Stop". The lower panel 45 as shown is colored blue and has printed thereon the word "Reverse" in somewhat opaque characters.

When the red lamp 40 is illuminated the red panel 44 emanates a bright red light being of similar color to the said light rays and the blue panel 45 is rendered more or less opaque or of a deep purplish color which is not noticeable a considerable distance from the rear of the car. When the blue lamp 41 is illuminated the blue panel is intensified in color while the upper red panel 44 emits little light and is rendered more or less opaque by the contrasting color of the light rays and the red panel of the lens.

The operation of the backing lamp 32 and its reflector and light chamber is similar to that described in the first form of the invention.

From the foregoing description it will be seen that I have invented a very compact combination backing and signalling light adapted to automatically signal "stop" or "reverse" at the appropriate times, further functioning as a tail lamp as well as providing an efficient light for backing purposes. It further will be seen that by the cooperation of the contrasting portions of the signal lens with the colored rays of light emitted from the lamp, color transmitted through one of the portions of the lens is intensified while another portion of the lens is rendered more or less opaque.

It will, of course, be understood that various changes may be made in the form, details, proportions and arrangement of the parts without departing from the scope of my invention, which, generally stated, consists in a device capable of

carrying out the objects above set forth and in the novel parts and combinations of parts disclosed and defined in the appended claim.

What is claimed is:—

5 A signal of the class described having in combination, a light chamber, a lens associated with said chamber having the greater portion of its body substantially colorless and adapted for substantially unobstructed passage of light there-
10 through, said lens having a relatively small portion thereof colored to constitute of itself a signal when certain light rays are passed there-
15 through and having another relatively small portion closely adjacent said first portion colored a contrasting color to of itself constitute a second signal when certain light rays are passed therethrough, at least three lamps within said

chamber behind said lens, one thereof emitting white light, one thereof emitting rays of a color similar to said first mentioned colored portion and one thereof emitting rays of a color similar to said second colored portion and means for
5 selectively lighting said lamps whereby when either of said colored lamps is lighted the signalling portion of a color similar thereto will appear brightly illuminated, the signalling por-
10 tion contrasting therewith will appear more or less opaque and whereby when said white lamp is lighted the greater and transparent portion of said lens will freely transmit light therefrom to brightly illuminate objects within the field of
15 distribution of the transmitted light.

JOSEPH A. FOSSUM, JR.