No. 795,470. PATENTED JULY 25, 1905.

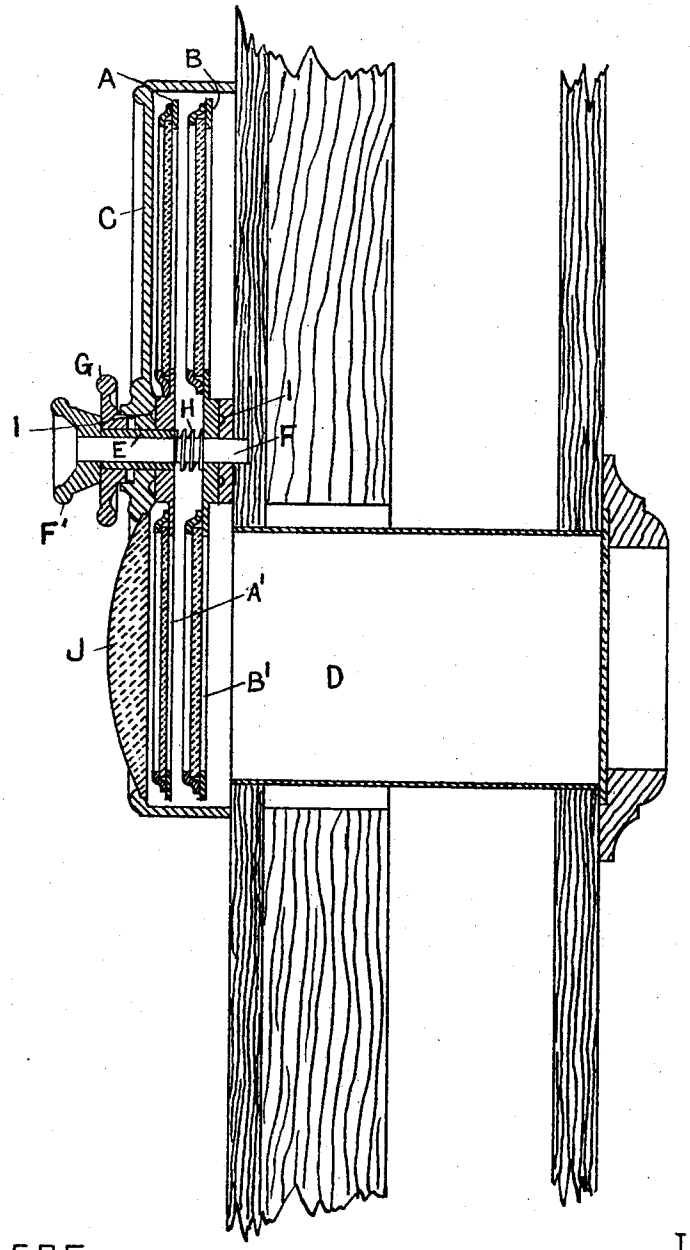
J. E. ANGER.

INDICATING DEVICE FOR TRAMWAY VEHICLES.

APPLICATION FILED AUG. 9, 1902.

2 SHEETS—SHEET 1.

FIG. 1.



Witnesses

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2 SHEETS—SHEET 2.

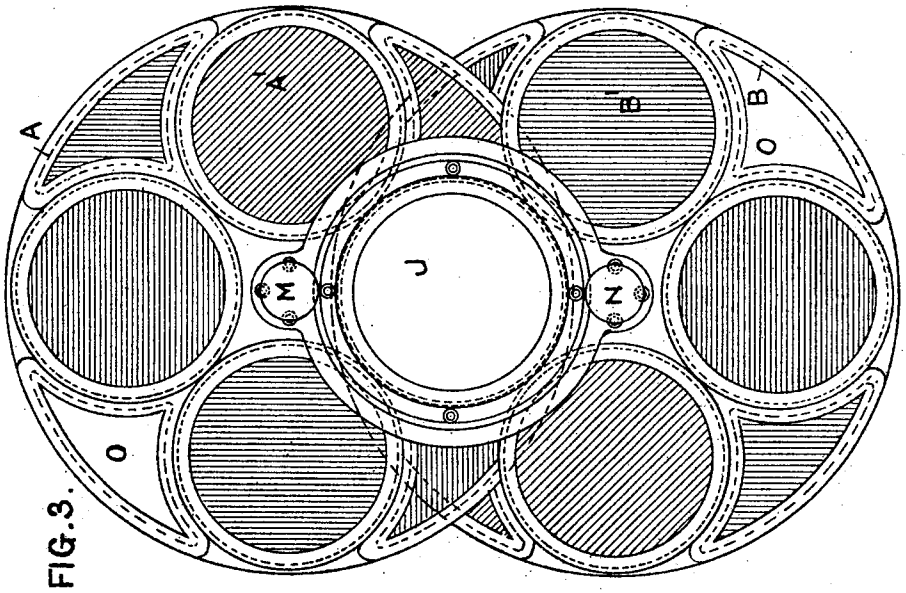


FIG. 3.

