Nov. 22, 1938. W. TRAUTNER ET AL 2,137,319

SIGNALING LAMP

Filed March 26, 1938 3 Sheets-Sheet 1

Fig. 1.

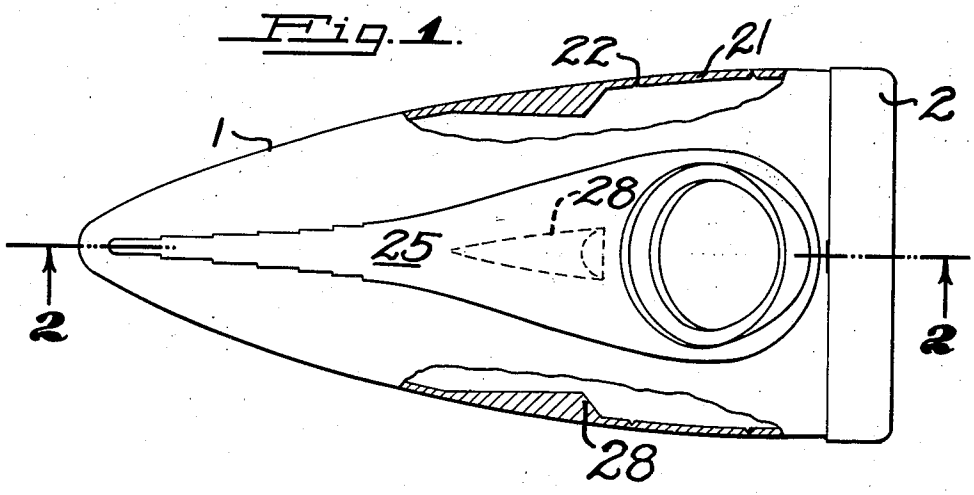
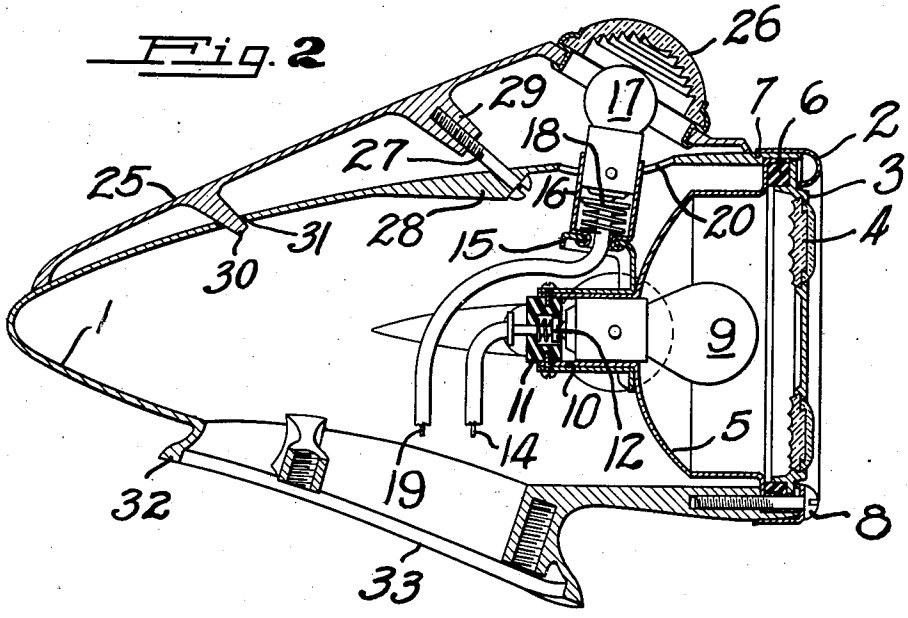


Fig. 2



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Fig. 3.

