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1,683,278

V. ALTMAN

VEHICLE SIGNAL

Filed May 11, 1927

Fig. 1.

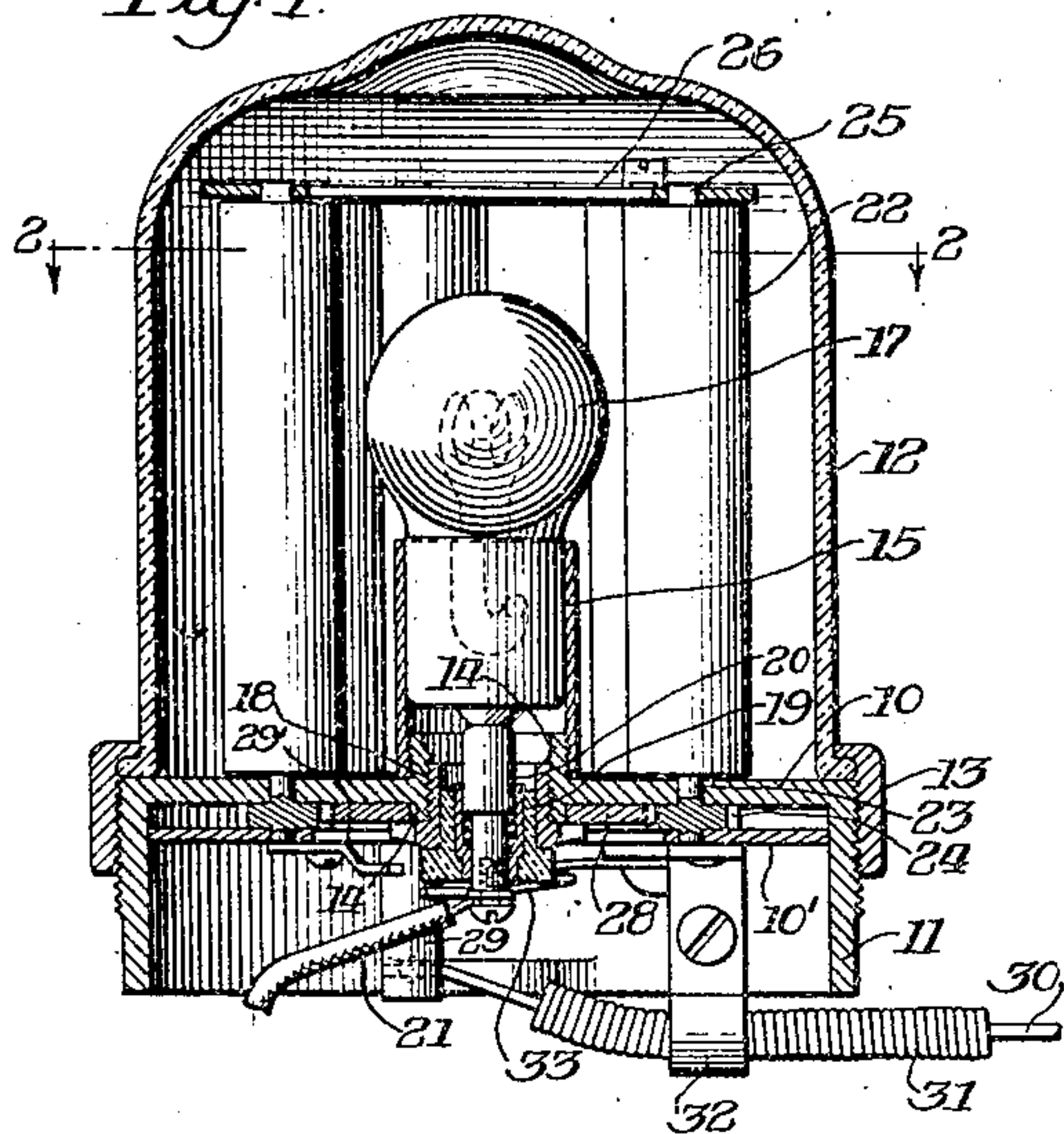


Fig. 2.

