March 18, 1941. E. E. RAMSPECK 2,235,728

TRAFFIC SIGNAL

Filed Feb. 22, 1938

Fig. 1.

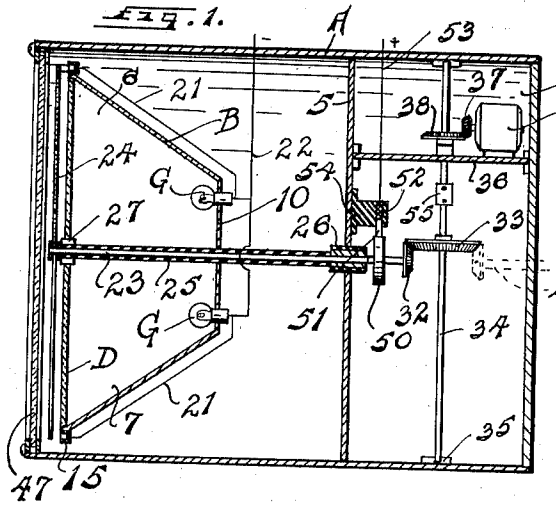


Fig. 2.

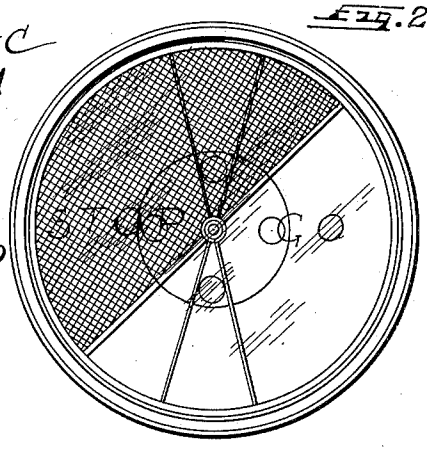


Fig. 5.

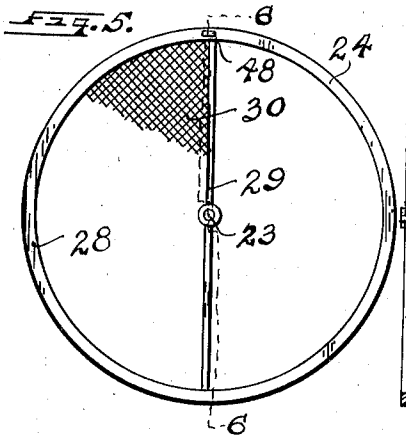


Fig. 6.

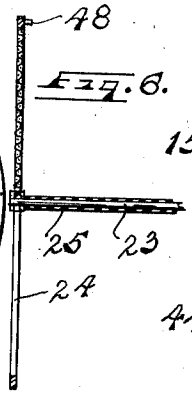


Fig. 3.

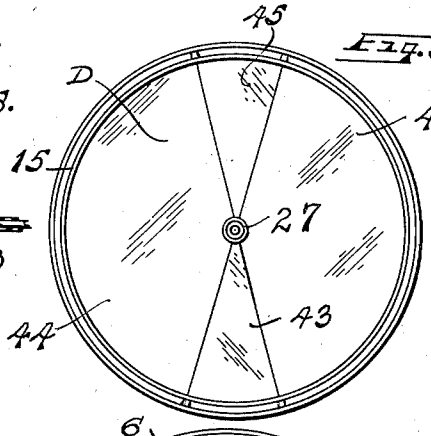


Fig. 4.