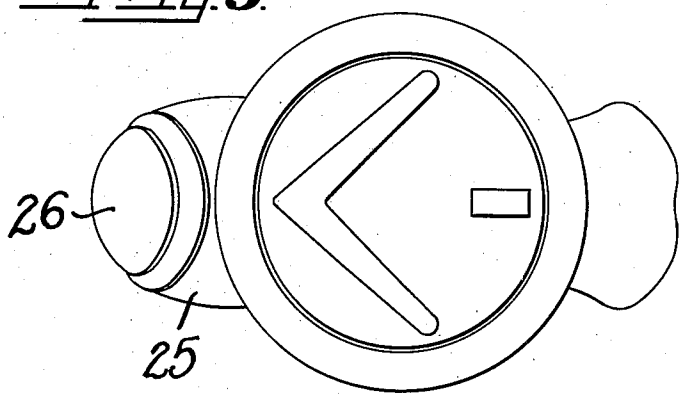


Fig. 4.

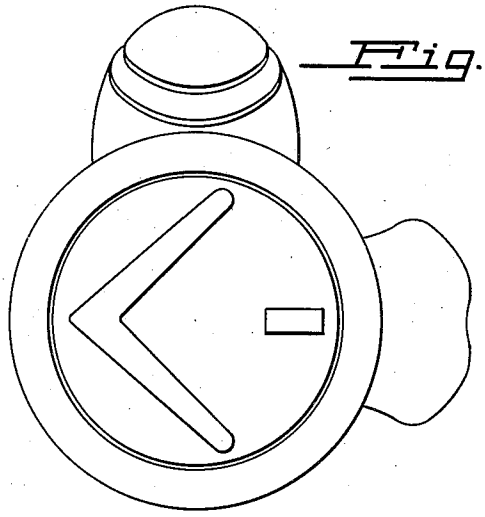
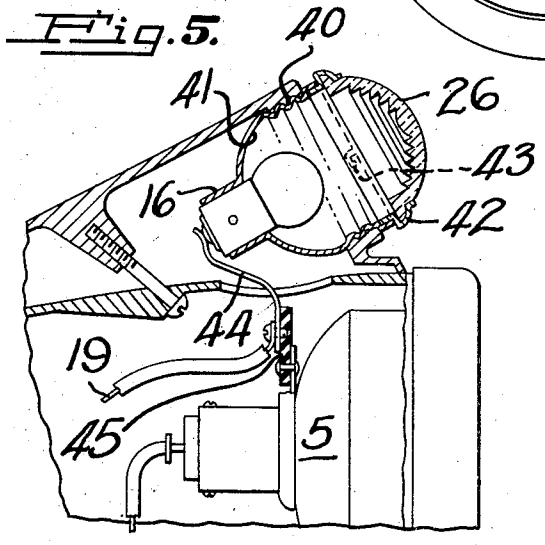


Fig. 5.