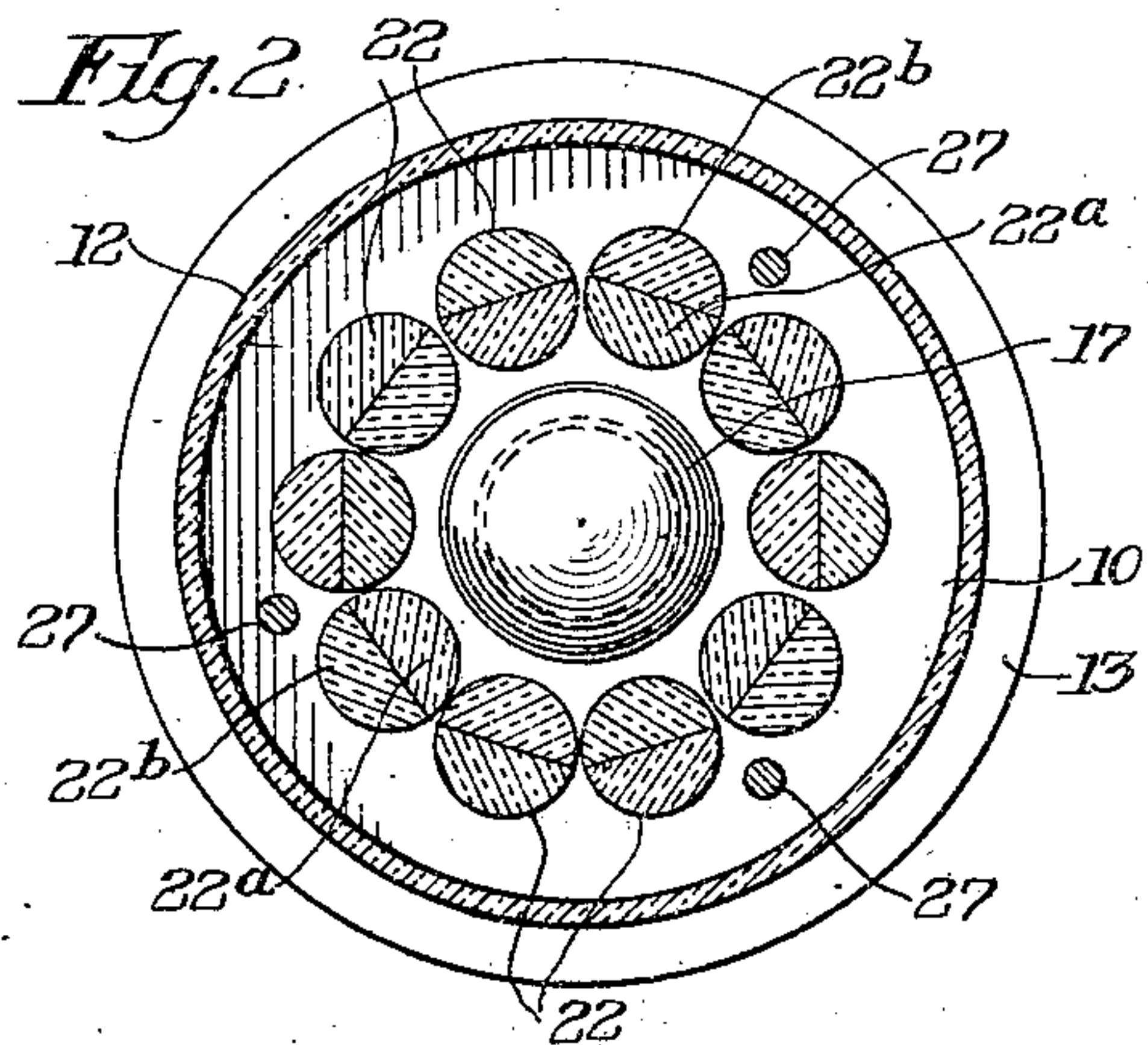


Fig. 4.