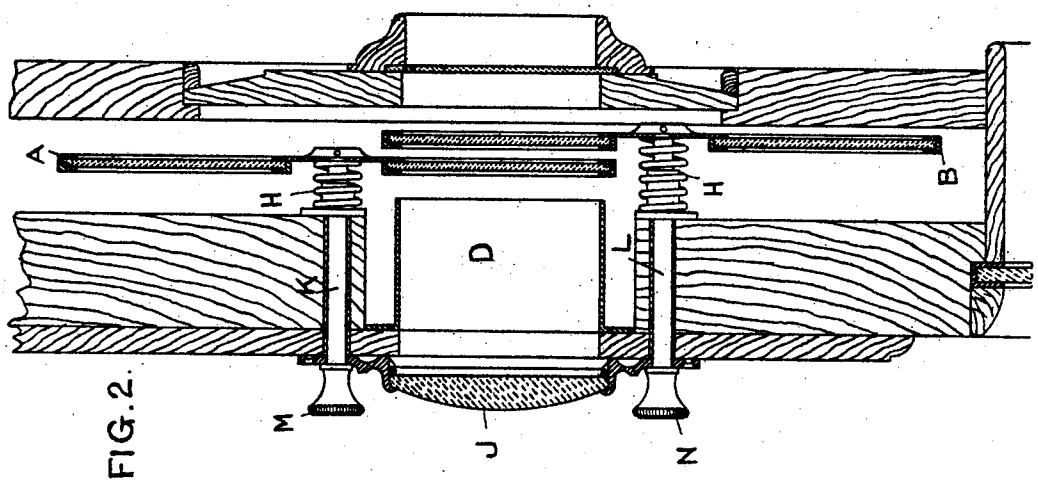


FIG. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN EDWARD ANGER, OF SOUTHPORT, ENGLAND.

INDICATING DEVICE FOR TRAMWAY-VEHICLES.

No. 795,470. Specification of Letters Patent. Patented July 25, 1905.

Application filed August 9, 1902. Serial No. 118,987.

To all whom it may concern:

Be it known that I, JOHN EDWARD ANGER, works manager, a citizen of the United States of America, residing at Southport, in the county of Lancaster, in the Kingdom of England, (whose full postal address is 6 Mornington road, Southport, aforesaid,) have invented certain new and useful Improvements in Indicating Devices for Tramway-Vehicles and the Like, (for which application has been made in Great Britain, No. 3,574, dated the 12th day of February, 1902,) of which the following is a specification.

This invention relates to indicating devices of the kind in which a light is arranged behind an aperture and is caused to shine through a colored screen or the like to indicate the direction of travel of the vehicle, its destination, or to render other indication.

The object of this invention is to provide these devices with means whereby the indications may be easily changed and whereby many different combinations of colors may be obtained to produce a large number of different indications when required.

In the accompanying drawings, Figure 1 is a vertical section of my indicating device with the disks arranged in a casing outside the vehicle-wall. Fig. 2 is a vertical section of my indicating device, showing the disks arranged between the frames of the vehicle-wall; Fig. 3, a front elevation thereof.

Referring first to Fig. 1, I provide two or more disks, one, A, in front of the other, B, and mounted in a metallic casing C outside the wall. This casing can be made in halves adapted to fit together and be secured to the walls by lugs and screws. J is a lens or bull's-eye fixed in front of the indicating-aperture D in order to concentrate the light and make the indications more visible. A series of openings A′ B′, corresponding in size with the indicating-aperture D, are formed in each disk, and colored glasses are mounted in all but one of the said openings in each disk. The disk B is mounted on and secured to a spindle F and disk A upon a tubular spindle E in such a position relatively to the indicating-aperture D that any one of the openings or colored glasses in each disk may be made to coincide with the said aperture D. The milled head or small wheel F′ and G outside the casing C are connected, respectively, with the disks A and B in order to render it possible for the indications to be altered by hand when required, the front disk A being connected with the adjusting-knob G by the sleeve E, which slides over the adjusting-spindle F of the rear disk B. The spring H is arranged upon the spindle F between the two disks A and B, and each disk is thus pressed toward the wall of the casing or inclosing space, and notches in one part are caused to engage with small projections I on the other. Twice as many notches can be provided as there are openings in each disk in order to allow the disks to be adjusted in midway position with parts of two openings in front of the indicating-aperture D. The projections may be formed on the disks, however, and the holes in the surrounding walls, if preferred, or the sleeves or spindles of the disks may be provided with faces of octagonal or other suitable shape adapted to engage in sockets on the walls, the knobs being pressed inward or pulled out against the action of the spring in order to free the engaging parts from their sockets when it is desired to adjust the disks. The engaging projections insure the correct centering or adjustment of the disks, and the spring H serves for holding the device in engagement in normal positions.

