

Dec. 11, 1928.

1,695,258

F. D. SPEAR

TRAIN SIGNAL LAMP

Filed June 25, 1927

2 Sheets-Sheet 1

Fig. 1.

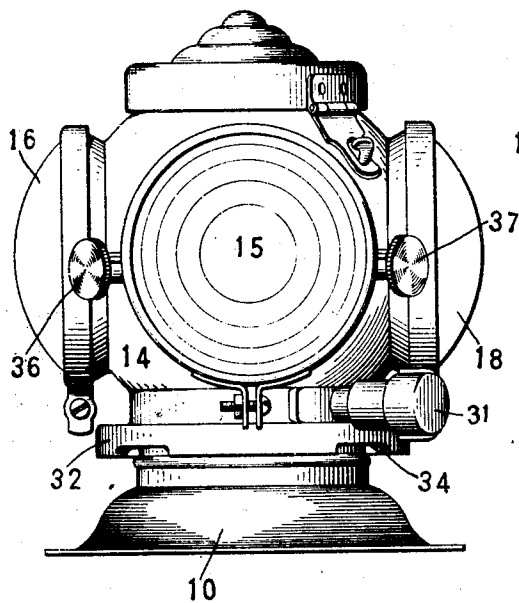


Fig. 2.

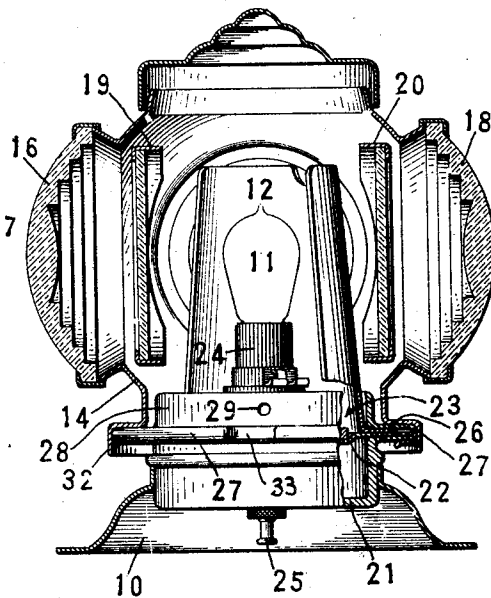


Fig. 3.

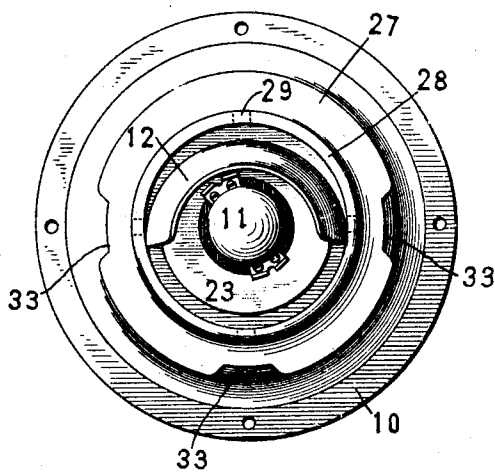
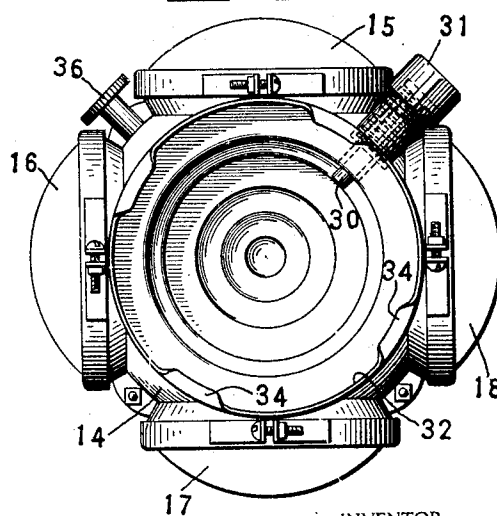


Fig. 4.



