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TRAFFIC SIGNAL

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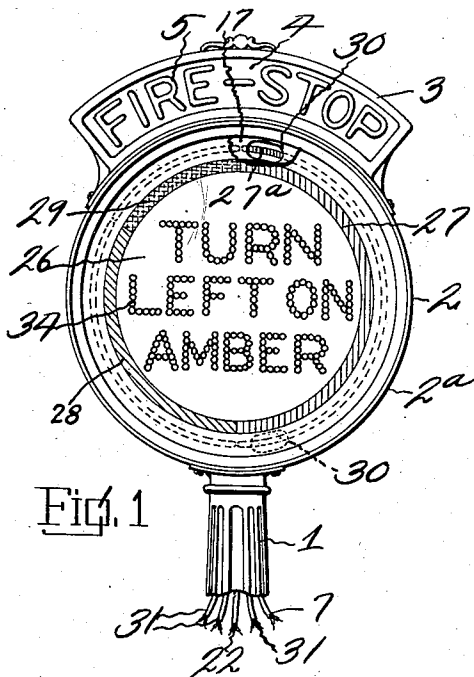


Fig. 1

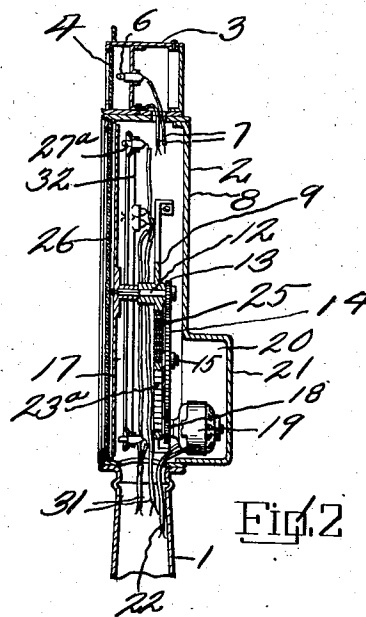


Fig. 2

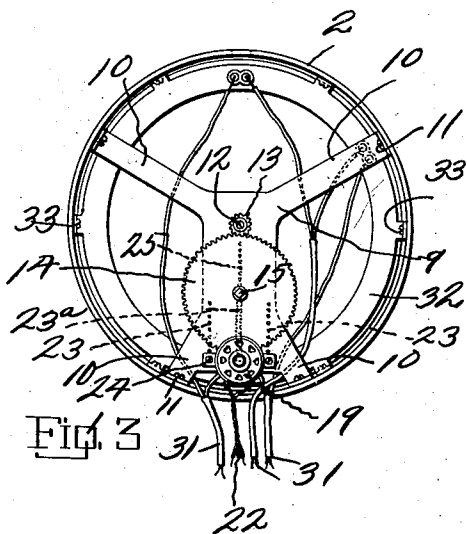


Fig. 3

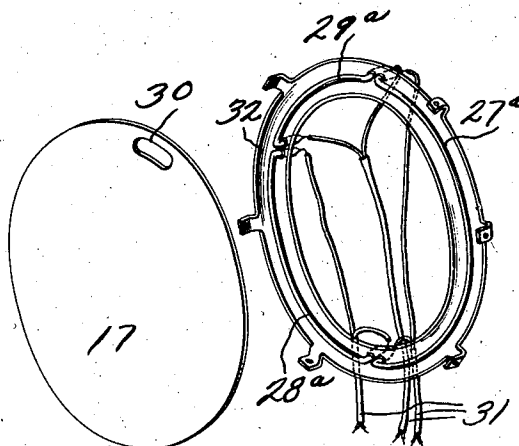


Fig. 4

Fig. 5

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TRAFFIC SIGNAL

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3 Claims. (Cl. 116-63)

The invention relates to traffic signals, and has for its object to provide an illuminated traffic signal having traffic control indicia thereon, preferably of contrasting colors and a movable member cooperating with said indicia whereby a vehicle operator approaching the traffic signal may ascertain the period of time the particular indicia has been in operation and the remaining period of the particular indicia.

10 A further object is to provide a traffic signal light having colored signals in connection therewith and a rotating member cooperating with the colored signal and moving around the same for indicating the period of time the particular signal color has been in operation, to a vehicle operator, and the period of time it will remain in operation, thereby allowing the operator to estimate the end of the signalling operation.

15 A further object is to provide a traffic signal light with circumferentially arranged contrasting signalling stripes, a plurality of correspondingly colored stationary gaseous discharge tubes to the rear of the stationary stripes and out of registration therewith and a rotatable disc between the gaseous discharge tubes and the signal and having an aperture circumferentially registering with the gaseous discharge tubes whereby when rotated, portions of the gaseous discharge tubes will be exposed adjacent the corresponding color of stripes for indicating the duration of a signal and the expected continued duration.

20 A further object is to provide a drive motor for the apertured rotatable disc and a gear train drive between the motor and the rotatable disc.

25 A further object is to provide reflector means behind the gaseous discharge tubes for projecting light rays through the aperture of the apertured disc as it is rotated.

30 A further object is to provide a gaseous discharge tube fire stop signal on the traffic signal and independently controlled.

35 A further object is to provide means whereby the gear train drive of the apertured disc may be varied for varying the timing of the signal.

40 With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawing, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

45 In the drawing:

Figure 1 is a view in elevation of the traffic signal.

Figure 2 is a vertical transverse sectional view through the signal.

Figure 3 is a rear view of the signal with the rear plate removed and the fire stop light box eliminated.

Figure 4 is a perspective view of the apertured disc.

Figure 5 is a perspective view of the gaseous discharge tube carrying reflector.