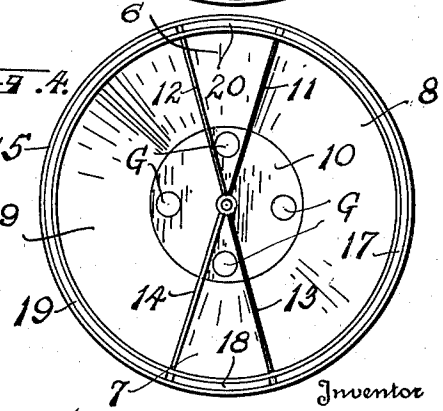
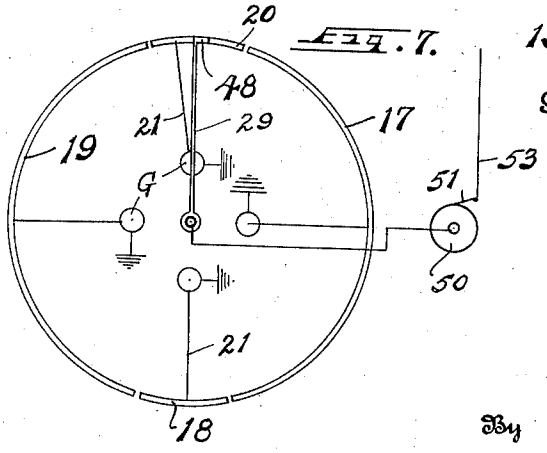


Fig. 7.



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Patented Mar. 18, 1941 2,235,728

UNITED STATES PATENT OFFICE

2,235,728

TRAFFIC SIGNAL

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Application February 22, 1938, Serial No. 191,843

4 Claims. (Cl. 177—327)

My invention relates to traffic signals and has for its object to provide a new and highly efficient traffic signal light which is so made that the approaching traffic can plainly see just how much time they have to reach the corner before the light changes.

A further object is to provide a traffic signal which mainly consists of a rotating plate or dial having one-half open for clear visibility and one-half perforate or made of transparent material so that when the plate is rotating the clear space indicates clearly what light is on but also the perforate or transparent portion indicates the length of time which the driver will have before the next change of light.

A still further object is to provide a traffic light which has a rotating circular dial having part perforate and part open and with the exterior of the dial carrying a circuit control brush adapted to engage a circular armature or contact segment to change the lights in the respective sections of the device when the dial is rotated.

A still further object is to provide a traffic light which will be enclosed within a casing with a clear glass front to protect the rotating dial from storms, sleet, frost, and snow, and keep dirt from entering the casing but yet having the rotating dial in front of the colored glass segments of the lighted traffic signal.

These and other objects I accomplish with the device illustrated in the accompanying drawing in which similar numerals and letters of reference indicate like parts throughout the several views and as described in the specification forming a part of this application and pointed out in the appended claims.

In the drawing,

Figure 1 is a vertical section of the single direction traffic signal.

Figure 2 is a face view of the signal.

Figure 3 is a face view of the light section showing the colored glass sections in place.

Figure 4 is a face view of Figure 3 with the colored glass removed.

Figure 5 is a rear view of the rotating dial or plate.

Figure 6 is a section on line 6—6 of Figure 5.

Figure 7 is a diagrammatic view of the electrical circuit of the device.

In the drawing I have shown the casing of the device as A, cylindrical in form and having a dividing partition 5 therein to divide the operating chamber C from the rest of the casing. Within the casing A at the open end thereof I mount the frusto-conical illuminating chamber B which chamber B is divided into four separate compartments 6, 7, 8 and 9. The small end of the frustum is closed by an end 10 and the compartments are separated by four partitions 11, 12, 13 and 14. In the base plate 10 in each compartment there is a light globe G which is used to illuminate the separate compartments.

Around the perimeter of the large end of base of the frustum concentric therewith and supported in a U-shaped insulation channel 15 I provide a commutator ring, made of separate segments 17, 18, 19 and 20, spaced apart and insulated from each other. These segments are each connected with their respective light globe G by a wire 21, and the globes are provided with a wire 22 for grounding the circuit. Centrally through the frustum and extending out both ends there is a drive shaft 23 carrying a signal dial 24 on the end adjacent the base of the frustum and with the other end of the shaft extended back into the operating compartment or chamber C. This shaft is carried in a cylindrical insulating sleeve 25 and is passed through an insulated sleeve or bearing 26 in the partition 5 and through an insulating bearing 27 in the center of the colored glass face D.