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Fig. 5.

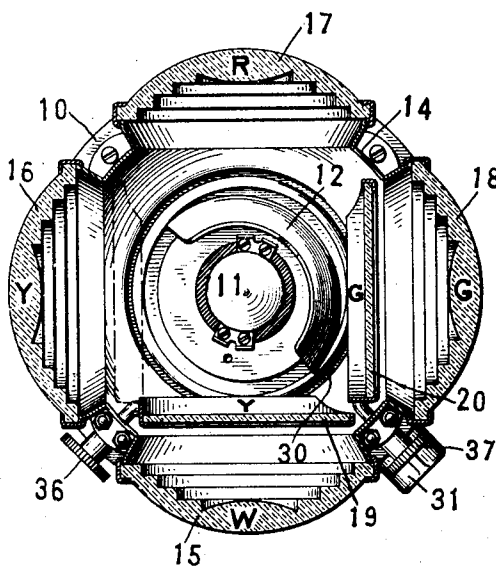


Fig. 6.

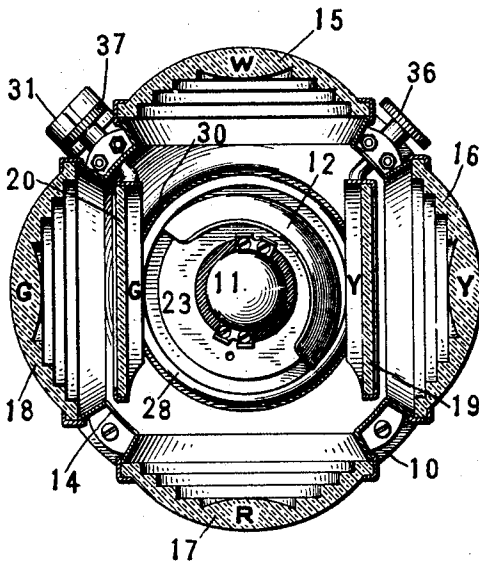


Fig. 7.

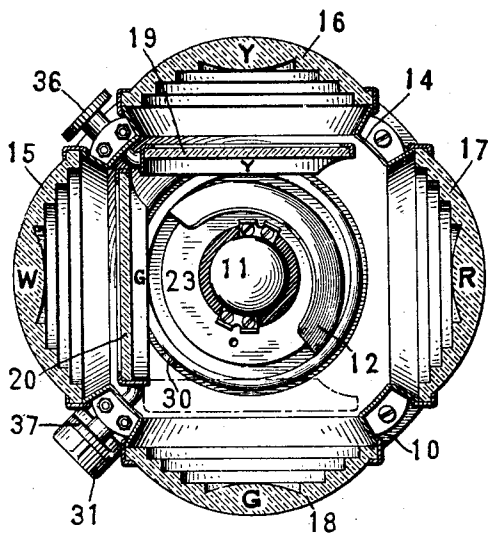
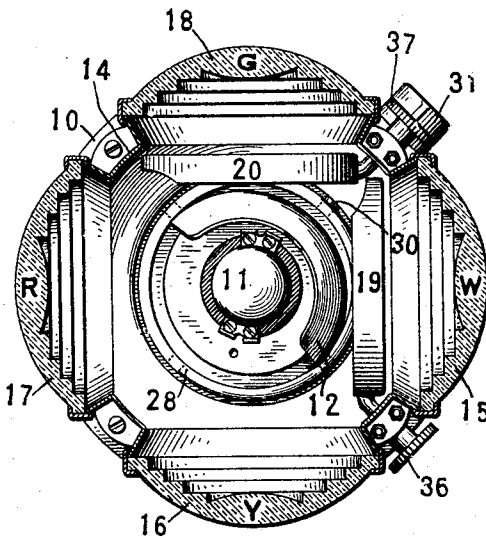


Fig. 8.



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UNITED STATES PATENT OFFICE.