Referring to the drawing, the numeral 1 designates a standard adapted to be placed at an intersection, on the upper end of which is mounted a casing 2 in which the signalling mechanism is disposed. Supported on the upper side of the casing 2 is an arcuately shaped light box 3 having a transparent front wall 4 provided with indicia 5 indicating to approaching vehicles that fire engines are approaching and to stop. Disposed within the light box 3 behind the transparent front wall 4 is a conventional form of neon tube 6 which is intermittently flashed from some remote position through electrical energy passing over the wires 7. The illumination of the light box 3 is independent of the control of the illuminating means within the casing 2.

The casing 2 comprises an annular portion 2a mounted on the standard 1, and is provided with a removable back plate 8, whereby access may be had to the mechanism within the casing 2 for repair and inspection purposes. Although the device is shown as round, it is obvious that it can be of any shape desired, and applicant does not limit himself in this respect.

Disposed within the casing 2 is a stationary plate 9 having outwardly extending arms 10, which are anchored at 11 to the inner periphery of the casing 2 as clearly shown in Figure 3. Rotatably mounted within a bearing of the plate 9 is a shaft 12, the rear end of which is provided with a pinion 13, which meshes with an intermediate gear 14, which is rotatably mounted on a shaft 15. Shaft 15, when rotated, rotates the disc 17, the speed of which may be varied by mechanism hereinafter set forth, for varying the periods of operation of the signals. The intermediate gear 14 meshes with a drive pinion 18 carried by the motor 19 within the chamber 20 in the offset portion 21 of the casing back 8, thereby forming a relatively compact structure. It will be noted that when electric energy is supplied to the motor 19 through the wires 22, that said motor will drive the gear 55

train to the pinion 13, thereby rotating the shaft 12, which has mounted on its forward end the apertured disc 17, and by varying the size of the gears in the gear train, the speed of rotation of the apertured disc may be varied. It will be noted that the drive motor 19 is adjustably mounted on the plate 9 so that it can be adjusted upwardly or downwardly for varying the gear train, and to accomplish this result the plate 9 is provided with vertical series of apertures 23, through which the bolts 24, which hold the motor in position, may be passed. The plate 9 is also provided with a series of apertures 23a for the reception of the motor shaft end. A plurality of apertures 25 are provided in the plate 9 for the reception of shaft 15. The face of the casing 2 is provided with a transparent or semi-transparent closure 26 having circumferentially arranged red, green and yellow stripes 27, 28 and 29 thereon for indicating periods of "stop", "go" and "caution"; the yellow stripe may be eliminated if desired.

The disc 17 is formed of non-transparent material, and adjacent its outer periphery is provided with an elongated aperture 30, preferably out of registration with the signalling stripes 27, 28, and 29 as shown in Figure 1, and through which aperture light rays from circumferentially arranged gaseous discharge tubes 27a, 28a and 29a pass, preferably in corresponding colors to the signalling stripes. Therefore it will be seen that as the disc 17 rotates clockwise the aperture 30 will advance, giving an advancing ray of light around the signalling stripes, and an approaching vehicle operator may easily ascertain how long the light has been on for the "stop", "go" or "caution", and the possible further duration of the particular signal, therefore it will be seen that the operator, when he approaches the intersection on the "go" signal, he will know whether he will be able to clear the intersection before the change to "caution", or to "stop" where the "caution" signal is not used. Electrical energy is supplied to the gaseous discharge tubes from any suitable source of supply through the wires 31. The gaseous discharge tubes 27a, 28a and 29a are circumferentially arranged on a concave annular reflector 32 which has its lugs connected at 33 to the inner periphery of the casing 2.

From the above it will be seen that a traffic signalling device is provided, by means of which operators of vehicles can easily ascertain how long a particular signal has been in operation and how long it will remain in operation,

thereby allowing the operator to accurately judge whether or not he can clear the intersection on the particular signal, and if there is any doubt he can stop. It will also be seen that gaseous discharge tubes are used for illuminating purposes, and that the device is simple and positive in its operation.

If desired the face plate 26 may have a legend thereon as shown at 34, and this particular face plate may be of clear glass or a frosted glass.

Although a conventional form of motor is shown, it is understood that any type may be used, for instance a synchronous motor. Where such a motor is used, its speed of operation is controlled at source of power; hence a series of lights may be properly timed for successive operations.

The invention having been set forth what is claimed as new and useful is:

1. A traffic signal comprising a casing, a transparent stationary base plate in said casing, differently colored concentrically arranged signalling stripes on said stationary transparent plate, a rotatable disc to the rear of the stationary transparent plate and having an aperture therein out of registration with the signalling stripes on the transparent plate, said rotatable disc being formed from non-transparent material, concentrically arranged gaseous discharge tubes to the rear of the rotatable plate, said tubes each having a color corresponding to one of the concentric stripes on the stationary transparent plate and of corresponding length, said gaseous discharge tubes each being positioned to allow light therefrom to pass through the aperture in the disk and fall on the stripe of the same color.

2. A device as set forth in claim 1 including a concentric reflector rearwardly of the rotatable plate and in which the gaseous discharge tubes are mounted.

3. A traffic signal comprising a casing, a transparent front wall carried by said casing, concentrically arranged contrasting colored signalling stripes on said transparent front wall, a rotatable plate behind the transparent wall and having an aperture therein out of registration with the concentrically arranged signalling stripes, a concentric illuminating member to the rear of the rotatable plate and positioned whereby light rays will pass through the aperture in the rotatable plate, means for rotating the rotatable plate, said aperture in the rotatable plate being shorter than the signalling stripes.

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