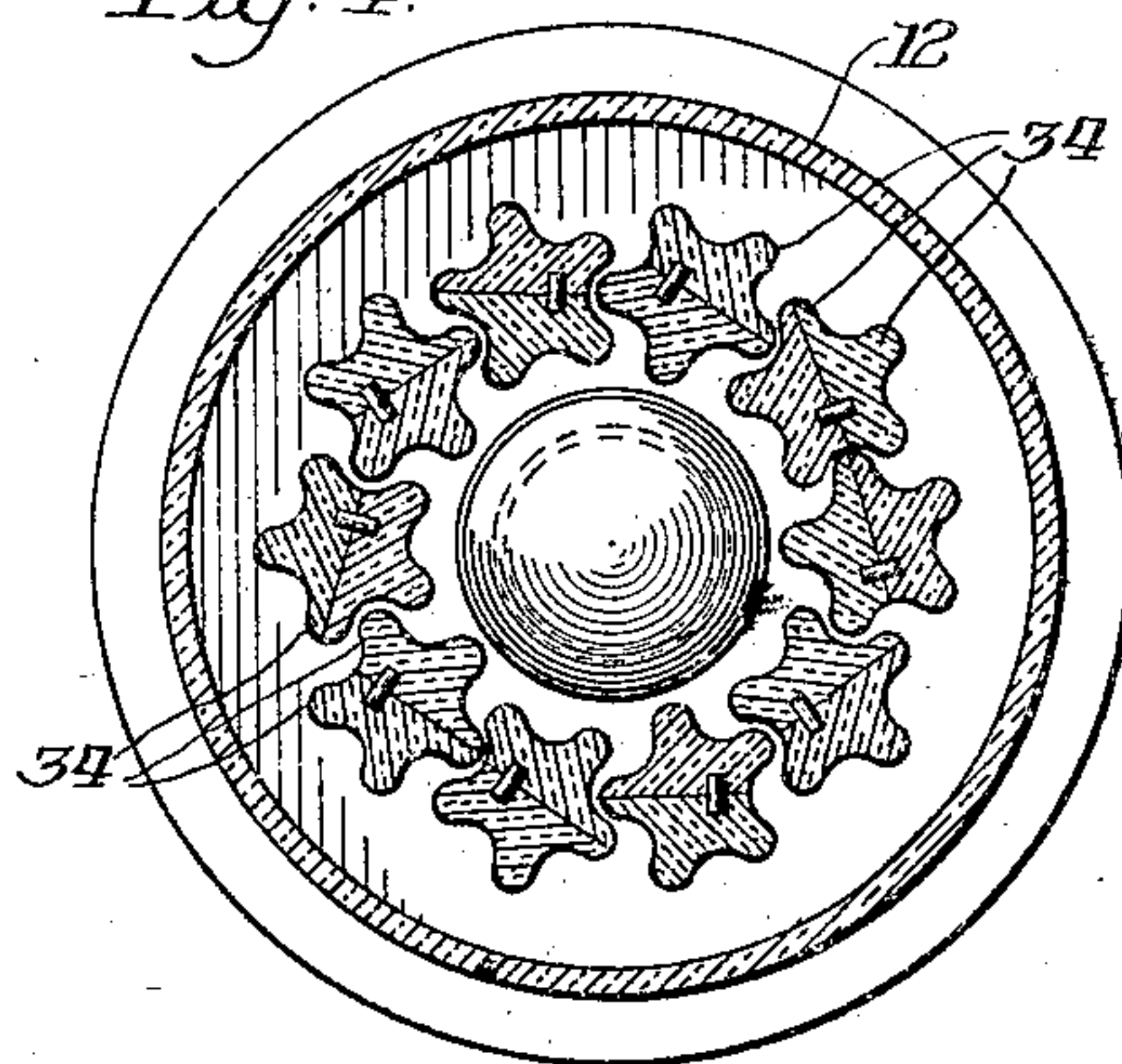


Fig. 3.