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TRAIN SIGNAL LAMP.

Application filed June 25, 1927. Serial No. 201,395.

My invention relates particularly to lamps intended for railroad marker and classification work and is a partial continuation of my application Ser. No. 159,583 filed January 7th, 1927.

One object of my invention is to provide a lamp which can be used as a marker lamp or a classification lamp as occasion may require.

Another object is to provide a simple and reliable lamp which can be readily used for producing a wide variety of signals.

Another object is to provide a compact and inexpensive structure which can be used for a larger number of combinations than that of my former application.

It will be understood, of course, that a locomotive will carry two lamps, one on each side on the front end and must have one lamp for each side of the rear end of the tender.

Under the present regulations it is necessary to carry at least three pairs of lamps on a locomotive for the necessary front and rear signals. My invention makes it possible to display all the necessary signals with only two pairs of lamps. The customary colors are white, or clear, yellow, green and red. I have found a very simple method of providing for the various required signals in a single lamp.

In carrying out the invention in its preferred form the stationary base and light are mounted in any suitable manner. The body or casing has a number of colored lenses or outer glasses rotatable on the base and preferably removable. A stationary blinder or cut-off prevents the light from shining from two sides of the lamp. Within the casing are mounted two colored glasses adapted to be interposed between the light and the outer glasses. These inner glasses are preferably independently movable so that a maximum number of combinations of inner and outer glasses can be formed. Details of one form will be seen in the accompanying drawings which however are intended merely as illustrative of the principles of the invention.

Fig. 1 is a side view of one form of lamp embodying my invention which will be assumed to be a right hand front lamp on a locomotive.

Fig. 2 is a vertical sectional view of the same showing the inner glasses arranged opposite each other so that the light can shine through the one at the left and the blinder cuts off the light at the right.

Fig. 3 is a plan view of the base of the lamp

and the blinder, the body or casing being removed.

Fig. 4 is a view looking upward at the bottom of the casing, removed from the base.

Figs. 5, 6, 7 and 8 are horizontal sections and plan views showing different combinations of the various outer and inner glasses and the blinder, for instance in the arrangement of Fig. 5 a yellow light would show at the left and in front; in Fig. 6 a green light would show at the left and a red light in front; in Fig. 7 a green light would show at the left and in front; and in Fig. 8 a red light would show at the left and a yellow light in front. Other combinations may be produced by the use of suitable combinations of colored glasses.

The supporting base 10 may be of any suitable design adapted to be mounted in any suitable manner.

Any suitable type of light may be employed. I have shown here an electric lamp bulb 11 as typical of any usual oil, gas or electric lamp.

The blinder 12 may be of any suitable character arranged to cut off the light from two directions, for instance from the rear and from the side toward the engine for front lamps. In a rear lamp the light is cut off in the direction in which the train is supposed to be moving and from the side toward the caboose, tender or rear car. This blinder may be mounted outside or inside the lamp as in my former application Ser. No. 159,583 in which I have broadly claimed the combination of rotatable casing with outer and inner glasses and the stationary blinder. In the instant case I claim specifically the construction having the inner blinder which is more compact and easier to install.

The body or casing 14 may be of any suitable construction and is mounted to rotate on the base. This casing has a number of lenses or glasses 15, 16, 17 and 18 which may be of different colors for instance, white (or clear), yellow, red and green respectively.

Inside the casing are mounted two colored glasses or rondels 19 and 20 which may be of suitable colors such as yellow and green respectively. These inner glasses are mounted between the light and the outer glasses and are movable as will be understood hereafter so that their positions can be changed.

The base is provided with a flanged cup-like portion 21 and a platform or disc 22

which supports an insulating member 23 to which the lamp socket 24 is secured. A switch may be provided with an operator 25. The binder 12 has a flange 26 supported on the platform 22. A ring 27 is spun over the edge of the cup 21, the platform 22 and the flange 26. This ring has a flange 28 with a number of holes 29 for the spring pressed latch bolt 30 carried by the casing 14. The latch bolt 30 has a knob or handle 31 for retracting it.