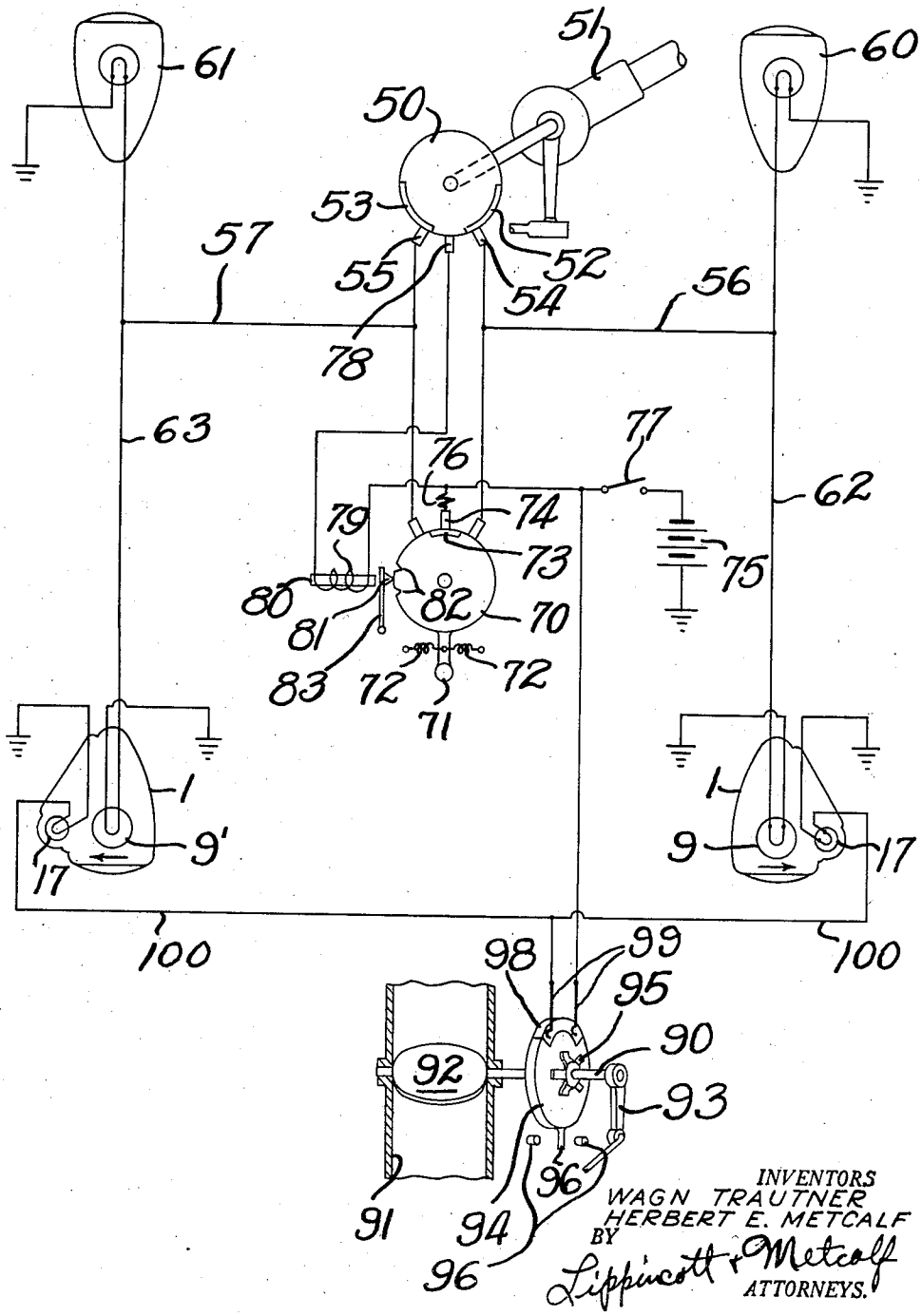
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Fig. 6.



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UNITED STATES PATENT OFFICE

2,137,319

SIGNALING LAMP

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Application March 26, 1938, Serial No. 198,254

3 Claims. (Cl. 177—329)

Our invention relates to signaling lamps and more particularly to duplex lamps wherein both an indexing indication and a non-indexing indication are desired.

Among the objects of our invention are: to provide a combined indexing lamp and a non-indexing lamp mounted as a single unit; to provide indexing and non-indexing lamps mounted on the same body; to provide indexing and non-indexing lamps capable of being combined in different positions; and to provide a vehicle signaling system wherein a pair of indexing lamps indicating direction changes, are provided with non-indexing indicators connected to show acceleration or deceleration of the vehicle to which the system is attached.

Other objects of our invention will be apparent or will be specifically pointed out in the description forming a part of this specification, but we do not limit ourselves to the embodiment herein described, as various forms may be adopted within the scope of the claims.

Our invention may be more fully understood by direct reference to the drawings wherein:

Fig. 1 is a top plan view, partly in section, of a combined indexing and non-indexing lamp.

Fig. 2 is a longitudinal sectional view taken as indicated by the line 2—2 in Figure 1.

Fig. 3 is a face view of the lamp of Figs. 1 and 2 with the non-indexing portion in one position.

Fig. 4 is a view similar to that of Fig. 3 with the non-indexing portion in another position.

Fig. 5 is a view, partly in section and partly in elevation, showing the non-indexing lamp provided with a reflector.

Fig. 6 is a circuit diagram showing one form of circuit in which the lamps of our invention may be utilized.