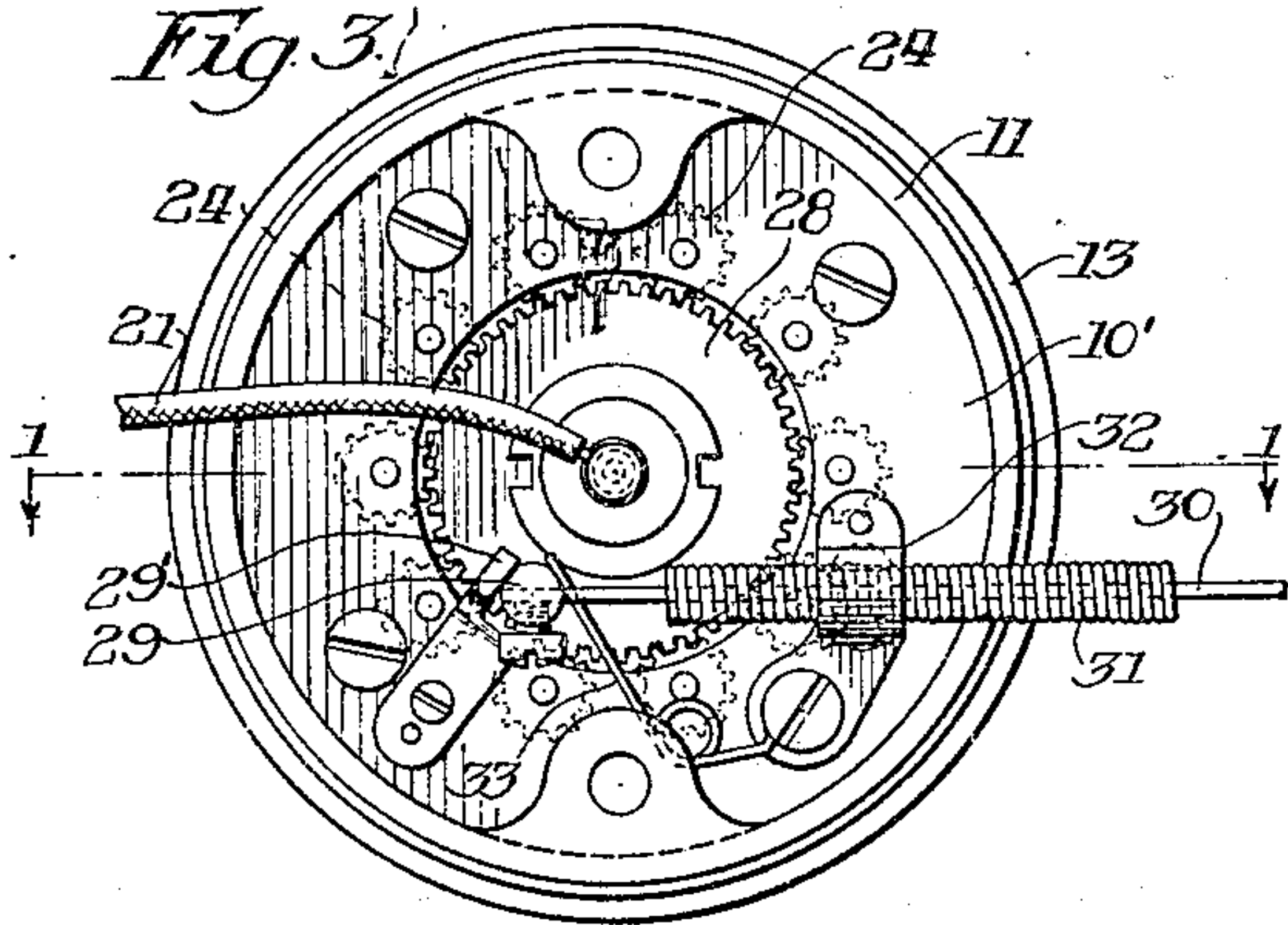
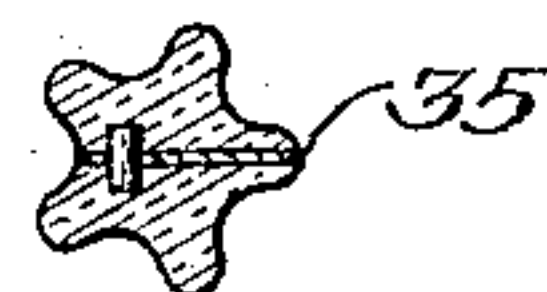


Fig. 5.



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VEHICLE SIGNAL.

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This invention relates to signals designed mainly for use on motor vehicles, but adaptable as crossing signals and for other uses, and has reference more particularly to signals of the general type shown and described in Letters Patent No. 1,579,853, granted to me on April 6, 1926. The ordinary danger or direction-indicating signal used on automobiles, as well as stop and go street-crossing signals include a lamp and a colored lens through which the light rays from the lamp are transmitted and correspondingly colored. Such a signal is entirely satisfactory for night work but is often misleading in the daytime. If a driver approaches such a signal with the sun behind him, the reflected sunlight rays from the colored glass will give the latter the same appearance that it has when the rays from the lamp are transmitted through the glass. Hence, under these circumstances, the signal is liable to be misread. In my former Letters Patent above identified, I have disclosed a vehicle signal comprising a lamp and a colored translucent curtain that is movable bodily between operative and inoperative positions relatively to the lamp, and when moved into operative position wherein it surrounds the lamp, the latter may be lighted at the same time that the sleeve is moved into such position. Normally, during daylight running, the colored sleeve is out of sight, so that false reading of the signal due to reflected sunlight is impossible.