The lower edge of the casing 14 has a flange 32 adapted to rotate on the edge of the base ring 27. The edge 27 has three notches 33 spaced to correspond with three lugs 34 on the casing. The casing, however, has a fourth lug to serve as an interlock when the other three lugs are registered with the three notches 33. The lugs 34 are located in such positions with respect to the latch bolt 30 that they are all interlocked with some part of the ring 27 when the bolt 30 is in any one of the holes 29. The handle 31 serves to facilitate the rotation of the casing when the latch bolt is disengaged from the holes in the flange 28.

The glasses or rondels 19 and 20 are mounted in suitable frames which are pivoted in the casing and provided with external operating knobs 36 and 37 so that the glasses can be tilted about radial horizontal axes. For instance, glass 19 may be tilted from the full line position of Fig. 5 to the dotted line position thus changing the color shown through the lens 15 from yellow to white (or clear). By then tilting the green glass 20 from the full line position of Fig. 5 to a position in line with lens 15 a green light will be shown.

By rotating the casing and its lenses and tilting the inner glasses various color combinations of front (or rear) and side lights may be displayed.

It will thus be seen that this lamp may be readily converted from a marker to a classification lamp without the use of any tools or the substitution of any glasses except, such as are provided in the lamp. The lamp may be rotated by hand to the desired position and the glasses 19 and 20 may be interposed or retracted by hand in the simplest manner.

It should be understood that other color combinations may be substituted and other mechanical constructions made without departing from the spirit or scope of my invention, as set forth in the appended claims.

I claim:

1. A train signal lamp comprising a support, a rotatable body carried thereby and having lenses of four different colors, stationary blinders for two sides and independently movable glasses inside the lamp body of colors corresponding to two of said lenses.

2. A train signal lamp comprising a sup-

port, a rotatable body carried thereby and having colored lenses, a stationary blinder inside the body of the lamp and two independent tilting glasses within the lamp.

3. A combination marker and classification lamp comprising a rotatable casing having four outer glasses arranged around a source of light, said casing being rotatably mounted, stationary blinders arranged to obscure the light from two of said glasses and two separately movable inner tilting glasses adapted to be interposed between the light and the outer glasses.

4. A lamp comprising a support, a casing rotatably and removably carried by said support, said casing having four glasses with at least three colors, tilting glasses of different colors adapted to be lined up with two of the other glasses, and stationary blinders inside the casing for two of the glasses.

5. A lamp comprising a support having a plurality of notches some of which are spaced uniformly circumferentially, and having recesses spaced uniformly, a casing having lugs uniformly disposed some of which are adapted to register with said notches, a latch carried by the casing and adapted to interlock with said recesses, outer lenses carried by said casing, two inner glasses movable into and out of line with said lenses, and blinders located within said glasses.

6. A signalling lamp comprising a stationary base having a flange, a lamp socket base supported thereon, a blinder having a flange supported on the base flange, a ring embracing said base flange and having a series of holes, a casing rotatably mounted on said ring, a latch pin carried by said casing adapted to enter any one of said holes, colored glasses carried by said casing and movable colored glasses carried by said casing and adapted to be interposed between said blinder and the other colored glasses carried by said casing.

7. In a train-signal lantern, a base carrying a source of light, a casing mounted to rotate thereon and having a number of lenses, two independently movable colored glasses each having a pivot shaft mounted between adjacent lenses and a knob for operating each shaft and its glass independently of the other shaft and glass.

8. A train-signal lantern having a stationary base, a casing rotatable thereon and having oppositely disposed clear and red lenses and oppositely disposed green and yellow lenses between the clear and red lenses, a green glass pivoted to swing between the green and clear lenses, and a yellow glass pivoted to swing between the yellow and clear lenses and a blinder for cutting off the light from two sides of the casing.

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