The disks A and B can of course be arranged between the faces of the vehicle-wall, such as shown in Figs. 2 and 3. In these J is the lens or bull's-eye fixed in front of the indicating-aperture D in order to concentrate the light and make the indications more visible; A and B, the two disks in this case mounted on different axes; K, a spindle on which the disk A is mounted, and L spindle on which the disk B is secured; H, the springs; M and N, the knobs with milled heads for turning said spindles in order to render it possible for the indications to be altered by hand when required. The disks are preferably made of brass, and the colored glasses are fixed in flanged openings formed around the center point of each disk. The cusps or spaces between the main openings and the outer rims of the disks are filled with pieces of colored glass O, so that when the openings are in an intermediate position parts of three differently-colored fields of each disk may be exposed to the indicating-aperture D at one time. The glasses O of different colors are preferably arranged between each opening in order to render possible the combination of two or more colors, each covering a part of the field of the indicating-aperture D. When it is required to use either of the disks separately,

the clear opening of the other disk (say A) is turned into position opposite the indicating-aperture D, so that only the colors of the glasses of the disk (say B) may be seen. If, however, a color is required that cannot be given by any single opening or pair of part openings in one disk, the two disks A and B may be used together, the light being caused to pass through a colored aperture in each, whereby a new combination of color may be obtained. Any suitable colorable translucent substance may be used in place of glass, and any number of suitable openings may be made in each disk, although four openings are usually the most convenient number.

In cases where only a limited variety of colors are required one disk A alone can be used worked by a single knob, such as F′, and, furthermore, it is obvious that the indicating device can be applied to a portable lamp so that it can be fixed to an existing car and placed thereon in any position required.

By this invention each car can carry all the colors of the various routes, and these colors can be changed at any time required. There is no danger of losing any of the parts or of their being broken, as there are no loose parts in my device, the glass being in my device either in the outside casing or else between the paneling of the car.

The apparatus can of course be fixed in any suitable position on the car, and the means for operating the disks can be varied to suit the position of the device—*e. g.*, if the device be out of reach of the operator the means for operating it could consist of an operating rod or rods gearing with the disks or a chain-gear or, in fact, any suitable means to enable the operator to work the disks.

I declare that what I claim is—

1. In an indicating device for cars and the like, the combination with an indicating-aperture, of axes mounted adjacent said aperture, rotatable disks mounted upon said axes and arranged so that upon rotation of said disks the apertures of the respective disks will be brought either partially or totally into coincidence with each other and with said indicating-aperture, colored panes mounted in said apertures, means for rotating said axes to bring said disk apertures into coincidence and means for retaining the disks in either partial or total coincidence.

2. In an indicating device for cars and the like, the combination with an indicating-aperture, of axes mounted adjacent said aperture, rotatable disks mounted on said axes and having circular apertures therein and cusps adjacent said circular apertures and arranged so that by rotation of said disks the apertures and cusps of the respective disks will be brought into coincidence with each other and with the indicating-aperture, colored panes mounted in said disk apertures and cusps and means for rotating said axes to bring said apertures and cusps into coincidence.

3. In an indicating device for cars and the like, the combination with an indicating-aperture, of axes mounted adjacent said aperture, rotatable disks mounted upon said axes, each having a series of openings therein and covering at all times said indicating-aperture, panes mounted in said openings and means for rotating said axes to bring the individual disk openings into coincidence with each other and with said indicating-aperture.

In witness whereof I have hereunto signed my name, this 24th day of July, 1902, in the presence of two subscribing witnesses.

JOHN EDWARD ANGER.

Witnesses:

GEO. H. ANGER,

ALLEYNE BROWN.