My present invention is based upon the same broad principle as the device of my former Letters Patent, but is designed to provide a simpler and a more compact embodiment of this principle, and one which will require less movement of the manual signal-operating means. In carrying out the present invention, I employ, in connection with a lamp, a curtain consisting of one or a group of translucent color-displaying members mounted in front of or around the lamp, uncolored on one side and colored on the opposite side and capable of being turned so as to present to external view either the uncolored side or sides or the colored side or sides. The operating mechanism for said curtain is so set that normally it will present to external view only its white or uncolored side, and when the signal is to be announced, it is turned so as to present to external view its colored side, the lamp

being simultaneously lighted when the signal is displayed at night.

The invention, in several practical forms in which it may be embodied, is illustrated in the accompanying drawings, in which—

Fig. 1 is a vertical axial section of one form of the device;

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view;

Fig. 4 is a horizontal section, similar to Fig. 2, showing a modified form of curtain;

Fig. 5 is a sectional detail showing the curtain pieces of Fig. 4 equipped with a color-rectifying member.

Referring to Figs. 1, 2 and 3 of the drawings, 10 designates a circular base plate formed with a depending peripheral flange 11, and 12 designates a white glass dome or cover mounted on and attached to the base plate 10 by a clamp ring 13 threading onto the flange 11. On the center of the base plate 10 is a hollow boss 14 onto which is screwed a socket 15 to receive the neck of an electric lamp 17. Screwed into the hollow boss 14 is a sleeve 18 within which is tightly fitted a hollow plug 19 carrying an upwardly spring-pressed terminal contact member 20, to the lower end of which is connected an electric circuit wire 21 controlled by a switch (not shown) for lighting and extinguishing the lamp.

Surrounding the lamp 17 is a curtain composed of a circular group of vertical cylindrical members 22 of glass or other translucent material. The member 22 is so constructed that one longitudinal half of its periphery will be colored and the other uncolored. This may be conveniently effected by making each cylinder 22 in mating halves 22^a and 22^b of colored and uncolored glass respectively. Mounted in the lower end of each cylinder 22 is a spindle 23 journaled in the base 10 and carrying on its lower end a pinion 24; and similarly mounted in the upper end of each cylinder is a spindle 25 journaled in a ring 26 that is itself mounted on the upper ends of vertical rods 27 secured in the base 10.

Journaled on a short depending extension 14' of the boss 14 is a gear wheel 28 locked in place by the head of the sleeve 18, said gear 28 meshing with all of the pinions 24. Attached to a post 29 on the under side of the gear 28 is a pull cord or wire 30 guided outwardly from the post 29 through a coil

wire sleeve 31 mounted in a depending bracket 32 attached to the under side of a ring plate 10' underlying and secured to the base plate 10. The inner end of the guide sleeve 31 serves as a stop to limit the turning movement of the gear 28 to an extent which suffices to impart a half turn to each of the cylinders 22; and when the pull on the wire 30 is released, a spring 33 exerting its thrust against the post 29 automatically returns the gear 28 to initial position, the post 29 being arrested on its return movement by a fixed stop arm 29' attached to the under side of the ring plate 10'.

With the parts as shown in Fig. 3, the colored half sections of the cylinders are all on the inner side of the curtain, while the uncolored sections are on the outer side of the curtain. Hence, in this position of the curtain only the uncolored side of the latter is visible from a point outside the curtain, and reflected light rays are uncolored. When the signal is to be displayed, the driver pulls the wire 30 outwardly, which instantly exposes to external view the colored side of the curtain, and this action may also close the switch through the lamp so as to light the latter. Thereupon the rays transmitted through the curtain are colored. If desired, the circuit may include a manual switch which can be opened during daylight driving, so that when the signal is manipulated during the daytime it will act by reflected light only. I have not herein shown circuit actuating and controlling means, since the same means fully shown and described in my former patent may be employed.