In Fig. 1 a lamp body 1 preferably of symmetrical stream line design is provided on the open end thereof with a mask retainer 2 holding in place an indexing mask 3 having inset translucent lenses 4, the lenses being preferably in the shape of an arrow. In the interior of the lamp body an indexing reflector 5 is held against the body by pressure exerted by mask retainer 2 through waterproof gasket 6. Mask retainer 2 is held on body 1 by a locking lug 7 diametrically opposite retaining screw 8. An indexing lamp bulb 9 is positioned in a socket 10 formed on the apex of reflector 5. The end of the socket 10 is provided with an insulator 11 carrying center lamp contact 12, connected to connection wire 14. Mounted on lamp socket 10 is a lamp bracket 15 supporting a non-indexing lamp socket 16 carrying a non-indexing lamp 17. Lamp socket 16 also carries a center connection 18 to which non-indexing lamp wire 19 is connected. Bracket 15, lamp socket 16 and non-indexing lamp 17 extend upwardly to pass through body 1 at aperture 20, this aperture being provided if desired, either by boring at the proper location or by providing body 1 with knockout portions 21, these portions being outlined by a groove 22 weakening the body wall at the desired point, so that the application of a blow at that point will cause the wall to break and thus form aperture 20.

An auxiliary lamp body 25 is provided fitting the outer surface of lamp body 1, this auxiliary lamp body being provided at the lamp end thereof with a non-indexing lens 26 adjacent lamp 17. Auxiliary lamp body 25 is held to main body 1 by a single screw 27, the head of which is on the inside of body 1 and bearing against a screw boss 28. The threads of screw 27 enter a thread boss 29, being a part of auxiliary body 25. To prevent the tail of the auxiliary body from swinging laterally, a positioning boss 30 is provided entering a positioning hole 31 at the rear of body 1.

Body 1 is preferably provided with a mounting bracket 32 having a curved lower surface 33, as described and claimed in the Trautner application, Serial No. 174,573, filed November 15, 1937, entitled Signal lamp bracket.

Inasmuch as the lamp of our invention is adapted for use as auxiliary equipment on vehicles, particularly automotive vehicles, base 32 may be applied to the vehicle at a number of points. If on the fenders, lamp body 1 will be upright; if, however, it is desired to place lamp body 1 on the side of the vehicle in the position shown in Fig. 3, then it is quite possible for auxiliary body 25 and lens 26 to extend laterally too far, and consequently it may be necessary or desirable to apply the auxiliary body 25 to the main lamp body 1 in a different position, such as shown in Fig. 4. In order that the position of auxiliary lamp body 25 may be placed in different relative positions, we have provided three knockout portions 21, 90° apart, and three screw bosses 28 in proper relative position to knockouts 21.

It may be desirable to ship to the consumer lamp bodies 1 without having any of the knockouts opened, or any screw bosses bored, or any positioning apertures drilled. Under these conditions, the lamps may be used by the consumer any way he may desire; for example, if it is desired that the consumer utilize the indexing lamp alone, he may remove bracket 15 from lamp socket 10, leave all the knockouts 21 in place,

and utilize the lamp as an entirety with only the indexing bulb 9. If, however, he desires to utilize the combination of the indexing and non-indexing lamps, he may do so and he may utilize the non-indexing body in any one of the three positions desired by proceeding as follows: The empty lamp body 1 has the desired knockout 21 removed therefrom. With a drill extending through the main opening in lamp body 1, a hole is drilled through boss 28 for screw 27, the position of the face of boss 28 being such that this face can be reached through a drill extending through the lamp opening; and, if desired, a center punch depression or similar indentation may be supplied in order to start the hole properly. Hole 31 is then drilled in line with aperture 20 and boss 28. Auxiliary body 25 is then applied to the main body 1 and screw 27 inserted, thus fixing the auxiliary body to the main body. Indexing reflector 5 carrying socket 16 and non-indexing bulb 17 is then inserted with a rotary motion so that bulb 17 will extend through aperture 20. Gasket 6, mask 3 and lens 4 are then held in place by the application of retainer 2 and screw 8 is tightened. The lamp is now ready to be placed on the vehicle.

In certain cases it may be desirable to provide non-indexing bulb 17 with a reflector of its own. Under these circumstances the lens opening in auxiliary body 25 may be provided with reflector threads 40 and an auxiliary reflector 41 provided, the end being prolonged to form the non-indexing socket 16. Non-indexing lens 26 may be held in a collar 42, attached to reflector 41 by a bayonet lock 43. Thus the bulb 17, reflector 41 and lens 26 may be removed as a unit, or lens 26 and collar 42 may be removed to replace lamp 17. In this type of construction the center contact of non-indexing bulb 17 is pushed against a resilient connection strip 44 fastened to indexing reflector 5 by an insulator 45, thereby providing a connection for wire 19.