The rotating signal dial 24 is formed with a circular rim 28 and a cross brace 29, diametrically across the dial and one-half of the dial is left open and the other side closed by a screen 30 or a perforate plate. It will also be obvious that this plate might be some translucent material which would permit passage of light rays therethrough without the intense direct light passing therethrough.

The rear end of the shaft 23 carries a pinion 32, said pinion meshing with a ring gear 33 which ring gear is driven by a vertical shaft 34, said shaft being insulated and set in bearings 35 at the top and bottom of the casing A. A platform 36 is provided on which a motor M is mounted the motor drive shaft carrying a pinion 37 meshing with a ring gear 38 being secured onto the vertical shaft 34 to drive the shaft from the motor M. This rotation of the shaft 34 turns the gear wheel 33 and the pinion 32 which turns the shaft 23 and thereby rotates the dial 24. This dial is always set to run "clockwise" and if more than one signal is desired at an intersection where there are four directions of travel there can be other casings fitted to the casing A with drive pinions meshing with the gear 33 as shown by the dotted indication 40, in Figure 1.

The colored glass face is made of four sec-

tions with the section 42 green, the narrow section 43 yellow, the side section 44 red, and the other narrow section 45 yellow to indicate the "go," "caution," and "stop" signals usually used on such types of lights.

The contact for changing the lights is provided by a spring brush 48 mounted on the back side of the signal dial 24 in alignment with the brace 29 so that as the dial is rotated the circuit will be changed from one segment of the commutator to the next succeeding segment as the dial rotates thereover.

A commutator disk 50 is mounted on the shaft 23 in the chamber C and the electrical energy is introduced to the disk and the shaft through a brush 51, a pressure spring 52 and a wire 53, with the spring and brush mounted in a block 54 secured to the partition 5.

To prevent the electrical energy from traveling up the shaft 34 to the motor, the shaft 34 may be cut into two pieces and spaced apart and held in fixed relation to each other for transmitting the power from the motor to the shaft 23 by a sleeve 55 of non-conducting insulation secured to the shaft pieces by set screws or other suitable means.

The front of the casing A is closed by a clear glass shield 47 to keep ice, snow and storms from affecting the operation of the device.

It will be obvious that modifications may be made in the details of construction without departing from the spirit of the invention or the scope of the claims.

Having thus described my invention I desire to secure by Letters Patent and claim:

1. In a traffic signal the combination of a casing; partitions in said casing dividing the interior into different sized areas; colored glass mounted over each area; a plate adapted to be rotated in front of said colored sections, said plate having one portion open and the other portion perforate to permit only partial light transmission therethrough; and means to illuminate the area back of any given area as the plate is rotating over said area.

2. In a traffic signal the combination of different lighted areas having different colors to indicate stop and go signals to traffic; a rotating plate mounted in front of said lighted areas said plate to control the areas lighted by a coacting brush and armature; and one portion of said plate being open with the other portion translucent to allow light to pass therethrough but not clearly so the traffic can gauge the time before each change of color of the lighted area.

3. In a traffic signal control plate the combination of a traffic light divided into suitable various colored areas to indicate stop, go, and caution, in their respective colors; a vision control plate adapted to be rotated thereover said plate having one portion open and the other perforate to permit clear view of part of the face of the light but to permit a portion of the light to pass through the obscured portion to indicate to traffic when a light change is to be made.

4. A traffic signal of the class described comprising, a casing divided into two compartments with the forward compartment carrying partitions therein dividing it into four radial chambers each of which is provided with a light globe; colored glass mounted in the opening of each chamber; a plate adapted to be rotated axially in front of said chamber said plate having one half portion formed perforate and the other area open to permit ready passage of light through the open area and obstructed passage of light through the perforate half portion; means to illuminate the light globes as the plate is rotated; and a clear glass covering over the face of the casing to enclose the plate against storm, ice and sleet.

EDWIN E. RAMSPECK.