It is desirable in a device of this character that the curtain or canopy encircling the lamp and represented by the circular group of glass cylinders 22 should bar the transmission of any direct light rays between the units of the curtain; and to provide for this, I may make the glass units in such a form that adjacent units will cooperate to occlude any rays from the lamp seeking to pass between them. For example, in Fig. 4 I show the individual curtain units formed with longitudinal ribs 34 on their peripheries, and the units set so close together that the ribs of adjacent units will intermesh, although preferably without actually coming into contact, in order to reduce friction to a minimum.

It is a known fact in optical science that certain colors present different appearances under natural light and artificial light, respectively. For examples, blue and green are readily distinguishable in daylight, but are almost or quite indistinguishable under artificial light; and the same is true of orange and amber. This is capable of correction by combining two colors or different shades of a single color. For example, in Fig. 5 I show a cross-section of one of the curtain members of Fig. 4 wherein one sec-

tion may be assumed to be white and the other section green. Between the meeting faces of the two sections is interposed a thin color-rectifying strip 35, in this case blue. When so constructed, the colored strip will exhibit the same color both by reflected daylight and by transmitted artificial light. Hence, to preserve uniformity of color display in both daylight and darkness, the units of the shiftable curtain or canopy are preferably constructed as last above described.

I claim—

1. In a signal device of the character described, the combination with a lamp, of a curtain comprising a group of translucent members pivoted side by side on parallel axes opposite said lamp, said members having colored and uncolored portions on corresponding opposite sides thereof respectively, and means for simultaneously rotating said members through a half turn whereby to expose either of said portions to view from a point on the opposite side of said curtain from said lamp.

2. In a signal device of the character described, the combination with a lamp, of a curtain for said lamp comprising a circular group of translucent pieces pivoted side by side on parallel axes encircling said lamp, said pieces having colored and uncolored portions on corresponding opposite sides thereof respectively, and means for simultaneously rotating said pieces through equal angles whereby to expose either of said portions to view from any point outside said curtain.

3. In a signal device of the character described, the combination with a lamp, of a curtain comprising a group of translucent cylinders pivoted side by side on parallel axes opposite said lamp, said cylinders having colored and uncolored portions on corresponding opposite sides thereof respectively and provided with interfitting ribs on their peripheries to prevent light rays from the lamp passing between them, and means for simultaneously rotating said cylinders through a half turn whereby to expose either of said portions to view from a point on the opposite side of said curtain from said lamp.

4. In a signal device of the character described, the combination with a lamp, of a curtain comprising a group of translucent members pivoted side by side on parallel axes opposite said lamp, each of said members consisting of longitudinal halves of opalescent and colored glass secured together, and means for simultaneously rotating said members through a half turn to expose either said opalescent or said colored halves to view from a point on the opposite side of said curtain from said lamp.

5. In a signal device of the character described, the combination with a lamp, of a curtain comprising a group of translucent

members pivoted side by side on parallel axes opposite said lamp, each of said members consisting of longitudinal halves of opalescent and colored glass and a thin interposed color-rectifying strip secured together, and means for simultaneously rotating said members through a half turn to expose either side of said curtain to view from a point on the opposite side of said curtain from said lamp.

6. The combination, in a signal device, of a base member, a lamp centrally mounted on said base member, a circular group of upright translucent members pivoted side by side on parallel axes around said lamp, one longitudinal half of each of said members being colored and the other uncolored, a central gear journaled on said base, pinions on said members meshing with said gear, and means for imparting limited rotation in both directions to said gear.

7. The combination, in a signal device, of a base member, a lamp centrally mounted on said base member, a circular group of upright translucent members pivoted side by side on parallel axes around said lamp, one longitudinal half of each of said members being colored and the other uncolored, a central gear journaled on said base, pinions on

said members meshing with said gear, a pull cord attached to said gear eccentrically of the latter to turn said gear in one direction, and a spring urging said gear in the reverse direction.

8. The combination, in a signal device, of a base member, a lamp centrally mounted on said base member, a circular group of upright translucent members pivoted side by side on parallel axes around said lamp, one longitudinal half of each of said members being colored and the other uncolored, a central gear journaled on said base, pinions on said members meshing with said gear, a pull cord attached to said gear eccentrically of the latter to turn said gear in one direction, a spring urging said gear in the reverse direction, and movement limiting stops for both said pull cord and said spring.

9. In a signal device of the character described, the combination with a lamp, of a curtain comprising a group of translucent members each having a colored and an uncolored side, and means for simultaneously shifting said members to expose either their colored sides or their uncolored sides to view from a point on the opposite side of said curtain from said lamp.

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