In Fig. 6 we have shown one form of circuit in which our invention may be utilized. Here a switch disc 50 is fixedly attached to vehicle starting gear 51, this disc carrying right and left conductive sectors 52 and 53 bearing against right and left brushes 54 and 55. These brushes are connected through right and left lamp lines 56 and 57 to right and left front lamps 60 and 61. Extending from right and left lamp lines 56 and 57 are right and left rear connections 62 and 63, respectively, energizing right and left indexing bulbs 9 and 9', each mounted in a lamp body 1 with the proper direction of indexing lenses 4. In parallel with disc 50 is a hand disc 70 operated by a handle 71 and centered by centering springs 72. Hand disc 70 carries a segmental contact 73 in connection with a common brush 74, connected to vehicle battery 75 through balancing resistor 76 and ignition switch 77. Common brush 78 bearing against disc 50 is connected through release solenoid 79 surrounding magnetic core 80 positioned to withdraw a pawl 81 forced into notches 82 in disc 70 by spring 83.

The other end of solenoid 79 connects to source 75 through ignition switch 77. When the hand disc 70 is moved either to right or left it will energize the corresponding indexing lamps and will remain in energizing position by virtue of pawl 81 falling into notches 82, until such time as steering gear 51 is moved to make a vehicle turn whereupon disc 50 will rotate to itself energize either the right or left lamps. In either case current will then flow through solenoid 79, pawl 81 will be withdrawn from a notch 82, and the handle 71 will be centered and circuit through the hand switch broken.

We prefer to utilize the non-indexing bulbs 17 as an acceleration and deceleration signal, or, as it is called in the trade, a "slow" signal, and we prefer to utilize a friction driven switch such as described and claimed by Howard in his Patent No. 2,096,745. We attach this switch to the butterfly axle 90 extending through intake manifold 91 to rotate the throttle valve 92 of the vehicle on which the system is mounted. The butterfly axle is rotated in the usual manner by throttle connection 93. The "slow" switch comprises a disc 94 frictionally driven only from axle 90 by spring clutch 95, this disc being allowed only a short arc of rotation, this arc being determined by the distance between the stop pins 96 against which stop arm 97 operates.

When the throttle is being opened conductive disc segment 98 makes no contact between switch brushes 99, but when the throttle is being closed segment 98 bridges brushes 99 and causes current to pass between brushes 99. One brush 99 is connected to source 75 through ignition switch 77 and the other brush is connected by lateral wires 100 to both non-indexing lamp bulbs 17.

We have thus provided a signaling system wherein at the front of the vehicle indexing lamps only are used, whereas at the rear of the vehicle a combination lamp house is provided wherein the main lamp gives an indexing signal and the auxiliary lamp gives a non-indexing signal corresponding to deceleration of the vehicle. We have found that on vehicles utilizing indexing lamps, particularly in traffic where the indexing lamps are most useful, that following drivers watch the indexing lamps and consequently by placing non-indexing "slow" signals immediately adjacent to the indexing signals, they are readily seen. Furthermore, by the construction herein described and claimed, we are able to supply a complete signaling system which may be used either entirely or in part only and in different positions on the vehicle.

We claim:

1. In a vehicle signaling system, a signaling lamp comprising a main lamp house, an indexing lens and mask for said main house, an auxiliary lamp house removably attached to a side wall of said main lamp house, one side of said auxiliary lamp house being open to fit said side wall of said main house and being held on said side wall by a single screw passing through a boss on the inner surface of said side wall, the axis of said screw, when projected, passing through the open end of said main lamp house when said lens and mask is removed.

2. Apparatus in accordance with claim 1 wherein said auxiliary lamp is an assembly comprising said lamp, an auxiliary reflector therefor, said non-indexing lens being mounted on the end of said auxiliary reflector, and wherein said contact means is resilient to make contact with a center connection of said auxiliary lamp.

3. Apparatus in accordance with claim 1 wherein other bosses are provided around said inner surface to provide for different locations of said auxiliary lamp house around the side wall of said main lamp house.

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